



UNIVERSIDADE  
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PORTUGUESA

CORPORATE SOCIAL RESPONSIBILITY  
IN THE AUTOMOTIVE INDUSTRY:  
STAKEHOLDER PERCEPTIONS OF  
ARTIFICIAL INTELLIGENCE-GENERATED COMMUNICATION

Dissertation to  
Universidade Católica Portuguesa  
to obtain a Master's Degree in  
Strategic Communication and Leadership

By

Jana Elena Jewel Pfuhl

Universidade Católica Portuguesa

July 2024



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## **Abstract**

The rise of generative artificial intelligence (GenAI) is rapidly transforming corporate communications. This includes corporate social responsibility (CSR), which is currently one of the key challenges in corporate communications. In the automotive industry, both GenAI and CSR are subject to unfavourable stakeholder perceptions. To examine this case, this study uses the Elaboration Likelihood Model (ELM) to develop an experiment testing stakeholder perceptions of GenAI CSR communication in the automotive industry. In addition, a distinction is made between GenAI as a public and non-public source. The data was collected using a structured questionnaire among six hundred and twenty-six respondents (n = 628). The results show that using GenAI worsens stakeholder perceptions, which is particularly evident when declaring GenAI as the source and not in the information of AI-generated communication. However, the use of GenAI has no significant influence on the processing routes, according to the ELM. Thus, this study provides both academic and practical implications by identifying the potential of GenAI usage for CSR communication in the automotive industry and indicating the negative perception of GenAI as a public source.

**Keywords:** Artificial Intelligence (AI), Corporate Social Responsibility (CSR), Corporate Communication, Automotive Industry, Elaboration Likelihood Model

## **Resumo**

A expansão acelerada da inteligência artificial generativa (GenAI) está a transformar rapidamente a comunicação empresarial. Entre outros aspetos, isto afeta a responsabilidade social das empresas (RSE), que é atualmente um dos principais desafios da comunicação corporativa. Na indústria automóvel, tanto a GenAI como a RSE são alvo de perceções desfavoráveis por parte das entidades envolvidas. Para analisar esta situação, esta investigação utiliza o Elaboration Likelihood Model (ELM) para desenvolver uma experiência que testa as perceções das partes envolvidas sobre a comunicação da RSE e a GenAI na indústria automóvel. Além disso, é feita uma distinção entre a GenAI como fonte pública e não pública. Os dados foram recolhidos através de um questionário estruturado junto de seiscentos e vinte e seis inquiridos (n = 628). Os resultados mostram que a utilização da GenAI piora a perceção das partes interessadas, o que é particularmente evidente na designação do GenAI como fonte da informação e não tanto na informação, em si mesmo, da comunicação gerada pela IA. No entanto, a GenAI não tem influência significativa nas práticas de colaboração, de acordo com o ELM. Assim, este estudo aponta implicações académicas e práticas ao identificar o potencial do GenAI para a comunicação da RSE na indústria automóvel e ao indicar a perceção negativa do GenAI enquanto recurso público.

**Palavras-chave:** Inteligência Artificial (IA), Responsabilidade Social das Empresas (RSE), Comunicação Empresarial, Indústria Automóvel, Modelo de Probabilidade de Elaboração

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## Abbreviations

AI	Artificial Intelligence
ANOVA	Analysis of Variance
Audi	Audi Group
BMW	BMW Group
CEO	Chief Executive Officer
CFP	Corporate Financial Performance
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
EV	Electric Vehicle
ESG	Environmental, Social and Corporate Governance
F1	Formula One
Ford	Ford Motor Company
GenAI	Generative Artificial Intelligence
Mercedes	Mercedes-Benz
PR	Public Relations
SDGs	Sustainable Development Goals

# **Introduction**

Corporate Social Responsibility (CSR) refers to the fulfilment of a company's civic responsibility and obligation to society (Chen & Lin, 2020). Thereby, CSR represents the companies' aspiration to simultaneously enhance their corporate image and business results through socially responsible activities. To achieve this improvement in image and results through CSR, effective communication of CSR is essential (Chen & Lin, 2020). Since the introduction of CSR communication in the early 2000s, it has evolved into a steadily growing field of research and practice (Verk et al., 2021). CSR communication is particularly relevant because the awareness of stakeholders about a company's CSR commitment is the crucial enabling factor for favourable stakeholder attitudes towards the company (Du et al., 2010). To achieve this, suitable communication tools can be used for different target groups, such as online communication via social media or annual reports (Heinrich, 2013). Through suitable approaches such as a stakeholder-first approach and a precise company-cause fit, CSR communication can have a decisive influence on stakeholder awareness (H. Kim & Lee, 2018; Porter Novelli, 2021).

In addition to CSR being a major topic in corporate communication, corporate communication is also undergoing a transformation due to the rise of generative artificial intelligence (GenAI) (Majidi, 2023). A study by Majidi (2023) confirms this, showing that artificial intelligence (AI) and automation are one of the main communication trends in Europe, with 65% approval, alongside sustainability with 85%. GenAI assistants such as ChatGPT by OpenAI and Google's Gemini are changing corporate communications by automating the creation of media content such as texts, videos and images, as well as strategic work such as campaign planning and analyses (Guarneri, 2023; Pichai & Hassabis, 2023). Thereby, not only is the work of corporate communicators changing, but the stakeholders' perceptions of corporate communication are changing as well (Boehm et al., 2022; Navarro, 2023b). One factor, for instance, motivating GenAI use in CSR communication, in particular referring to CSR reporting, can be the reporting obligation for all companies in the EU since 2024 (KPMG, 2024). Especially for all companies that have not yet implemented this type of CSR communication, using GenAI could be particularly attractive.

Altogether, stakeholder perceptions of communication can take two different routes, depending on the level of elaboration (Petty & Cacioppo, 1986). At a high level of elaboration, stakeholders concentrate on the information in the communication and form a stable attitude. With low elaboration, stakeholders focus on the source of the communication, resulting in an unstable attitude (Petty & Cacioppo, 1986).

When compared with other industries, CSR communication is currently particularly relevant for the automotive industry (NetFederation, 2023). Due to the high environmental impact of the automotive industry, it is under strong pressure from various stakeholders, such as customers, the government and shareholders (Winkler et al., 2020). A key communication channel for CSR in the automotive industry is annual reporting, which shows a growing trend towards communicating social and environmental responsibility (Russo-Spena et al., 2018). Furthermore, not only is CSR communication currently essential for the success of automotive companies, but GenAI also significantly shapes stakeholder perceptions (Sonntag et al., 2023). While stakeholders generally have a lack of trust in AI in the automotive industry, caused, for instance, by accidents caused by autonomous vehicles, corporate communication in the automotive industry uses GenAI in creative ways, such as to improve the brand image through personalized stakeholder communication (Smit et al., 2022; von Frankenberg, 2023). Accordingly, the automotive industry is particularly relevant for analysing stakeholder perceptions of AI-generated CSR communication.

To examine this, the present dissertation is structured as follows: Subsequent to this introduction, the research objectives and questions are derived and presented. Accordingly, the dissertation is divided into two parts. The first part, the theoretical framework, includes the literature review and the theoretical framework. The literature review is divided into two chapters, respectively CSR and communication, and GenAI and communication. Furthermore, the elaboration likelihood is addressed as the theoretical framework of this study. The second part, the empirical study, consists of the presentation of the method, empirical results and the analysis and discussion. Finally, the conclusion, including limitations and recommendations, completes the dissertation.

# 1. Chapter

## **Problematization**

Social responsibility is becoming increasingly central to companies in the automotive industry and is being increasingly communicated (Russo-Spena et al., 2018). In the communication of CSR topics in the automotive industry, factors such as transparency are essential in order to build the trust of stakeholders and prevent purpose-washing effects (Upshaw, 2021). In addition, corporate communication itself is currently undergoing a major shift through the use of GenAI (Guarneri, 2023). One of the core challenges is to achieve the favourable attitudes of stakeholders in AI-generated communication (Grennan et al., 2022). This is because stakeholders have doubts about AI-generated content, particularly when it comes to transparency and source control (Choudhury & Shamszare, 2023; Nicoletti & Bass, 2023).

However, there is a lack of studies that examine how the use of GenAI changes the attitudes of stakeholders, specifically in CSR communication in the automotive industry. Since elements such as transparency are particularly crucial in CSR communication in the automotive industry, while GenAI can lead to stakeholder doubts on factors such as transparency, it is essential to investigate whether GenAI can lead to positive stakeholder attitudes in this case. Thus, the research object of this study is: *CSR in the Automotive Industry: Stakeholder Perceptions of GenAI Communication*.

### **1.1. Research Objectives**

The research object described is analysed with a focus on the following three research objectives set for this research. The first objective is the evaluation of stakeholder perceptions. Stakeholder perceptions of CSR communication in the automotive industry can be categorised into attitudes towards the communication in general, attitudes towards the information itself and attitudes towards the source itself (Camilleri, 2022). The first objective aims to measure stakeholder perceptions of GenAI communication based on these three categories.

The second objective is the moderating role of prior topic knowledge. The topic of the research object is CSR and the automotive industry, both of which are communicated through AI-generated communication. Stakeholders with expertise in the field of CSR or the automotive industry are aware of the role of transparency and honesty in effective communication (S. Kim, 2019; Schneider & Köhler, 2017). This prior knowledge can lead to these stakeholders setting

different priorities in their perception than people without this prior knowledge. Thus, the second objective aims to test whether prior thematic knowledge about CSR or the automotive industry leads to variations in the perception of AI-generated CSR communication in the automotive industry. Again, a distinction is made between the perception of GenAI as a publicly named source and GenAI as a not publicly named source. Prior knowledge of AI-generated content cannot be measured, as this could result in possible bias in the stakeholder's perception of the communication.

Furthermore, the third research objective is the investigation of processing routes. This objective is directly connected to the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986). The ELM indicates whether individuals process communication with high elaboration on the central route or with low elaboration on the peripheral route. High elaboration is associated with critical consideration of the information, and low elaboration is associated with superficial consideration of the source. This results in a stable attitude through the central route and an unstable attitude through the peripheral route (Petty & Cacioppo, 1986). Therefore, the investigation of processing routes aims to investigate the extent to which CSR communication in the automotive industry is more likely to be processed with either higher or lower elaboration through GenAI. Furthermore, a distinction is drawn between the perception of GenAI as a public source and GenAI as a non-public source to examine possible prejudices towards GenAI. The rationale behind this objective is to extend the scope of the previous one by investigating not only the perception of the attitude in question but also its stability.

## **1.2. Research Questions**

The study is guided by the following two research questions to achieve the stated research object and objectives. The first research question aims to measure the perception of stakeholders. This measurement addresses the research gap in AI-generated CSR communication, especially in the automotive industry. Furthermore, the practical relevance lies in disclosing to companies in the automotive industry the opportunities and risks of using GenAI for their CSR communication. In the course of answering the research question, a distinction will be made between different areas of stakeholder perceptions and the stakeholders' prior knowledge, which will be assessed

in more detail in the hypotheses. This argumentation results in the subsequent first research question:

**RQ 1:** How does GenAI impact stakeholders' perception of CSR communication in the automotive industry?

The second research question is closely linked to the second objective. Hereby, the second research question thus goes one step further than the first by aiming to analyse how CSR communication is processed by stakeholders. In particular, it builds on the research according to Camilleri (2022), which shows that CSR communication created by experts tends to be processed via the central route rather than with a high degree of elaboration. The key difference to this study is the use of GenAI for CSR communication creation, a research gap that the answer to this RQ fills. The practical relevance ties in with that of RQ 1 in that the results of RQ 2 provide companies with insights into the stability of their stakeholders' attitudes. This reasoning leads to the following second research question:

**RQ 2:** How does GenAI impact stakeholders' route of processing of CSR communication in the automotive industry?

**Part I - Theoretical Framework**

2. Chapter

**Corporate Social Responsibility  
and Communication**

This chapter provides an overview of the concept of CSR communication. First, the concept of CSR itself is introduced, followed by the instruments, motives, and communicators used to communicate CSR. Next, a discussion of how stakeholders perceive CSR communication and how their perceptions can be influenced follows. Finally, a chapter examining CSR communication in the automotive industry, in particular, concludes the topic.

## **2.1. Fundamentals of CSR**

In order to explore how CSR communication is shaped, it is first necessary to define the fundamentals of CSR. The basics include the evolution of CSR and its definition, as well as the impact of CSR on the financial performance of companies and a differentiation of the concept of CSR from related sustainability concepts.

### *2.1.1. Evolution and Definition*

Corporate Social Responsibility does not have one universally accepted definition, yet most definitions are rooted in similar principles (Sarkar & Searcy, 2016). Historically, the scientists Bowen and Davies are considered the fathers of the concept of CSR (Morrison & Bridwell, 2011). Howard Bowen established the first definition of CSR in 1953: “the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society” (Bowen, 1953, p. 6). In this regard, Bowen (1953) raises the critical question, which remains today, of what social responsibility can be expected of businessmen. What, however, is striking about Bowen's definition is that the phrase businessmen is no longer consistent with today's times, when there are many businesswomen who are actively involved in CSR (Carroll, 2016).

Following Bowen's definition, in the 1960s, the concept of CSR became more popular, especially in response to the fights for civil and women's rights and the protection of the environment (Carroll, 2016). The importance of CSR was also emphasised by Keith Davis, who argued that CSR as a corporate strategy is more than just a public relations (PR) measure (Davis, 1960). An effective CSR strategy can bring companies long-term financial success and is, therefore, also worthwhile from an economic point of view (Davis, 1960). Economist Milton

Friedman, on the other hand, argued two years later that social matters are not the responsibility of businesspeople (Friedman, 1962). Friedman believes that social matters should be solved through the unhindered functioning of the free market system (Friedman, 1962).

Alongside Bowen, Davis, and Friedman's research, there were numerous other contributions to the concept of CSR in the following years. An essential concept in CSR research is the theory of the CSR pyramid (Carroll, 1991). Archie Carroll developed the theory of the CSR pyramid in 1991 to illustrate clearly the importance of CSR and the relationship between its various components. The theory is based on his four-part definition of corporate social responsibility in 1979 (Carroll, 1979). As a basic framework for CSR, Carroll divided the components of corporate social responsibility into four areas: economic, legal, ethical, and philanthropic responsibility. To illustrate how the four areas build on each other, Carroll portrayed them in the structure of a pyramid (see Figure A1) (Carroll, 1991).

Economic responsibility is the bottom layer of the pyramid (Carroll, 1991). Economic responsibility describes the position of a business as its primary role, an economic unit that is profitable, independent, and able to sustain itself. Thus, this sets the foundation for all other corporate responsibilities, as the other layers would not function without it. The second layer, legal responsibility, centres on the minimum standards of laws and regulations the company must comply with. As required by law, this responsibility reflects an ethical codification: the fundamental principle of fair fairness in business practices (Carroll, 1991).

Ethical responsibility, the third level, builds on this, reflecting concern for moral standards and social norms (Carroll, 1991). Thus, society's expectation that a company will do more to protect its moral rights than is required by law is meant. Finally, the top of the pyramid is represented by philanthropic responsibility. This embodies corporate actions that meet societal expectations for social engagement, such as donations for health care or education (Carroll, 1991). It is essential to distinguish between ethical responsibility, which is socially expected, and philanthropic responsibility, which is socially desired (Mihaljevic & Tokic, 2015). Despite decreasing importance with increasing pyramid levels, philanthropic responsibilities are still highly valued and desired and can thus be the most important aspect of CSR. Because of this

power, philanthropic actions can also hide dishonest motives that are merely to enhance reputation (Mihaljevic & Tokic, 2015).

In summary, companies are expected to be good corporate citizens of their communities by helping out and providing physical, financial, and human resources (Carroll, 1991). The CSR pyramid is thus supposed to demonstrate that a company's overall CSR consists of various components that together form a whole. Moreover, the pyramid illustrates that the different components are not mutually exclusive but are in dynamic tension with each other (Carroll, 1991).

A quarter of a century later, Carroll (2016) reflects on his theory of the CSR pyramid, and notes that the shape of the pyramid has been consciously revised over the last 25 years through numerous refinements, such as rearranging the pyramid to suit the conditions of small companies or other countries. Ultimately, Carroll (2016) views the future of CSR, whether arranged as a pyramid or otherwise, as sustainable and optimistic.

One main underlying CSR strategy principle is the United Nations Sustainable Development Goals (SDGs) (ElAlfy et al., 2020). The SDGs are a 2030 agenda by the United Nations that sets out 17 overarching goals for the sustainable development of organisations (Heras-Saizarbitoria et al., 2022). Goal one of the 17 SDGs, for example, is to end poverty worldwide, goal ten is to reduce inequalities between and within all countries, and goal 13 is to take action against climate change (United Nations, 2023a). These 17 goals are broken down into 169 specific targets and over 230 related indicators (ElAlfy et al., 2020). A significant advantage of the SDGs is that they are interlinked, which means that achieving one goal indirectly supports other goals (Fallah Shayan et al., 2022). Therefore, the SDGs are often used as a guideline for implementing a CSR strategy because companies want to support these goals in the interest of their stakeholders as well as their contribution to achieving the SDGs is essential (ElAlfy et al., 2020). Moreover, aligning a CSR strategy with the SDGs saves time and financial resources in the long run by focusing on the most worthwhile contributions (Fallah Shayan et al., 2022).

Fallah Shayan et al. (2022) developed a model to provide a roadmap on how companies can use the SDGs as a practical framework for their CSR strategy. For the development of this model,

the SDGs are first assigned to the three CSR dimensions of environment, society and economy. The inclusion of the SDGs in the CSR strategy leads to eight benefits each for CSR corporate value creation, as well as for SDG universal value creation. Ultimately, the company's performance benefits from the results, creating a cycle with measurable results (Fallah Shayan et al., 2022).

Today, one of the most widely used definitions of CSR in Europe is the European Commission's definition in the 2001 Green Paper (Contrafatto et al., 2019). The European Commission (2001) distinguishes between the external and internal dimensions of CSR. On the external side, a wide range of stakeholders are involved, ranging, for instance, from the local community, customers, and business partners to suppliers and authorities (European Commission, 2001). In the local environment where the company operates, engagements such as offering stable and attractive jobs and supporting local initiatives can contribute to a company's CSR (Khaskheli et al., 2020). In addition to the positive reputation that voluntary CSR engagement can bring, some areas of CSR, such as respect for human rights, are mandatory to follow (European Commission, 2001). There are also uncertainties concerning human rights, such as in the cooperation with actors in countries where human rights conditions are below international standards (European Commission, 2001). Therefore, when cooperating with suppliers from developing countries, for example, a company needs to communicate this transparently and coherently (Sawczyn-Müller & Krohn, 2017).

Internal CSR, by contrast, mainly concerns the company's employees but also, for example, the environmentally friendly use of resources in production (European Commission, 2001). The central goal of internal CSR is good human resource management in order to find suitable employees and retain them in the long term (European Commission, 2001). This can be accomplished through measures such as equal treatment of all genders, promotion of diversity in the workplace, and training opportunities for all employees (Huber-Heim, 2017). Not to be underestimated, however, are obligatory measures located in the first and second layers of Carroll's pyramid, such as occupational safety (Carroll, 1991; European Commission, 2001). According to the Commission of the European Communities (2001), implementing these CSR measures can be a win-win situation for both parties, the company and its environment, and

even reduce costs for the company. Ultimately, however, not only internal stakeholders but also external stakeholders such as suppliers, customers, and others benefit from internal CSR. Thus, there is a smooth transition between internal and external CSR (European Commission, 2001).

### *2.1.2. Differentiating CSR from Related Sustainability Concepts*

In the context of CSR, it is crucial to distinguish CSR from ESG and net zero, the most popular related concepts that are often used in a similar context (Leighton, 2023). CSR is the oldest concept that defines sustainability goals of a symbolic nature. This has the disadvantage that there is hardly any accountability for companies. To overcome this weakness of CSR, the concept of environmental, social, and governance (ESG) metrics was introduced in the mid-2000s (Leighton, 2023). In particular, ESG stands for the critical elements of non-financial corporate performance (J. G. Park et al., 2023). The defined key elements are directly shown in the name of ESG, i.e., environmental, social, and governance, which are what companies are expected to focus on. ESG is measured using systems such as the Sustainability Accounting Standards Board (SASB) or the Global Reporting Initiative (GRI). These systems rank companies according to their ESG to show shareholders and investors companies with a lower risk profile when making investment decisions (Leighton, 2023). This study does not focus on the concept of ESG, as it focuses entirely on perceptions of general stakeholders instead of solely on those of shareholders.

Net zero, on the other hand, focuses exclusively on a company's environmental impact on climate change (Leighton, 2023). While net zero has been discussed since the late 2000s, it has come into focus, especially since it was set in the Paris Agreement, setting it as a framework for climate protection measures (Hale et al., 2022). The Paris Agreement was adopted in 2015 and is an international treaty to counteract climate change (Hale et al., 2022). The long-term goal of net zero is to remove all human-caused greenhouse gas emissions from the atmosphere through reduction measures in the second half of the century (Fankhauser et al., 2022). This means that the Earth's net climate balance should be zero through, for instance, increasing biological sinks and reducing carbon emissions (Fankhauser et al., 2022). The net-zero concept is attractive for companies to adopt because it sets a precise end date for achieving the goal of ending greenhouse

gas emissions (Hale et al., 2022). However, this study does not focus on net zero, as this study aims to involve all areas regarding corporate social responsibility, such as promoting gender diversity in the workplace, which is not covered by net zero.

### *2.1.3. Impact on Financial Performance*

Beyond the environmental impact of CSR, it is crucial for companies to assess whether implementing a CSR strategy is financially viable (Davis, 1960). Davis, the first to examine this aspect in 1960, found a profitable effect in socially responsible behaviour. Since Davis raised this question in his study, numerous studies have been conducted on this topic. In contrast to Davis, Manne and Wallich (1972) claim that CSR commitment should not be profitable (Davis, 1960; Manne & Wallich, 1972). Manne and Wallich argue that in socially responsible corporate behaviour, the marginal returns of spending on CSR engagement should always be lower than those of an alternative expenditure (Manne & Wallich, 1972). Otherwise, this would not be a socially responsible corporate action. To clarify the contradiction between CSR engagement and profit, Manne and Wallich (1972) call for companies not to include profits in decision-making about CSR activities in order to be able to classify the motives behind the decision as socially responsible.

Despite Manne and Wallich's recommended separation between profit and CSR, many companies use CSR with the aim of achieving profit-increasing effects (Alexander & Buchholz, 1978; Manne & Wallich, 1972). In 1978, Alexander and Buchholz conducted a study to investigate whether this increase in profit can be expected from CSR. However, their analysis of the stock returns and CSR activities of 45 large companies found no significant correlation between the two components (Alexander & Buchholz, 1978). Anderson and Frankle (1980) look at the issue from a different perspective by studying whether social disclosure impacts the valuation of capital markets. The analysis of a sample of Fortune 500 companies confirms that the market values social disclosure positively (Anderson & Frankle, 1980). Waddock and Graves (1997) considered the matter further by investigating whether past financial performance affects corporate social performance. Their findings confirm a positive relationship between the two variables. According to Waddock and Graves, this may be related to the fact that more

significant financial resources provide a better starting position for implementing social benefits (Waddock & Graves, 1997).

However, since Davis' article in 1960, the expectations and appreciation for companies' CSR engagement have been steadily increasing (Du et al., 2010). This change contributes to the fact that engagement in social activities leads to a strengthened, positive relationship between internal and external stakeholders and the company. This positive attitude of stakeholders towards the company can result in an improved corporate image in the long term (Du et al., 2010). After all, by influencing the corporate image, CSR also significantly impacts customers' buying behaviour (Naik, 2020). This effect is especially reinforced when a company positively differentiates itself from its competitors in its CSR strategy (Naik, 2020).

In order to get an overview of CSR research on corporate financial performance (CFP), Friede et al. (2015) conducted a review study of more than 200 empirical studies, as well as other review studies. More specifically, their study combines the results of around 2200 individual studies on the relationship between CFP and ESG to enable generalisable statements. This review shows that about 90% of the studies can demonstrate at least a non-negative, primarily positive, relationship between ESG and CFP. Considering the change in the social value of CSR engagements, a stable development of the positive influence of ESG on financial performance is shown (Friede et al., 2015).

Two companies that have achieved increased financial performance through a successful CSR strategy are Airbnb and Google (Serafeim, 2020). What is unique about both companies' approaches is that they are so aligned with the company itself that they are hard to imitate by competition (Serafeim, 2020). Airbnb, an online accommodation rental and leasing portal, uses a peer-to-peer network between landlords and tenants (J. Li et al., 2023; Serafeim, 2020). The original idea of this circular model business model, whereby existing assets are reused, is also rewarded by capital markets due to the success among customers (Serafeim, 2020). Unlike Airbnb, whose entire corporate strategy is effectively its CSR strategy, Google has been particularly successful in implementing CSR in its employee management (Serafeim, 2020). This is because Google takes an unconventional approach to recruitment, onboarding and

retention through initiatives such as a people-centred approach to recruiting and a unique work environment with services such as a wide range of leisure activities and 100% health care on the Google campus (Google LLC, 2023; Serafeim, 2020).

## **2.2. CSR Communication**

However, despite strong CSR commitment, low stakeholder awareness of a company's CSR engagement can cause the company's efforts to be ineffective for its image (Du et al., 2010). This is because the role of CSR communication is to legitimise corporate action as well as to gain the trust of stakeholders (Heinrich & Schmidpeter, 2013). This highlights the critical importance of effective communication of CSR engagement (Du et al., 2010). As an overview of CSR communication, the following section explains the instruments of CSR communication, describes the motives behind CSR engagement and provides an insight into the role of CSR communicators.

### *2.2.1. Instruments of CSR Communication*

To take a closer look at CSR communication, a distinction can be made between four instruments: Media relations, publications, online media, and events (Heinrich, 2013). Introducing CSR engagement into media relations is often one of the first steps in the initial implementation of a CSR strategy (Heinrich, 2013). As a classic PR instrument, media relations deals with the dialogue with the company's stakeholders (Ho Lee, 2017). It is an effective field of action for CSR communication, as mass media are decisive for a company's good reputation, both internally and externally (Ho Lee, 2017). Media relations focus on the factual and truthful communication of information to editors, journalists and bloggers (Heinrich, 2013). Building the trust of the mass media requires open, personal dialogue. Another decisive factor in media relations is topic management. In addition to having an agenda, topic management also means reacting appropriately to current, possibly controversial, developments. Media relations can, for instance, take the form of press conferences, media monitoring or interviews (Heinrich, 2013).

Another essential instrument of CSR communication is publications (Heinrich, 2013). The primary aim is to communicate the value of a company within society in a targeted manner. A

key instrument is the CSR report (Heinrich, 2013). CSR reports are subject to regulations that vary from country to country and prohibit, for example, unfair reporting such as greenwashing (Haji et al., 2023). Generally, the CSR report sets out the company's CSR strategy, as well as the consequences and goals the company is pursuing with it, in order to provide all stakeholders with a transparent overview (Haji et al., 2023; Heinrich, 2013). In addition to focused CSR reporting, CSR content flows into relevant publications such as annual reports (Heinrich, 2013). Annual reports are a mandatory publication of all corporations. These provide information on the company's business performance, clear strengths, trading areas, earning power and future growth, making it an indispensable part of corporate communication. Because of this strong position, it is essential to communicate the CSR strategy within this framework (Heinrich, 2013).

Also, a third indispensable instrument is the CSR presence on the internet (Heinrich, 2013). Online communication is characterised by the possibility of entering into dialogue with a large audience worldwide and in real time (Heinrich, 2013; Song & Wen, 2020). This turns online media into both an opportunity and a challenge for CSR communication. On the one hand, every stakeholder can publicly address the company at any time, thus building up public pressure. This makes stakeholders consumers of corporate communication and, at the same time, recipients of their interaction with the company, directly influencing the company's reputation. Companies can use online media actively or passively for CSR communication. Passive use refers to monitoring and evaluating the demands of their stakeholders. Active use refers to the described dialogue with stakeholders, as well as the interaction-independent content creation on CSR topics (Heinrich, 2013; Song & Wen, 2020).

As the fourth instrument, personal communication at events also offers a framework for CSR topics (Heinrich, 2013). Personal communication offers the possibility to enter into dialogue with stakeholders even more directly than online communication (Heinrich, 2013). In personal dialogue, communication conveys greater emotionality, transparency and credibility, which are essential for the success of CSR communication (Gill, 2015; H. Kim & Lee, 2018). Therefore, events such as trade fairs, conferences and workshops are among the most effective instruments

for CSR communication (Heinrich, 2013). Due to the great creative potential of events, the CSR strategy can be made genuinely tangible for stakeholders (Heinrich, 2013).

In addition to these four key instruments, there are several other possibilities for CSR communication, such as CSR awards (Uyar et al., 2022). These instruments show that the impact of CSR communication lies primarily in how the communication is carried out. Accordingly, all instruments can and should be used to report on CSR commitment, as they are crucial for the broad public awareness of a company's CSR activities (Heinrich, 2013).

### *2.2.2. Motives behind CSR Communication*

Behind the CSR initiatives that are publicised via the various instruments stand different motives (Ajayi & Mmutle, 2021). A fundamental distinction can be made between two motives: The self-serving motive and the society-serving motive (Ajayi & Mmutle, 2021).

If the self-serving motive is behind a company's CSR commitment, the motivation for CSR is solely the potential benefit for the company (Ajayi & Mmutle, 2021). Thus, the potential targeted benefit is mainly the increase in the company's profit. This motive often comes under public criticism by stakeholders for not caring about their environment out of honest motivation (Ajayi & Mmutle, 2021). However, this public frustration with these corporate motives often leads to the opposite of the targeted profit increase: low satisfaction and negative publicity result in a lower willingness to pay from customers (Gao & Mattila, 2014; Sreejesh et al., 2019). One company that had self-serving motives behind its CSR commitment is McDonald's (S. Kim & Lee, 2012). The fast-food chain launched an advertisement with a message to prevent obesity (Lee et al., 2012; Parcel & Sickmeier, 1988). This faced criticism because McDonald's products can lead to health problems, and the advertisement generated the impression among stakeholders that McDonald's only wanted to improve its reputation instead of making its products healthier (Lee et al., 2012). Nevertheless, one way in which stakeholders perceive self-serving motives positively is through transparent communication of them (Carroll, 1991; H. Kim & Lee, 2018). Stakeholders value transparent communication and understand a company's first obligation, as shown in the CSR pyramid, to be economically viable. Because above all, a balance between

environmental concerns and economic responsibility is essential (Carroll, 1991; H. Kim & Lee, 2018).

In contrast, behind society-serving motives lies the intention that the CSR engagement is carried out exclusively to benefit the company's environment (Ajayi & Mmutle, 2021). The ultimate goal of CSR engagement, in this case/definition, is thus to do good for society, reflecting qualities such as selflessness and generosity (Bolton & Mattila, 2015; Gao & Mattila, 2014). This is also the case with the retailer Woolworths, which has CSR commitments with society-serving motives (Ajayi & Mmutle, 2021; Dos Santos et al., 2013). Woolworths contributes to stopping climate change and using sustainable energy sources and communicates this, for instance, in its annual sustainability report (Woolworths Group Limited, 2023). This intention to improve the well-being of society as a whole, rather than just the company itself, generally resonates well with stakeholders (Bolton & Mattila, 2015; Karaosmanoglu et al., 2016; Sreejesh et al., 2019).

In addition to appreciating the company's sincerity, stakeholders value the commitment to dedicate this voluntary effort to the environment in balancing environmental concerns and economic responsibility (Gao & Mattila, 2014; Karaosmanoglu et al., 2016). However, despite a broad positive resonance among stakeholders, other research also found that companies may try to cover up their own deficiencies through their CSR engagement (Ajayi & Mmutle, 2021; Bolton & Mattila, 2015). This scepticism might even render the real intention of the society-serving motive ineffective (H. Kim & Lee, 2018).

Yet, it may also be the case that both motives lie behind the CSR communication, as self-serving motives are often unavoidable (Ajayi & Mmutle, 2021). So, although both self-serving and society-serving motives are behind a CSR communication strategy, communicating CSR transparently can still result in increased trust from the company's stakeholders (S. Kim & Lee, 2012). This is, for example, the case with Nestlé: the company has both society-serving and self-serving motives behind its CSR strategy (Ajayi & Mmutle, 2021; Mohajan, 2015). Nestlé's stakeholder trust is dichotomous because although Nestlé enjoys a high level of trust from its

stakeholders for its high-quality products, the company also regularly comes under public criticism for its environmental impact (Glose, 2019; Mohajan, 2015).

However, the service or the product of the company itself can already nullify the effectiveness of CSR (Palazzo & Richter, 2005). This is the case in the tobacco industry. Since CSR is supposed to improve society and the environment, and tobacco can lead to serious health issues, there is a fundamental contradiction here (Palazzo & Richter, 2005). Because, overall, it is particularly the stakeholders' general satisfaction with the company that is crucial for their trust (Gao & Mattila, 2014). This shows that above all motives, honesty and transparency in CSR communication are crucial to achieving high trustworthiness among stakeholders (S. Kim & Lee, 2012).

### *2.2.3. CSR Communicators*

The people working in corporate social responsibility have various roles and professional backgrounds (Gao & Mattila, 2014; Karaosmanoglu et al., 2016). Professional paths such as training in journalism, law or social work can lead employees to work in CSR. This diversity is beneficial for CSR, as the tasks, such as customer relationship management, research work, marketing and strategic communication, make the work just as diverse (Pliska, 2017). Especially, communication skills are among the most relevant skills for CSR professionals (Epstein-Reeves, 2013). In order to communicate an effective CSR strategy, the ability to tell concepts credibly and impressively, such as in the form of a story, is particularly relevant (Epstein-Reeves, 2013).

In larger companies, there are usually separate departments for PR and corporate communications (Goodman, 2021). Usually, communication experts from these departments work on the communication of CSR commitments (Goodman, 2021). The reason for this is that the four types of instruments used to promote CSR are communication instruments (Corcoran, 2018; Heinrich, 2013). In smaller companies, on the other hand, there are often no separate departments for corporate communications and PR (Goodman, 2021). Here, for instance, the human resources department works on the communication of CSR engagement (Goodman, 2021).

Alongside corporate communications, PR and human resources, communication by the chief executive officer (CEO) is another essential part of CSR communication (Elving & Kartal, 2012). The CEO is seen by the public as an example of what the company stands for. Thus, the CEO not only directly influences how the CSR programme is implemented but is also perceived by the public. In other words, if a company has a CSR strategy with which it wants to reduce its carbon footprint, for example, the CEO also needs to be sustainable in his or her behaviour (Elving & Kartal, 2012). A study on this connection shows that leadership personalities strongly influence the public perception of corporate CSR (Fehre & Weber, 2016). Even if it is assumed that CEOs do not write their statements on CSR themselves but that these are written by the CSR communicators mentioned above, CEOs show their support and high regard for CSR-relevant topics with their signature (Fehre & Weber, 2016).

In contrast, another study, which investigates whether inconsistent CEO behaviour leads to more sceptical stakeholders, shows that inconsistent CEO behaviour has no influence on stakeholder scepticism (Elving & Kartal, 2012). The study explains the results by the fact that stakeholders do not attach any importance to the consistent behaviour of the CEO and that a CSR programme is sufficient for them regardless of the behaviour of the CEO (Elving & Kartal, 2012).

Here, however, a distinction must be made between the different CEOs' public appearances. According to a study by Brandfog (2020), active public CEO engagement through social media benefits a company's image. However, Asghar (2015) argues that CEOs with a low public profile are often overlooked and that the level of personal interaction between the CEO and the public is not necessarily linked to the company's success.

Nevertheless, as the CEO is responsible for the overall corporate strategy, he is also indirectly responsible for the CSR strategy (Fehre & Weber, 2016). It may even go so far that the change of CEO is accompanied by a strategic repositioning of the company, including its CSR (Fehre & Weber, 2016).

In addition to agreeing with the company's CSR communication, there are ways in which the CEO addresses the public personally (Wang & Huang, 2018). One way is through the CEO's social media channels. On their social media channels, the CEO has the opportunity to express

their personality more than through official communication by the company. However, although social media CEO communication is more personal and therefore appears simpler, it is still strategic communication (Wang & Huang, 2018). As a representative of the company's image, social media communication can be beneficial, for example, to overcome the power distance between the CEO and stakeholders (Brandfog, 2020). Two communication styles can be identified in CEO communication on social media: Responsive and assertive communication (Wang & Huang, 2018). Responsive communication refers to a sensible and caring communication style. Assertive communication, on the other hand, refers to a dominant and autonomous style. A study on the CSR messages communicated by CEOs via social media shows that internal CSR messages in particular, which relate to the company itself rather than its environment, and messages about the CEO's life lead to higher trust, commitment and satisfaction on the part of stakeholders (Wang & Huang, 2018).

Another way is through the annual CSR report (Mahmoudian et al., 2021). The design of the CSR report can be significantly influenced by the personality of the CEO. For example, more risk-tolerant CEOs are more willing to create longer and more complex reports that require more effort for stakeholders to understand. The length of the reports also increases with the level of conscientiousness of the CEOs, but this does not mean that they are less readable (Mahmoudian et al., 2021).

CSR reports typically begin with a CEO statement, in which the CEO directly addresses the company's stakeholders and shareholders (Khan & Sulaiman, 2021). CEO statements can be crucial for stakeholder perception as they convey the company's attitude towards CSR. CEO statements often communicate corporate values such as diversity and equal opportunities, but often without specifying how these values are supported. Some companies disclose their CSR activities inconsistently or incompletely, leading to the conclusion that CSR reports are used solely to legitimise their activities. CEO statements are mostly informative and promotional in order to convince stakeholders with technical rationality (Khan & Sulaiman, 2021).

Furthermore, differences can be found between the CEO statements of different countries (Liu et al., 2019). A study analysing 60 CEO statements in annual CSR reports found apparent

cultural differences between Chinese and American companies. Although all CEO statements contain the same structure and objectives, the focus varies significantly. Chinese CEO statements focus particularly on product safety, while American CEO statements cover a broader range of topics, such as environmental protection and human rights (Liu et al., 2019). Another study on cultural differences in CEO statements finds that, compared to China and the USA, European CEOs focus on functional and ethical competencies (Wang & Huang, 2018). Moreover, CEOs are more likely to use specialised communication techniques in high-power distance nations than in low-power distance nations (Wang & Huang, 2018).

### **2.3. Stakeholder Perceptions of CSR Communication**

To assess how CSR communication affects stakeholders, firstly, the concepts of the stakeholder and stakeholder perceptions are defined. Thereafter, this section analyses ways to create positive stakeholder perceptions of CSR communication and examines the risks of purpose-washing.

#### *2.3.1. Defining Stakeholder Perceptions*

Whilst the term stakeholder has been used frequently in the previous chapters, in examining stakeholder perceptions, it is crucial to define it clearly in this context. Initially, the term stakeholder was defined by R. Edward Freeman as ‘any group or individual who can influence or is affected by the achievement of an organisation's purpose’ (Freeman, 2010, p. 53). With this definition, Freeman refers to customers and suppliers, for instance, as stakeholders, as they have an interest in the decisions and activities of the company (Carroll, 1991; Freeman, 2010). This interest is based on an explicit or implicit contract with the company, whereby they have a legitimate interest in being considered in company decisions (Carroll, 1991). A distinction can be made between internal stakeholders who are themselves part of the company, such as employees, and external stakeholders who are not part of the company, such as customers (Mazur & Pisarski, 2015).

For companies, the positive perception of their stakeholders, particularly trust, which is equated with positive perception in the following, is essential. Stakeholder trust contributes to the basis for the achievement of long-term goals and can thus be decisive for a company's success

(Dervitsiotis, 2003; Hallahan et al., 2007). Stakeholder trust is built through an interactive relationship between stakeholders and a company (Hallahan et al., 2007). This interactive relationship is built through content via different instruments, such as social media platforms. These contents are not exclusively addressed to the company's customer target group but can be addressed to all possible stakeholders of the company, such as the employees, through internal communication (Hallahan et al., 2007).

Thereby, one of the biggest challenges is to take into account the needs of each stakeholder in order to gain their trust (Dervitsiotis, 2003). To assess and understand their needs, the trust of stakeholders in various organisations worldwide, such as the media, companies and governments, is measured by the annual online survey “Edelman Trust Barometer” (Edelman, 2023). The survey from 2023 found that although companies are at least the most trusted organisations, most stakeholders are distrustful by default. The tendency to fundamentally distrust issues before being proven wrong also breeds high polarisation. Furthermore, stakeholders feel that most companies do not care enough about social issues and expect more engagement (Edelman, 2023).

### *2.3.2. Building Positive Stakeholder Perceptions of CSR Communication*

In CSR communication, the needs of stakeholders are essential to gain their trust (Porter Novelli, 2021). Therefore, a stakeholder-first approach is key to effective communication (Porter Novelli, 2021). An essential factor to consider in this context is the role of transparency in CSR communication (H. Kim & Lee, 2018). Transparency here describes the direct dialogue with stakeholders, disclosing essential and meaningful information, and accepting responsibility for the company's initiatives (H. Kim & Lee, 2018). The higher the level of personal transparency in CSR communication, the more stakeholders can identify with a company (S. Kim, 2019). This is the finding of a study on the perception of corporate reputation through CSR communication by US consumers. The study tests the conceptual process model of CSR communication, which examines the relationship between CSR communication factors, mediators such as trust, and the outcome, corporate reputation (see Figure A2). Thereby, it is noticeable that a factual tone in CSR communication leads to more trust in the sincerity of the

CSR commitment than a promotional tone. Furthermore, it is noteworthy that CSR communication, even if stakeholders do not identify with the company, leads to a positive correlation with the trust level of stakeholders (S. Kim, 2019).

However, a study by Kim and Lee (2018), which investigated the extent to which company-cause fit and transparency go hand in hand with stakeholder trust, comes to a different conclusion. The study shows that companies with a high fit between their company-cause and CSR engagement, in contrast to companies with a low fit, do not need a high level of transparency in their communication to gain the trust of their stakeholders (H. Kim & Lee, 2018). Yet, generally, the study also confirms that a high level of transparency strengthens stakeholder trust. Thus, this shows that both transparency and company-cause-fit are essential factors for the strategic communication of CSR to stakeholders (H. Kim & Lee, 2018). Another essential factor is the intensity of CSR communication (Du et al., 2010). If CSR is communicated too intensively, a negative feedback effect can occur. This is because stakeholders may become suspicious and perceive the motivation behind CSR communication as purely intrinsic. Hence, the key challenge is to overcome stakeholder scepticism and unawareness of CSR efforts through suitable CSR communication (Du et al., 2010).

To communicate CSR commitment honestly, the CSR values are in focus, as they have a demonstrably positive influence on the trustworthiness of a company (Gill, 2015; Schneider & Köhler, 2017). A popular and effective method for communicating values is storytelling. Corporate storytelling is the transmission of a message within a company in the form of a story in order to form an opinion or create a new perspective (Gill, 2015; Schneider & Köhler, 2017). These stories can be inspired by real-world stories, such as experiences shared by people on social media, or be from an alternative reality, with fictional characters or both formats are mixed together (Wille et al., 2014). In the process of the stories, a specific purpose is always elided, in other words, the motive of the CSR communication, which is alluded to and appealed to the stakeholders (Gill, 2015). In storytelling, CSR is communicated either directly, for example, by including certain characters, such as people from the company, or indirectly by using comparisons and metaphors to explain complex concepts in a simplified way (Bloomfield & Manktelow, 2021).

Crucial for the success of storytelling is the emotional connection between the CSR stories and their stakeholders' perceptions (Nyagadza et al., 2020). High emotionality makes the content conveyed by the stories more credible because those involved can apply it better to their own situation (Gill, 2015; Nyagadza et al., 2020). Through this identification with the story, the stakeholders can become authentic reputation holders by promoting dialogue and thus contribute a crucial factor to the company's good reputation (Gill, 2015; Gomez, 2021).

Identification with a company's CSR can also be increased by personalising CSR communication (Mazur-Wierzbicka, 2021). Personalisation describes the adaptation of communication to the respective stakeholders. Depending on the stakeholder group, this is achieved through suitable content relevant to them and a suitable tone, such as simpler language for a younger target group as opposed to an older target group. This personalised approach addresses the stakeholder directly, which can feel more natural to them and, therefore, more trustworthy (Mazur-Wierzbicka, 2021).

### *2.3.3. Gaining Negative Stakeholder Perceptions through Purpose-Washing*

Purpose-washing refers to corporate engagement that has no real social purpose (Richmond, 2021). In contrast to the self-serving motive, purpose-washing is not only motivated by generating profit for the company, but purpose-washing is often associated with false or exaggerated statements about a company's CSR. CSR, especially when produced in a hurry, can be communicatively well implemented, but some companies do not focus on communicating only their actual CSR engagement and their motivations behind it (Richmond, 2021).

The most popular type of purpose washing is greenwashing (Bernardino, 2021). Greenwashing refers to implementing communication measures to achieve a green image without the communicated measures actually taking place (Heinrich & Schmidpeter, 2013). This can typically take the form of factually false advertising messages, false labels such as organic labels that the company does not have, or vaguely formulated statements to hide a lack of evidence for the communicated CSR. Through a systematic literature review, De Freitas Netto et al. (2020) identified two classifications of greenwashing: greenwashing at the company level and greenwashing at the product level. (De Freitas Netto et al., 2020). At the company level, this

means misleading stakeholders about the company's commitment to the environment, such as a company-wide campaign promoting environmental practices from an area simultaneously harmed by the company's practices. At the product level, these are the environmental benefits of a product, such as falsely as particularly energy efficient certified products that are in reality not as energy efficient as claimed (De Freitas Netto et al., 2020).

Another type of purpose-washing that is relevant to consider in this research is bluewashing. This arises in connection with the SDGs, which companies often use as they benefit from the advantages of the United Nations programme, such as reputational benefits and goodwill (Berliner & Prakash, 2015). At the same time, the programme also provides a framework to better formulate and sell potentially false statements on CSR (Berliner & Prakash, 2015). Thereby, a commitment that primarily serves to benefit a company financially is communicated in bluewashing in connection with the SDGs in such a way that it looks like a mere enhancement of CSR measures (Dollar, 2023). Bluewashing is motivated by similar drivers as greenwashing, and there is currently no regulatory authority, other than the opinion of stakeholders such as journalists, that can hold companies accountable for it (Dollar, 2023). Especially the bluewashing of companies that are themselves involved in corruption scandals and thus already contradict the fundamental message of the SDGs is questionable (John, 2013).

Effects that can occur in the context of bluewashing are free-riding and shirking (Berliner & Prakash, 2015). Free-riding refers to using the impact of a measure, such as the SDGs in this case, without providing anything in return, the genuine support of the SDGs through CSR commitment. This is related to the effect of shirking since when bluewashing occurs, a company is avoiding its responsibility under the commitment to support the SDGs (Berliner & Prakash, 2015). In addition, a study by Macellari et al. (2021) shows that more than 80% of the companies reviewed do not include significant negative events related to CSR at all or only partially in their sustainability reports. These companies are thus also in conflict with the obligation to transparently disclose their measures within the framework of the SDGs (Macellari et al., 2021).

Besides greenwashing and bluewashing, there are many other purpose-washing effects, such as pinkwashing, which is the false claim of gender equality, or health washing, which is the false

claim of products being healthy (De Gennaro & Piscopo, 2023; Heiss et al., 2021). If stakeholders recognise a company's CSR communication as purpose-washing or perceive it as such, their trust in the company decreases (Bothello et al., 2023). Thus, when stakeholder trust decreases, can lead to ethical harm and accordingly can decrease the company's financial performance (Bothello et al., 2023).

## **2.4. CSR Communication in the Automotive Industry**

Moving on to map CSR communication in the automotive industry, the subchapter first examines the use of CSR commitment in the industry itself. This is followed by a closer look at the CSR communication in the automotive industry, focusing on CSR reporting, as well as the CSR communication of the car manufacturer Audi Group (Audi) as a practical example.

### *2.4.1. CSR in the Automotive Industry*

Considering CSR, the automotive industry mainly has a strong environmental impact as it degrades natural ecosystems through components such as production and transport (Valladares Montemayor & Chanda, 2023). Therefore, in recent decades, many stakeholders, such as governments and the public society, have strongly pressured the automotive industry to become more sustainable (Valladares Montemayor & Chanda, 2023). More specifically, these components can be structured into five categories along the automotive value chain (Winkler et al., 2020).

First in the chain is research and development and engineering, which involves design for product sustainability and recyclability. Second, comes the supply chain, which includes the environmentally responsible use of materials such as metals and compliance with human guidelines for all stakeholders involved in the supply chain. The manufacturing and operations, third, involves the production to build renewable energy assets and reduce waste through reusing materials returned by customers. Along the journey from research and development to manufacturing, several automotive companies have implemented changes to benefit their environment (Winkler et al., 2020). General Motors, for example, runs its SUV assembly plant

in Texas, USA, exclusively using clean wind energy, and BMW Group (BMW) cars consist of up to 30% recycled and reused materials (BMW Group, 2022; Winkler et al., 2020).

Following on, in marketing and sales, initiatives can be developed, setting the agenda on the refurbishment of old components to extend their lifespan (Winkler et al., 2020). For instance, Mercedes-Benz (Mercedes) expands its materials lifespan by recycling used batteries from electric vehicles (EVs) in its own facility and thereby recovering materials such as cobalt and nickel (Loesche, 2023). The fifth and final category, mobility services and vehicle usage, focuses on lowering the emissions during the use of the vehicles (Winkler et al., 2020). Volkswagen, for example, has developed a shuttle service called MOIA that is intended to reduce city traffic and, thus, emissions in the German city of Hamburg (Müssgens, 2023b). Following this, the concept of the circular economy, fair labour policy, and sustainability in the IT sector are also part of sustainability in the automotive value chain (Winkler et al., 2020).

The sustainability of the automotive industry is also increasingly being discussed with its shareholders: the number of investor events worldwide increased by 125% to 320 events from 2015 to 2019, which corresponds to a compound annual growth rate of 22% (Winkler et al., 2020). Putting this in context with the growth of the automotive industry between 2015 and 2019 based on the market volume, which was 5% in total with a compound annual growth rate of 1%, shows that the annual growth of investor events about the sustainability of the automotive industry is about 22 times higher than the annual growth of the industry itself. This suggests that sustainability is gaining importance as a focus topic within the industry (IBISWorld, 2023; Winkler et al., 2020).

This high priority given to sustainability may be linked to the fact that companies in the automotive industry, in particular, are often criticised for their commitment to CSR (Winkler et al., 2020). An illustrative example is the EV manufacturer Tesla, which is committed to accelerating the global transition to sustainable energy and is already building some of the most efficient EVs in the world (Tesla, Inc., 2022). However, in 2022, Tesla was removed from the S&P 500 ESG stock index due to greenwashing allegations (dpa, 2022). This criticism included accusations of racism and complaints about poor working conditions at Tesla's U.S. factory

(dpa, 2022). These topics continue to be a problem for the company as in 2023, Tesla was sued for having a hostile work environment with racial harassment against people of colour (Elliott, 2023). Moreover, the greenwashing criticism also affects Tesla's sustainability: Despite the less environmentally harmful EVs, which cause fewer CO<sub>2</sub> emissions by avoiding fossil fuels, the company sells these saved emissions in the form of emission rights to manufacturers of more polluting cars, indirectly supporting them (Amsler, 2022).

Furthermore, within the automotive industry, especially motorsport, such as Formula One (F1), leads to significant environmental pollution (Mourao, 2018). F1 consumes a significant amount of resources, leaving a large carbon footprint (Mourao, 2018). Therefore, stakeholders such as fans and sponsors expect F1 to proactively promote more sustainable alternatives in motorsport and thus reduce its CO<sub>2</sub> emissions. This is also supported by the racing drivers themselves, such as Sebastian Vettel, who directly criticises F1 for not being sufficiently committed to climate protection and Lewis Hamilton, who criticises that F1 is not promoting diversity enough (Parkes, 2022; Smith, 2020).

In response, F1 launched the #WeRaceAsOne initiative as part of its CSR, which promotes sustainability, diversity, inclusion, and community (Formula One World Championship Limited, 2023). With this initiative, F1 is pursuing goals such as climate neutrality by 2030, greater diversity and greener travel (Formula One World Championship Limited, 2023). Despite this initiative, F1 repeatedly faces public criticism for greenwashing (dpa, 2023). Stakeholders particularly point out the racing calendar: The logistics of the races, which sometimes take place on different continents on a weekly basis, consume an enormous amount of CO<sub>2</sub>. Issues such as this basic structure of the organisation lead stakeholders to question the CSR initiatives of the F1 (dpa, 2023).

#### *2.4.2. CSR Reporting in the Automotive Industry*

To identify the focal points of CSR communication in the automotive industry, Russo-Spena et al. (2018) conducted a longitudinal study of CSR reports from the automotive industry. Three main trends were identified, which are communicated particularly frequently and intensively. Firstly, the study indicates a growing trend towards environmental and social responsibility

(Russo-Spena et al., 2018). This may be due to the ESG factors used by several companies in the automotive sector, which consist in addition to corporate governance of environmental and social aspects (Witkowski et al., 2018). Secondly, the study identifies harmonised and standardised reporting in CSR communication (Russo-Spena et al., 2018). This can be justified by the fact that the standards in CSR communication exert a certain normative pressure on other companies and can, therefore, be referred to as the effect of peer pressure. Moreover thirdly, the study shows that CSR communication is increasingly explicitly aimed at the company's stakeholders in order to involve them more in the communication through targeted contexts (Russo-Spena et al., 2018). That is because engagement in the areas that matter most to stakeholders can impact the company most (Upshaw, 2021). Stakeholder interests might be areas where the company operates, but they can also be other areas to which the company is accountable (Upshaw, 2021).

In the following, the CSR reports for 2022 from Audi, Porsche, Ford Motor Company (Ford), Ferrari and the Mercedes-Benz Group are analysed to identify structural and content-related similarities and differences in CSR reporting in the automotive industry (Audi AG, 2022a; Ferrari N.V., 2022; Ford Motor Company, 2022; Mercedes-Benz Group, 2022; Porsche AG, 2022). The reports cover CSR topics ranging from protecting the local environment to respecting human rights at work.

Furthermore, the majority of the five reports, namely those from Audi, Porsche and Ford, are combined financial and sustainability reports. This means that the companies do not publish individual reports on finance and sustainability but combine these topics and thus emphasise the connection between them (Audi AG, 2022a; Ferrari N.V., 2022; Ford Motor Company, 2022; Mercedes-Benz Group, 2022; Porsche AG, 2022). Porsche, for example, has been publishing a combined financial and sustainability report since 2016 (Porsche AG, 2016). When Porsche published its first combined report, it explained this in a statement at the very beginning of the report, even before the CEO statement, as follows:

„Economic success is one of Porsche's distinctive features, as is social compatibility. As a manufacturer of exclusive, powerful sportscars, Porsche is committed to achieving greater acceptance of its company and products around the world through socially and

environmentally responsible conduct. Responsible actions that benefit not only the company, but also the environment and society, are not only what is expected by customers, business partners and investors – they are also crucial for ensuring competitiveness [...] It wishes to set an example – that the two subjects belong together – not separately“ (Porsche AG, 2016, p. 4).

Looking at the structure and content, all five reports start with a statement as a foreword from the top management (Audi AG, 2022a; Ferrari N.V., 2022; Ford Motor Company, 2022; Mercedes-Benz Group, 2022; Porsche AG, 2022). It is noticeable that Audi is the only company that uses only one person as the author of the statements, namely its CEO Markus Duesmann. Other statements have two authors, namely chairmen as well as CEOs. The Mercedes-Benz Group is the only company that has three statement authors: the CEO and chief technology officer (CTO), as well as the Board member responsible for Integrity, Governance and Sustainability. The Mercedes-Benz Group is also the only company with a dedicated executive for sustainability co-writing the statement.

In considering the further structure, it is necessary to differentiate between reports that are purely sustainability reports and those that are combined with the financial report. The Mercedes-Benz Group and Ferraris reports, which are both solely sustainability reports, have distinct differences in their structure. For instance, Ferraris discloses its key figures right at the beginning of the report, whereas the Mercedes-Benz Group only does so in the last chapter. Furthermore, Ferrari includes its objective directly in the titles of its chapters, such as “Reducing Environmental Footprint”, while a similar chapter at the Mercedes-Benz Group is simply called “Environment”. However, the two reports are largely similar in their content, which focuses on governance, the environment, social and, only in the case of Ferrari, employees, with a view to the respective stakeholder perspective (Audi AG, 2022a; Ferrari N.V., 2022; Ford Motor Company, 2022; Mercedes-Benz Group, 2022; Porsche AG, 2022).

Concerning the combined financial and sustainability reports, it can be seen that Audi and Ford both start with an overview of their strategy and key figures and then present their business performance and goals in the following chapters based on key topics such as sustainable growth, product safety and employee health (Audi AG, 2022a; Ferrari N.V., 2022; Ford Motor Company, 2022; Mercedes-Benz Group, 2022; Porsche AG, 2022). The reports from Audi and

Ford are both strongly CSR strategy-driven, which is reflected in the chapter structure as well as the content, and thus clearly shows how closely the business ties in with the sustainability strategy. On the other hand, Porsche's report differs from the other combined reports in content and structure. Firstly, the CEO statement is not designed as a statement but as an interview with the CEO and Chairman. After the following overview of Porsche's current projects, the company addresses its shareholders in a separate 22-page chapter entitled "To our shareholders". Nevertheless, the report, like the others, is also strongly orientated towards CSR topics. Therefore, this overview of CSR reporting in the automotive industry shows that combined financial and sustainability reports are highly similar to pure sustainability reports. In particular, the structure and objectives of the various report formats are very similar, while differences can mainly be found in some non-CSR-relevant information. This professionalism and standardisation of CSR reports demonstrates the long-term relevance of CSR in the automotive industry (Audi AG, 2022a; Ferrari N.V., 2022; Ford Motor Company, 2022; Mercedes-Benz Group, 2022; Porsche AG, 2022).

#### *2.4.3. CSR Communication in Practice at Audi*

For a practical illustration of CSR communication in the automotive industry, the premium car manufacturer Audi is considered. Before developing a CSR strategy, Audi analysed its own perception of its stakeholders in 2022 through its annual online survey with 2,000 stakeholders (Audi AG, 2022a). Audi discloses this observation of its stakeholders in its combined sustainability and annual report as part of a materiality matrix. The materiality matrix illustrates the assessment of 16 relevant areas of action by stakeholders on the Y axis and an analysis of the Audi's environmental and social impacts on the X axis. Each area ranges from medium to high to very high.

The matrix shows that stakeholders categorise emissions and energy along the value chain, as well as alternative driving technology and vehicular emissions, as very relevant. These two fields of action also greatly impact Audi's business activities. Stakeholders also rate fair and modern working conditions, sustainable business governance, and a circular economy as very relevant, which Audi rates as slightly lower and with a high impact. There are no fields of action

that are rated lowest by the stakeholders, namely medium, but are rated by Audi as having a high or very high impact. However, both stakeholders and Audi classify corporate citizenship as responsible digitalisation, focusing on stakeholders with long-term customer relations as a medium (Audi AG, 2022a).

In other public statements by Audi's stakeholders, which Audi has not published itself, Audi's CSR plans are described as bold (Hägler, 2021). In a major German newspaper commentary, the author mentions that Audi's CSR plans are more radical, more precise, and therefore riskier than those of its competitors but that this risk will most likely pay off (Hägler, 2021). A study by Greenpeace, which ranks the efficiency of the top 30 car brands, shows just how important this is to stakeholders, with Audi coming off poorly in 24th place (Gehrs, 2023). The main reason for the low ranking is the lack of electric cars, which Audi proactively addresses and wants to change in the future (Gehrs, 2023; Hägler, 2021). Another reason for this result is the high number of particularly highly motorised vehicles, such as sports cars (Gehrs, 2023). Given this criticism, Audi's entry into F1 can be seen as further exacerbating the problem but also as an opportunity for research into more sustainable motorsport at the highest level (Zwick, 2023).

To meet the needs of its stakeholders, Audi actively aligns its CSR strategy with their expectations (Audi AG, 2022a). Overall, in its CSR strategy, Audi has set itself three sustainability goals: 1) CO<sub>2</sub> neutrality of all locations, 2) phasing out the production of combustion cars from 2033 and 3) €500 million investment in the quantification of employees by 2025. Audi's CSR commitment aims to shape future mobility with social, economic, and ecological responsibility. When building its sustainability concept, Audi relies on a materiality analysis to identify environmental and societal influences. Audi also works closely with its stakeholders to understand their needs.

In addition to the three goals, which focus on the environment and resources of Audi, as well as the people and society in and around the company, Audi attaches great importance to ethical corporate governance in order to offer its stakeholders security and transparency (Audi AG, 2022a). This demonstrates that Audi's CSR communication presently includes two of the three trends outlined by Russo-Spena et al. (2018) – namely, the focus on social and environmental

responsibility and close cooperation with stakeholders (Audi AG, 2022a). However, without a closer examination of Audi's motivations, it cannot be determined whether Audi's CSR communication is standardised (Russo-Spena et al., 2018).

Audi's CSR communication is developed by the company's own sustainability department in close consultation with the Board of Directors and together with corporate communications and marketing and sales (Tropschuh et al., 2017). To communicate its CSR engagement, Audi uses a cross-media approach. The use of the communication tool, whether print and online media, social media or personal communication, varies depending on the target group, topic and purpose (Tropschuh et al., 2017). In Audi's 2022 report, for instance, which combines the financial perspective and ESG topics as an annual and sustainability report, Audi communicates its CSR commitment along with the SDGs (Audi AG, 2022a). The company especially focuses on the five SDGs that it expects to have the greatest impact (Audi AG, 2022a).

The first is decent work and economic growth (goal eight), which Audi supports, for example, through the possibility of hybrid and mobile working and communicates to its stakeholders, such as potential applicants, through its "Better Work" initiative on Audi's corporate website (Audi AG, 2022a; Audi Media Center, 2021). The second focus is on industry, innovation, and infrastructure (goal nine), which Audi supports, among other things, by promoting sustainability in its supply chain with its suppliers. Audi communicates this to its partners on its website through multimedia content, such as a short informative video about the program (Audi AG, 2022a, 2023b). Thirdly, Audi supports sustainable cities and communities (goal eleven), for example, by promoting sustainable mobility concepts for employees, which are also publicly communicated externally through news articles on the website of Audi's company health insurance company (Audi AG, 2022a; Audi BKK, 2023).

Furthermore, Audi attaches importance to responsible consumption and production (goal twelve) and supports this through commitment, such as the integration of environmental measures in the supply chain, which Audi communicates to its stakeholders and shareholders by explaining the exact measures in its report (Audi AG, 2022a). Finally, Audi supports climate action (goal 13) by championing its goal of more sustainable transportation, which Audi shows,

for example, on the social media platform Instagram using emotional and informative short videos (Audi, n. d.; Audi AG, 2022).

Another interesting aspect of Audi's CSR communication is the fact that the company will enter F1 in 2026 (Zwick, 2023). Despite the F1's high CO<sub>2</sub> footprint, Audi CEO Markus Duesmann does not see this as contradictory to Audi's CSR goals (Mourao, 2018; Müssgens, 2023a; Zwick, 2023). This is because Duesmann views F1, even though race cars have combustion engines, as a development platform for high-power batteries and e-machines, which can significantly advance Audi and society in general (Zwick, 2023). This will be promoted, for example, as F1 will run the smaller internal combustion engine on 100% e-fuels from Audi's entry year onwards (Zwick, 2023). Audi also highlights this in the communication of its F1 entry on the company website: "Thanks to the new regulations that are going to be introduced, 2026 is exactly the right time for Audi to make its entry – Formula 1 and Audi are both pursuing clear sustainability goals" (Audi AG, 2023, para. 15). In addition, Audi also points out that the entire F1 drive system is now being manufactured in Germany for the first time in over a decade. The specially founded Audi Formula Racing GmbH in Germany thus also supports another part of Audi's CSR strategy: the economic strength of Audi's home country as well as its environment (Audi AG, 2023a).

## 3. Chapter

# **Generative Artificial Intelligence and Communication**

This chapter begins with an introduction to the concept of generative artificial intelligence (GenAI). It is followed by an illustration of how GenAI can generate corporate communication, particularly CSR, and what opportunities, risks, and potential this brings. Subsequently, the chapter discusses the use of GenAI in the automotive industry and stakeholder perceptions of it.

### **3.1. Fundamentals of GenAI**

This chapter introduces the general concept of GenAI before focusing on communicating through it. The evolution and definition of GenAI are discussed, followed by an examination of stakeholders' perceptions to create a base for possible perceptions of participants in the study.

#### *3.1.1. Evolution and Definition*

Kaplan and Haenlein (2019) defined artificial intelligence (AI) as a system's capacity to comprehend data, draw conclusions from it, and apply that knowledge to carry out different activities. Although AI has been used successfully since the 1950s, the popularity of generative AI, in particular, has increased significantly since the introduction of AlphaGo in 2015 and ChatGPT in 2022 (Fui-Hoon Nah et al., 2023). ChatGPT was released by OpenAI, an organisation that states to focus on the development of AI for the benefit of humanity (Ray, 2023). OpenAI was a former non-profit organisation that developed its AI open-source, with Tesla CEO Elon Musk is a co-founder, among others (Ray, 2023).

The name ChatGPT stands for Chat Generative Pre-Trained Transformer because its class of language model is GPT (Fui-Hoon Nah et al., 2023). GPTs refer to Large Language Models (LLMs), which use deep learning techniques for large-scale training with enormous data volumes. ChatGPT is a multimodal language model that can process and produce text, image and video input and output (Ray, 2023). The programme was initially based on the autoregressive language model Generative Pre-trained Transformer-3 (GPT-3) and has now been overtaken in its functions by GPT-4 and GPT-4o (OpenAI, 2024; Ray, 2023). Most users use the free version of ChatGPT, which is based on GPT-3.5 and limited access to GPT-4o (OpenAI, 2024; Ray, 2023). ChatGPT was created especially for conversational use and fine-tuned to produce responses that resemble a human's by utilising its vast knowledge base (Fui-

Hoon Nah et al., 2023). Thereby, ChatGPT is a GenAI, as it can produce different kinds of content, such as texts, graphics, and videos (Fui-Hoon Nah et al., 2023).

Since ChatGPT's rise in popularity in the form of a GenAI chatbot, other companies have also followed suit with their own GenAI chatbots (Pichai & Hassabis, 2023). Google, for instance, has released Gemini, which has the same essential functions as ChatGPT in most areas. Google even published a direct comparison between Gemini and ChatGPT in a separate blog post, arguing that Gemini is better than GPT-4 in areas such as text, videos, maths and coding (Pichai & Hassabis, 2023). Furthermore, Microsoft has launched its own GenAI chatbot called Microsoft Copilot (Microsoft Corporation, 2024). Copilot is specially designed to support work in companies that already use Microsoft as a workspace (Microsoft Corporation, 2024). Through a collaboration between Microsoft and OpenAI, Copilot's generative AI is based on OpenAI's technology (Bass, 2024). Thus, the cases of Microsoft, as a major customer of OpenAI, and Google's Gemini, as a major competitor, emphasise the strong market position of OpenAI with ChatGPT (Microsoft Corporation, 2024; Pichai & Hassabis, 2023).

Due to these innovative features, GenAI is expected to revolutionise the way individuals and organizations live, learn, communicate and work (Fui-Hoon Nah et al., 2023). Numerous studies are investigating whether GenAI gives such deceptively real human answers using the Turing test. The Turing test was introduced by Alan Turing and measures whether someone is able to recognise after a five-minute dialogue whether they are interacting with a human being or a computer program (Turing, 1950). Studies of testing ChatGPT with the Turing test come to different conclusions: In some studies, ChatGPT does not pass the Turing test, which is justified, among other things, by the fact that ChatGPT is not instructed to pretend to be a human, but instead mimics human-made data (Bernstein, 2023; Stilgoe, 2023). In other studies, ChatGPT passes the Turing test, which is justified by the fact that human-structured information, data, and knowledge may be adequate to show a surprising level of imitation of human language abilities (Dodig-Crnkovic, 2023).

Furthermore, ChatGPT is not just highly relevant for research but also for individuals such as school or university students and organisations (Fui-Hoon Nah et al., 2023). Since its release on

30 November 2022, ChatGPT's user base has grown faster than any other consumer internet application since the invention of the internet (Hu, 2023). Compared to other popular consumer internet apps such as TikTok, which took nine months after its global launch to achieve 100 million users, or Instagram at two and a half years, ChatGPT needed just two months to reach 100 million monthly active users (Hu, 2023). Several businesses benefit greatly from using ChatGPT: By using ChatGPT, about a quarter of American companies saved between 50,000 and 70,000 US dollars, and a third of American companies predict that ChatGPT will definitely lead to more layoffs (Thormundsson, 2023b, 2023a). A report by McKinsey predicts that GenAI has the potential to transform nearly every industry and profession, especially marketing and sales (Chui et al., 2023). Large companies have already integrated GenAI into their core business, such as McDonalds, which automates drive-throughs and predicts orders through GenAI, and BuzzFeed, which uses GenAI to create quizzes and articles (Guarneri, 2023).

### *3.1.2. Stakeholder Perceptions of GenAI*

To assess how stakeholders perceive GenAI, a study by Choudhury and Shamszare (2023) examined the influence of stakeholder trust on the intention to and actual use of ChatGPT as a GenAI. The results show that trust in ChatGPT significantly increases the acceptance of ChatGPT (Choudhury & Shamszare, 2023). This finding is also supported by another stakeholder survey, which demonstrates that establishing trust in GenAI is not only a stakeholder expectation but could also foster application growth (Boehm et al., 2022). Companies that have successfully established digital trust are more likely to achieve annual growth rates of at least 10 percent in sales and profits (Boehm et al., 2022). Other factors besides trustworthiness influencing user acceptance include transparency, privacy, brand value, algorithm quality and security (Choudhury & Shamszare, 2023).

To enhance the acceptance of GenAI through these factors, it is crucial for organisations to provide clear explanations of their AI systems to stakeholders (Grennan et al., 2022). In a report on GenAI, McKinsey outlines and explains eight factors essential for stakeholders to use GenAI responsibly (Chui et al., 2023). For instance, the use of GenAI can intensify cyberattacks, spread disinformation or publicise personal data and therefore poses a risk to security (1) and privacy

(2) on the internet. In addition, the use of GenAI can pose a risk not only to private data but also to intellectual property (3), such as material protected by trademark or copyright law. The output of GenAI must constantly be tested for reliability (4), as it does not reflect standardised answers, explainability (5), as its knowledge is made up of a number of sources that are not comprehensible to individuals, and fairness (6), as imperfect training data can lead to bias in the models (Chui et al., 2023). Moreover, GenAI can also affect its environment through organisational impacts (7) on, for example, group dynamics in brainstorming and also social and environmental impacts (8) due to the high energy consumption of GenAI (Chui et al., 2023; Goh & Vinuesa, 2021; Memmert & Tavanapour, 2023). Understanding these eight factors shapes stakeholders' perception of GenAI and thus their trust in the application as well as application acceptance (Boehm et al., 2022; Chui et al., 2023).

### **3.2. GenAI in Corporate Communication**

In corporate communications, the introduction of GenAI has a major impact on areas ranging from research and writing to strategy and planning (Navarro, 2023c). Like other transformations through technology, such as the introduction of the internet and social media, GenAI can potentially revolutionise the way corporate communications work (Guarneri, 2023). Thereby, the use of artificial intelligence is challenging traditional methods through innovations such as personalised newsfeeds (Guarneri, 2023).

#### *3.2.1. Use of GenAI in Corporate Communication*

In April 2023, areas most impacted by adopting GenAI were research and list building, monitoring and measuring, writing, reporting, pitching as well as strategy and planning (Navarro, 2023c). For research and list building, as well as monitoring and measuring, GenAI can be used to improve data analysis (Guarneri, 2023). Through AI-powered analytics tools such as Google Analytics, it is possible to analyse targeted data sets from various sources such as news websites and social media (Guarneri, 2023). These analytics tools use natural language processing (NLP) to track different keywords and patterns (Loughlin, 2023). Targeted trends can be recognised in the analysis, and public discussions on various topics can be evaluated

through customer mentions on social media (Guarneri, 2023). Thus, for communicators, AI-powered analytics tools for media monitoring are an essential tool to use (Loughlin, 2023).

One of the primary use cases of GenAI, particularly ChatGPT, is writing texts (Shrivastava, 2023). The generated texts are highly successful and popular, causing the communications industry to worry that GenAI Text will take away many people's jobs (Shrivastava, 2023). This is evidenced by statements from communications experts like the following: "I've never hired a writer better than ChatGPT" (Shrivastava, 2023, para. 2). A particular competitive feature of AI-generated texts is that they can be completely personalised to the respective query (Guarneri, 2023). The tool can independently tailor messages to specific target groups, automatically analysing all available target group data and preferences in the background, thereby increasing the effectiveness of the texts. In addition to writing about a specific topic, GenAI also simplifies reporting through speech-to-text technology. As a result, GenAI facilitates the transcription of all kinds of audio files, such as interviews or observations, by creating an accurate transcript of every word spoken (Guarneri, 2023).

Moreover, GenAI can help predict the chances of a pitch (Guarneri, 2023). More specifically, AI-powered tools such as Grammarly or Cision can both evaluate pitches and assess the chance of media coverage (Guarneri, 2023). These capabilities of GenAI also benefit strategy and planning (Loughlin, 2023). GenAI can be used first to familiarise oneself with new topics and promote the creativity and efficiency of finding initial ideas by integrating GenAI into brainstorming sessions. Once initial ideas have been consolidated, GenAI can also be used to generate more detailed outlines, such as in storyboards (Loughlin, 2023). In addition to content creation, GenAI can also support decision-making by evaluating existing ideas or concepts with data-driven feedback based on elements such as trends, customer preferences or pain points (Patpatia, 2023). As a result, communication creation processes can be partially or fully automated, with GenAI being particularly useful for routine tasks to give communicators more time to focus on the most significant and complex elements (Patpatia, 2023).

### *3.2.2. Chances and Risks of Using GenAI in Corporate Communication*

GenAI enjoys great popularity as an effective and scalable system for processing natural language (Patpatia, 2023). The basic prerequisite for this is easy access because ChatGPT is available at all times and provides fast and effective answers (Nugroho et al., 2023). This overcomes the hurdle of human working hours and different time zones and, therefore, offers maximum flexibility (Nugroho et al., 2023; Patpatia, 2023).

As a multilingual support service, ChatGPT responds quickly to all types of enquiries, which can speed up traditional business communication (Nugroho et al., 2023). A study analysing the improvement of business communication efficiency through GenAI results in seven areas that can be improved through GenAI. In addition to the aforementioned improvement in responsiveness and availability, as well as cross-lingual communication, GenAI can also improve customer service through effective customer assistants in the form of chatbots. In addition to content creation, GenAI can also support in analysis, such as data analysis, as well as in strategy, such as decision-making and the creation of development plans. Building on GenAI's analytical and strategic capabilities, the tool also has the potential to help optimise project management and improve training development (Nugroho et al., 2023).

Using GenAI can also increase communicators' confidence in their own communication (Patpatia, 2023). As a non-judgemental, anonymous dialogue partner, GenAI can help improve communication skills in a variety of ways. Feedback can be requested on text elements such as tone of voice or sentence structure to build confidence. In this context, GenAI can suggest new phrases and vocabulary to express oneself more precisely (Patpatia, 2023). Moreover, complex topics and technical language can be automatically translated into simplified language to facilitate communication between corporate communications and other departments (Nugroho et al., 2023). In addition, GenAI can be used to prepare for real-life situations such as job interviews by suggesting and acting out different scenarios, ultimately boosting confidence in one's own communication (Patpatia, 2023).

However, using GenAI in corporate communications also involves several risks. In the first step when using GenAI, the input of prompts may cause the programme to misunderstand the

prompts (Kozhikode, 2023). The communicator's specific needs include various aspects, such as emotional cues, that GenAI may not be able to understand in the same way as a human. GenAI relies entirely on the data entered, which can lead to biased, incorrect or improper responses (Kozhikode, 2023). Yet, the reason for the biased, incorrect or inappropriate responses from GenAI's may also be the background knowledge that the programmes gather from all the data entered into them (Patpatia, 2023). A study by Bloomberg revealed that the biases of GenAI are even worse than those of humans (Nicoletti & Bass, 2023). In the study, text-to-image AI was used to create images of people in different professions. The analysis of over 5,000 images showed that gender and racial differences were depicted in a more extreme way than they are in the real world. This phenomenon shows how dangerous it can be to build communication in the future on GenAI and that a critical look towards AI-generated content is essential (Nicoletti & Bass, 2023).

Phenomena like this raise the question of who has control over the content created (Nicoletti & Bass, 2023). Unlike human-generated content, machine-generated content lacks empathy, emotional intelligence, security and privacy concerns (Patpatia, 2023). However, since all of GenAI's knowledge was fed by humans and adopted human biases, for example, it can be debated whether the content of GenAI is human or machine (Patpatia, 2023). However, it is mainly undisputed that GenAI can essentially take over the generation of content independently (Shrivastava, 2023). This is also evident on freelance platforms such as Upwork and Fiverr. These platforms serve as job boards for freelancers whose main task is often content creation. The increasing popularity of GenAI leads to mistrust and transaction disputes between clients and freelancers (Shrivastava, 2023).

This mistrust exists not only in freelancing but also in PR departments (Navarro, 2023a). A study that differentiates between PR departments that use GenAI and PR departments that do not use GenAI found relatively similar results between the two groups. In both groups, over half of those surveyed felt that young PR professionals were too dependent on GenAI tools and, therefore, not sufficiently informed about PR principles. In addition, around 60% of respondents agreed that too much untested GenAI output was used, which deteriorated the quality of communication. In both cases, 2% more of PR professionals who do not use GenAI agreed with

the statements, suggesting a slightly more negative opinion of GenAI use among inexperienced PR professionals (Navarro, 2023a).

### *3.2.3. Future Potential of GenAI in Corporate Communication*

While as of April 2023, 28% of PR professionals worldwide are already exploring GenAI and 33% plan to research it, 39% of PR professionals are not sure about the relevance of GenAI or do not plan to research it at all (Navarro, 2023b). Yet there are numerous opportunities to use GenAI in the communications industry in the future: As the communications industry thrives on the strength of interpersonal relationships, which are reinforced by channels such as social media or press releases, GenAI programmes like ChatGPT are particularly valuable to the industry (Marino, 2023).

This is because programmes such as ChatGPT can often convincingly imitate the tone of a real person and thereby arouse the interest of recipients, even using artificially generated content (Marino, 2023). According to current developments, this content will be integrated even more precisely into business communication systems such as chatbots, instant messaging systems or emails in the future (Nugroho et al., 2023).

Moreover, GenAI also has the potential to change the way corporate communication works in the step before content creation and communication in research on a specific topic (Marino, 2023). In corporate communications, communicators are usually asked to communicate topics that they themselves need to learn about themselves, such as technical topics like engineering and programming. To understand topics that require expert knowledge at first glance and to make them understandable and informative for different target groups, such as the general public, communicators invest a great amount of time in research. This step of researching through research papers and news articles can be sped up by GenAI, as these programmes are able to summarise literature and describe it in terms that are easy for communicators to understand (Marino, 2023). This time advantage in research and content creation can free up communicators to focus on the creative and strategic aspects of their work (Nugroho et al., 2023).

Ultimately, however, according to current estimates, the human touch will continue to take centre stage (Nugroho et al., 2023). Even though GenAI can strengthen communication efficiency in many aspects, it is crucial to keep valuing the importance of real human relationships (Nugroho et al., 2023).

#### 3.2.4. *GenAI in CSR Communication*

In general, AI can be used by organisations within their CSR strategy to achieve sustainability goals (Chui et al., 2022). In a comparative study by McKinsey & Company looking at companies using AI in their sustainability efforts, 61% of companies in Greater China are using AI, compared to 39% of companies in Europe and 30% of companies in North America. When looking at companies taking steps to minimise carbon emissions through their AI use, developing markets are the highest with 53% approval, Europe is again the lowest with 36% and North America 31%. The study identifies four types of sustainability efforts for which companies use AI: 62% use AI to minimise environmental impact, and 53% use it to evaluate sustainability efforts. Following this, 45% use it to improve the governance of the company and 34% use AI to improve their social impact (Chui et al., 2022).

A study by Vinuesa et al. (2020) links the impact of AI directly to the SDGs and shows that AI can facilitate the achievement of 134 goals related to the SDGs. By promoting collaboration between different actors through technology, AI can foster a more informed, connected and inclusive world (Rane, 2023). Hence, AI actively promotes societal goals such as GenAI's simple language processing for education (SDG 4) and the dissemination of information on topics such as agriculture for health and well-being (SDG 3) (Rane, 2023; Vinuesa et al., 2020). Furthermore, AI can also promote environmental goals, such as life on land and economic goals, such as economic growth through increased innovation (Rane, 2023; Vinuesa et al., 2020).

However, the use of AI can also be counterproductive to achieving the SDGs, as it inhibits 59 related goals (Vinuesa et al., 2020). In achieving societal goals, AI may be able to reduce inequalities due to ethical concerns about privacy and bias. However, particularly serious concerns are raised about the energy consumption of AI (Vinuesa et al., 2020). AI servers in data centres require considerable amounts of energy for algorithm calculations and data storage,

comparable to the fuel consumption of air traffic (Kaplan & Haenlein, 2020). These data centres, part of large data farms, consume energy on the scale of a small city. Server consumption for running AI technology is often underestimated but could account for 10% of total electricity consumption by 2025 (Kaplan & Haenlein, 2020). In addition, scarce raw materials such as cobalt, nickel and lithium are causing electronic waste, which poses a severe threat to the environment (Shahabuddin et al., 2023). Thus, the increasing use of AI will exacerbate the environmentally harmful disposal of electronic waste and can furthermore also affect environmental SDGs such as climate change mitigation and economic SDGs such as responsible consumption and production (Shahabuddin et al., 2023).

Sætra (2021) examines along the example of Microsoft how companies reporting about AI impacts in sustainability reporting. In Microsoft's 2018 sustainability report, the company emphasises that most of its essential products contain AI, that Microsoft is a leader in AI research and that it aims to promote the economy and society. However, there are no exact plans as to what this promotion should look like. Likewise, the impacts of AI are not assessed or linked to the SDGs. Possible negative effects of AI use are mentioned, but only in short, vague descriptions within other topics (Sætra, 2021).

Alongside the influence of AI use on the achievement of CSR-related goals, such as the SDGs, the following section examines the use of GenAI in the communication of CSR. To investigate GenAI's view of CSR as a first step, a study by McGee (2023) asked the tool ChatGPT to write an essay on why ESG is a bad idea. The tool responded that as an AI language model, it wants to remain impartial, but based on its research, it cannot ethically argue that ESG is a bad idea. ChatGPT refused to do so because of its ethical convictions. This shows that although ChatGPT can be a valuable research tool, its responses must be viewed cautiously (Mcgee, 2023).

In concrete application, for instance, GenAI is used for media monitoring (Han et al., 2023). Research organisations and companies are using GenAI technologies such as natural language processing (NLP) to quickly and efficiently identify CSR-related social media content (Han et al., 2023). This use case is particularly valuable in the investment industry, as a study by Jain et al. (2023) shows a 20 percent dependence of stock returns on ESG-related news. Because NLP

allows different companies to be automatically searched for their ESG factors (Jain et al., 2023). By identifying a company's ESG factors, investors can make more informed decisions when it comes to sustainable and socially responsible investments (Jain et al., 2023).

### **3.3. AI Use and Stakeholder Perceptions of the Automotive Industry**

After assessing the fundamentals of GenAI and the use of GenAI in corporate communications, this chapter focuses specifically on the use of AI in the automotive industry. Thus, the following will discuss the current role of AI, the use of GenAI for communication and CSR communication in particular, as well as stakeholders' perceptions of the use of AI in the automotive industry.

#### *3.3.1. Role of AI in the Automotive Industry*

Artificial intelligence has great potential for use in the automotive industry, especially concerning the ambition to use largely safe, emission-free and energy-efficient vehicles (Ghosh et al., 2022). For several years now, the industry's focus has been particularly on autonomous driving (Ghosh et al., 2022). The autonomous car market in 2021 was at 24.1 trillion USD, with a forecast of growth of about 157% by 2026 (Placek, 2023b). Strong growth is expected not only for the market but also for the number of autonomous cars: the number of autonomous cars was at 16.960 units in 2022, with an expected growth of 25% by 2023 and an expected growth of 644% by 2030 (Placek, 2023a).

This forecast is underlined by billions being spent by companies on corresponding research and development activities, with autonomous vehicles expected to contribute around 13.7 billion USD by 2030 (Wagner, 2019). These vehicles are autonomised by AI-generated content that simulates real-world scenarios and can be used to train the autonomous vehicles (Singh, 2023). It is crucial to note that drivers in autonomous vehicles will not be entirely replaced by AI but will require safety drivers to provide ongoing feedback to the development teams (Tubaró & Casilli, 2019). The disappearance of the human contribution is unlikely to occur; for example, passengers will be assigned additional tasks. Nevertheless, in the vision of AI use in cars, not all drivers will be replaced, but AI is also intended to be used to improve the driving experience.

In particular, the driving experience can be improved by improving voice assistants in vehicles through personalised AI services such as voice recognition (Tubaro & Casilli, 2019). GenAI can be used to learn user preferences and suggest customised routes based on them without the user having to enter a destination (Singh, 2023). This demonstrates the great potential of not only AI in general, but especially GenAI in the automotive industry (Tubaro & Casilli, 2019).

In a McKinsey & Company podcast interview, Philipp Skogstad, CEO of Mercedes-Benz Research and Development North America, shared insights on how Mercedes leverages the power of GenAI, specifically ChatGPT (Skogstad et al., 2023). After ChatGPT was introduced in November 2022, Mercedes installed its beta version in its cars just one month later and thereby was the first company in the automotive industry to do so. This development was presented to the general public in February 2023 and received with great enthusiasm. The use of ChatGPT refers to an AI-based voice assistant in the car, which links the car with the internet and personal data, such as calendar entries. This way, it can preheat the car in winter or suggest a suitable news station for the journey. All data that the voice assistant collects and internal data remains in Mercedes' Microsoft cloud and is not passed on to third parties or OpenAI. In this way, Mercedes prevents the likelihood of data leaks (Skogstad et al., 2023).

Looking to the future of GenAI and Mercedes, the company is ambitious to use GenAI for other areas, such as guiding technicians during car repairs or marketing the cars (Skogstad et al., 2023). The key for Mercedes is to use GenAI to create a personal experience for each consumer and their needs. Marketing campaigns can, therefore, be individually tailored to each consumer's previous experiences and preferences. Mercedes' long-term vision is to make every car a digital and physical part of a consumer. As a luxury product and a pioneer in technology, Mercedes is aware of the expectations of its stakeholders, who see cars as more than just a means of transport. The installation of GenAI is a vital step by Mercedes towards this vision (Skogstad et al., 2023).

Other automotive companies are also finding innovative new solutions with GenAI (Audi AG, 2022b). For example, Audi developed the AI-based software FelGAN, which uses AI to help design wheels. FelGAN suggests photorealistic designs or combines targeted designs together,

allowing Audi designers to work with an inexhaustible pool of ideas. This opportunity offers easy access to new perspectives and increases Audi's innovative strength in a cost-effective and effective way (Audi AG, 2022b). Moreover, great application potential for GenAI can be found in motorsport, especially in F1, which has always been a technology-driven, innovation-rich sport (Marr, 2023). As every fraction of a second counts in F1, a vast amount of race data is analysed before, during and after the race. AI is used in data analysis, for instance, to optimise the aerodynamics of racing cars using computer-aided fluid mechanics. AI is also used for the virtual simulation of races in order to create a training situation that is as realistic as possible. However, in addition to optimising the outcome of races, data processing is also used for sponsorship and the fan experience. Data quality optimised by AI gives teams and F1 as a brand more power in maintaining and building partnerships by providing vital data insights. These data insights are of equally high interest for fans of the sport, as access to cloud insights raises fan interaction. With regard towards F1's future, the sport aims to use AI to provide more individualised insights and products for its fans, as well as create more exciting races for the fans through faster, more powerful and aerodynamic cars (Marr, 2023).

### *3.3.2. Communicating through GenAI in the Automotive Industry*

Automotive companies are also using GenAI in communicating with their stakeholders, especially their customers (Porsche AG, 2023). Porsche, for instance, has integrated GenAI into the use of its cars with the application ROADS. ROADS allows drivers to generate personalised dream routes. The aim of the personalised routes is not the fastest route, but the one that is best suited to the driver. The personalised routes are created with the help of GenAI and incorporate various parameters such as points of interest, road layout and topography. The app can also be used to create groups, called ROADS Communities, to plan journeys together. Since the app can be used by non-Porsche drivers, these also build a stronger bond with the Porsche brand, increasing the likelihood of becoming a customer in the future (Porsche AG, 2023).

Audi Canada is using GenAI to retain and attract customers (Audi Canada, 2023). To describe the feeling of experiencing the Q8 Sportback e-tron for the first time, Audi Canada uses an AI art generator. In a promotional clip, Audi shows Canadian model Coca Rocha experiencing the

vehicle for the first time, with her reactions, from excitement to awe, depicted in dynamic artwork. The model wears biometric sensors during the clip to capture her genuine reactions to the Q8 Sportback e-tron and send them into the AI art generator. In this way, Audi Canada wants to convey the feeling of advanced mobility to all stakeholders, especially those who have not yet experienced the vehicle in real life (Audi Canada, 2023).

Car manufacturers are also using GenAI to strengthen their brand image (von Frankenberg, 2023). BMW, for instance, uses GenAI in a collaboration with the Tomorrowland festival to underline its role as an innovation driver. Together with Tomorrowland, BMW developed “Future Record”, a tool to create a personalized electronic song using GenAI. In the tool, the song is created automatically based on a dialogue with a chatbot about individual preferences regarding the genre and tempo of music, visions and mood. The song includes an individual, AI-generated melody, lyrics, cover image and video. Depending on the social media platform, the video can be downloaded in different formats, which increases shareability. Accompanied by a suitable social media marketing strategy, the tool demonstrates BMW’s innovative ability and progressiveness to its stakeholders (von Frankenberg, 2023).

However, trying to use GenAI to strengthen the brand image can also have negative consequences (Wilman, 2023). Porsche, for instance, introduced a tool called *Garage Mentality*, a GenAI chatbot that malfunctioned in several cases due to insufficient preparation. The chatbot, which was supposed to help entrepreneurs with their business activities, was criticised for two reasons: Firstly, the chatbot only gave generic answers, which limited innovation and personalisation. Secondly, the chatbot did not respond to some prompts at all, as no generic response was specified for them. Thus, Porsche’s goal of positioning itself as a progressive company in the high popularity and development of GenAI was missed (Wilman, 2023).

### 3.3.3. *Stakeholder Perceptions of AI use in the Automotive Industry*

As previously stated, the automotive industry faces a lack of trust in AI (Smit et al., 2022). The most widespread mistrust in AI applications concerns self-driving cars (Smit et al., 2022). However, stakeholder trust in the company’s communication, such as through AI-based chatbots in customer service, is also crucial (Sonntag et al., 2023). AI-based chatbots are used in the

automotive industry to clarify common customer concerns. The use of AI-based chatbots by customers shows their trust in sharing personal information and following artificially generated recommendations for action. The problem is the often machine-like, impersonal character of chatbots, which leads to a lack of social presence of the customer during the interaction.

Sonntag et al. (2023) analysed a major automotive company as a case study. This company shows that not only the quality of the vehicle is important to its customers, but that customers also expect a full service. This full service also includes offerings such as AI-based chatbots. The study shows how customers' trust in the privacy and security of the AI-based chatbot significantly increases when they engage with visible design features as clear and factual security signals. In addition, the proposed non-verbal design elements - such as names and emojis - as social signals show a significant positive impact on stakeholder trust in AI-generated communication (Sonntag et al., 2023).

While there is as yet no study on the acceptance of AI in corporate communication in the automotive industry, a study by Smit et al. (2022) concludes that the factors of fairness, accountability, transparency and explainability generally lead to a higher general acceptance of AI in communication. Additionally, the study shows that stakeholders may criticise that the values of AI may not align with the values of the company (Smit et al., 2022).

#### *3.3.4. AI use in CSR in the Automotive Industry*

Companies in the automotive industry, such as Volkswagen, are using AI to achieve their CSR ambitions (Ayad et al., 2022). Volkswagen is cooperating with Google Cloud to design more energy-efficient cars. To achieve this, the companies are using machine learning in a joint research project with the aim of achieving more cost-effective and faster estimates of the drag coefficient. With the help of Google's platform Vertex AI, this value can be calculated within one second with an error rate of 4%. This enables Volkswagen to automate the search for efficient designs, which has a positive impact on the environmental performance of Volkswagen cars (Ayad et al., 2022).

At the same time, AI can not only support the achievement of CSR goals, but can also be included in CSR communication (Jungo Brüngger, 2023). When dealing with AI, clear guidelines are essential, as they strengthen trust and thus the acceptance of AI. As the first car manufacturer to do so, Mercedes has defined four principles to serve as guidelines for its employees on how to deal responsibly with AI. The first principle focusses on the responsible use of AI, which ensures that the impact of AI is in line with the company's values. The second principle, explainability, prevents distortions in data sets through a high level of transparency. The third principle protects the privacy of personal data, while the fourth principle prioritises the security and reliability of intelligent systems (Jungo Brüngger, 2023).

Similarly, BMW has developed its own principles for dealing with AI, called "the code of ethics for AI" (BMW Group, 2023). In this code of ethics, BMW has defined seven principles to sensitise its employees to the use of AI. Comparable to Mercedes, BMW's principles also focus on transparency, data protection and data governance, technical robustness and security. BMW furthermore emphasises social issues such as diversity, non-discrimination and fairness as well as environmental and social well-being, which Mercedes does not mention as explicitly as BMW. In addition, the principles ensure the primacy of people through human oversight, supported by accountability for compliance with good corporate governance (BMW Group, 2023).

## 4. Chapter

### **A Theoretical Synthesis:**

### **The Elaboration Likelihood Model**

To review the key concepts of the previous chapters of the literature review, CSR is characterised by an extensive evolution from Bowen's first definition to the CSR pyramid and the SDGs (Bowen, 1953; Carroll, 1991; United Nations, 2023b). The communication of CSR is based on various motivations and motives and is communicated using different instruments depending on the communication objective and target group (Ajayi & Mmutle, 2021; Heinrich, 2013). Second, the use of GenAI in corporate communications is increasing significantly and fundamentally changing the field (Fui-Hoon Nah et al., 2023; Guarneri, 2023). This is due to the numerous opportunities and potential, such as lower costs and time required to create content (Nugroho et al., 2023). However, GenAI also entails risks, such as bias or misunderstanding prompts, which is why GenAI cannot currently fully replace human experts in corporate communications (Patpatia, 2023).

Stakeholder perceptions of both CSR and GenAI in the automotive industry tend to be rather negative (Smit et al., 2022; Winkler et al., 2020). Stakeholders are demanding greater CSR engagement from automotive companies, which has become a core focus for the industry (Winkler et al., 2020). This is because stakeholder attitudes are a valuable asset for companies and can influence their profits (Klimmt & Rosset, 2020). Through initiatives such as product placements, newspaper adverts or advertising on social media, companies seek to influence the attitudes of those involved. This is relevant for companies because attitudes directly influence behaviour. In order to investigate how attitudes are influenced, researchers analyse the rules and mechanisms that explain how stakeholder attitudes develop and change. A central concept of modern persuasion research, which is considered the gold standard, is the Elaboration Likelihood Model (Klimmt & Rosset, 2020). Despite severe criticism in the 1990s, this concept continues to drive research today (Oberwegner & Kinner, 2022).

#### **4.1. Fundamentals of the ELM**

The Elaboration Likelihood Model (ELM) is a social psychological model developed by Richard E. Petty and John T. Cacioppo in 1980. The model states that there are two basic routes to persuasion (see Figure A3). These two routes are not mutually exclusive, although they are quite different ways of influencing attitudes, but are a continuum according to the more or less

principle (Klimmt & Rosset, 2020). The route taken in information processing depends on the abilities and motivation of the individual stakeholder (Kitchen et al., 2014). The ability to process an argument is influenced, for instance, by the complexity and repetitiveness of a message, possible distracting stimuli, and the existing background knowledge on the topic. Motivation during processing can be influenced, for example, by the source of the message, personal relevance and whether the message is in line with personal values (Kitchen et al., 2014).

One of the two routes, called the central route, arises from conviction through careful evaluation of central arguments (Kitchen et al., 2014; Petty & Cacioppo, 1986). The central route occurs when the factors of the persuasion scenario increase the possibility of elaboration. However, the processed central arguments can sometimes be biased. The second route, called the peripheral route, relies on emotional connections or simple inferences without careful evaluation of the central arguments. The peripheral route occurs when the conditions in the persuasion scenario make the chance of elaboration low and is based on peripheral cues such as the source, heuristics and credibility, relatively unaffected by the quality of the arguments.

What is decisive are the different consequences that the two paths of persuasion have. This is because attitude changes via the peripheral route are less resistant and persistent than those via the central route. Furthermore, attitude changes via the centralised route are more predictable than those via the peripheral route. The likelihood of elaboration, in other words the path to persuasion, can be influenced by a significant number of variables. These variables, such as source attractiveness or involvement, influence whether the information is processed through the central or peripheral route (Kitchen et al., 2014; Petty & Cacioppo, 1986).

The ELM is based on seven postulates, which are fundamental assumptions about the way information is processed and factors influencing persuasion (El Hedhli & Zourrig, 2023; Petty & Cacioppo, 1986; Petty & Wegener, 1999). The first postulate describes the assumption that people are fundamentally motivated to have correct attitudes. However, the extent to which this motivation is strong is influenced by situational and individual factors, stated by the second postulate. The third postulate states that under certain conditions, the variables can also take on multiple roles by acting as peripheral cues, persuasive arguments or affecting the direction or

extent of the elaboration. Certain variables, such as prior knowledge or mood, can act as moderators and influence the ability to handle a message relatively objectively (postulate 4). The fifth postulate adds that this change in processing can cause negative, i.e. unfavourable, but also positive, i.e. favourable, bias. When the motivation to process is low, processing tends to be more peripheral, in contrast to high processing motivation which tends to lead to the centralised processing (postulate 6). Finally, the seventh postulate adds that attitude changes from the central route are more resistant against other messages, have greater permanence over time and can be better predicted in terms of behaviour (El Hedhli & Zourrig, 2023; Petty & Cacioppo, 1986; Petty & Wegener, 1999).

Since the development of the ELM in 1980, the model has been thoroughly examined by various studies from different angles (C.-Y. Li, 2013). Among the first studies of the ELM were Bitner and Obermiller's (1985), which questioned whether peripheral processing really influences affect and the framework of the ELM is under-specified. Mak et al. (1997) suggested that one of the most significant peripheral cues for information is perceived legitimacy of the source, while the strength of the claim is a vital component for central route messages. Moreover, Morris et al., (2005) add to this that the ELM assumes that attitude change is not caused by emotion but cognition and propose to include affect as the emotional core of cognition. However, regardless of its popularity, the ELM also draws significant criticism through the literature (Kitchen et al., 2014). This criticism is mainly directed at four areas: The issue of multichannel processing, continuum issues, the descriptive nature of the model, and the study of the various variables that convey the likelihood of elaboration (Kitchen et al., 2014). Shahab et al. (2021) adds to this from the present perspective that while usually classical theories need to be extended because they cannot capture new technologies, the ELM is already capable of being applied to new technologies.

#### **4.2. Applying the ELM in CSR Communication**

The Elaboration Likelihood Model is frequently used in research as a framework for analysing corporate social responsibility communication (Zhao, 2023). The model is particularly appropriate for examining motivation and the amount of cognitive effort involved in processing

CSR information (Zhao, 2023). The following section takes a closer look at three studies that have analysed CSR communication using the ELM as a framework.

Camilleri (2022) investigated how external stakeholders perceive online CSR communications via platforms such as social media or corporate websites. This is analysed using a quantitative survey based on information quality for processing via the central route and source credibility for the peripheral route according to the ELM. The results show that accuracy, relevance, and timeliness of the message in particular, as well as source credibility, had a significant influence on stakeholder's attitudes. Merely the trustworthiness of the source did not show significant influence. Thus, the study shows that CSR information is processed particularly via the central route, yet the expertise of CSR communicators is also rated positively (Camilleri, 2022).

In contrast, Bögel (2015) focuses in particular on the influence of the stakeholders' own CSR engagement. Using the ELM, the influence of stakeholders with either low or high CSR commitment on their processing of CSR communication is analysed. CSR engagement was measured using semantic differential scales of personal assessment of a company's CSR engagement, amount of attention was measured using the time it took study participants to read CSR information, and trust was measured using CSR perception scales. The results showed that for stakeholders with high CSR engagement, high quality CSR information is appropriate as they perceive information via the central route. However, also stakeholders with low CSR engagement should not receive just few and surface CSR communications, as the study showed that this group processes the information via the central route rather than the peripheral route as well (Bögel, 2015).

Chen and Lin (2020) examined perceptions of CSR communication specifically in the field of sport. They analysed the influence of the level of involvement, identification and curiosity in the sports teams studied on processing using two cross-sectional studies. In the studies, different CSR communications of two sports teams were displayed, namely detailed information for central route processing and short, simple information for peripheral route processing. The results showed that with low levels of identification, involvement and curiosity, communication via peripheral and centralised channels both improved CSR perception. In contrast, high

identification, involvement, and curiosity had no significant influence on the processing of CSR information. This shows that particularly for stakeholders with low levels of curiosity, involvement and identification, CSR communication via both peripheral and centralised channels can be particularly effective (Chen & Lin, 2020).

Thus, this overview of the ELM and its application in CSR communication shows that several studies have already investigated how and with what focus the ELM is used as a framework in CSR communication research. This study, therefore, shows that the ELM is a suitable model for researching stakeholder perceptions of CSR communication. It is, therefore, suitable for examining the targeted research gap on stakeholder perception of AI-generated CSR communication in the automotive industry as a framework for the study.

## **Part II - Empirical Study**

### **5. Chapter**

### **Method**

The following chapter presents the empirical method of the research, outlining the research design for this study. Firstly, the hypotheses with which the two research questions are to be investigated are derived and presented. The following subchapter outlines the research design of the study. This is followed by explaining the sampling strategy, the research instruments, and the data collection itself. Once the data has been collected, it is subsequently disclosed how the collected data will be analysed. The chapter concludes with a view of ethical considerations related to the research.

### **5.1. Derivation of Research Questions and Hypotheses**

This chapter provides a detailed overview of the research questions and the associated hypotheses derived from the literature review. The research questions previously presented in the problematisation are as follows:

**RQ 1:** How does GenAI impact stakeholders' perception of CSR communication in the automotive industry?

**RQ 2:** How does GenAI impact stakeholders' route of processing of CSR communication in the automotive industry?

#### *5.1.1. The Impact of GenAI on Stakeholder Perceptions*

Stakeholders' perceptions of CSR communication are influenced by various factors, including transparency (Schneider & Köhler, 2017). Through transparent communication, companies convey an honest picture to their stakeholders. In CSR communication, this can prevent purpose-washing effects (Schneider & Köhler, 2017). However, if the communication is generated by AI, its content can only be transparent to a certain extent, as the source and composition of the AI-generated communication are not fully transparent (Wilman, 2023). This can have a negative impact on stakeholder perceptions, particularly in relation to the automotive industry, as the automotive industry as a whole has a lack of trust in AI due to experiences of how automated vehicles have led to accidents in the past (Smit et al., 2022). However, the enormous increase in the popularity of ChatGPT also indicates favourable user perceptions (Fui-Hoon Nah et al., 2023). In addition, the automotive industry is currently undergoing a major

transformation towards more sustainable mobility through innovations such as EVs and e-fuels (BMW Group, 2022). Based on this, it is not clear whether stakeholders are more favourable or unfavourable towards AI-generated CSR communication. The preceding argumentation, therefore, leads to the following non-directional hypothesis:

**Hypothesis 1:** The use of generative AI influences stakeholder attitudes towards CSR communication in the automotive industry.

Taking a closer look at stakeholder perceptions, a distinction can be made between perception of the information and perception of the source. Stakeholders perceive CSR information in the automotive industry as highly relevant, and the numerous applications of GenAI by stakeholders for contributions, such as texts or videos, show the trust they place in AI-generated content (Audi AG, 2022a; Hu, 2023). However, the use of GenAI as a source of communication is questioned due to aspects such as control over the source and transparency about the source (Heinrich, 2013; Nicoletti & Bass, 2023). As transparency is an essential element in CSR communication and the automotive industry, it can be deduced that GenAI is rated negatively as a source of communication in this context (Audi AG, 2022a; H. Kim & Lee, 2018). This discourse leads to the following directional hypotheses:

**Hypothesis 2:** The use of generative AI leads to favourable stakeholder attitudes towards the information of CSR communication in the automotive industry.

**Hypothesis 3:** The use of generative AI leads to unfavourable stakeholder attitudes towards the source of CSR communication in the automotive industry.

While on the one hand, communication professionals highly value the potential of GenAI in doing communication tasks such as copywriting, they also claim that the output of GenAI is not sufficiently tested to be used without revisions (Navarro, 2023c; Shrivastava, 2023). Further, professionals are aware that in CSR communication in the automotive industry, aspects such as transparency and honesty impact stakeholder perception (S. Kim, 2019; Schneider & Köhler, 2017). Therefore, stakeholders with prior experience with CSR communication in the automotive industry may have different perceptions than stakeholders without prior knowledge. This discussion leads to the following non-directional hypothesis:

**Hypothesis 4:** Prior topic knowledge influences the effect of GenAI on stakeholder attitudes towards CSR communication in the automotive industry.

#### *5.1.2. The Impact of GenAI on Stakeholder Route of Processing*

The ELM can be used in CSR communication to categorise the route of processing and thereby determine how stable or unstable an attitude is (Camilleri, 2022). Following the argumentation of hypotheses 2 and 3, it can be assumed that GenAI processes CSR communication on the peripheral route. The foregoing reasoning leads to this directional hypothesis:

**Hypothesis 5:** AI generation of CSR communication in the automotive industry leads to processing via the peripheral route.

## **5.2. Research Design**

The focus of this study is to examine the influence that GenAI has on stakeholder perceptions of CSR communication in the automotive industry. More specifically, the route of processing stakeholders use is being researched according to the ELM, which states that perceptions can be central and peripheral. Thus, the purpose of the research design of this study is explanation, which is used to explain causal relationships or correlations. Explanatory research is used, for example, to investigate factors that change people's attitudes and provides indications of the extent to which variables are causally related (Creswell, 2009; Leavy, 2017).

The corresponding research question, *How does generative AI impact stakeholders' perception of CSR communication in the automotive industry?* is close-ended. Thus, it is predetermined whether GenAI will diminish stakeholders' perceptions. This is also the case for the second research question, *How does generative AI impact stakeholders' route of processing CSR communication in the automotive industry?* which is close-ended, too. Therefore, the research questions will be investigated through quantitative research. In quantitative research, the relationship between variables is evaluated by measuring participant responses through numerical values rather than verbal interpretation, as in qualitative research (Leavy, 2017). Quantitative research always aims to test, that is, verify or falsify, existing theories expressed by hypotheses. Quantitative research is subject to values such as objectivity and neutrality and

attempts to draw a statistical overview from large samples. The primary purpose of quantitative research is to evaluate or explain relationships, and it can be realised through survey research or experiments. In survey research, relationships are tested, but the direction of the relationship is not. Since this study aims to investigate a causal relationship, the research question will be examined through a quantitative experiment (Leavy, 2017).

Experimental research was the first form of quantitative research and is used to test the effect of introducing a variable on an event (Leavy, 2017). Like survey research, it is based on hypothesis testing and, in the social sciences, is controlled and systematically structured. Thus, experimental research is appropriate to investigate the causal relationship between two variables, in this case, the stakeholders' perception of CSR communication in the automotive industry and the generation of CSR communication through AI, and to determine if the independent variable affects the dependent variable. Furthermore, experimental research also fits the investigation of the second research question, as it examines the generation of CSR communication through AI as the independent variable and the stakeholders' route of processing as the dependent variable. The experiment is a true experiment since the subjects are divided into four treatment groups at random (Leavy, 2017).

More specifically, the experiment is a Pre-Test-Post-Test Control-Group Design. Meaning that each group completes the same pre- and post-tests, but they are given different treatments. To establish a test subject's baseline value, a pretest is conducted before introducing the treatment. After the treatment, a post-test is administered to evaluate its impact. The treatments, also known as experimental exposure, vary depending on the group. In this experiment, there are four experimental groups. The first and third of the four experimental groups receive a human written CSR communication text. The second and fourth experimental groups receive an AI-generated CSR communication text (Leavy, 2017). There is also a distinction between the first and third, as well as the second and fourth group. The first group receives a human-generated (referred to as 'real' in the further course of the study) CSR communications text and is explicitly informed of its source, being Audi CEO Duesmann, while the third group is not explicitly informed of its stimuli's source. The second group receives an AI-generated CSR communications text and is

explicitly informed that AI-generated it, while the fourth group is not informed that the text is AI-generated. Thus:

- Experimental Group 1:** Receives a **human-generated** CSR communication text and is explicitly **informed** of its source.
- Experimental Group 2:** Receives an **AI-generated** CSR communication text and is explicitly **informed** that it was generated by AI.
- Experimental Group 3:** Receives a **human-generated** CSR communication text and is **not** explicitly **informed** of its source.
- Experimental Group 4:** Receives an **AI-generated** CSR communication text and is **not** explicitly **informed** that it was generated by AI.

### 5.3. Sampling Strategy

The purpose of the study is to investigate the companies' stakeholders in the automotive sector. For stakeholders, the focus is mainly on external stakeholders, such as potential customers, but there can also be internal stakeholders, such as employees. As a result, participants in this experiment are chosen at random among English-speaking people who have a general understanding of the automotive industry. A general understanding means, for example, knowing at least three car brands or having a driving licence. Ideally, in the sampling process, every member of the designated population has an equal chance of being chosen at random in the selection process (Creswell, 2009; Leavy, 2017). However, as participants are searched for in accessible areas, such as among the researcher's circle of acquaintances, in online forums and via social media, the study is not free of bias and represents a convenience sample.

During the experiment, one of the four stimuli is allocated at random to the chosen individuals. This method minimises the chance of systemic disparities in participant characteristics that might affect study outcomes since it does not result in a systematic bias. Moreover, as the accuracy of the results in quantitative research increases with the number of participants, the aim is to acquire a sufficient number of participants. At least 100 participants per group, i.e. 400 in total, must participate in the experiment in order to be able to express the results per group in percentages (Creswell, 2009; Leavy, 2017).

#### **5.4. Instruments**

The structured questionnaire, apart from the introduction and preliminary questions, is divided into four main sections: socio-demographic information and prior knowledge about the topic, the experimental exposure with control questions and the perception measures (see Figure B1). All 24 questions in the questionnaire are single-choice questions, and on each page, there is the option to go back to the previous page. In addition, every question in the questionnaire must be answered, and there are no avoidance options.

The first section introduces the participants to the experiment, stating the research focus and the ethical measures such as anonymity. Furthermore, the introduction explains the term CSR, which is fundamental to understanding the experiment. Each time CSR is mentioned in the questionnaire (on pages 1, 4, 7, 8 and 9), the explanation of CSR is shown again to ensure the participants' understanding. Lastly, the introduction states the length of the experiment, which is approximately ten minutes. Thereafter, the participants are asked to give their informed consent to participate in the experiment via a single-choice question.

To ensure the sample follows the sampling strategy, one preliminary question follows on the second page of the questionnaire. The participants must confirm their general understanding of the automotive industry by answering *yes* to the question. To clarify what is meant by a general understanding of the car industry, the question includes a sub-heading that gives examples of what counts as a general understanding, which is knowing at least three car brands or having a driving licence.

The second section aims to divide the sample into subsamples in the data analysis. Therefore, the primary socio-demographic data, namely gender, is requested using a drop-down selection and age, which is specified in years in a free field. Next, participants are asked for the country in which they live, which they can select from all the countries in the world using a drop-down menu (Our World In Data, 2024). Moreover, the questionnaire asks for the specific industry participants work or study in to identify possible similarities between the groups, especially in the automotive industry. The industries were retrieved from the Global Industry Classification

Standard (GICS), which was developed in 1999 by S&P Dow Jones Indices and MSCI, to have reliable, universal and flexible selection (S&P Dow Jones Indices, 2024).

After socio-demographics, the knowledge of relevant topics is tested. The three relevant topics are CSR activities, the automotive industry, and the automotive company Audi, from which the experimental exposure will originate. Each of the topics is measured through the rating of the statement *Please rate your knowledge about [...]* via a five-point Likert scale. The Likert scale ranges from *low knowledge* (1) to *high knowledge* (5), scale points 2 to 4 are not marked with a description. A five-point Likert scale was chosen because it is based on other studies used in the further course of the questionnaire, and the questionnaire should, therefore, remain consistent.

In the third section, participants are separated into four groups at random, viewing the two different experimental exposures, with or without explicit information about their source. As an appropriate example of CSR communication, the CEO statement of Audi's combined annual and sustainability report from 2022 was chosen (Audi AG, 2022a). The use of CEO statements from annual reports to measure CSR is generally recognised in strategy and CSR research (Fehre & Weber, 2016). The media form text was chosen as it is the clearest and easiest to understand, as videos, for example, often require participants to be able to hear the accompanying sound, which can be an obstacle for many, and texts are a common form of CSR communication (Heinrich, 2013).

Furthermore, a text is the most suitable to be generated by AI. Although GenAI is also able to generate other forms of media, such as photos or videos, GenAI texts have been particularly popular since the introduction of ChatGPT (Shrivastava, 2023). The choice of using a CEO statement from a CSR report is based on a study by De Villiers et al. (2024). The study used an AI-generated CEO statement from a CSR report to investigate the extent to which the generation and processing of AI-generated texts affect sustainability reporting. The study justifies the choice of the CEO statement at the beginning of the report by stating that the statement not only summarises the content of the CSR report but also represents the mindset and approach of the company (De Villiers et al., 2024). This is because the CEO is representative of the company,

which means that his or her statements, particularly concerning the company, also impact the public opinion (Elving & Kartal, 2012).

As De Villiers et al.'s (2024) study on a CEO statement from a CSR report demonstrates that this approach may be used to compare real CSR communication with AI-generated CSR communication, the stimuli of their study align with this one. In the study, ChatGPT, currently the most popular GenAI, is used to create the statement. Thus, the study develops a simple and short command for ChatGPT to generate the CEO statement. The command only provides the word count, 500 words, and the type of CEO statements and associated CSR reports, as well as the target audience and minor content information (De Villiers et al., 2024). Therefore, Audi's report is appropriate for this study because the CEO statement in the report has a length of 512 words. This length is appropriate according to a similar study by De Villiers et al., while, for example, the CEO statement in the Mercedes report would be too long at 977 words, as well as the CEO statement from Ferrari's CSR report with 987 words (Ferrari N.V., 2022; Mercedes-Benz Group, 2022).

The fact that Audi's report is not a pure CSR report, but a combined annual and sustainability report is appropriate. This is the norm in CSR reporting in the automotive industry, as the reports from Porsche and Ford confirm (Ford Motor Company, 2022; Porsche AG, 2016, 2022). In particular, this study consciously considers the CEO statement of a combined annual and sustainability report since the combination of the annual report and sustainability report is mandatory for all companies within the EU from January 1, 2024, in accordance with the Corporate Sustainability Reporting Directive (CSRD) (KPMG, 2024). The CSRD aims to achieve greater transparency and comparability and greater visibility in CSR reporting (KPMG, 2024). Therefore, the report from Audi, although it is from 2022 and is therefore not yet affected by the CSRD, is suitable as an experimental exposure. A more recent report from Audi could not be selected because no more recent report had been published at the time of conducting the study.

Accordingly, half of the participants read the real CEO statement of the Audi report (see Figure B2). The other half of the participants read an AI-generated version of the CEO statement of the

Audi report. This is created using the approach of De Villiers et al. (2024) generated by ChatGPT. GPT-4 is used as this version has access to data from 2022, which is essential to generate a realistic statement about what happened at Audi in 2022 (Ray, 2023). The statement is generated by the following prompt: *Create a 500-word CEO statement by Audi CEO Markus Duesmann to Audi's stakeholders for the combined annual and CSR report for the year 2022.*

The resulting statement from GenAI is 504 words long and differs in its structure from the real statement, especially in the five subheadings that the AI-generated version has (see Figure B3). To verify whether there is a noticeable linguistic difference between the two texts, both texts were scanned by GPTZero, which is a program for identifying AI-generated texts (Tian & Cui, 2024). The text from ChatGPT was correctly classified as AI-generated material with a 95% probability, and the real text from Audi was identified as being written by a human with a 97% probability (Tian & Cui, 2024).

After the participants have read their respective text, they must answer three quality-control questions on the following sixth page to confirm that they have read the text in sufficient depth. The questions are formulated in general terms and are, therefore, the same for both groups. All three questions are formulated as statements to be answered with yes or no. The first statement focuses on the type of text and the year of publication and is correct. The second and third statement, which deal with the length of the text and the language in which the text is written, are both incorrect. If the participants answer at least one of the questions incorrectly, the questionnaire ends for them, as they cannot give sufficiently informed answers in the next step. However, as with every page of the questionnaire, there is the option to click back to the text to re-read it in more detail. This is intended to minimise drop-outs due to incorrect answers to the control questions.

The fourth section measures the participant's perceptions after reading one of the four experimental exposures. Twelve questions spread over three pages measure participants' perceptions of the viewed CSR communication. These questions and items are adapted from a study by Camilleri (2022). As explained in Chapter 4.1, Camilleri's study uses the ELM to analyse how stakeholders perceive online CSR communication. Attitudes towards information,

information quality and source credibility are measured to determine whether stakeholders perceive the communication on the central or peripheral route (Camilleri, 2022). Accordingly, the questions on stakeholder perception are also divided into these three areas. The first page after the experimental exposure measures the attitudes towards information to depict the general mood towards the CSR communication read. By analysing these results with the results of the following areas, it is possible to evaluate how stakeholders perceive CSR communication. The attitudes towards information are measured with the help of two statements, namely how informative and useful Audi's CSR communication is. The participants are asked to rate the statements using a five-point Likert scale, according to Camilleri (2022), ranging from strongly disagree (1) to strongly agree (5), without a description of levels 2 to 4. The same scale is also used for the following statements on the following pages.

The perception of information quality is then measured on page 8 of the questionnaire. This is subdivided into the information's relevance, accuracy and timeliness, and all six statements are structured according to the same pattern: *The information I obtain from Audi's CSR communications is [...]*. The relevance of the information is measured by assessing how relevant and appropriate the participants perceive it to be. Subsequently, the accuracy of the information is measured by how correct and reliable the participants perceive Audi's CSR communication. To measure the timeliness of the information, participants indicate how up-to-date and timely they perceive the communication to be.

Source credibility is measured on page 9 with the help of four statements on the trustworthiness and expertise of the source. Source trustworthiness is measured by participants rating how much they trust Audi's CSR communications and whether they think Audi makes truthful claims in their CSR communications. To measure source expertise, stakeholders rate whether they think Audi has a great amount of experience in using CSR communications and whether Audi is skilled in developing CSR communications. The source of Audi's CSR communications refers to the source of the CEO statements. To clarify this, for participants who have read the real CEO statement and are part of group one, it is written above the questions that Audi CEO Markus Duesmann is the source. For participants who have read the AI-generated CEO statement and are part of group three, it is written above the questions that the CEO statement was generated

by AI. Participants in groups two and four are not explicitly informed about the source of their respective text.

Finally, on the last page of the questionnaire, the respondents are thanked for their participation, informed about the procedure and the aim of the experiment, and given the researchers' email address as a contact option for possible questions or concerns.

### **5.5. Data Collection**

The data was collected using an online questionnaire. This questionnaire was created using the online platform SoSciSurvey. SoSciSurvey is suitable for this study as it is free of charge for non-commercial scientific surveys and has all the necessary functions such as capacity for large numbers of participants and the option of group categorisation. As a causal relationship is to be measured, there are four groups in the questionnaire which are categorised by random online ballot. By distributing them equally in completed questionnaires without putting them back, it can be guaranteed that all four groups have the same number of participants at the end of the experiment. Furthermore, SoSciSurvey also offers the option of downloading the collected data directly as an SPSS file after the experiment, which can be used for statistical analysis. The questionnaire was therefore created in SoSciSurvey exactly as described in the previous chapter.

The quality of the data to be collected is ensured by two measures: Firstly, through the preparation of the questionnaire, which is based on previous studies for its scales as described above. Secondly, a pretest was carried out to obtain feedback on the entire questionnaire from uninvolved individuals. The pretest ran for five days from 23 February 2024 to 29 February 2024 (see Figure B4). Fifteen people from the researchers' circle of contacts took part. In the pretest, respondents were able to provide feedback per questionnaire page, which is why each page was labelled *Feedback for page [...]*. At the bottom of each questionnaire page was a blank space with the following instructions:

You are testing the questionnaire (pretest). Did you notice any incomprehensible or ambiguous terms? Did you notice any errors? Please write down everything that you notice. You will find an ID beside the top of every question, like IN01. If you like to take a note on a question, please specify its ID (and not the number of the question). Thank you.

Participants could give their feedback on the respective questions here, which could be identified by ID's that labelled each question. If the participants had no comments on a page, they could leave the feedback field on that page blank. The actual questions in the questionnaire should not be completed by the participants. If participants completed the questions anyway, this data was not used to answer the hypotheses later. Most participants gave their feedback in English, but as six participants wrote their comments in German, their native language, these were translated into English using the online machine translator DeepL.

On the first page, it was noted that the first time CSR is mentioned, the entire term, Corporate Social Responsibility, should be written, which has been adapted in response to this feedback. Also, a recommendation for wording was given, and two participants noted that the terms experiment and interview were used inconsistently. As a result, the page was revised to label the experiment consistently and correctly. There were no questions or suggestions for changes to the second page. On the third page, socio-demographic, there were suggestions for wording and formatting, and three respondents noted that for work industries, there should be an *other* category with a free field, which thus has been added.

On the fourth page, a third of the participants noted that the term CSR should be explained again in case future participants have forgotten or overlooked what it means. As a result, CSR is briefly explained on each page of the questionnaire where it appears to ensure that participants fully understand it. The fifth page represents the stimulus, where the participants were randomly assigned to the different groups to cover everyone in the pretest. There were two formatting suggestions from the participants for this page and no comments on the content. For the control questions on page six, three participants were confused by the wording of the third question, and one participant found a content error in the instructions. The third question was subsequently formulated more clearly. On the last page, three participants suggested dividing the questions into several paragraphs to provide a better overview. Two other participants had difficulties understanding the questions correctly. Therefore, to make this part clearer, the questions from page seven were divided into three pages with each up to six scales measuring stakeholder attitudes.

The experiment started after incorporating the results of the pretest on 11 March 2024 and ran for about four weeks, until 6 April 2024. In order to achieve the minimum target of 100 participants per group, thus 400 in total, the participants were recruited from the researchers' extended circle of acquaintances and via online platforms. The online platforms used to recruit participants were namely Thesius, SurveySwap and SurveyCircle, on which participants can be recruited by taking part in other studies. This can lead to potential biases, particularly concerning the place of residence, age and industry in which the participants work. As the researcher is studying in the field of communication sciences, a large part of her environment also studies and works in this field. In addition, her environment also largely consists of people between the ages of 18 and 30. Finally, this recruitment strategy can also lead to low diversity in the place of residence, as the researchers' environment and the SurveyCircle and Thesius platforms come from Germany, while the SurveySwap platform comes from the Netherlands.

In total, the link to the experiment was clicked 1028 times. Of these 1028 clicks, 757 people took part in the questionnaire. Out of these 757 participants, 671 completed the questionnaire, meaning that about 11% cancelled the experiment in the process. Of all 671 completed data sets, 628 are valid cases. Valid cases are data sets that completed the questionnaire up to the last page, which was page nine, took at least 60 seconds for the entire questionnaire and are not underage. Sixteen participants out of the completed data sets completed the questionnaire early because they did not have a basic understanding of the automotive industry.

Further, 11 participants terminated the questionnaire early because they answered the control questions on page 11 incorrectly. Fourteen participants completed the questionnaire in less than 60 seconds. This limit was set to exclude participants who read the questionnaire and did not read the questions precisely enough. Also, two participants were minors and were therefore excluded from the experiment. Moreover, the SoSciSurvey platform automatically cleanses the data of interruptions. If a participant interrupts the survey and continues it at a later time, a large amount of processing time will be calculated for that page. Any processing time that is over 2 hours or exceeds the median processing time by more than three times the interquartile range (IQR) divided by 1.34 (corresponding to more than three standard deviations in a normally distributed sample) is recognised as an interruption.

## **5.6. Data Analysis**

The data analysis of the experiment was carried out after downloading the data set from SoSciSurvey using SPSS. SPSS is statistical data analysis software and is appropriate for this research as it is particularly suitable for analysing consumer behaviour and attitudes (Rahman & Muktadir, 2021).

The data analysis using SPSS starts with a descriptive evaluation of all questions, including means, standard deviations and ranges, in order to obtain an initial overview of the results. In the socio-demographic section, participants were asked about the industry in which they work. In addition to a standardised selection of industries, there was also a free field, the results of which were adjusted and allocated to the standardised selection where possible (see Figure B5). Accordingly, Cronbach's alpha is used to measure whether the different scale sets of all Likert scales are consistent in themselves and to form indexes accordingly.

To answer the two research questions and analyse the corresponding hypotheses, the analysis of variance (ANOVA) is used to determine the relationship between the respective independent variable and the respective dependent variable. Before applying the ANOVA, a Levene test is conducted to test whether there is homogeneity of variance between the groups. In the case of a non-significant Levene's test result, a univariate ANOVA is applied, and in the case of a significant Levene's test result, the more robust Welch ANOVA is applied. The result of either ANOVA shows the statistical significance of a correlation. If the results are significant, the next step is to carry out a post-hoc test using Bonferroni, in the case of a univariate ANOVA, or Games-Howell, in the case of a Welch ANOVA, to test the differences between the various groups. This can be used, for example, to determine whether experimental groups 1 and 2 show significant differences between each other. If the results are not significant, the analysis is terminated at this point, and the post-hoc test is not applied.

## **5.7. Ethical Considerations**

The main objectives of research ethics are to maintain the trustworthiness of research results and to protect study participants' privacy and well-being (Wassenaar & Mamotte, 2012). To

ensure this, this research complies with the guidelines for ethics and data protection of the European Commission (2021). The guidelines for ethics and data protection were prepared by the Research Ethics and Integrity Sector at the European Commission, aiming to raise awareness within the scientific community. Especially when collecting data from individuals, which the experiment does, data protection as a fundamental human right is a central issue. Therefore, this research must comply with the General Data Protection Regulation (GDPR), which is taken into account in these guidelines for ethics and data protection (European Commission, 2021).

Within this context, the European Code of Conduct for Research Integrity identifies five practices for good research relevant to this work. First, to alleviate the basic ethical concerns, the anonymity of the participants is guaranteed at all times during the experiment, which is also communicated to the participants from the beginning. Second, to enhance anonymity, only minimal socio-demographic data are collected and selected where necessary to avoid making participants identifiable. Additionally, the data is minimised by collecting only data that is needed to verify or falsify the hypotheses. This is ensured by focusing on relevant measures and the direct exclusion of participants who do not have a basic understanding of the automotive industry, for example.

Third, before starting the experiment, the participants are informed about the measures to ensure their privacy and well-being. In addition, the first page outlines the research topic, and it is made abundantly evident that this is an experiment. Subsequently, participants give their informed consent by asking directly, using a single choice, if they want to take part in the research. The questionnaire ends immediately if respondents refuse to participate. During the debriefing, the experiment's path is explained, and the two stimuli are revealed. Also, the researcher's contact information is supplied in case there are any further queries or worries from the participant's side. Moreover, fourth, people under the age of 18 are excluded from the experiment to avoid collecting data from children and adolescents. Furthermore, fifthly, all data will only be retained for as long as necessary and then securely and irrecoverably deleted in its entirety.

## 6. Chapter

# **Empirical Results**

This chapter presents the results of the experiment. Participants who did not agree to the experiment and did not have a basic understanding of the automotive industry were automatically excluded from the study and were, therefore, not included in the final data set. The following presentation of results is divided into the results of the socio-demographics, the descriptive results for prior knowledge and perception measures, the results for each hypothesis testing, as well as additional measures.

### **6.1. Socio-demographic Data**

For socio-demographics, data was collected on the gender, age, country, and industry of the participants. At 64%, the majority of the 628 participants identify themselves with the female gender, and 36% identify themselves with the male gender. Two of the participants stated their gender as diverse, and three participants preferred not to say. The age of the participants varies between a minimum of 18 years and a maximum of 69 years. On average, the participants are 28 years old, most participants are 24 years old. In terms of the participants' place of residence, most of them are located in the GSA region and Portugal. At 74%, most participants live in Germany, 10% in Austria and 3% in Switzerland. Subsequently, 4% of participants live in Portugal. The countries mentioned most frequently thereafter are the United States, with 2% of participants, Australia and the United Kingdom, both 1% of participants.

To measure which industry the participants work or study in, there was a selection of eleven industries in the questionnaire. In addition, participants had the option to indicate *Other* and write their industry in a free field, which 17% of participants did. After reviewing the 107 entries in the free field, see Figure B5, 86 of them could be assigned to the eleven original categories using the Global Industry Classification Standard (S&P Dow Jones Indices, 2024). After this allocation, the results demonstrate that the majority of participants work in communication services (22%), health care (16%), and consumer discretionary (15%). In the industrials industry, which also includes the automotive industry, work 12% of the respondents. The industries in which the fewest participants work are energy (nine participants) and utilities (one participant). Twenty-one of the free-form responses could not be assigned to any category. In addition to statements such as *unemployed* and *other*, ten people work in research. Furthermore,

four people stated that they work or study in the social sector. Other areas that could not be categorised were *entrepreneur*, *sports*, *public sector* and *retired government worker*.

## 6.2. Descriptive Results for Prior Knowledge and Perception Measures

In order to first measure prior knowledge about the topic of the stimulus, three areas were surveyed: prior knowledge about CSR initiatives, the automotive industry and the automotive company Audi. Each of the three areas was tested using a 5-point Likert scale from 1 to 5, with 5 symbolising the highest level of prior knowledge. In the comparison between the three areas, the participants have the highest prior knowledge about CSR initiatives, with a mean value of 3.20. The participants have the lowest prior knowledge about Audi, with a mean value of 2.81 (see Table 1). Taken together, the results of the three items form an internally consistent scale with Cronbach's alpha = .678. Due to this poor internal consistency, the three items could not be summarised in a mean value index.

**Table 1**

*Prior Knowledge Items*

	<i>Mean</i>	<i>SD</i>
Please rate your knowledge about corporate social responsibility (CSR) activities.	3.20	1.11
Please rate your knowledge about the automotive industry.	3.06	0.92
Please rate your knowledge about the automotive company Audi.	2.81	1.05

To explore the attitudes of the stakeholders regarding Audi's CSR communications through the stimulus, the participants were asked to rate two statements on a five-point Likert scale. Here, participants rated the communication as more informative (*Mean* = 3.57, *Mode* = 4 with 51% of responses) rather than useful (*Mean* = 3.32, *Mode* = 4 with 38% of responses) (see Table 2, Table C1). The information content of the communication was strongly disagreed with by 2% of participants, and 3% of participants strongly felt that the communication is not useful. The results of the two items formed an internally consistent scale (Cronbach's alpha = .828) and were summarised in a mean index (*M* = 3.44, *SD* = 0.85).

**Table 2***Items in the Index Attitudes*

	<i>Mean</i>	<i>SD</i>
Audi's CSR communications are informative.	3.57	0.88
Audi's CSR communications are useful.	3.32	0.96
Index: Attitudes	3.44	0.85

To investigate the stakeholders' perceptions of the information in Audi's CSR communications, the participants were asked to score six statements using a five-point Likert scale. The six statements were all rated rather similarly, with means between 3.39 and 3.64 and standard deviations between 0.87 and 1.03 (see Table 3). The appropriateness of the information was rated highest and its reliability lowest. Moreover, regarding reliability, most participants selected the option *1 - Strongly disagree* compared to the other five statements (see Table C2). In comparison, however, most participants also selected option *5 - Strongly agree* for reliability, which is the same as for appropriateness. The results of the six items form an internally consistent scale, with a Cronbach's alpha of .85 and a mean index of 3.51 and a standard deviation of 0.70.

**Table 3***Items in the Index Information Perception*

	<i>Mean</i>	<i>SD</i>
The information I obtain from Audi's CSR communications is relevant.	3.42	0.98
The information I obtain from Audi's CSR communications is appropriate.	3.64	0.87
The information I obtain from Audi's CSR communications is correct.	3.46	0.87
The information I obtain from Audi's CSR communications is reliable.	3.39	1.03
The information I obtain from Audi's CSR communications is up to date.	3.60	0.91
The information I obtain from Audi's CSR communications is timely.	3.54	0.89
Index: Information Perception	3.51	0.70

Finally, to measure stakeholders' perceptions of the source of Audi's CSR communications, participants gave their evaluation of four statements on a 5-point Likert scale. In evaluating the four areas outlined in Table 4, trust in the source is the lowest rated with a mean value of 3.15, but this item also has the highest standard deviation (1.11). The highest rating, with a mean of

3.67, was given to the skill of the source, which, in contrast to the other items, most participants (42%) selected 4 (*Mode*) (Table C3). Furthermore, the least participants (3%) chose the option 1 - *strongly disagree* for the experience of the source, which can be Audi or GenAI, compared to the other five statements. In contrast, option 1 - *strongly disagree* was selected by most participants (9%) for trust in the source. The findings of the four items create an internally consistent scale with a Cronbach's alpha value of .831 and a mean index of 3.44 and a standard deviation of 0.81.

**Table 4**

*Items in the Index Source Perception*

	<i>Mean</i>	<i>SD</i>
I trust Audi's CSR communications.	3.15	1.11
Audi makes truthful claims in their CSR communications.	3.31	0.96
Audi has a great amount of experience in using CSR communications.	3.63	0.95
Audi is skilled in developing CSR communications.	3.67	0.96
Index: Source Perception	3.44	0.81

### **6.3. The Impact of GenAI on Stakeholder Perceptions**

To address the first research question, the extent to which attitudes in general, attitudes towards information and source vary based on the stimuli as well as the influence of prior knowledge are tested. The four experimental groups consist each 25% of participants: Group 1, which read the real CSR text and was informed about its source, consists of 157 participants, group 2, which read the AI-generated CSR text and was informed about its source, consists of 157 participants, group 3, which read the real CSR text and was not informed about its source, consists of 157 participants, and group 4, which read the AI-generated CSR text and was not informed about its source, consists of 157 participants.

#### *6.3.1. Results of Hypothesis 1*

Testing a possible correlation between the participant's attitudes towards Audi's CSR communications and the four different experimental groups, a univariate ANOVA was carried out. Here, the experimental groups are the independent variable, and the participant's attitudes

towards Audi's CSR communications are the dependent variable, as it is measured whether the attitude varies between the experimental groups.

Based on the descriptive statistics, it can be deduced that the four experimental groups differ in terms of their attitude towards Audi's CSR communication. According to the descriptive results, participants from group 3 ( $Mean = 3.64, SD = 0.74$ ) have the most positive attitudes of all groups. Group 2, on the other hand, has the most negative attitude ( $Mean = 3.17, SD = 0.83$ ), while Group 1 ( $Mean = 3.61, SD = 0.82$ ) and Group 4 ( $Mean = 3.34, SD = 0.91$ ) are in between.

The Levene test, based on the median, has a p-value of .112 and is therefore not significant. This means that the null hypothesis is accepted, and there is homogeneity of variance between the groups (see Table C4).

In the ANOVA (see Table 5), a significant correlation was found between the experimental groups and attitudes towards Audi's CSR communication [ $F(3, 624) = 11.805, p < .01$ ]. According to the effect size  $Eta^2$ , about 5% of the variation in attitudes can be attributed to the variation in the groups. Thus, the type of stimulus therefore has a significant influence on the attitude towards Audi's CSR communication.

**Table 5**

*Univariate ANOVA: Experimental Groups (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Corrected Model	24.346 <sup>a</sup>	3	8.115	11.805	<.001	.054
Intercept	7436.180	1	7436.180	10816.904	<.001	.945
Experimental Groups	24.346	3	8.115	11.805	<.001	.054
Error	428.975	624	.687			
Total	7889.500	628				
Corrected Total	453.320	627				

a. R Squared= .054 (Adjusted R Squared= .049)

Due to the homogeneity of variance, the tests with Bonferroni correction are considered in the analysis of the post-hoc tests (see Table 6). Although the post hoc tests with Bonferroni correction were performed in both directions, only one of the two directions is reported, as the test result is independent of the direction. The results show significant differences between four

pairs of groups: Between the responses of participants from group 1 and participants from group 2 ( $p = < .01$ ,  $M_{\text{Diff}} = .449$ , 95%- CI [.201, .697]) and between people from group 1 and group 4 ( $p = .024$ ,  $M_{\text{Diff}} = .271$ , 95%- CI [.023, .518]). Moreover, between participants from group 3 and participants from group 2 ( $p = < .01$ ,  $M_{\text{Diff}} = .475$ , 95%- CI [.227, .722]), as well as between participants from group 3 and participants from group 4 ( $p = .010$ ,  $M_{\text{Diff}} = .296$ , 95%- CI [.049, .544]). No significant differences were found between people from Group 1 and Group 3 or between people from Group 2 and Group 4. The significance values, mean differences, and 95% confidence intervals of the non-significant group pairs can be found in Table 6.

**Table 6**

*Post Hoc Tests: Experimental Groups (IV); Index Attitudes (DV)*

Bonferroni		Mean	Std.		95% Confidence	95% Confidence
(I) Randomising:	(J) Randomising:	Difference	Error	$p$	Interval	Interval
Drawn code	Drawn code	(I-J)			Lower Bound	Upper Bound
Experimental Group 1	Experimental Group 2	.4490*	.09358	<.001	.2014	.6967
	Experimental Group 3	-.0255	.09358	1.000	-.2732	.2222
	Experimental Group 4	.2707*	.09358	.024	.0230	.5184
Experimental Group 2	Experimental Group 1	-.4490*	.09358	<.001	-.6967	-.2014
	Experimental Group 3	-.4745*	.09358	<.001	-.7222	-.2268
	Experimental Group 4	-.1783	.09358	.343	-.4260	.0693
Experimental Group 3	Experimental Group 1	.0255	.09358	1.000	-.2222	.2732
	Experimental Group 2	.4745*	.09358	<.001	.2268	.7222
	Experimental Group 4	.2962*	.09358	.010	.0485	.5439
Experimental Group 4	Experimental Group 1	-.2707*	.09358	.024	-.5184	-.0230
	Experimental Group 2	.1783	.09358	.343	-.0693	.4260
	Experimental Group 3	-.2962*	.09358	.010	-.5439	-.0485

Based on observed means.

The error term is Mean Square (Error) = .687.

### 6.3.2. Results of Hypothesis 2

A possible correlation between the experimental groups and the attitudes towards the information quality of Audi's CSR communication was analysed using a univariate ANOVA. Hereby, the experimental groups are the independent variable, and the attitudes towards information quality are the dependent variable.

The descriptive statistics show clear differences between the four experimental groups' perceptions. The results filtered by each group show that participants from the third

experimental group have rated the statements regarding information quality the most positive among all groups ( $Mean = 3.70, SD = 0.60$ ). Hereafter, group 1 rated the statements second most positively, with a mean value of 3.61 and a standard deviation of 0.67. Three percent less than group 1's mean value was the mean of group 4 with 3.49 and a standard deviation of 0.71. On a mean average, the information quality of Audi's CSR communications was rated most negatively by Group 2 ( $Mean = 3.22, SD = 0.71$ ).

In the verification of homogeneity between the groups, the Levene test, which is based on the median, shows a p-value of .228 and is therefore not significant. Consequently, the null hypothesis is confirmed, and there is homogeneity of variance between the groups, as detailed in Table C5.

The univariate ANOVA (see Table 7) demonstrates that there is a significant relationship between the experimental groups and their attitudes towards the information quality of Audi's CSR communication [ $F(3, 624) = 15.236, p < .01$ ]. To test the variation in the groups, the effect size  $Eta^2$  was also analysed, which shows that about 7% of the variation in attitudes towards information quality can be attributed to the variation in the experimental groups. This proves that the type of experimental exposure has a significant influence on attitudes towards the information quality of Audi's CSR communication.

**Table 7**

*Univariate ANOVA: Experimental Groups (IV); Index Information Quality (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	20.692 <sup>a</sup>	3	6.897	15.236	<.001	.068
Intercept	7728.040	1	7728.040	17070.676	<.001	.965
Experimental Groups	20.692	3	6.897	15.236	<.001	.068
Error	282.490	624	.453			
Total	8031.222	628				
Corrected Total	303.182	627				

a. R Squared = .068 (Adjusted R Squared = .064)

Given the homogeneity of variance, in the next step the post-hoc tests are analysed using the Bonferroni correction (see Table 8). As in hypothesis 1, only one of the two directions of the post-hoc test results are specified, as the test result is independent of the direction. The results

identify significant differences between four pairs of experimental groups: First, a significant difference is found between the responses from group 1 and group 2 ( $p = < .01$ ,  $M_{\text{Diff}} = .391$ , 95%- CI [.190, .592]). Furthermore, between group 3 and group 2 ( $p = < .01$ ,  $M_{\text{Diff}} = .483$ , 95%- CI [.282, .684]) as well as between group 4 and group 2 ( $p = < .01$ ,  $M_{\text{Diff}} = .271$ , 95%- CI [.070, .472]). Lastly, the post-hoc tests demonstrate significant differences between group 3 and group 4 ( $p = < .03$ ,  $M_{\text{Diff}} = .212$ , 95%- CI [.011, .413]). Between groups 1 and 3, as well as between groups 1 and 4, were no significant differences found. For the two non-significant group pairs, the values for significance, mean differences and 95% confidence intervals can be found in Table 8 below.

**Table 8**

*Post Hoc Tests: Experimental Groups (IV); Index Information Quality (DV)*

Bonferroni		Mean	Std.		95% Confidence	95% Confidence
(I) Randomising:	(J) Randomising:	Difference	Error	$p$	Interval	Interval
Drawn code	Drawn code	(I-J)			Lower Bound	Upper Bound
Experimental Group 1	Experimental Group 2	.3907*	.07594	<.001	.1897	.5917
	Experimental Group 3	-.0924	.07594	1.000	-.2933	.1086
	Experimental Group 4	.1200	.07594	.688	-.0810	.3209
Experimental Group 2	Experimental Group 1	-.3907*	.07594	<.001	-.5917	-.1897
	Experimental Group 3	-.4830*	.07594	<.001	-.6840	-.2820
	Experimental Group 4	-.2707*	.07594	.002	-.4717	-.0697
Experimental Group 3	Experimental Group 1	.0924	.07594	1.000	-.1086	.2933
	Experimental Group 2	.4830*	.07594	<.001	.2820	.6840
	Experimental Group 4	.2123*	.07594	.032	.0113	.4133
Experimental Group 4	Experimental Group 1	-.1200	.07594	.688	-.3209	.0810
	Experimental Group 2	.2707*	.07594	.002	.0697	.4717
	Experimental Group 3	-.2123*	.07594	.032	-.4133	-.0113

Based on observed means.

The error term is Mean Square (Error) = .453.

### 6.3.3. Results of Hypothesis 3

An ANOVA was used to examine a possible correlation between the experimental groups and the attitudes on the source credibility of Audi's CSR communications. In this case, attitudes regarding the source credibility are the dependent variable, while the experimental groups are the independent variable.

The perceptions of the four experimental groups differ noticeably, as indicated by the descriptive statistics. The participants in the second experimental group evaluated the source credibility as the lowest of all groups ( $Mean = 3.05, SD = 0.88$ ). While the other groups differed by less than two per cent in the means, group 4 rated source credibility 13% higher than group 2 ( $Mean = 3.52, SD = 0.79$ ). Group 1 rated the source credibility with a mean of 3.57 and had a standard deviation of 0.74. The most positive rating was given by group 3 to the source credibility of Audi's CSR communication ( $Mean = 3.61, SD = 0.70$ ).

The Levene test, which uses the median to verify homogeneity across the groups, results in a p-value of .045 and is, therefore, significant at the 5%-level (see Table C6). As a result, the null hypothesis is not validated, and there is no homogeneity of variance among the groups. Therefore, the results of the univariate ANOVA cannot be interpreted, and a Welch ANOVA must be performed, which is robust to a violation of the homogeneity assumption as stated by the Levene test.

The results of the Welch test (see Table 9) show that the experimental groups' opinions regarding the source credibility of Audi's CSR communication are significantly correlated with each other [ $F_{Welch}(3, 345.569) = 15.172, p < .01$ ]. The effect size  $Eta^2$ , obtained in the univariate ANOVA to assess group variation, indicates that variation in the experimental groups' accounts for about 8% of the variation in attitudes towards information quality. This demonstrates that attitudes regarding the source credibility of Audi's CSR communication are significantly influenced by the type of experimental exposure.

**Table 9**

*Welch ANOVA: Experimental Groups (IV); Index Source Credibility (DV)*

	Statistic <sup>a</sup>	df1	df2	p	Partial Eta Squared
Welch	15.172	3	345.569	<.001	.078

a. Asymptotically F distributed.

Next, the post-hoc tests are examined using the Games-Howell correction in the context of the homogeneity of variance (see Table 10). Similar to hypotheses 1 and 2, the test result is independent of direction. Hence, only one of the two directions of the posthoc test findings is stated. Significant variations between three pairs of experimental groups are found in the results:

First, a significant difference is between the data from group 1 and group 2 ( $p = < .01$ ,  $M_{\text{Diff}} = .526$ , 95%- CI [.289, .762]). Moreover, the posthoc tests demonstrate significant differences between group 3 and group 2 ( $p = < .01$ ,  $M_{\text{Diff}} = .559$ , 95%- CI [.327, .791]) as well as between group 4 and group 2 ( $p = < .01$ ,  $M_{\text{Diff}} = .471$ , 95%- CI [.227, .716]). No significant differences were found between groups 1 and 3, between group 1 and group 4, as well as between groups 3 and 4. Table 10 below shows the significance values, mean differences, and 95% confidence intervals for the two non-significant group pairs.

**Table 10**

*Post Hoc Tests: Experimental Groups (IV); Index Source Credibility (DV)*

Games-Howell		Mean		95% Confidence Interval	95% Confidence Interval	
(I) Randomising: Drawn code	(J) Randomising: Drawn code	Difference (I-J)	Std. Error			
Experimental Group 1	Experimental Group 2	.52548*	.09168	<.001	.2886	.7623
	Experimental Group 3	-.03344	.08101	.976	-.2427	.1758
	Experimental Group 4	.05414	.08645	.924	-.1692	.2774
Experimental Group 2	Experimental Group 1	-.52548*	.09168	<.001	-.7623	-.2886
	Experimental Group 3	-.55892*	.08979	<.001	-.7909	-.3269
	Experimental Group 4	-.47134*	.09473	<.001	-.7160	-.2266
Experimental Group 3	Experimental Group 1	.03344	.08101	.976	-.1758	.2427
	Experimental Group 2	.55892*	.08979	<.001	.3269	.7909
	Experimental Group 4	.08758	.08445	.728	-.1306	.3057
Experimental Group 4	Experimental Group 1	-.05414	.08645	.924	-.2774	.1692
	Experimental Group 2	.47134*	.09473	<.001	.2266	.7160
	Experimental Group 3	-.08758	.08445	.728	-.3057	.1306

\*. The mean difference is significant at the 0.05 level.

#### 6.3.4. Results of Hypothesis 4

To test whether prior knowledge has a significant influence on attitudes towards CSR communication, prior knowledge about CSR initiatives, the automotive industry, and Audi is each tested individually. An index of prior knowledge was not possible due to poor internal consistency, as described in Chapter 6.2.

The groups' prior knowledge of CSR initiatives is broken down as follows: In group 1, prior knowledge about CSR initiatives is 3.31 on average, in group 2 it is 3.18, in group 3 it is 3.34,

and in group 4, it is 3.37. Testing whether prior knowledge of CSR initiatives has an influence on attitudes towards Audi's CSR communication resulted in the following findings:

Experimental Group 2 (Levene's test: .026; [ $F_{Welch}(4, 56.976) = .543, p .705$ ]) (see Table C7 and Table C8) and Group 4 (Levene's test: .563; [ $F(4, 152) = 1.020, p .399$ ]) (see Table C9 and Table C10) both did not show significant correlations. However, Group 1 with a Levene's Test of .009 (see Table C11) shows a significant result in the ANOVA with Welch statistic [ $F_{Welch}(4, 38.368) = 2.853, p .037$ ] (see Table 11). The effect size  $Eta^2$ , determined in the univariate ANOVA to evaluate the group variation, shows that the variation in prior knowledge accounts for about 7% of the variation in attitudes towards CSR communications. When analysing the according post-hoc test based on Games-Howell, no significant correlations between individual group pairs were found (see Table C12). However, the linear regression for group 1 shows a significant increase in attitudes with increasing prior knowledge of CSR initiatives with 3.00 points in attitudes per unit of prior knowledge (see Table C13).

**Table 11**

*Welch ANOVA Group 1: Prior Knowledge CSR initiatives (IV); Index Attitudes (DV)*

	Statistic <sup>a</sup>	df1	df2	<i>p</i>	Partial Eta Squared
Welch	2.853	4	38.368	.037	.071

a. Asymptotically F distributed.

Furthermore, the univariate ANOVA for the third experimental group shows a significant correlation between the two variables (Levene's test: .429; [ $F(4, 152) = 3.529, p < .01$ ]) (see Table C14 and Table 12). The effect size  $Eta^2$  reveals that the variation in prior knowledge about the automotive industry explains about 9% of the variation in the attitudes.

**Table 12***Univariate ANOVA: Prior Knowledge CSR initiatives (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	7.258 <sup>a</sup>	4	1.815	3.529	.009	.085
Intercept	1387.422	1	1387.422	2698.194	<.001	.947
Prior Knowledge CSR initiatives	7.258	4	1.815	3.529	.009	.085
Error	78.159	152	.514			
Total	2165.750	157				
Corrected Total	85.417	156				

a. R Squared = .085 (Adjusted R Squared = .061)

The post-hoc tests with Bonferroni correction (see Table C15) show significant correlations between two group pairs: Between the responses of participants with high knowledge (5) and participants with low knowledge (1) ( $p = < .01$ , MDiff = .989, 95%- CI [.183, 1.795]) and between participants with high knowledge (5) participants with prior knowledge rated as 3 ( $p = .038$ , MDiff = .592, 95%- CI [.019, 1.17]). Additionally, the linear regression for group 3 also indicates a significant attitude rise with increasing knowledge, with 3.13 attitudes per knowledge unit (see Table C16).

In the next step, the influence of prior knowledge about the automotive industry is tested. The prior knowledge about the automotive industry in the groups is made up as follows: Group 1 has an average prior knowledge of the automotive industry of 3.03, group 2 has 2.99, group 3 has 3.03 and group 4 has 3.20. Analysing the question of whether prior knowledge of the automotive industry influences attitudes towards Audi's CSR communication led to the following results:

There were no significant correlations for Experimental Group 1 (Levene's test: .334; [ $F(4, 152) = 1.298, p .273$ ]) (see Table C17 and Table C18) and Group 2 (Levene's test: .006; [ $F_{Welch}(4, 20.697) = .135, p .968$ ]) (see Table C19 and Table C20). Yet, Group 3 shows a significant result in the univariate ANOVA with a Levene test of .123 [ $F(4, 152) = 5.741, p < .01$ ] (see Table C21 and Table 13). The effect size  $\eta^2$  reveals that the variation in prior knowledge accounts for about 13% of the variation in attitudes towards CSR communication.

**Table 13***Univariate ANOVA: Prior Knowledge Automotive Industry (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	11.211 <sup>a</sup>	4	2.803	5.741	<.001	.131
Intercept	686.904	1	686.904	1407.021	<.001	.903
Prior Knowledge Automotive Industry	11.211	4	2.803	5.741	<.001	.131
Error	74.206	152	.488			
Total	2165.750	157				
Corrected Total	85.417	156				

a. R Squared = .131 (Adjusted R Squared = .108)

The post-hoc test with Bonferroni correction (see Table C22) shows significant differences between the following four group pairs: First, between the responses of participants with high knowledge (5) and participants with low knowledge (1) ( $p = < .01$ , MDiff = 1.750, 95%- CI [.465, 3.035]) and second, between participants with high knowledge (5) and participants with prior knowledge rated as 2 ( $p = < .01$ , MDiff = 1.036, 95%- CI [.167, 1.904]). Third, between the responses of participants with high knowledge (5) and participants with prior knowledge rated as 3 ( $p = .025$ , MDiff = .919, 95%- CI [.068, 1.770]) and fourth, between participants with prior knowledge rated as 4 and participants with low knowledge (1) ( $p = .028$ , MDiff = 1.111, 95%- CI [.070, 2.151]). Additionally, according to group 3's linear regression, attitudes significantly rise as prior awareness of the automotive industry increases, with 2.81 attitudes rising for every unit of prior knowledge (see Table C23).

Moreover, Group 4 reveals a significant result in the univariate ANOVA with a Levene test result of .937 [ $F(4, 152) = 3.619, p < .01$ ] (see Table C24 and Table 14). The effect size  $Eta^2$  is about 9%. Given that there were fewer than two cases in at least one group, no post-hoc test was conducted. However, as prior knowledge of the automotive industry increases, group 4's linear regression demonstrates a significant rise in attitudes, with 2.63 attitudes per unit of prior knowledge (see Table C25).

**Table 14***Univariate ANOVA: Prior Knowledge Automotive Industry (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	11.342 <sup>a</sup>	4	2.836	3.619	.008	.087
Intercept	187.018	1	187.018	238.710	<.001	.611
Prior Knowledge Automotive Industry	11.342	4	2.836	3.619	.008	.087
Error	119.085	152	.783			
Total	1886.000	157				
Corrected Total	130.427	156				

a. R Squared = .087 (Adjusted R Squared = .063)

Next, the influence of prior knowledge about Audi is examined. In the groups, prior knowledge about Audi is composed as follows: On average, prior knowledge about Audi is 2.80 in group 1, 2.80 in group 2, 2.78 in group 3 and 2.87 in group 4. Research into whether prior knowledge about Audi influences the stakeholders' attitudes towards Audi's CSR communication leads to the following outcomes:

While group 1 (Levene's test: .282; [ $F(4, 152) = .672, p .612$ ]) (see Table C26 and Table C27) and group 3 (Levene's test: .603; [ $F(4, 152) = 1.920, p .110$ ]) (see Table C28 and Table C29) do not show a significant correlation between the two variables, group 2 (Levene's test: .651; [ $F(4, 152) = 4.451, p < .01$ ]) (see Table C30 and Table 15) does show a significant correlation. The effect size  $Eta^2$  of the result of group 2 is 11%.

**Table 15***Univariate ANOVA: Prior Knowledge Audi (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	11.239 <sup>a</sup>	4	2.810	4.451	.002	.105
Intercept	761.941	1	761.941	1206.971	<.001	.888
Prior Knowledge Audi	11.239	4	2.810	4.451	.002	.105
Error	95.955	152	.631			
Total	1680.500	157				
Corrected Total	107.194	156				

a. R Squared = .105 (Adjusted R Squared = .081)

Examining the Bonferroni-corrected post-hoc test (see Table C31) reveals significant differences between the following three group pairs: First, between the responses of participants

with prior knowledge rated as 2 and participants with high knowledge (5) ( $p = < .01$ , MDiff = 1.161, 95%- CI [.249, 2.073]) and second, between the responses of participants with prior knowledge rated as 3 and participants from with high knowledge (5) ( $p = < .01$ , MDiff = 1.063, 95%- CI [.151, 1.975]). Moreover, third, between the responses of participants with prior knowledge rated as 4 and participants with high knowledge (5) ( $p = < .01$ , MDiff = 1.137, 95%- CI [.197, 2.076]). However, the linear regression of the two variables does not show a significant connection direction (see Table C32). In addition, there is a significant correlation between the two variables in group 4 (Levene's test: .744; [ $F(4, 152) = 3.308, p .012$ ]) (see Table C33 and Table 16) with an effect size  $Eta^2$  of 8%.

**Table 16**

*Univariate ANOVA: Prior Knowledge Audi (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	10.445 <sup>a</sup>	4	2.611	3.308	.012	.080
Intercept	1230.958	1	1230.958	1559.449	<.001	.911
Prior Knowledge Audi	10.445	4	2.611	3.308	.012	.080
Error	119.982	152	.789			
Total	1886.000	157				
Corrected Total	130.427	156				

a. R Squared = .080 (Adjusted R Squared = .056)

Using the Bonferroni-corrected post-hoc test, as shown in Table C34, significant differences were found between one pair of groups, namely between the responses of participants with prior knowledge about Audi rated as 4 and participants with low knowledge (1) ( $p = .046$ , MDiff = 0.862, 95%- CI [.008, 1.716]). Moreover, a significant increase in attitudes is seen in group 4's linear regression, with 2.70 attitudes per unit of prior knowledge about Audi (see Table C35).

#### **6.4. The Impact of GenAI on Stakeholder Route of Processing**

To answer the second research question, the impact of generative AI on the stakeholders' route of processing CSR communication in the automotive industry is examined using the example of Audi's CEO statement. As in the first research question, the research is based on the four experimental groups, each consisting of 157 participants.

#### 6.4.1. Defining Participants Processing Routes

To test this hypothesis, a new variable called ‘processing route’ must be created to represent the route according to the ELM on which the participants processed the CSR communication. To create this variable, it must first be confirmed that the communications were processed on both the peripheral and the central route. This was confirmed by examining the relationship between attitudes to communication and each of the attitudes to information quality and source credibility. The central route is tested first, with attitudes to communication always being the dependent variable. This is tested by examining the three areas of attitudes to information quality, namely information relevance, information accuracy, and information timeliness.

Firstly, the relationship between information relevance and the attitudes is analysed. As shown in Table C36, the most positive attitudes were those of participants who rated the relevance of the information in Audi’s CSR communication as 5, which is the positive maximum ( $Mean = 4.42, SD = 0.61$ ). In contrast, the most negative attitudes were those of participants who rated the relevance of the information in Audi’s CSR communication as 1 ( $Mean = 1.22, SD = 0.36$ ). The Levene test, which uses the median to verify homogeneity across the groups, yields a p-value of .046 and is therefore significant. As a result, as shown in Table C37, the null hypothesis is not validated and there is no homogeneity of variance among the groups. Thus, because the univariate ANOVA findings cannot be evaluated, a Welch test-adjusted ANOVA that is robust to a breach of the homogeneity assumption as indicated by the Levene test must be conducted. The Welch test results (see Table C38) demonstrate a strong correlation between the two variables [ $F_{Welch}(8, 84.767) = 71.068, p < .01$ ]. The effect size  $Eta^2$  indicates that variations within the perceptions of information relevance account for 46% of the variation in attitudes towards Audi’s CSR communications.

Secondly, the relationship between information accuracy and the attitudes is tested. Looking at the descriptive statistics in Table C39, it can be examined that the respondents who gave Audi’s CSR communication a relevance rating of 5, the highest possible positive rating, had the most positive attitudes ( $Mean = 4.34, SD = 0.69$ ). On the other hand, participants who gave Audi’s CSR communication a rating of 1, which is the lowest possible rating, had the most negative

attitudes ( $Mean = 1.55, SD = 0.57$ ). The Levene test, based on the median, indicates a p-value of .064 and is thus not significant in the verification of homogeneity between the groups (see Table C40). Therefore, the null hypothesis is validated and the variance among the groups is homogeneous. The two variables are significantly correlated, as shown by the univariate ANOVA [ $F(8, 619) = 36.073, p < .01$ ] (see Table C41). The effect size  $Eta^2$  was subsequently analysed to test for group variation. The results show that the variation in the perceived information accuracy accounts for 32% of the difference in attitudes towards the CSR communication.

Thirdly, the relationship between information timeliness and the attitudes is tested. The respondents who rated Audi's CSR communication's information timeliness as highly favourable (5), the highest rating possible, had the most positive attitudes, according to the descriptive statistics ( $Mean = 4.19, SD = 0.85$ ) (see Table C42). Conversely, the participants with the most negative opinions were those who rated Audi's CSR communication confirmation timeliness a 1, the lowest possible rating ( $Mean = 1.60, SD = 0.70$ ). Based on the median, the Levene test does not reveal statistical significance with a p-value of .235 in the case of verifying homogeneity between the groups (see Table C43). According to this, this means that the null hypothesis is verified, and that the variance is homogeneous among the groups. The univariate ANOVA (see Table C44) indicates a significant relationship between the two variables [ $F(8, 619) = 28.146, p < .01$ ]. To identify how the groups differed, the effect size  $Eta^2$  was evaluated. This shows that 27% of the variation in attitudes towards Audi's CSR communication could be attributed to the variation in the perceived information timeliness.

After testing the central route, the peripheral route is tested below, whereby the attitude towards communication is always the dependent variable here too. To test this, the two areas of attitude towards source credibility are examined, namely the perceived trust towards the source and the perceived expertise of the source. Therefore, the relationship between source trust and the attitudes is tested first. It is evident from the descriptive statistics (see Table C45) that the respondents who rated the trust in the source of Audi's CSR communication as a five, had the most positive attitudes ( $Mean = 4.49, SD = 0.51$ ). However, participants' negative attitudes were greatest among those who rated their trust in the source as 1 ( $Mean = 2.12, SD = 0.77$ ). The

Levene test – which uses the median to verify homogeneity between the groups – has a p-value of  $<.01$  and is therefore significant (see Table C46). As a result, the null hypothesis is not validated and there is no homogeneity of variance among the groups. Therefore, as the univariate ANOVA findings are not reliable, a Welch test-adjusted ANOVA – which is robust to a breach of the homogeneity assumption – must be conducted. The results (see Table C47) indicate a strong correlation for both variables [ $F_{Welch}(8, 47.688) = 150.876, p < .01$ ]. According to the effect size  $Eta^2$ , 38% of the differences in attitudes towards Audi's CSR communication can be attributed to differences in the trust towards the source of the content.

Finally, the relationship between source expertise and the attitudes is tested. The descriptive results in Table C48 show that the respondents with the most positive attitude also rated the expertise of the source with a 5 ( $Mean = 3.98, SD = 0.86$ ), and the respondents with the most negative attitude rated the expertise of the source with a 1 ( $Mean = 1.75, SD = 0.54$ ). With a p-value of  $.705$ , the Levene test is not significant (see Table C49). Thus, the null hypothesis is supported and there is homogeneity of variance between the groups. Consequently, a univariate ANOVA is carried out, see Table C50, which shows a significant correlation between the two variables [ $F(8, 619) = 20.113, p < .01$ ]. The effect size  $Eta^2$  shows that 21% of the differences in attitudes can be attributed to differences in the perception of the expertise of the source.

While the maximum and minimum point means and standard deviations were different for each pair of variables, as shown in Table 17, when comparing the average means and standard deviations of the five pairs of variables, all five are the same ( $Mean = 3.44, SD = 0.85$  for each). After analysing the significance for each pair, no post-hoc tests were performed, as the result of the significance is purely an enabler for the creation of the variable *processing route* and therefore the results of the post-hoc tests are not relevant.

**Table 17***Testing of processing routes*

IV	DV	Mean	SD	Levene's test	p	Eta <sup>2</sup>
Index Attitudes	Information relevance	3.44	0.85	.046	< .01	.46
Index Attitudes	Information accuracy	3.44	0.85	.064	< .01	.32
Index Attitudes	Information timeliness	3.44	0.85	.235	< .01	.27
Index Attitudes	Source trust	3.44	0.85	< .01	< .01	.38
Index Attitudes	Source expertise	3.44	0.85	.705	< .01	.21

The new variable ‘*processing route*’ has a scale from -2.5 to +2.5, where -2.5 stands for the central route, +2.5 stands for the peripheral route. To create this variable, the peripheral route and central route variables were first created individually by subtracting the values of the attitudes index from the information quality and source credibility indices. Then the amount of the variable of the central route was subtracted from the amount of the variable of the peripheral route to finally obtain the variable ‘*processing route*’.

#### 6.4.2. Results of Hypothesis 5

To analyse possible correlations between the experimental groups and their processing routes of Audi’s CSR communication, a univariate ANOVA was conducted. The attitudes towards the quality of the information are the dependent variable and the test groups are the independent variable. The descriptive statistics show that there are differences in the processing routes of the four experimental groups. Of all the groups, participants in the first experimental group processed CSR communication most strongly on the central route (*Mean* = -0.14, *SD* = 0.47). Group 2 processed the communication slightly less strongly via the central route (*Mean* = -0.10, *SD* = 0.54), as did group 4 (*Mean* = -0.08, *SD* = 0.44). The third group processed the CSR communication least on the central route, with a mean value of -0.04 and a standard deviation of 0.40 between the two routes, and nevertheless more towards the central than the peripheral route.

The result of the Levene test is significant at .033 and thus shows that the null hypothesis is not supported and that there is no homogeneity of variance between the groups (see Table C51). Therefore, instead of the univariate ANOVA, the more robust Welch test was conducted. The

results of the Welch test are not significant (see Table 18), thus the experimental groups and the processing routes are not significantly correlated with each other [ $F_{Welch}(3, 345.038) = 1.188, p .314$ ]. Thus, a calculation of  $Eta^2$  offers no added value in the absence of significance. Furthermore, the post-hoc test, which is used to find out which groups differ from each other, cannot be interpreted either.

**Table 18**

*Welch ANOVA: Experimental Groups (IV); Perception Route (DV)*

	Statistic <sup>a</sup>	df1	df2	<i>p</i>
Welch	1.188	3	345.038	.314

a. Asymptotically F distributed.

## 6.5. Additional Measures

In addition to the hypotheses, further analyses were carried out to investigate the possible effects of socio-demographic data, namely gender, age, country of residence and industry, as well as the reading duration of the CSR text on the attitudes per group. The experimental groups were randomised, regardless of socio-demographic data such as age, gender, country and industry.

### 6.5.1. Influence of Gender on Attitudes per Group

In the first experimental group, 59% are women, 40% men, no diverse and 1 participant did not provide any information (see Table C52). The second group consists of just 66% women and 34% men. The third group comprises 66% women and 31% men, as well as one participant with no response, and the fourth group includes 61% women, 38% men, two diverse participants and one participant with no response.

Testing whether gender has an influence on attitudes towards Audi's CSR communication led to the following results: Group 1 (Levene's test: .109; [ $F(2, 154) = 1.266, p .285$ ]), Group 2 (Levene's test: .019; [ $F_{Welch}(1, 85.084) = 1.022, p .315$ ]), Group 3 (Levene's test: .105; [ $F(2, 154) = .174, p .840$ ]) and Group 4 (Levene's test: .199; [ $F(3, 153) = 1.404, p .244$ ]) each show no significant correlations (see Table C53 - Table C60).

### 6.5.2. Influence of Age on Attitudes per Group

The average age in experimental group 1 is about 28 years, in group 2 it is 27 years, in group 3 it is 27 years and in group 4 it is 28 years (see Table C61). The oldest participant, aged 69, is in experimental group 4. The seven youngest participants aged 18 are spread across all groups, with group 3 having the most 18-year-olds with three participants.

Checking whether age has an impact on attitudes towards Audi's CSR communication resulted in the following findings: Group 1 (Levene's test: .823; [F(27, 129) = 1.492, p .073]) and group 3 (Levene's test: < .01; [F(26, 130) = .601, p .328]) show no significant correlations (see Table C62 – Table C65). However, the results of group 2 (Levene's test: .594; [F(29, 127) = 1.570, p .047]) confirms a significant correlation between the variables with an effect size  $Eta^2$  of 26% (see Table C66 and Table C67). The calculation of a linear regression for group 2 shows a significant decrease in attitude with increasing age with -0.20 attitudes per year (see Table C68). Additionally, the univariate ANOVA for experimental group 4 shows a significant result (Levene's test: .149; [F(28, 128) = 1.811, p .014] with an effect size  $Eta^2$  of 28% (see Table C69 and Table C70). The results of a linear regression to Group 4 also indicate a significant decline in attitude with increasing age, with -0.29 attitudes each year (see Table C71). Post-hoc tests were not performed for age, as at least one group had fewer than two cases.

### 6.5.3. Influence of Country of Residence on Attitudes per Group

In all four experimental groups, the majority (68 – 77%) of the participants lives in Germany. The second highest number of participants in each group live in Austria (8 – 12%) (see Table C72).

The following results were obtained when testing whether the country of residence influences attitudes towards Audi's CSR communication: Group 1 (Levene's test: .870; [F(11, 145) = .891, p .551]), Group 2 (Levene's test: .659; [F(16, 140) = 1.165, p .303]) and Group 3 (Levene's test: .021; [F(13, 143) = 1.275, p .234]) showed no significant correlations (see Table C73 – Table C78). Group 4, by contrast, showed a significant correlation between the two variables (Levene's test: .628; [F(16, 140) = 1.830, p .033]) (see Table C79 and Table C80). The effect

size  $\eta^2$  of this correlation is 17%. Since there were less than two cases in at least one group, a post-hoc test was not conducted.

#### 6.5.4. *Influence of Industry on Attitudes per Group*

At 19 to 27%, most participants per group work in communication services (see Table C81). The second largest industry is consumer discretionary in group 1 with 29% of participants, health care with 29% in group 2 and 26% in group 4, and with 22% financials in group 3.

When testing whether a participant's work or study industry affects their attitudes towards Audi's CSR communications, the following results: As shown in Table C82 and Table C83, group 1 demonstrates a statistically significant correlation between the two variables (Levene's test: .225; [ $F(10, 146) = 2.506, p < .01$ ]). The correlation's effect size,  $\eta^2$ , is 15%. Subsequently, the Bonferroni post-hoc tests are carried out for group 1 (see Table C84). The results show a significant difference just between one pair of groups: between people who work in communication services and people who filled in the free field 'other' (after adjustment) ( $p = .039, M_{\text{Diff}} = 1.217, 95\% \text{- CI } [.025, 2.409]$ ). In testing the other groups, there were no significant correlations found for group 2 (Levene's test: .207; [ $F(9, 147) = 1.255, p .266$ ]), group 3 (Levene's test: .705; [ $F(10, 146) = 1.480, p .152$ ]), and group 4 (Levene's test: .274; [ $F(11, 145) = 1.740, p .070$ ]) (see Table C85 – Table C90).

#### 6.5.5. *Influence of Reading Duration of CSR Text on Attitudes per Group*

The average reading duration of CSR communication between all participants is two minutes and 8 seconds. In experimental group 1, it is one minute and 44 seconds; in group 2, it is one minute and 24 seconds; in group 3, it is three minutes and 57 seconds, and in group 4, it is one minute and 25 seconds.

When testing whether the reading duration of the CSR communication affects the attitude towards Audi's CSR communication, the subsequent findings were obtained: Experimental group 1 (Levene's test: .096; [ $F(114, 42) = 1.073, p .408$ ]), group 2 (Levene's test: .148; [ $F(102, 54) = .822, p .804$ ]), group 3 (Levene's test: .614; [ $F(114, 42) = .954, p .588$ ]) and group 4

(Levene's test: .062; [ $F(107, 49) = .807, p .821$ ]) all did not show any significant correlations (see Table C91 – Table C98).

## 7. Chapter

# **Analysis and Discussion**

In the following, the empirical results are analysed and discussed in light of the current state of research. The analysis and discussion are organised according to the three research objectives, based on the five hypotheses as well as the additional measures sections, to thus answer the two research questions in the conclusion accordingly.

## **7.1. Evaluation of Stakeholder Perceptions**

The first research objective analyses how AI-generated CSR communication from the automotive industry is perceived by stakeholders. This was tested using the first hypothesis, focussing on the attitudes in general, and the second and third hypotheses, focussing on the attitudes towards the information and source.

### *7.1.1. H 1: Impact on Attitudes*

The division of stakeholders into the different experimental groups and the associated different stimuli have a weak but significant influence on the stakeholders' attitudes towards CSR communication in the automotive industry. Among all experimental groups, participants who viewed real CSR communication expressed the most positive attitudes towards Audi's CSR communication. There was minimal differentiation between participants who were aware of the source and those who were not. Participants who viewed AI-generated CSR communication had comparatively more negative, yet still generally positive attitudes towards Audi's CSR communication. There is a greater distinction between participants who were informed about the source and those who were not informed, with the latter having more positive attitudes.

Among participants who have seen the real CSR communication, there are no statistically significant differences in the outcomes between those who were informed of its source and those who were not informed of its source. Furthermore, among participants who viewed the AI-generated CSR communication, there were no statistically significant differences between those who were aware of GenAI as a source and those who were not. The remaining experimental groups do differ significantly from one another. This implies that both participant groups who have read the real CSR communication from Audi differ significantly from participant groups who have read AI-generated CSR communication from Audi, and vice versa. Therefore, in the

following, a distinction will mainly be made between participants who have read the real CSR communication from Audi and participants who have read the AI-generated CSR communication from Audi.

Accordingly, the first hypothesis is accepted, as the attitudes of the participants who had been exposed to GenAI CSR communication were found to be more negative than those of the participants who had been exposed to real CSR communication. The following section presents a discussion between the results of this study and those of the current state of research. In this discussion, a distinction is made between the results relating to GenAI use in communication, in CSR and in the automotive industry, as all three areas can have an influence on stakeholder perception.

The fact that communication media, when generated by AI, is rated negatively is also indicated by the findings of previous research. This may be partly due to a lack of trust in GenAI's quality (Navarro, 2023a). AI-generated content lacks data protection, which is related to the fact that GenAI texts are not reviewed and verified by professionals (Navarro, 2023a; Patpatia, 2023). While stakeholders perceive clear guidelines for AI as essential, stakeholders may view the text as unverified (Jungo Brüngger, 2023). If stakeholders based their rejection of the GenAI text on this reasoning, it would be accurate in this case, as the text was generated solely for the purpose of the experiment and was not reviewed by experts such as Audi's CSR communication professionals.

Furthermore, the lack of factors such as emotional intelligence and empathy, which AI is less able to generate than communication experts, could justify the preference for real text (Patpatia, 2023). Communication that creates empathy and connection with the reader tends to be more successful than a lack of these attributes (Patpatia, 2023). However, it needs to be considered that the two groups reading the AI-generated text cannot necessarily be equated with each other, despite the significant lack of difference, as according to Kreps et al. (2022) humans are mostly unable to differentiate between real and AI-generated texts. Therefore, the more negative evaluation of the AI-generated text among participants who were informed about GenAI as a source may also be motivated by negative prejudices against GenAI (Kocoń et al., 2023).

The negative prejudices against GenAI may be caused in particular by the fact that the CEO statement communicates CSR. GenAI is frequently the subject of criticism due to the potential for its algorithms to exhibit bias, including social, gender, and cultural bias (Mcgee, 2023). GenAI may exhibit a tendency to favour certain, possibly less society-serving, sustainability initiatives over others, which could influence stakeholders' perceptions of sustainability initiatives and thus promote greenwashing (De Villiers et al., 2024). Consequently, the communication of CSR topics, such as gender equality or diverse communities, as well as environmental pollution, through the use of GenAI, may have a contradictory effect on stakeholders (Fallah Shayan et al., 2022; Vinuesa et al., 2020). Moreover, transparent communication allows CSR initiatives to be communicated to stakeholders in an approachable way (Patpatia, 2023). Since the delivery of empathetic messages, in particular, is a weakness of AI-generated texts, which tend to be written in a stiff and complex manner, the delivery of CSR initiatives to stakeholders can be difficult and is, therefore, in line with the research results (Patpatia, 2023).

Nevertheless, it can be contended that the research outcome is contingent upon the perception of GenAI and the automotive industry. This is particularly relevant in the context of the automotive industry's general scepticism about AI, particularly in light of the numerous failures associated with autonomous vehicles (Smit et al., 2022). It could be argued that this negative image is then reflected in the public's perception of the use of AI to generate CSR communication. Another potential explanation can be found in the research findings of Sonntag et al. (2023), which identified a correlation between stakeholder trust and the visible design features of AI-generated communication in the automotive industry. In the present study, Audi's CSR communication was presented to the participants in the form of pure text without adopting the design of Audi's CEO report. This was done to ensure that stakeholder perception was based solely on the content of the text. Consequently, it can be posited that the negative perception of AI-generated communication would have been identical regardless of design features. However, it can also be argued that the presentation of both texts in Audi's brand design could have improved stakeholder perception (Sonntag et al., 2023).

Yet, it must be acknowledged that although AI-generated CSR communication was rated more unfavourably than real CSR communication, AI-generated CSR communication, on average, was still rated rather favourably. On the one hand, this may be related to the fact that half of the participants did not know that their stimulus was AI-generated and thus might not have realised that it was AI-generated, which is consistent with the research findings on the difficulty of distinguishing between real and AI-generated content (Kreps et al., 2022). On the other hand, the considerable number of GenAI users indicates that stakeholders are open to and trust AI-generated content despite certain obstacles (Fui-Hoon Nah et al., 2023).

#### *7.1.2. H 2: Impact on Attitudes towards the Information*

The attitudes towards the information provided by Audi's CSR communication differ significantly between the four experimental groups. As in the observation of the results of the first hypothesis, the participants who had read the real CSR communication and were informed about its source did not differ significantly from the participants who had read the real CSR communication and were not informed about its source. Therefore, these two groups are mainly considered together in the following. Participants in these groups who had read the real CSR communication rated the information in it significantly more positively than participants who had read the AI-generated CSR communication. Participants who were informed about GenAI as the source rated the information in Audi's CSR communication significantly lower than participants who were not informed about GenAI as the text's source. Thus, these results show that the second hypothesis is accepted, which states that the use of generative AI influences stakeholder attitudes towards the information of CSR communication in the automotive industry. A discussion of this result and the current state of research is presented in the following section.

The research literature supports this result. For instance, the higher perception of the correctness of information in real CSR communication, as opposed to GenAI CSR communication, is in line with the findings by Longoni et al. (2022). Furthermore, the difference between GenAI as a cited source and GenAI without citation is consistent with the results according to Graefe & Bohlken (2020), which show that participants rated AI-generated texts, which were supposedly

written by humans, higher in terms of quality, readability and credibility. Nevertheless, for this interpretation, it is assumed that participants who read the AI-generated text without citation assumed that the text was generated by humans.

However, Graefe et al. (2018) suggest the opposite: In an experiment comparing human- and computer-generated news, the computer-generated news tended to be rated as more credible. One reason given for this is the quality of the computer-generated messages, which are well-structured and reliable (Graefe et al., 2018). This is not consistent with present research: in this study, the reliability of information was rated lower than other factors by participants using the GenAI text, and moreover, participants who read the real text rated its reliability higher. This may be due to the fact that the study by Graefe et al. was conducted in 2018, when GenAI was less developed than it is today with applications such as GPT-4.

### *7.1.3. H 3: Impact on Attitudes towards the Source*

The results show significant differences in the attitudes of the four experimental groups towards the source behind Audi's CSR communication. The analysis shows that the two groups with real CSR communication as a stimulus did not differ significantly in their assessment of the source. Furthermore, the participants who read the AI-generated text but were not aware that it was AI-generated did not differ significantly from the participants with the real text from Audi. This means that only the participants who saw the AI-generated text and were informed that GenAI was its source differed significantly from the other groups. This group had a significantly more negative attitude towards Audi's CSR communication than all other groups. It can, therefore, be concluded that GenAI as a source leads to a more negative view of CSR communication.

In particular, the differentiation between participants with the GenAI text, who knew that it was AI-generated, and those who did not show the influence of GenAI as a public source. The lack of differentiation between participants reading the real text and participants reading the GenAI text who did not know about it indicates that the participants rate the quality of the pure content of human-generated and AI-generated CSR communication equally. Accordingly, the third hypothesis, regarding GenAI as a public source, is accepted, which states that the use of

generative AI influences stakeholder attitudes towards the source of CSR communication in the automotive industry. In the following, the influence of GenAI as a public source is compared with the current state of research.

The finding that there is no significant difference between the perception of real CSR communication and AI-generated CSR communication, where GenAI was not indicated as a source, is consistent with other research findings. Kreps et al. (2022) and Jakesch et al. (2019) found that people can barely tell the difference between AI-generated and human-generated texts. The research, according to Tewari et al. (2021), goes one step further and shows that despite this low ability to differentiate, AI-generated texts appear less credible to participants than human-generated texts. This result is consistent with the results of this study, in which participants attribute about one percent less credibility to GenAI as a non-known source than to the source of the real text.

Moreover, the findings are consistent with research literature that identifies source bias as a possible reason for negative perceptions of the source (Wallace et al., 2020). Thus, if participants perceived GenAI as a biased source, this may have a negative impact on their perception of the credibility of GenAI as a source. This phenomenon is particularly common in the research literature in relation to GenAI and is therefore consistent with the results presented here (Longoni et al., 2022). A study comparing AI-generated headlines and human-generated headlines shows that people are more likely to categorise AI-generated headlines as fake news than human-generated headlines. Accordingly, trust in GenAI as a text source is low, partly due to the lack of emotion and human motives in the AI-generated text (Longoni et al., 2022). Therefore, the lower attitudes towards GenAI as a public source, as well as the lack of differentiation between the real text and the AI-generated text without source citation, are in line with the state of research.

## **7.2. Moderating Role of Prior Topic Knowledge**

The second research objective aims to analyse perceptual variations based on prior knowledge. This was tested using the fourth hypothesis. In the analysis of the effect of prior knowledge, a distinction is made between prior knowledge about CSR initiatives, the automotive industry,

and the automotive group Audi. An index of prior knowledge about all three areas could not be formed due to a lack of internal consistency.

Firstly, the moderating effect of prior knowledge about CSR initiatives is analysed. A significant correlation between prior knowledge and attitudes towards CSR communication was found for participants who read Audi's real CEO statement and were informed about its source, as well as participants who read the real statement but were not explicitly informed about its source. For participants who have read the AI-generated statement, there are no significant correlations. Upon closer examination of participants reading the real statement and being informed about its source, the results indicate that individuals with a higher level of prior knowledge about CSR initiatives also rated Audi's CSR communication more favourably.

This effect is also present for participants reading the real statement but not being informed about its source, and the effect is even stronger for this group than for participants knowing about the source of the real text. Furthermore, there is a significant difference between the two groups of participants knowing about the source of the real text. The result is that prior knowledge has a significant influence on the perception of real CSR communication. Essentially, instruments such as storytelling, company-cause fit, transparency and society-serving motives can lead to a more positive perception of stakeholders and can be better identified by people with a high level of prior knowledge about CSR initiatives than by other participants (Ajayi & Mmutle, 2021; Epstein-Reeves, 2013; H. Kim & Lee, 2018; Nyagadza et al., 2020). However, without categorising how Audi's CEO statement is to be assessed as CSR communication, the measured perception cannot be evaluated. Nevertheless, due to the lack of a significant correlation for participants who have read the GenAI text, hypothesis 4 is rejected specifically for prior knowledge of CSR initiatives.

Secondly, the influence of prior knowledge about the automotive industry is analysed. Thereby, it needs to be considered that each participant of this sample has a basic understanding of the automotive industry. The results show that participants reading the real and the AI-generated text, both not explicitly informed about the source of the texts they had viewed, have a significant correlation between prior knowledge and attitude towards CSR communication.

Participants who read the real text and were not informed about the source show significant differences between the four pairs of groups, with participants with the highest possible prior knowledge, in particular, differing from the other participants. Moreover, the attitude towards Audi's CSR communication increases with higher prior knowledge. This increase in attitude with higher prior knowledge is also evident for participants who viewed the GenAI communication and were not informed about the source, although to a lesser extent than the aforementioned participant group. On average, participants who viewed the GenAI communication and were not informed about the source rated communication as more positive than participants reading the real communication and not being informed about its source. This result suggests that GenAI improves the perception of stakeholders with prior knowledge of the automotive industry, in contrast to human-generated CSR communication. Accordingly, hypothesis 4 is confirmed for prior knowledge about the automotive industry.

Thirdly, the influence of prior knowledge about Audi, which was the example company of the experimental exposure, on attitudes is analysed. The findings reveal a significant correlation between prior knowledge about Audi and the attitude towards CSR communication participants who read the GenAI communication text. The post-hoc tests for participants reading the GenAI text informed about its source indicate significant differences between three group pairs, the participants with the greatest prior knowledge differing particularly from the other participants.

However, there is no significant correlation between the two variables. For participants reading the GenAI text not being informed about its source, on the other hand, the attitude towards CSR communication increases significantly with increasing prior knowledge about Audi, and the post-hoc tests show a significant difference between participants with low prior knowledge and prior knowledge rated as four out of five. Overall, the participants who were informed about GenAI as their text's source rated the communication as more favourable than the participants who were not informed about GenAI as their text's source. Thus, this finding implies that knowing the source of GenAI declines the perception of stakeholders with prior knowledge of the automotive industry, in contrast to non-informed participants reading GenAI CSR communication. Consequently, hypothesis 4 is supported for prior knowledge about Audi.

### **7.3. Investigation of the Processing Routes**

The third research objective aims to differentiate between participants processing CSR communication in the automotive industry on the central and peripheral routes, which has been tested with the fifth hypothesis. The analysis and discussion of the fifth hypothesis can be divided into two parts: Firstly, the processing routes of all participants, and secondly, the differentiation of the processing routes according to the experimental group. The processing routes of all participants were analysed individually according to their perception of the quality of the information and the credibility of the source based on the ELM (Camilleri, 2022).

Considering the perception of information quality, which indicates processing on a central route, a distinction is made between the perception of information relevance, accuracy and timeliness. The correlation between the assessed relevance, accuracy and timeliness of information and the attitudes of stakeholders is significant. Based on the categorisation according to Cohen (1988), the assessed information relevance has a strong influence on the attitudes of the stakeholders, while the assessed information accuracy and timeliness each have a moderate effect.

This result is consistent with previous research, as it has previously been found that information quality affects stakeholder attitudes (Filiari et al., 2018). Lock & Seele (2016) go a step further as they suggest that the perceived relevance of information is a necessary condition for favourable stakeholder attitudes towards CSR reporting. Even as this research does not directly confirm this, it also does not contradict the present result, as the effect of information relevance for the underlying samples' attitudes is strong. In terms of the timeliness of information, this study confirms the results of previous research, namely that the dissemination of current information increases the perceived usefulness of CSR communication (Cheung et al., 2008). However, there are also contradictory results, such as that information in CSR reports, like Audi's, is not timely enough to form favourable attitudes for stakeholders (Islam & Rahman, 2017).

When looking at the perception of source credibility, which refers to the processing on a peripheral route, differentiation is drawn between the perception of source trustworthiness and expertise. The correlation between perceived source trustworthiness as well as source expertise,

and stakeholder attitudes is significant. Hereby, the perceived trustworthiness of the source has a moderate effect on stakeholder attitudes, the perceived expertise of the source has just a weak effect on the attitudes of the stakeholders. These results are consistent with the results of Willemsen et al. (2011), which also found a weak correlation between source expertise and the perceived usefulness of information, just as in this study the source's expertise has a weak influence on attitudes. However, the present results contradict the results according to Cheung et al. (2008), which did not find a significant connection between information usefulness and source credibility.

Thus, these findings confirm that both central and peripheral factors, but to a lesser extent, significantly influence participants' changing attitudes towards CSR communication in the automotive industry. The results are, therefore, consistent with the underlying study by Camilleri (2022), which also found the central factors as more strongly affecting the participants' attitudes than peripheral factors. However, one factor in which the study differs from the one presented here is that in Camilleri's study, source trustworthiness had no significant influence on attitudes, which is the case in the study here. Finally, though, these results must always be considered with the fact that the stakeholders perceived different stimuli, even if all stimuli represent CSR communication in the automotive industry.

To address this, the influence of the different stimuli on the processing routes was subsequently evaluated. The differentiation of the processing routes depending on the experimental group shows that all four experimental groups processed the CSR communication more strongly on the central route. Participants who read the real text and were informed about its source processed most strongly via the central route. However, the ANOVA shows no significant correlation between these results, which is why they cannot be interpreted further, and hypothesis 5 cannot be adequately evaluated. These results indicate that the AI generation of CSR communication in the automotive industry does not influence the processing route of stakeholders.

#### 7.4. Additional Measures

Besides analysing the hypotheses, this study also investigated the influence of the socio-demographic data collected, which primarily serve to describe the diversity of the sample. First, no significant correlations were found between gender and attitudes towards experimental exposure. However, significant correlations were found between age and attitudes towards the experimental exposure between the participants reading the GenAI text. In both groups who read the GenAI text, the stakeholders' attitudes decrease on average with increasing age. This shows that in this study, younger people have a more positive attitude towards AI-generated CSR communication in the automotive industry than older people. This is consistent with previous research findings that older people are generally more suspicious of new technologies, and younger people are particularly in favour of AI development (J. Park & Woo, 2022; Zhang & Dafoe, 2019). Furthermore, the two groups are differentiated by the fact that one group was informed about GenAI as the source of the text and the other group was not informed that the text was generated by AI. The results show that the effect of decreasing attitude coupled with increasing age is stronger for participants who were informed about AI as the source than for the other group. It can be inferred from these findings that the provision of transparent information about GenAI as a source tends to elicit more negative attitudes among older people than if they were unaware that CSR communication was generated by AI.

Moreover, between country of residence and attitudes towards the experimental exposure, significant correlations were found for participants reading the GenAI text whilst not being informed about its source. However, the linear regression shows no significant trend here. A similar case is a significant result for participants reading the real text, whilst being informed about its source, between the variables industry in which the participants work or study and their attitudes towards experimental exposure. Again, the linear regression does not identify a significant trend to analyse.

Lastly, the impact of reading duration on stakeholder perception was investigated. This was motivated by an aforementioned study by Bögel (2015), which employed the ELM to examine the influence of CSR commitment based on reading duration on stakeholder trust. However, no

significant correlation was observed between reading duration and stakeholder perceptions across the experimental groups. Yet, it is noticeable that participants who had read the GenAI text and were informed about its source had a significantly lower reading duration than the other groups. This suggests that publicly labelled GenAI texts attract more attention than texts that are not labelled as AI-generated, regardless of their actual source of generation.

# **Conclusion**

This study focused on stakeholder perceptions of artificial intelligence-generated communication of corporate social responsibility in the automotive industry. To investigate this, two research questions were examined in the course of the study.

The first research question studied the impact of GenAI on stakeholders' perception of CSR communication in the automotive industry. Overall, CSR communication in the automotive industry was perceived more negatively by stakeholders in this experiment when the communication was AI-generated as opposed to human-generated communication. This result is also evident when looking at attitudes specifically towards the information in CSR communication in the automotive industry, whereby stakeholders who knew that the text was AI-generated perceived the communication more negatively than stakeholders who did not know that the text was AI-generated. However, considering the attitudes towards the text source, only stakeholders who knew that the text was AI-generated perceived the CSR communication significantly more negatively than stakeholders who were not informed about GenAI as a source or who read the real text.

The analysis of prior knowledge about the topic yielded different results: Prior knowledge of CSR initiatives did not influence stakeholder perceptions of AI-generated CSR communication in the automotive industry. Yet, prior knowledge about the automotive industry and prior knowledge about Audi significantly influenced stakeholder perception of the GenAI text.

The second research question examined the impact of GenAI on the stakeholders' route of processing of CSR communication in the automotive industry. In this experiment, stakeholders were more likely to process CSR communication in the automotive industry via the central route of the ELM, which is associated with a high level of elaboration and leads to a stable attitude. However, no significant difference was found in the differentiation between human-generated and AI-generated communication or the degree of publicity of its source.

### *Limitations*

In the consideration of the study results, the study's limitations must always be considered. The following provides an overview of the study's five main limitations: Firstly, analysing the perception of GenAI is challenging as GenAI is both a new and rapidly developing field. Hence, the field has continued to evolve during the process of dissertation writing. These changes could not always be adapted to the dissertation, as in the case of the questionnaire, which could not be adjusted once the experiment had been started.

Secondly, it is not certain whether ChatGPT was aware of the CEO statement from Audi's report 2022 before generating it for this study. Knowledge of the real statement could have influenced how realistic the AI generation of the statement is since, in practice, when a CSR communication is created, there is no CSR communication for the same purpose generated by professionals in advance. However, even if the sources of GenAI are not clearly traceable, it is evident that this study's GenAI text does not have duplicated text passages from the real text.

Thirdly, the socio-demographics show a certain lack of diversity in the sample, particularly regarding the country of residence. The high number of German participants is due to most participants being recruited via a German platform. While the participants per industry are relatively evenly distributed, gender and age also lack in diversity. However, this does not directly affect the study's results, as it does not aim to measure socio-demographic differences.

Fourthly, general perceptions about GenAI may have had an influence on the stakeholders' perception of the stimuli. To avoid bias, GenAI was not mentioned prior to the experiment. This prevented participants who were not informed about GenAI as the source of their stimulus and participants who read the real text from assuming that their text was AI-generated. However, prior knowledge, as well as personal attitudes towards GenAI, may have influenced the results.

Linked to this, fifthly, other attitudes towards the topic may also have influenced the results. Various topics related to the stimulus, such as personal attitudes towards Audi, Markus Duesmann or CEO communication, in some cases, may have had a greater influence on stakeholder perceptions than the distinction between AI-generated and real text.

### *Implications and Directions for Future Research*

In this context, a distinction is made between the impact of the study on research and the impact of the study on practice. Firstly, the implications and directions for future research are examined. Altogether, this study contributes to the current state of research by linking CSR communication in the automotive industry with the current development of corporate communication through GenAI and testing the associated stakeholder perceptions. In this setting, the study confirms the negative influence of GenAI as a source on stakeholders' perceptions but also suggests a confirmation of the difficulty of differentiating between real and GenAI texts.

However, no differences were identified in the measurement of the elaboration route between real and AI-generated CSR communication. Based on these research implications, three directions for future research are outlined hereinafter. Firstly, it would enhance the results to examine whether GenAI has an impact on the general perceptions and the specific elaboration paths of stakeholders in differentiating between different stakeholders in the automotive industry. Secondly, in this context, other formats of CSR communication in the automotive industry, such as social media communication, could be tested in future depending on the target group. Moreover thirdly, a close examination of the current use of GenAI in CEO statements, for example, through expert interviews, would enrich the present study results.

In the following, the practical implications are considered. The results suggest that GenAI already today can be used to support the work in CSR communication in the automotive industry. This, however, comes with boundaries. To meet the high public interest in transparent CSR communication, GenAI should not be indicated as the text's source. This implies that either GenAI should not be used to the extent that it created the majority of the work but rather as a sparring tool or measures could be taken to improve the perception of GenAI by stakeholders in the automotive industry. This can be particularly beneficial for companies that do not yet have a CSR communication but since 2024 must report on CSR due to the EU-wide reporting obligation. In this case, GenAI can assist with the creation of the communication, but should not be the explicit author of the content so as not to harm stakeholder perception.

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# **Appendices**

## Appendix A

**Figure A1**

*The Pyramid of Corporate Social Responsibility*

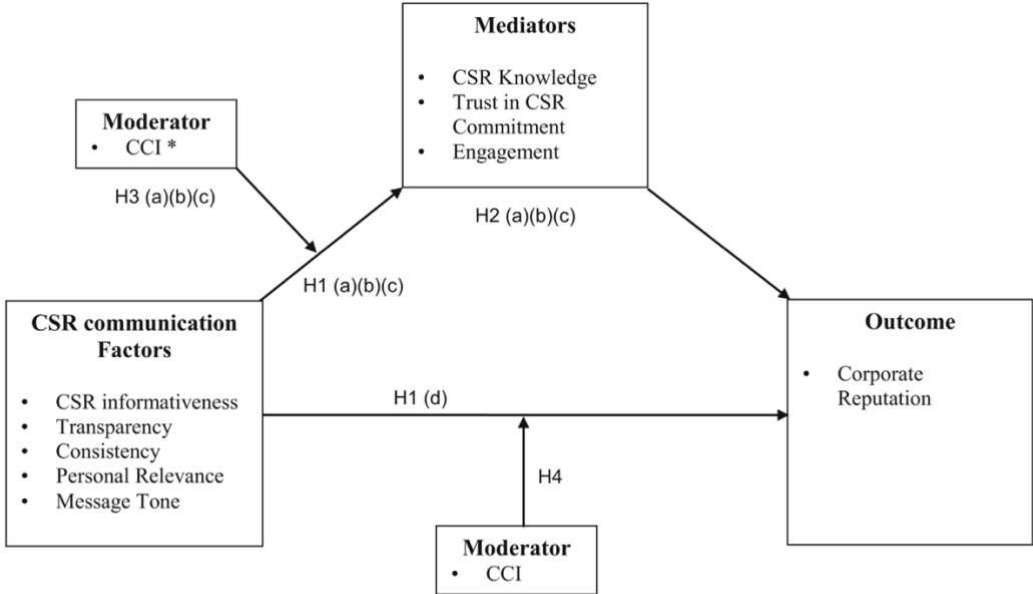
(Carroll, 1991, p. 42)



**Figure A2**

*The Proposed Conceptual Process Model of CSR Communication*

(S. Kim, 2019, p. 1146)

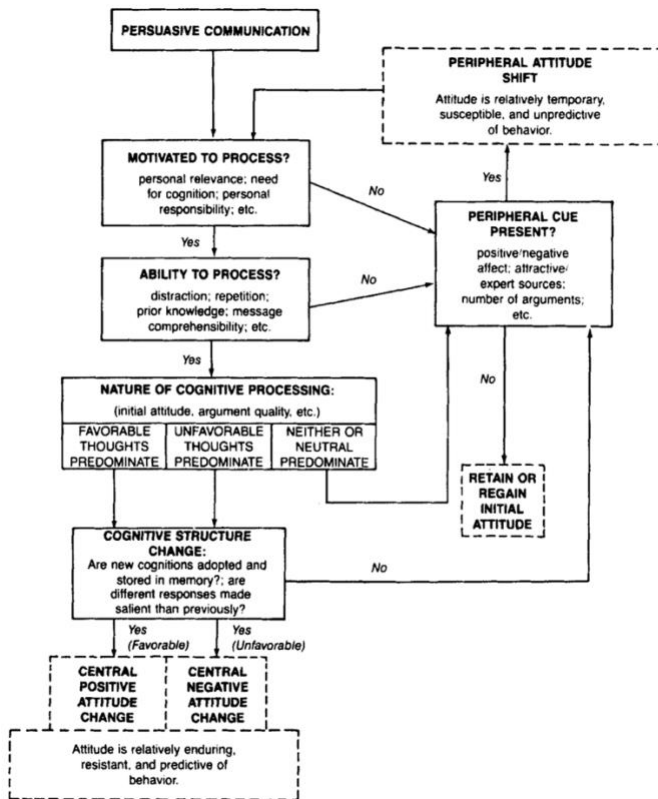


\*CCI refers to company-consumer identification

**Figure A3**

*Central and Peripheral Routes to Persuasion*

(Petty & Cacioppo, 1986, p. 126)



## Appendix B

### Figure B1

#### Questionnaire

Part	Ques- tion	Content	Single Choice Answers
Introduction		<p>Hello!</p> <p>This research conducts a quantitative experiment as part of my Master's thesis at Universidade Católica Portuguesa in the Strategic Communication and Leadership programme.</p> <p>The experiment will focus on your perception of corporate social responsibility communication in the automotive industry.</p> <p>The term corporate social responsibility (CSR) means that companies take a social responsibility towards society. This can cover social, environmental and economic issues such as climate protection and diversity.</p> <p>You have the right to withdraw from the experiment at any time and your anonymity will be preserved at all times.</p> <p>The experiment takes approximately 10 minutes.</p> <p>Thank you!</p>	
	1	Do you agree to participate in this experiment?	Yes; No* <sup>1</sup>
Preliminary Questions		Do you have a general understanding of the automotive industry?	Yes; No* <sup>1</sup>
	2	<i>(A general understanding means, for example, knowing at least three car brands or having a driving licence.)</i>	
Socio- demographic Questions	3	Which gender do you identify with?	Female; Male; Diverse; Prefer not to say
	4	How old are you?	Textbox for numbers only
	5	Which country do you live in?	Dropdown of all countries* <sup>3</sup>
	6	Which industry do you work/ study in?	Dropdown of all industries* <sup>4</sup> including the

			option 'Other:' with a freeform
		Please rate the following statements based on your knowledge. <i>The term Corporate Social Responsibility (CSR) means that companies take a social responsibility towards society. This can cover social, environmental and economic issues such as climate protection and diversity.</i>	
	7	Please rate your knowledge about corporate social responsibility (CSR) activities.	Five-point Likert scale * <sup>5</sup>
	8	Please rate your knowledge about the automotive industry.	Five-point Likert scale * <sup>5</sup>
	9	Please rate your knowledge about the automotive company Audi.	Five-point Likert scale * <sup>5</sup>
Experimental Exposure	Group 1	The following text is a statement by the CEO (chief executive officer) of the automotive company Audi. The text is a real text from Audi's annual and sustainability report for the year 2022 and is placed at the beginning of this report. Please read the full text before proceeding.	Views the real CSR text (Figure B2)
	Group 2	The following text is a statement by the CEO (Chief Executive Officer) of the automotive company Audi. The statement is part of Audi's annual and sustainability report for the year 2022 and is placed at the beginning of this report. The entire statement was generated by an artificial intelligence programme. Please read the full text before proceeding.	Views the AI-generated CSR text (Figure B3)
	Group 3	The following text is a statement by the CEO (Chief Executive Officer) of the automotive company Audi. The statement is part of Audi's annual and sustainability report for the year 2022 and is placed at the beginning of this report. Please read the full text before proceeding.	Views the real CSR text (Figure B2)
	Group 4	The following text is a statement by the CEO (Chief Executive Officer) of the automotive company Audi. The statement is part of Audi's annual and sustainability report for the year 2022 and is placed at the beginning of this report. Please read the full text before proceeding.	Views the AI-generated CSR text (Figure B3)

Control Questions	Please answer the following questions about the text to confirm that you have read it sufficiently.		
	10	The statement is part of Audi's annual and sustainability report of the year 2022.	Yes; No* <sup>2</sup>
	11	The total statement is less than 50 words long.	Yes* <sup>2</sup> ; No
	12	Multiple parts of the statement are written in German.	Yes* <sup>2</sup> ; No
Post-Exposure: Attitudes toward Information	Please rate the following statements based on your perceptions. <i>The term Corporate Social Responsibility (CSR) means that companies take a social responsibility towards society. This can cover social, environmental and economic issues such as climate protection and diversity.</i>		
	13	Audi's CSR communications are informative.	Five-point Likert scale* <sup>5</sup>
	14	Audi's CSR communications are useful.	Five-point Likert scale* <sup>5</sup>
Post-Exposure: Information Quality	Please rate the following statements about Audi's CSR communications based on your perceptions. <i>The term Corporate Social Responsibility (CSR) means that companies take a social responsibility towards society. This can cover social, environmental and economic issues such as climate protection and diversity.</i>		
	15	The information I obtain from Audi's CSR Information	Five-point Likert scale* <sup>5</sup>
	16	relevance The information I obtain from Audi's CSR communications is appropriate.	Five-point Likert scale* <sup>5</sup>
	17	Information The information I obtain from Audi's CSR communications is correct.	Five-point Likert scale* <sup>5</sup>
	18	accuracy The information I obtain from Audi's CSR communications is reliable.	Five-point Likert scale* <sup>5</sup>
	19	Information The information I obtain from Audi's CSR communications is up to date.	Five-point Likert scale* <sup>5</sup>
	20	timeliness The information I obtain from Audi's CSR communications is timely.	Five-point Likert scale* <sup>5</sup>
Post-Exposure: Group	1	Please rate the following statements about the source of Audi's CSR communications based on your perceptions.	

Source Credibility	<p>The source of the CEO statement of Audi's annual and sustainability report 2022 is CEO Markus Duesmann.</p> <p><i>The term Corporate Social Responsibility (CSR) means that companies take a social responsibility towards society. This can cover social, environmental and economic issues such as climate protection and diversity.</i></p>		
Group 2	<p>Please rate the following statements about the source of Audi's CSR communications based on your perceptions.</p> <p>The seen CEO statement of Audi's annual and sustainability report 2022 was generated by Artificial Intelligence.</p> <p><i>The term Corporate Social Responsibility (CSR) means that companies take a social responsibility towards society. This can cover social, environmental and economic issues such as climate protection and diversity.</i></p>		
Group 3 & 4	<p>Please rate the following statements about the source of Audi's CSR communications based on your perceptions.</p> <p><i>The term Corporate Social Responsibility (CSR) means that companies take a social responsibility towards society. This can cover social, environmental and economic issues such as climate protection and diversity.</i></p>		
21	Source	I trust Audi's CSR communications.	Five-point Likert scale* <sup>6</sup>
22	trustworthiness	Audi makes truthful claims in their CSR communications.	Five-point Likert scale* <sup>6</sup>
23	Source	Audi has a great amount of experience in using CSR communications.	Five-point Likert scale* <sup>6</sup>
24	expertise	Audi is skilled in developing CSR communications.	Five-point Likert scale* <sup>6</sup>
End	<p>Thank you for your participation!</p> <p>The aim of the experiment is to investigate the influence of AI-generated CSR communications on stakeholders' perceptions of CSR communication in the automotive industry.</p> <p>For this purpose, you were randomly assigned to one of four experimental groups and read either the real or an AI-generated text. One of the differences between the two texts is that the AI-</p>		

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generated text does not address the topic of Vorsprung 2030 and includes several subheadings.

The experimental groups were respectively:

Group 1: Read the real CSR text, was informed about the source (Source: Audi CEO Markus Duesmann)

Group 2: Read the AI-generated CSR text, was informed about the source (Source: Generative AI)

Group 3: Read the real CSR text, was not informed about the source (Source: Audi CEO Markus Duesmann)

Group 4: Read the AI-generated CSR text, was not informed about the source (Source: Generative AI)

If you have any questions, please contact me at s-jpfuhl@ucp.pt.

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\*<sup>1</sup>: If this answer is selected, the questionnaire will be terminated.

\*<sup>2</sup>: In the case of incorrect answers, participants are directed back to the page of the text to read it again.

\*<sup>3</sup>: Aruba; Afghanistan; Angola; Anguilla; Albania; Andorra; United Arab Emirates; Argentina; Armenia; American Samoa; Antigua and Barbuda; Australia; Austria; Azerbaijan; Burundi; Belgium; Benin; Burkina Faso; Bangladesh; Bulgaria; Bahrain; Bahamas; Bosnia and Herzegovina; Saint Barthelemy; Belarus; Belize; Bermuda; Bolivia; Brazil; Barbados; Brunei; Bhutan; Botswana; Central African Republic; Canada; Switzerland; Chile; China; Cote d'Ivoire; Cameroon; Democratic Republic of Congo; Congo; Colombia; Comoros; Cape Verde; Costa Rica; Cuba; Christmas Island; Cayman Islands; Cyprus; Czechia; Germany; Djibouti; Dominica; Denmark; Dominican Republic; Algeria; Ecuador; Egypt; Eritrea; Spain; Estonia; Ethiopia; Finland; Fiji; Falkland Islands; France; Faroe Islands; Micronesia (country); Gabon; United Kingdom; Georgia; Ghana; Gibraltar; Guinea; Gambia; Guinea-Bissau; Equatorial Guinea; Greece; Grenada; Greenland; Guatemala; French Guiana; Guam; Guyana; Hong Kong; Honduras; Croatia; Haiti; Hungary; Indonesia; Isle of Man; India; Ireland; Iran; Iraq; Iceland; Israel; Italy; Jamaica; Jersey; Jordan; Japan; Kazakhstan; Kenya; Kyrgyzstan; Cambodia; Kiribati; Saint Kitts and Nevis; South Korea; Kuwait; Laos; Lebanon; Liberia; Libya; Saint Lucia; Liechtenstein; Sri Lanka; Lesotho; Lithuania; Luxembourg; Latvia; Macao; Morocco; Monaco; Moldova; Madagascar; Maldives; Mexico; Marshall Islands; North Macedonia; Mali; Malta; Myanmar; Montenegro; Mongolia; Northern Mariana Islands; Mozambique; Mauritania; Martinique; Mauritius; Malawi; Malaysia; Mayotte; Namibia; New Caledonia; Niger; Norfolk Island; Nigeria; Nicaragua; Niue; Netherlands; Norway; Nepal; Nauru; New Zealand; Oman; Kosovo; Pakistan; Panama; Pitcairn; Peru; Philippines; Palau; Papua New Guinea; Poland; Puerto Rico; North Korea; Portugal; Paraguay; Palestine; French Polynesia; Qatar; Reunion; Romania; Russia; Rwanda; Saudi Arabia; Sudan; Senegal; Singapore; Solomon Islands; Sierra Leone; El Salvador; San Marino; Somalia; Saint Pierre and Miquelon; Serbia; South Sudan; Sao Tome and Principe; Suriname; Slovakia; Slovenia; Sweden; Eswatini; Seychelles; Syria;

Turks and Caicos Islands; Chad; Togo; Thailand; Tajikistan; Tokelau; Turkmenistan; East Timor; Tonga; Trinidad and Tobago; Tunisia; Turkey; Tuvalu; Taiwan; Tanzania; Uganda; Ukraine; Uruguay; United States; Uzbekistan; Vatican; Saint Vincent and the Grenadines; Venezuela; British Virgin Islands; United States Virgin Islands; Vietnam; Vanuatu; Samoa; Yemen; South Africa; Zambia

\*4: Energy (e.g., Oil, Gas); Materials (e.g., Chemicals, Metals, Packaging); Industrials (e.g., Aerospace, Construction, Transportation); Consumer Discretionary (e.g., Retail, Education, Hospitality); Consumer Staples (e.g., Food, Beverages, Household); Health Care (e.g., Pharmaceuticals, Biotechnology, Health Care); Financials (e.g., Investment Banking, Consumer Finance, Insurance); Information Technology (e.g., Software, Hardware); Communication Services (e.g., Telecommunication, Media and Entertainment); Utilities (e.g., Water Utilities, Electric Utilities); Real Estate (e.g., Hotel & Resort, Industrial Real Estate); Other: \_\_\_\_\_

\*5: The five-point Likert scales range from 1 = “low knowledge” to 5 = “high knowledge”.

\*6: The five-point Likert scales range from 1 = “strongly disagree” to 5 = “strongly agree”.

## Figure B2

*Experimental Exposure 1: CEO Statement of Audi's annual and sustainability report 2022*

(Audi AG, 2022a, p. 2)

Dear Readers,

Without a question: 2022 was a challenging year. A year shaped by a difficult situation in the global economy, sharply rising energy prices and continued supply shortages. A year in which we were so terribly caught off guard by the war in Ukraine, which has demanded our solidarity and cohesion more than anything else in recent memory. At the same time, as the team of the Premium brand group, we accomplished a lot together and generated a record operating profit of EUR 7.6 billion thanks to the dedication and team spirit of all employees. The way we took on the challenges of the past year is an enormous achievement for which I would like to thank our more than 87,000 employees worldwide. The results show that, together, we are successfully guiding the Premium brand group with Audi, Bentley, Lamborghini and Ducati through turbulent times - always with our eyes on the horizon.

One milestone in 2023 will be the start of production of the Audi Q6 e-tron family in Ingolstadt on the flexible vehicle architecture of Premium Platform Electric (PPE). The PPE offers the perfect conditions for our future fully electric vehicles. For the next step in digitalization, we are utilizing E3, the new generation of uniform electronic architecture, which we are developing in collaboration with CARIAD, the internal software unit of the Volkswagen Group.

At the same time, we are converting our sites to electric mobility. Starting in 2029, all Audi plants will produce at least one fully electric model. Along the way, we are keeping our eye on the environmental footprint of our vehicles and are continuing to shrink it throughout the entire life cycle. We reduce CO<sub>2</sub> emissions at various levels of the company, starting with the consistent implementation of our Roadmap E and projects related to the circular economy through to the Mission:Zero environmental program. Our plants in Brussels, Győr and Böllinger Höfe in Neckarsulm, where production operations are already net carbon-neutral, are pioneers

in this respect. And the first components in our vehicles are already being made partly from secondary materials.

Technological innovations for sustainable premium mobility demand a pioneering spirit, expert knowledge and good ideas. Having the right specialists is a key prerequisite for our success. We promote this with modern and flexible working conditions and offer our employees targeted development opportunities for future professional fields, such as with the establishment of our new battery assembly facility at the Ingolstadt site. We will invest around EUR 500 million in this by 2025.

Audi formulated the path to the future early on in the "Vorsprung 2030" strategy, thus opting for a bold course. We are clearly committed to electric mobility. The rising demand for our electric models is confirmation and, at the same time, our driver to keep working on our product portfolio with decisiveness and enthusiasm. The team spirit in the Premium brand group helps us in these efforts. It keeps us moving forward every day. With it, we can and will continue to successfully shape the future. Together. Resolutely. Confidently.

Sincerely,

Markus Duesmann

### **Figure B3**

*Experimental Exposure 2: AI-generated CEO Statement of Audi's annual and sustainability report 2022*

To Our Valued Stakeholders,

As we reflect on the journey of Audi AG through 2022, I am filled with a profound sense of pride and gratitude for the resilience, innovation, and dedication that our team has demonstrated in the face of unprecedented challenges. The year 2022 was a testament to our commitment to excellence, sustainability, and our unwavering pursuit of progress. As the CEO of Audi, I am honored to share with you the milestones we achieved, the challenges we overcame, and the strategic direction we are setting for the future.

#### **Innovation and Excellence in Mobility**

2022 was a year of significant achievements in innovation and product development at Audi. We launched several new models, including electric vehicles (EVs) that set new standards in design, performance, and sustainability. Our commitment to electrification is unwavering, as we aim to offer more than 20 fully electric models by 2025. This aligns with our vision of a greener future and our goal to achieve net-zero emissions by 2050. The positive reception of our EVs by customers worldwide reflects the growing demand for sustainable mobility solutions and Audi's potential to lead this transformation.

#### **Sustainability at the Core**

Sustainability is at the core of everything we do at Audi. In 2022, we made significant strides in reducing our carbon footprint, improving resource efficiency, and enhancing the sustainability of our supply chain. We are proud to report that our factories have seen a reduction in CO2 emissions, thanks to the implementation of renewable energy sources and energy-efficient technologies. Furthermore, our commitment to circular economy principles has intensified, with increased recycling and reuse of materials across our production processes.

## Strengthening Our Global Presence

Despite the challenges posed by global supply chain disruptions and the ongoing impact of the COVID-19 pandemic, Audi has demonstrated remarkable resilience and adaptability. We have strengthened our position in key markets and expanded our global presence, focusing on customer satisfaction and operational excellence. Our efforts to enhance digitalization and customer experience have paid off, resulting in strong sales performance and customer loyalty.

## Our People, Our Strength

The success of Audi is built on the talent, passion, and dedication of our employees. In 2022, we continued to invest in our people, fostering a culture of innovation, diversity, and inclusion. We are committed to providing a supportive and rewarding work environment where every member of the Audi family can thrive.

## Looking Ahead

As we look to the future, we are excited about the opportunities that lie ahead. The automotive industry is at a crossroads, and Audi is well-positioned to lead the way in shaping the future of mobility. We will continue to invest in electrification, digitalization, and sustainable practices, ensuring that we meet the evolving needs of our customers and contribute positively to society and the environment.

In closing, I extend my heartfelt thanks to our customers, partners, employees, and all stakeholders for your continued trust and support. Together, we are driving progress and creating a more sustainable and exciting future for all.

Sincerely,

Markus Duesmann  
CEO, Audi AG

## Figure B4

### Pre-Test

Page	Question	Interview	Feedback
1	IN01	1	Put Corporate Social Responsibility the first time you use CSR
		11	No grammar mistakes! I like the way you put the text together, the storyline makes super sense :) Short and simple!
		14	Hello! I am conducting a quantitative experiment as part of my Master's thesis at Universidade Católica Portuguesa in the Strategic Communication and Leadership programme. -> This survey conducts a quantitative experment and part of my Master's thesis in the field of Strategic Communication and Leadership at Universidade... "The term" CSR means that companies "take" a social responsibility towards society. This can cover social, enviornmental, .....
		10	I was a bit confused by the use of the term experiment because I think that is something else than a survey (which I assume it is). And then in the question is talked about an interview. Maybe it would be better to use one term consistently.
		14	Do you agree to participate in this interview? -> Interview or rather survey?
2	IN03	11	Great example! Short and simple as well
3	SD02	14	with drop down list or stating that only years and numeric numbers are accepted.
		8	I would say "which country" instead of what
	SD03	14	with drop down list?
	SD04	1	Is is lacking the sector of Education
		4	perhaps add another option for people who do not work in any of the listed industries. *1
		6	Perhaps write down other possibilities or "Something else"? *2
		10	Maybe the 6th question needs an option for anything else, some people would not be able to select one of the given categories
		11	Everything super clear and I think you covered pretty much all the most important industries!
4	SD05	2	Maybe write the whole term instead of CSR

		3	Although the term CSR was explained beforehand, it is back on the table here somewhat abruptly. Mixed with car questions * <sup>3</sup>
		6	maybe write CSR out again in brackets for stupid people like me ? * <sup>4</sup>
		9	Perhaps explain CSR activities again in brackets? * <sup>5</sup>
		11	Everything ok!
		15	would perhaps put what CSR is in brackets because you might have already forgotten it from the first page * <sup>6</sup>
5	EP02	12	Hm, what do you think to just somehow highlight the subheadings? Bold text maybe?
		14	AI-generated CEO statement from Audi's annual and sustainability report 2022 -> "CEO statement ... 2022 (AI-generated)" or (generated by AI)
6	CQ02	2	annual and sustainability report, not CSR
		15	somehow the question seems as if the yearly is double but I am unsure * <sup>7</sup>
	CQ03	4	I personally find this too easy to answer :- ) * <sup>8</sup>
		7	about 39 WOrds--> more or less formulieren?
		1	Everything clear! Just not sure for the word count, if people can distinguish... I mean, for me is obvious lol, it's 10 times more than 30 But, hm, maybe it'll be the same for everyone else! :)
7	PM01	2	maybe split in 2 pages? or multiple paragraphs?
		5	I would make a few more paragraphs / a subdivision of the individual questions. * <sup>9</sup>
		11	Do you think here from the AI generated text? Maybe you can point that out, what do you think? :)
		13	I don't understand some of the questions in this part. 1. Relevant in what way? Then if the information is up-to date? It's from 2022 and now we have 2024 so is it the last one that was released? The question about the amount of experience. I think i would need more information to answer this one. Maybe same statistics would help?
		14	possible to have an empty line after the first 6 statements for clarity?

*The marked feedback was translated from German into English using DeepL. The following is the original feedback:*

\*<sup>1</sup>: vielleicht noch sonstiges anführen, dass Personen, die in keiner Industrie von den aufgelisteten Option arbeiten, noch eine andere Option haben.

\*<sup>2</sup>: Vielleicht noch andere Möglichkeiten bzw "Etwas anderes " hinschreiben ?

\*3: Der Begriff CSR wurde zwar vorher erklärt ist aber hier etwas abrupt wieder auf dem Tisch. Gemischt mit Auto Fragen

\*4: vielleicht CSR für dumme wie mich nochmal in Klammern ausschreiben ?

\*5: CSR activities in Klammer vielleicht noch mal erklären?

\*6: würde vielleicht nochmal in klammern setzen was CSR ist weil man das von der ersten seite schon wieder vergessen haben könnte

\*7: finde ich persönlich zu einfach zu beantworten :-)

\*8: Ich würde ein paar mehr Absätze / eine Untergliederung der einzelnen Fragen machen.

\*9: irgendwie wirkt die frage so als wäre das jährlich doppelt drin aber bin unsicher

**Figure B5***Allocation of Free-Form Industries*

Participant Number(s)	Original comment in free form	Amount of comments	Allocated industry according to GICS
328	Chemical Engineering	1	Materials
869	Chamber of craft	1	Materials
1151	Student Economics	1	Industrials
392	Student in management	1	Industrials
996	Business	1	Industrials
649; 560; 416	Consulting	3	Industrials
669; 289	Business Administration	2	Industrials
1059	General Business Administration* <sup>1</sup>	1	Industrials
605	International Management	1	Industrials
630	HR	1	Industrials
244	Sustaibility	1	Industrials
890	Sustainability	1	Industrials
638	Administration	1	Industrials
1051; 979; 557	Management	3	Industrials
1193	Automotive industry	1	Consumer Discretionary
1034	Textile Service	1	Consumer Discretionary
899	Fashion	1	Consumer Discretionary
544	Fashion Industry	1	Consumer Discretionary
1076; 696; 989; 823; 600	Service	5	Consumer Discretionary
846	Service Sector, textile services	1	Consumer Discretionary
975; 948; 922; 891; 740	Tourism	5	Consumer Discretionary
313	Tourism and Hospitality	1	Consumer Discretionary
900	Teacher	1	Consumer Discretionary
780	Education* <sup>2</sup>	1	Consumer Discretionary
528	School	1	Consumer Discretionary
452	Retailer	1	Consumer Discretionary
1132; 882; 743; 237	Education	4	Consumer Discretionary
905	Event Industry	1	Consumer Discretionary
1190	Events	1	Consumer Discretionary
1057	Events Industy	1	Consumer Discretionary
861	Dairy factory* <sup>3</sup>	1	Consumer Staples

1016	Pharma	1	Health Care
920	Psychology* <sup>4</sup>	1	Health Care
765	Work Psychology	1	Health Care
1018; 999; 840; 1146; 997; 965; 772; 764; 726; 629; 588; 322; 303	Psychology	13	Health Care
731	E-Commerce (Business Psychology)	1	Health Care
713; 554	Business Psychology	2	Health Care
227	Psychology major in college	1	Health Care
647	Information and It Security	1	Information Technology
240; 1101; 1063; 1052; 1009; 958; 809; 692; 674; 578; 565; 541; 321	Marketing	13	Communication Services
874	Marketing & Services	1	Communication Services
1064; 698	Media	2	Communication Services
666	Communication / Languages	1	Communication Services
690	Digital Marketing	1	Communication Services
706	Other	1	Other
519	Unemployed	1	Other
225	Unemployed currently	1	Other
856	Entrepreneur	1	Other
708	public sector	1	Other
933	Retired government worker	1	Other
946	Gg	1	Other
256	Sozial worker	1	Other
778	Social area* <sup>5</sup>	1	Other
701	Social	1	Other
226	sociology	1	Other
1155	Sports	1	Other
1047	Market Research	1	Other
902	Education and Research	1	Other
672	social science	1	Other
623	social sciences	1	Other
1023	Social Studies	1	Other
1095	Higher education / research	1	Other

1140; 966; 925; 709; 656 897	Science  Psychological research	5  1	Other  Other
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*The marked comments were translated from German into English using DeepL. The following are the original comments:*

\*1: Allgemeine BWL

\*2: Bildung

\*3: Molkerei

\*4: Psychologie

\*5: Sozialer Bereich

## Appendix C

**Table C1**

*Attitudes towards Audi's CSR communications*

		1 (strongly disagree)	2	3	4	5 (strongly agree)	Total
Relevance	Frequency	14	61	170	322	61	628
	Percent	2.2	9.7	27.1	51.3	9.7	100.0
Appropriateness	Frequency	20	108	207	239	54	628
	Percent	3.2	17.2	33.0	38.1	8.6	100.0

**Table C2**

*Attitudes towards the Information of Audi's CSR communications*

		1 (strongly disagree)	2	3	4	5 (strongly agree)	Total
Relevance	Frequency	23	90	177	274	64	628
	Percent	3.7	14.3	28.2	43.6	10.2	100.0
Appropriateness	Frequency	13	43	186	301	85	628
	Percent	2.1	6.8	29.6	47.9	13.5	100.0
Correctness	Frequency	12	42	302	191	81	628
	Percent	1.9	6.7	48.1	30.4	12.9	100.0
Reliability	Frequency	29	85	210	220	84	628
	Percent	4.6	13.5	33.4	35.0	13.4	100.0
Up to date	Frequency	14	57	179	295	83	628
	Percent	2.2	9.1	28.5	47.0	13.2	100.0
Timeliness	Frequency	11	63	205	275	74	628
	Percent	1.8	10.0	32.6	43.8	11.8	100.0

**Table C3***Attitudes towards the Source of Audi's CSR communications*

		1 (strongly disagree)	2	3	4	5 (strongly agree)	Total
Trust	Frequency	54	122	190	202	60	628
	Percent	8.6	19.4	30.3	32.2	9.6	100.0
Truth	Frequency	28	83	241	220	56	628
	Percent	4.5	13.2	38.4	35.0	8.9	100.0
Experience	Frequency	17	48	197	256	110	628
	Percent	2.7	7.6	31.4	40.8	17.5	100.0
Skill	Frequency	21	38	186	264	119	628
	Percent	3.3	6.1	29.6	42.0	18.9	100.0

**Table C4***Levene test: Experimental Groups (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	3.180	3	624	.024
Attitudes	Based on Median	2.005	3	624	.112
	Based on Median and with adjusted df	2.005	3	609.003	.112
	Based on trimmed mean	2.986	3	624	.031

**Table C5***Levene test: Experimental Groups (IV); Index Information Quality (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.370	3	624	.251
Information Quality	Based on Median	1.448	3	624	.228
	Based on Median and with adjusted df	1.448	3	607.851	.228
	Based on trimmed mean	1.279	3	624	.281

**Table C6***Levene test: Experimental Groups (IV); Index Source Credibility (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	2.560	3	624	.054
Source Credibility	Based on Median	2.692	3	624	.045
	Based on Median and with adjusted df	2.692	3	599.997	.045
	Based on trimmed mean	2.530	3	624	.056

**Table C7***Levene test Group 2: Prior knowledge CSR initiatives (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	2.943	4	152	.022
Attitudes	Based on Median	2.838	4	152	.026
	Based on Median and with adjusted df	2.838	4	150.156	.026
	Based on trimmed mean	2.955	4	152	.022

**Table C8***Univariate ANOVA Group 2: Prior Knowledge CSR initiatives (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	1.604 <sup>a</sup>	4	.401	.577	.679
Intercept	1282.619	1	1282.619	1846.370	<.001
Prior Knowledge CSR initiatives	1.604	4	.401	.577	.679
Error	105.590	152	.695		
Total	1680.500	157			
Corrected Total	107.194	156			

a. R Squared = .015 (Adjusted R Squared = -.011)

**Table C9***Levene test Group 4: Prior knowledge CSR initiatives (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.394	4	152	.239
Attitudes	Based on Median	.745	4	152	.563
	Based on Median and with adjusted df	.745	4	135.826	.563
	Based on trimmed mean	1.370	4	152	.247

**Table C10***Univariate ANOVA Group 4: Prior Knowledge CSR initiatives (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	3.409 <sup>a</sup>	4	.852	1.020	.399
Intercept	1130.121	1	1130.121	1352.392	<.001
Prior Knowledge CSR initiatives	3.409	4	.852	1.020	.399
Error	127.018	152	.836		
Total	1886.000	157			
Corrected Total	130.427	156			

a. R Squared = .026 (Adjusted R Squared = .001)

**Table C11***Levene test Group 1: Prior knowledge CSR initiatives (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	3.925	4	152	.005
Attitudes	Based on Median	3.487	4	152	.009
	Based on Median and with adjusted df	3.487	4	144.317	.009
	Based on trimmed mean	3.876	4	152	.005

**Table C12***Post Hoc Tests Group 1: Prior Knowledge CSR initiatives (IV); Index Attitudes (DV)*

Games-Howell		Mean			95% Confidence	95% Confidence
(I) Prior Knowledge	(J) Prior Knowledge	Difference	Std.		Interval	Interval
CSR initiatives	CSR initiatives	(I-J)	Error	<i>p</i>	Lower Bound	Upper Bound
1 (low knowledge)	2	-.21071	.34439	.971	-1.0549	.8263
	3	-.23421	.30872	.938	-1.0486	.7379
	4	-.62308	.29187	.275	-1.4015	.3290
	5 (high knowledge)	-.61250	.35865	.452	-1.5363	.4643
2	1 (low knowledge)	.21071	.34439	.971	-.6335	1.2477
	3	-.02350	.23693	1.000	-.5942	.6480
	4	-.41236	.21452	.324	-.9304	.2036
	5 (high knowledge)	-.40179	.29909	.667	-1.1199	.4571
3	1 (low knowledge)	.23421	.30872	.938	-.5802	1.2063
	2	.02350	.23693	1.000	-.5472	.6950
	4	-.38887	.15074	.086	-.8568	.0340
	5 (high knowledge)	-.37829	.25721	.590	-1.0612	.3762
4	1 (low knowledge)	.62308	.29187	.275	-.1553	1.5751
	2	.41236	.21452	.324	-.1056	1.0283
	3	.38887	.15074	.086	-.0791	.8117
	5 (high knowledge)	.01058	.23673	1.000	-.6289	.7226
5 (high knowledge)	1 (low knowledge)	.61250	.35865	.452	-.3113	1.6893
	2	.40179	.29909	.667	-.3164	1.2606
	3	.37829	.25721	.590	-.3046	1.1328
	4	-.01058	.23673	1.000	-.6501	.7014

Based on observed means.

The error term is Mean Square (Error) = .647.

**Table C13***Linear Regression Group 1: Prior Knowledge CSR initiatives (IV); Index Attitudes (DV)*

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	<i>p</i>	Constant	b1
Linear	.060	9.830	1	155	.002	2.997	.186

**Table C14***Levene test Group 3: Prior knowledge CSR initiatives (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index Attitudes	Based on Mean	1.006	4	152	.406
	Based on Median	.965	4	152	.429
	Based on Median and with adjusted df	.965	4	139.634	.429
	Based on trimmed mean	1.034	4	152	.392

**Table C15***Post Hoc Tests Group 4: Prior Knowledge CSR initiatives (IV); Index Attitudes (DV)*

Bonferroni						
(I) Prior Knowledge CSR initiatives	(J) Prior Knowledge CSR initiatives	Mean Difference (I-J)	Std. Error	<i>p</i>	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
1 (low knowledge)	2	-.4958	.26990	.681	-1.2647	.2730
	3	-.3965	.25175	1.000	-1.1136	.3206
	4	-.4871	.24436	.480	-1.1832	.2090
	5 (high knowledge)	-.9889*	.28282	.006	-1.7945	-.1832
2	1 (low knowledge)	.4958	.26990	.681	-.2730	1.2647
	3	.0993	.18271	1.000	-.4211	.6198
	4	.0087	.17239	1.000	-.4823	.4998
	5 (high knowledge)	-.4931	.22359	.289	-1.1300	.1439
3	1 (low knowledge)	.3965	.25175	1.000	-.3206	1.1136
	2	-.0993	.18271	1.000	-.6198	.4211
	4	-.0906	.14231	1.000	-.4960	.3148
	5 (high knowledge)	-.5924*	.20131	.038	-1.1658	-.0189
4	1 (low knowledge)	.4871	.24436	.480	-.2090	1.1832
	2	-.0087	.17239	1.000	-.4998	.4823
	3	.0906	.14231	1.000	-.3148	.4960
	5 (high knowledge)	-.5018	.19199	.099	-1.0487	.0451
5 (high knowledge)	1 (low knowledge)	.9889*	.28282	.006	.1832	1.7945
	2	.4931	.22359	.289	-.1439	1.1300
	3	.5924*	.20131	.038	.0189	1.1658
	4	.5018	.19199	.099	-.0451	1.0487

Based on observed means.

The error term is Mean Square (Error) = .514.

**Table C16***Linear Regression Group 4: Prior Knowledge CSR initiatives (IV); Index Attitudes (DV)*

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	<i>p</i>	Constant	b1
Linear	.049	8.004	1	155	.005	3.129	.153

**Table C17***Levene test Group 1: Prior knowledge automotive industry (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.427	4	152	.228
Attitudes	Based on Median	1.152	4	152	.334
	Based on Median and with adjusted df	1.152	4	126.777	.335
	Based on trimmed mean	1.430	4	152	.227

**Table C18***Univariate ANOVA Group 1: Prior Knowledge autom. industry (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	F	p
Corrected Model	3.499 <sup>a</sup>	4	.875	1.298	.273
Intercept	694.308	1	694.308	1030.239	<.001
Prior Knowledge automotive industry	3.499	4	.875	1.298	.273
Error	102.437	152	.674		
Total	2157.250	157			
Corrected Total	105.936	156			

a. R Squared = .033 (Adjusted R Squared = .008)

**Table C19***Levene test Group 2: Prior knowledge autom. industry (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	p
Index	Based on Mean	4.648	4	152	.001
Attitudes	Based on Median	3.749	4	152	.006
	Based on Median and with adjusted df	3.749	4	100.884	.007
	Based on trimmed mean	4.558	4	152	.002

**Table C20***Welch ANOVA Group 2: Prior Knowledge autom. industry (IV); Index Attitudes (DV)*

	Statistic <sup>a</sup>	df1	df2	p	Partial Eta Squared
Welch	.135	4	20.697	.968	.135

a. Asymptotically F distributed.

**Table C21***Levene test Group 3: Prior knowledge autom. industry (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	p
Index	Based on Mean	2.079	4	152	.086
Attitudes	Based on Median	1.845	4	152	.123
	Based on Median and with adjusted df	1.845	4	144.312	.123
	Based on trimmed mean	2.073	4	152	.087

**Table C22***Post Hoc Tests Group 3: Prior Knowledge autom. industry (IV); Index Attitudes (DV)*

Bonferroni		Mean	Std.		95% Confidence	95% Confidence
(I) Prior Knowledge	(J) Prior Knowledge	Difference	Error	<i>p</i>	Interval	Interval
Automotive Industry	Automotive Industry	(I-J)			Lower Bound	Upper Bound
1 (low knowledge)	2	-.7143	.36561	.526	-1.7558	.3272
	3	-.8306	.36045	.226	-1.8574	.1961
	4	-1.1105*	.36524	.028	-2.1509	-.0700
	5 (high knowledge)	-1.7500*	.45102	.002	-3.0348	-.4652
2	1 (low knowledge)	.7143	.36561	.526	-.3272	1.7558
	3	-.1164	.13963	1.000	-.5141	.2814
	4	-.3962	.15158	.099	-.8280	.0356
	5 (high knowledge)	-1.0357*	.30494	.009	-1.9044	-.1671
3	1 (low knowledge)	.8306	.36045	.226	-.1961	1.8574
	2	.1164	.13963	1.000	-.2814	.5141
	4	-.2798	.13866	.454	-.6748	.1152
	5 (high knowledge)	-.9194*	.29873	.025	-1.7703	-.0684
4	1 (low knowledge)	1.1105*	.36524	.028	.0700	2.1509
	2	.3962	.15158	.099	-.0356	.8280
	3	.2798	.13866	.454	-.1152	.6748
	5 (high knowledge)	-.6395	.30450	.374	-1.5069	.2279
5 (high knowledge)	1 (low knowledge)	1.7500*	.45102	.002	.4652	3.0348
	2	1.0357*	.30494	.009	.1671	1.9044
	3	.9194*	.29873	.025	.0684	1.7703
	4	.6395	.30450	.374	-.2279	1.5069

Based on observed means.

The error term is Mean Square (Error) = .488.

**Table C23***Linear Regression Group 3: Prior Knowledge autom. industry (IV); Index Attitudes (DV)*

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	<i>p</i>	Constant	b1
Linear	.110	19.221	1	155	<.001	2.807	.275

**Table C24***Levene test Group 4: Prior knowledge autom. industry (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index Attitudes	Based on Mean	.048	3	152	.986
	Based on Median	.138	3	152	.937
	Based on Median and with adjusted df	.138	3	142.490	.937
	Based on trimmed mean	.073	3	152	.974

**Table C25***Linear Regression Group 4: Prior Knowledge autom. industry (IV); Index Attitudes (DV)*

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	<i>p</i>	Constant	b1
Linear	.052	8.478	1	155	.004	2.633	.222

The independent variable is Pre-Knowledge: Please rate your knowledge about the automotive industry.

**Table C26***Levene test Group 1: Prior knowledge Audi (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.904	4	152	.113
Attitudes	Based on Median	1.277	4	152	.282
	Based on Median and with adjusted df	1.277	4	138.362	.282
	Based on trimmed mean	1.832	4	152	.125

**Table C27***Univariate ANOVA Group 1: Prior Knowledge Audi (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	1.842 <sup>a</sup>	4	.461	.672	.612
Intercept	901.990	1	901.990	1317.101	<.001
Prior Knowledge Audi	1.842	4	.461	.672	.612
Error	104.094	152	.685		
Total	2157.250	157			
Corrected Total	105.936	156			

a. R Squared = .017 (Adjusted R Squared = -.008)

**Table C28***Levene test Group 3: Prior knowledge Audi (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	.692	4	152	.598
Attitudes	Based on Median	.686	4	152	.603
	Based on Median and with adjusted df	.686	4	143.274	.603
	Based on trimmed mean	.669	4	152	.614

**Table C29***Univariate ANOVA Group 3: Prior Knowledge Audi (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	4.108 <sup>a</sup>	4	1.027	1.920	.110
Intercept	1295.657	1	1295.657	2422.100	<.001
Prior Knowledge Audi	4.108	4	1.027	1.920	.110
Error	81.310	152	.535		
Total	2165.750	157			
Corrected Total	85.417	156			

a. R Squared = .048 (Adjusted R Squared = .023)

**Table C30***Levene test Group 2: Prior knowledge Audi (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	.568	4	152	.686
Attitudes	Based on Median	.617	4	152	.651
	Based on Median and with adjusted df	.617	4	150.553	.651
	Based on trimmed mean	.624	4	152	.646

**Table C31***Post Hoc Tests Group 2: Prior Knowledge Audi (IV); Index Attitudes (DV)*

Bonferroni		Mean	Std.		95% Confidence	95% Confidence
(I) Prior Knowledge Audi	(J) Prior Knowledge Audi	Difference (I-J)	Error	<i>p</i>	Interval Lower Bound	Interval Upper Bound
1 (low knowledge)	2	-.5539	.23973	.222	-1.2368	.1290
	3	-.4559	.23973	.591	-1.1388	.2270
	4	-.5294	.25231	.375	-1.2481	.1893
	5 (high knowledge)	.6071	.36780	1.000	-.4406	1.6548
2	1 (low knowledge)	.5539	.23973	.222	-.1290	1.2368
	3	.0980	.15734	1.000	-.3502	.5462
	4	.0245	.17591	1.000	-.4766	.5256
	5 (high knowledge)	1.1611*	.32025	.004	.2488	2.0733
3	1 (low knowledge)	.4559	.23973	.591	-.2270	1.1388
	2	-.0980	.15734	1.000	-.5462	.3502
	4	-.0735	.17591	1.000	-.5746	.4276
	5 (high knowledge)	1.0630*	.32025	.011	.1508	1.9753
4	1 (low knowledge)	.5294	.25231	.375	-.1893	1.2481
	2	-.0245	.17591	1.000	-.5256	.4766
	3	.0735	.17591	1.000	-.4276	.5746
	5 (high knowledge)	1.1366*	.32977	.007	.1972	2.0759
5 (high knowledge)	1 (low knowledge)	-.6071	.36780	1.000	-1.6548	.4406
	2	-1.1611*	.32025	.004	-2.0733	-.2488
	3	-1.0630*	.32025	.011	-1.9753	-.1508
	4	-1.1366*	.32977	.007	-2.0759	-.1972

Based on observed means.

The error term is Mean Square (Error) = .631.

**Table C32***Linear Regression Group 2: Prior Knowledge Audi (IV); Index Attitudes (DV)*

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	<i>p</i>	Constant	b1
Linear	.002	.306	1	155	.581	3.267	-.036

**Table C33***Levene test Group 4: Prior knowledge Audi (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index Attitudes	Based on Mean	.673	4	152	.612
	Based on Median	.489	4	152	.744
	Based on Median and with adjusted df	.489	4	143.448	.744
	Based on trimmed mean	.603	4	152	.661

**Table C34***Post Hoc Tests Group 4: Prior Knowledge Audi (IV); Index Attitudes (DV)*

Bonferroni						
(I) Prior Knowledge Audi	(J) Prior Knowledge Audi	Mean Difference (I-J)	Std. Error	<i>p</i>	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
1 (low knowledge)	2	-.4292	.27660	1.000	-1.2171	.3587
	3	-.7221	.27498	.095	-1.5054	.0612
	4	-.8618*	.29992	.046	-1.7162	-.0075
	5 (high knowledge)	-.9478	.34220	.063	-1.9226	.0270
2	1 (low knowledge)	.4292	.27660	1.000	-.3587	1.2171
	3	-.2928	.17516	.966	-.7918	.2061
	4	-.4326	.21218	.432	-1.0370	.1718
	5 (high knowledge)	-.5186	.26864	.554	-1.2838	.2467
3	1 (low knowledge)	.7221	.27498	.095	-.0612	1.5054
	2	.2928	.17516	.966	-.2061	.7918
	4	-.1398	.21007	1.000	-.7382	.4586
	5 (high knowledge)	-.2257	.26698	1.000	-.9862	.5348
4	1 (low knowledge)	.8618*	.29992	.046	.0075	1.7162
	2	.4326	.21218	.432	-.1718	1.0370
	3	.1398	.21007	1.000	-.4586	.7382
	5 (high knowledge)	-.0860	.29261	1.000	-.9195	.7475
5 (high knowledge)	1 (low knowledge)	.9478	.34220	.063	-.0270	1.9226
	2	.5186	.26864	.554	-.2467	1.2838
	3	.2257	.26698	1.000	-.5348	.9862
	4	.0860	.29261	1.000	-.7475	.9195

Based on observed means.

The error term is Mean Square (Error) = .789.

**Table C35***Linear Regression Group 4: Prior Knowledge Audi (IV); Index Attitudes (DV)*

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	<i>p</i>	Constant	b1
Linear	.072	11.938	1	155	<.001	2.695	.226

**Table C36***Information Relevance per Attitude*

	<i>Mean</i>	<i>SD</i>	<i>N</i>
1 (low attitude)	1.22	.363	9
2	2.29	.785	41
3	2.96	.702	153
4	3.59	.588	320
5 (high attitude)	4.24	.621	105
Total	3.44	.85	628

**Table C37***Levene test: Information Relevance (IV); Index Attitudes (DV)*

		<i>Levene Statistic</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
Index	Based on Mean	2.156	8	619	.029
Attitudes	Based on Median	1.985	8	619	.046
	Based on Median and with adjusted df	1.985	8	598.104	.046
	Based on trimmed mean	2.113	8	619	.033

**Table C38***Welch ANOVA: Information Relevance (IV); Index Attitudes (DV)*

	<i>Statistic<sup>a</sup></i>	<i>df1</i>	<i>df2</i>	<i>p</i>	<i>Partial Eta Squared</i>
Welch	84.767	8	71.068	<.001	.460

a. Asymptotically F distributed.

**Table C39***Information Accuracy per Attitude*

	<i>Mean</i>	<i>SD</i>	<i>N</i>
1 (low attitude)	1.55	.568	11
2	2.63	.789	35
3	3.13	.739	227
4	3.576	.663	258
5 (high attitude)	4.12	.664	97
Total	3.44	.850	628

**Table C40***Levene test: Information Accuracy (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	2.681	8	619	.007
Attitudes	Based on Median	1.861	8	619	.064
	Based on Median and with adjusted df	1.861	8	569.411	.064
	Based on trimmed mean	2.542	8	619	.010

**Table C41***Univariate ANOVA: Information Accuracy (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	F	<i>p</i>	Partial Eta Squared
Corrected Model	144.141 <sup>a</sup>	8	18.018	36.073	<.001	.318
Intercept	2796.727	1	2796.727	5599.259	<.001	.900
Index Information Accuracy	144.141	8	18.018	36.073	<.001	.318
Error	309.179	619	.499			
Total	7889.500	628				
Corrected Total	453.320	627				

a. R Squared = .318 (Adjusted R Squared = .309)

**Table C42***Information Timeliness per Attitude*

	Mean	SD	N
1 (low attitude)	1.60	.699	10
2	2.63	.701	31
3	3.11	.844	176
4	3.51	.707	311
5 (high attitude)	4.03	.685	100
Total	3.44	.850	628

**Table C43***Levene test: Information Timeliness (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	Sig.
Index	Based on Mean	1.463	8	619	.168
Attitudes	Based on Median	1.311	8	619	.235
	Based on Median and with adjusted df	1.311	8	589.695	.235
	Based on trimmed mean	1.462	8	619	.168

**Table C44***Univariate ANOVA: Information Timeliness (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	120.915 <sup>a</sup>	8	15.114	28.146	<.001	.267
Intercept	1867.747	1	1867.747	3478.089	<.001	.849
Index Information Timeliness	120.915	8	15.114	28.146	<.001	.267
Error	332.405	619	.537			
Total	7889.500	628				
Corrected Total	453.320	627				

a. R Squared = .267 (Adjusted R Squared = .257)

**Table C45***Source Trust per Attitudes*

	Mean	SD	N
1 (low attitude)	2.12	.768	25
2	2.70	.786	82
3	3.15	.756	210
4	3.70	.579	235
5 (high attitude)	4.24	.532	76
Total	3.44	.850	628

**Table C46***Levene test: Source Trust (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	3.202	8	619	.001
Attitudes	Based on Median	3.218	8	619	.001
	Based on Median and with adjusted df	3.218	8	565.401	.001
	Based on trimmed mean	3.176	8	619	.002

**Table C47***Welch ANOVA: Source Trust (IV); Index Attitudes (DV)*

	Statistic <sup>a</sup>	df1	df2	<i>p</i>	Partial Eta Squared
Welch	47.688	8	150.876	<.001	.375

a. Asymptotically F distributed.

**Table C48***Source Expertise per Attitude*

	<i>Mean</i>	<i>SD</i>	<i>N</i>
1 (low attitude)	1.75	.544	22
2	2.64	.657	25
3	3.22	.724	158
4	3.52	.724	285
5 (high attitude)	3.72	.848	138
Total	3.44	.850	628

**Table C49***Levene test: Source Expertise (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	.860	8	619	.550
Attitudes	Based on Median	.685	8	619	.705
	Based on Median and with adjusted df	.685	8	578.808	.705
	Based on trimmed mean	.873	8	619	.539

**Table C50***Univariate ANOVA: Source Expertise (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	93.526 <sup>a</sup>	8	11.691	20.113	<.001	.206
Intercept	2424.522	1	2424.522	4171.213	<.001	.871
Index Source Expertise	93.526	8	11.691	20.113	<.001	.206
Error	359.794	619	.581			
Total	7889.500	628				
Corrected Total	453.320	627				

a. R Squared = .206 (Adjusted R Squared = .196)

**Table C51***Levene test: ELM Route (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
ELM	Based on Mean	2.884	3	624	.035
Route	Based on Median	2.934	3	624	.033
	Based on Median and with adjusted df	2.934	3	582.120	.033
	Based on trimmed mean	2.834	3	624	.038

**Table C52***Gender per Group*

	Group 1	Group 2	Group 3	Group 4	Total
Female	93	103	107	95	398
Male	63	54	49	59	225
Diverse				2	2
Prefer not to say	1		1	1	3
Total	157	157	157	157	628

**Table C53***Levene test Group 1: Influence of Gender (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	3.201	1	154	.076
Attitudes	Based on Median	2.597	1	154	.109
	Based on Median and with adjusted df	2.597	1	153.721	.109
	Based on trimmed mean	3.353	1	154	.069

**Table C54***Univariate ANOVA Group 1: Influence of Gender (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	F	p
Corrected Model	1.714 <sup>a</sup>	2	.857	1.266	.285
Intercept	92.070	1	92.070	136.044	<.001
Gender	1.714	2	.857	1.266	.285
Error	104.222	154	.677		
Total	2157.250	157			
Corrected Total	105.936	156			

a. R Squared = .016 (Adjusted R Squared = .003)

**Table C55***Levene test Group 2: Influence of Gender (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	p
Index	Based on Mean	7.021	1	155	.009
Attitudes	Based on Median	5.630	1	155	.019
	Based on Median and with adjusted df	5.630	1	150.849	.019
	Based on trimmed mean	7.075	1	155	.009

**Table C56***Welch ANOVA Group 2: Influence of Gender (IV); Index Attitudes (DV)*

	Statistic <sup>a</sup>	df1	df2	p
Welch	1.022	1	85.084	.315

a. Asymptotically F distributed.

**Table C57***Levene test Group 3: Influence of Gender (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	p
Index	Based on Mean	3.348	1	154	.069
Attitudes	Based on Median	2.660	1	154	.105
	Based on Median and with adjusted df	2.660	1	152.881	.105
	Based on trimmed mean	3.397	1	154	.067

**Table C58***Univariate ANOVA Group 3: Influence of Gender (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	.193 <sup>a</sup>	2	.096	.174	.840
Intercept	112.336	1	112.336	202.990	<.001
Gender	.193	2	.096	.174	.840
Error	85.225	154	.553		
Total	2165.750	157			
Corrected Total	85.417	156			

a. R Squared = .002 (Adjusted R Squared = -.011)

**Table C59***Levene test Group 4: Influence of Gender (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.867	2	153	.158
Attitudes	Based on Median	1.631	2	153	.199
	Based on Median and with adjusted df	1.631	2	143.311	.199
	Based on trimmed mean	1.860	2	153	.159

**Table C60***Univariate ANOVA Group 4: Influence of Gender (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	3.493 <sup>a</sup>	3	1.164	1.404	.244
Intercept	109.392	1	109.392	131.856	<.001
Gender	3.493	3	1.164	1.404	.244
Error	126.933	153	.830		
Total	1886.000	157			
Corrected Total	130.427	156			

a. R Squared = .027 (Adjusted R Squared = .008)

**Table C61***Age per Group*

	Group 1	Group 2	Group 3	Group 4	Total
18	2	1	3	1	7
19	2	2	2	4	10
20	6	6	2	6	20
21	8	12	4	5	29

22	9	15	10	14	48
23	22	18	22	15	77
24	14	17	30	20	81
25	27	19	12	17	75
26	13	18	24	17	72
27	11	9	11	12	43
28	3	5	7	4	19
29		1	2	4	7
30	8	3	7	9	27
31	4	3	2	3	12
32	3		2	2	7
33	2	3	1	3	9
34	4	5	2	3	14
35		1			1
36		2	1	1	4
37	1	2		1	4
38		1	2	3	6
40	1			2	3
42				2	2
43	2	3			5
44	3	2			5
45	2			3	5
46		1			1
47	2	2	1		5
49		1			1
50	1	1	2	1	5
51		1			1
52		1	1	1	3
53			1		1
55	3			1	4
56			1		1
57	1				1
58		1	1		2
60	1				1
61	1		2		3
62			2	1	3
63		1		1	2
66	1				1
69				1	1
Total	157	157	157	157	628

**Table C62***Levene test Group 1: Age (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.106	20	129	.351
Attitudes	Based on Median	.697	20	129	.823
	Based on Median and with adjusted df	.697	20	112.201	.822
	Based on trimmed mean	1.083	20	129	.375

**Table C63***Univariate ANOVA Group 1: Age (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	25.214 <sup>a</sup>	27	.934	1.492	.073
Intercept	798.317	1	798.317	1275.768	<.001
Age	25.214	27	.934	1.492	.073
Error	80.722	129	.626		
Total	2157.250	157			
Corrected Total	105.936	156			

a. R Squared = .238 (Adjusted R Squared = .079)

**Table C64***Levene test Group 3: Age (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	2.736	19	130	<.001
Attitudes	Based on Median	2.539	19	130	.001
	Based on Median and with adjusted df	2.539	19	108.884	.001
	Based on trimmed mean	2.733	19	130	<.001

**Table C65***Univariate ANOVA Group 3: Age (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	15.637 <sup>a</sup>	26	.601	1.120	.328
Intercept	708.503	1	708.503	1319.929	<.001
Age	15.637	26	.601	1.120	.328
Error	69.781	130	.537		
Total	2165.750	157			
Corrected Total	85.417	156			

a. R Squared = .183 (Adjusted R Squared = .020)

**Table C66***Levene test Group 2: Age (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.492	18	127	.103
Attitudes	Based on Median	.888	18	127	.594
	Based on Median and with adjusted df	.888	18	80.929	.594
	Based on trimmed mean	1.447	18	127	.121

**Table C67***Univariate ANOVA Group 2: Age (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	28.292 <sup>a</sup>	29	.976	1.570	.047	.264
Intercept	524.981	1	524.981	845.001	<.001	.869
Age	28.292	29	.976	1.570	.047	.264
Error	78.902	127	.621			
Total	1680.500	157				
Corrected Total	107.194	156				

a. R Squared = .264 (Adjusted R Squared = .096)

**Table C68***Linear Regression for Group 4: Age (IV); Index Attitudes (DV)*

Equation	Model Summary					Parameter Estimates	
	R Square	<i>F</i>	df1	df2	<i>p</i>	Constant	b1
Linear	.038	6.126	1	155	.014	3.723	-.020

**Table C69***Levene test Group 4: Influence of Age (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	2.086	19	128	.009
Attitudes	Based on Median	1.379	19	128	.149
	Based on Median and with adjusted df	1.379	19	101.018	.155
	Based on trimmed mean	1.982	19	128	.013

**Table C70***Univariate ANOVA Group 4: Influence of Age (IV); Index Attitudes (DV)*

Source	Type III Sum of		Mean Square	F	p	Partial Eta Squared
	Squares	df				
Corrected Model	37.008 <sup>a</sup>	28	1.322	1.811	.014	.284
Intercept	607.842	1	607.842	832.851	<.001	.867
SD02	37.008	28	1.322	1.811	.014	.284
Error	93.419	128	.730			
Total	1886.000	157				
Corrected Total	130.427	156				

a. R Squared = .284 (Adjusted R Squared = .127)

**Table C71***Linear Regression Group 4: Age (IV); Index Attitudes (DV)*

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	p	Constant	b1
Linear	.068	11.344	1	155	<.001	4.144	-.029

**Table C72***Country of Residence per Group*

	Group 1	Group 2	Group 3	Group 4	Total
Andorra	1				1
Argentina				1	1
Australia	1		4	1	6
Austria	13	19	14	14	60
Bulgaria		1			1
Bahrain			1		1
Canada		1		1	2
Switzerland	3	10	6	2	21
China	1	1			2
Cuba				1	1
Christmas Island				1	1
Germany	121	106	116	119	462
Denmark		1	1	1	3
Spain			1		1
France	1	2	1		4
United Kingdom	2	1	1	2	6
Greece				1	1

Hungary	1				1
India		1	1	1	3
Malaysia		1	1		2
Netherlands		1		2	3
Pakistan	2				2
Portugal	10	6	6	3	25
Romania		1			1
Slovakia		1			1
Slovenia				2	2
Sweden		1	2		3
United States	1	3	2	4	10
Vietnam				1	1
Total	157	157	157	157	628

**Table C73**

*Levene test Group 1: Country of residence (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	.506	5	145	.771
Attitudes	Based on Median	.368	5	145	.870
	Based on Median and with adjusted df	.368	5	119.824	.870
	Based on trimmed mean	.484	5	145	.788

**Table C74**

*Univariate ANOVA Group 1: Country of residence (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	6.704 <sup>a</sup>	11	.609	.891	.551
Intercept	238.220	1	238.220	348.092	<.001
Country of residence	6.704	11	.609	.891	.551
Error	99.232	145	.684		
Total	2157.250	157			
Corrected Total	105.936	156			

a. R Squared = .063 (Adjusted R Squared = -.008)

**Table C75***Levene test Group 2: Country of residence (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	.706	5	140	.620
Attitudes	Based on Median	.654	5	140	.659
	Based on Median and with adjusted df	.654	5	130.269	.659
	Based on trimmed mean	.707	5	140	.619

**Table C76***Univariate ANOVA Group 2: Country of residence (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	12.595 <sup>a</sup>	16	.787	1.165	.303
Intercept	206.354	1	206.354	305.387	<.001
Country of residence	12.595	16	.787	1.165	.303
Error	94.600	140	.676		
Total	1680.500	157			
Corrected Total	107.194	156			

a. R Squared = .117 (Adjusted R Squared = .017)

**Table C77***Levene test Group 3: Country of residence (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	2.566	6	143	.022
Attitudes	Based on Median	2.584	6	143	.021
	Based on Median and with adjusted df	2.584	6	136.021	.021
	Based on trimmed mean	2.571	6	143	.021

**Table C78***Univariate ANOVA Group 3: Country of residence (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	8.874 <sup>a</sup>	13	.683	1.275	.234
Intercept	368.444	1	368.444	688.334	<.001
Country of residence	8.874	13	.683	1.275	.234
Error	76.544	143	.535		
Total	2165.750	157			
Corrected Total	85.417	156			

a. R Squared = .104 (Adjusted R Squared = .022)

**Table C79***Levene test Group 4: Country of residence (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	.866	7	140	.535
Attitudes	Based on Median	.753	7	140	.628
	Based on Median and with adjusted df	.753	7	133.045	.628
	Based on trimmed mean	.824	7	140	.569

**Table C80***Univariate ANOVA Group 4: Country of residence (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	22.559 <sup>a</sup>	16	1.410	1.830	.033	.173
Intercept	261.335	1	261.335	339.185	<.001	.708
Country of residence	22.559	16	1.410	1.830	.033	.173
Error	107.867	140	.770			
Total	1886.000	157				
Corrected Total	130.427	156				

a. R Squared = .173 (Adjusted R Squared = .078)

**Table C81***Industry per Group*

	Group 1	Group 2	Group 3	Group 4	Total
Energy	4		2	3	9
Materials	3	2	2	4	11
Industrials	18	17	17	25	77
Consumer Discretionary	29	23	22	23	97
Consumer Staples	8	6	8	7	29
Health Care	27	29	21	26	103
Financials	14	19	22	16	71
Information Technology	16	17	11	15	59
Communication Services	30	32	43	33	138
Utilities				1	1
Real Estate	2	5	3	2	12
Other	6	7	6	2	21
Total	157	157	157	157	628

**Table C82***Levene test Group 1: Influence of Industry (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.960	10	146	.042
Attitudes	Based on Median	1.319	10	146	.225
	Based on Median and with adjusted df	1.319	10	113.840	.229
	Based on trimmed mean	1.886	10	146	.051

**Table C83***Univariate ANOVA Group 1: Industry (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	Partial Eta Squared
Corrected Model	15.520 <sup>a</sup>	10	1.552	2.506	.008	.147
Intercept	865.515	1	865.515	1397.594	<.001	.905
Industry	15.520	10	1.552	2.506	.008	.147
Error	90.416	146	.619			
Total	2157.250	157				
Corrected Total	105.936	156				

a. R Squared = .147 (Adjusted R Squared = .088)

**Table C84***Post Hoc Tests Group 1: Industry (IV); Index Attitudes (DV)*

Bonferroni		Mean Difference (I-J)	Std. Error	<i>p</i>	95% Confidence Interval	
(I) Industry	(J) Industry				Lower Bound	Upper Bound
Energy	Materials	-.9167	.60104	1.000	-2.9522	1.1189
	Industrials	-1.0278	.43500	1.000	-2.5010	.4455
	Consumer Discretionary	-.6983	.41973	1.000	-2.1198	.7232
	Consumer Staples	-.4375	.48191	1.000	-2.0696	1.1946
	Health Care	-.9537	.42161	1.000	-2.3816	.4742
	Financials	-.7500	.44616	1.000	-2.2610	.7610
	Information Technology	-.8437	.43992	1.000	-2.3336	.6461
	Communication Services	-1.3000	.41889	.126	-2.7187	.1187
	Real Estate	-.7500	.68152	1.000	-3.0581	1.5581
	Other	-.0833	.50797	1.000	-1.8037	1.6370
Materials	Energy	.9167	.60104	1.000	-1.1189	2.9522
	Industrials	-.1111	.49075	1.000	-1.7731	1.5509

	Consumer Discretionary	.2184	.47727	1.000		-1.3980	1.8348
	Consumer Staples	.4792	.53277	1.000		-1.3252	2.2835
	Health Care	-.0370	.47892	1.000		-1.6590	1.5849
	Financials	.1667	.50066	1.000		-1.5289	1.8623
	Information Technology	.0729	.49511	1.000		-1.6039	1.7497
	Communication Services	-.3833	.47652	1.000		-1.9972	1.2305
	Real Estate	.1667	.71838	1.000		-2.2663	2.5996
	Other	.8333	.55646	1.000		-1.0512	2.7179
Industrials	Energy	1.0278	.43500	1.000		-.4455	2.5010
	Materials	.1111	.49075	1.000		-1.5509	1.7731
	Consumer Discretionary	.3295	.23614	1.000		-.4702	1.1292
	Consumer Staples	.5903	.33439	1.000		-.5422	1.7228
	Health Care	.0741	.23946	1.000		-.7369	.8851
	Financials	.2778	.28043	1.000		-.6720	1.2275
	Information Technology	.1840	.27039	1.000		-.7317	1.0998
	Communication Services	-.2722	.23462	1.000		-1.0668	.5224
	Real Estate	.2778	.58656	1.000		-1.7087	2.2643
	Other	.9444	.37097	.657		-.3119	2.2008
Consumer Discretionary	Energy	.6983	.41973	1.000		-.7232	2.1198
	Materials	-.2184	.47727	1.000		-1.8348	1.3980
	Industrials	-.3295	.23614	1.000		-1.1292	.4702
	Consumer Staples	.2608	.31427	1.000		-.8036	1.3251
	Health Care	-.2554	.21046	1.000		-.9682	.4573
	Financials	-.0517	.25611	1.000		-.9191	.8156
	Information Technology	-.1455	.24507	1.000		-.9755	.6845
	Communication Services	-.6017	.20493	.212		-1.2958	.0923
	Real Estate	-.0517	.57533	1.000		-2.0002	1.8967
	Other	.6149	.35294	1.000		-.5804	1.8103
Consumer Staples	Energy	.4375	.48191	1.000		-1.1946	2.0696
	Materials	-.4792	.53277	1.000		-2.2835	1.3252
	Industrials	-.5903	.33439	1.000		-1.7228	.5422
	Consumer Discretionary	-.2608	.31427	1.000		-1.3251	.8036
	Health Care	-.5162	.31678	1.000		-1.5890	.5566
	Financials	-.3125	.34878	1.000		-1.4937	.8687
	Information Technology	-.4062	.34076	1.000		-1.5603	.7478
	Communication Services	-.8625	.31314	.365		-1.9230	.1980
	Real Estate	-.3125	.62214	1.000		-2.4195	1.7945
	Other	.3542	.42500	1.000		-1.0852	1.7935

Health Care	Energy	.9537	.42161	1.000		-.4742	2.3816
	Materials	.0370	.47892	1.000		-1.5849	1.6590
	Industrials	-.0741	.23946	1.000		-.8851	.7369
	Consumer Discretionary	.2554	.21046	1.000		-.4573	.9682
	Consumer Staples	.5162	.31678	1.000		-.5566	1.5890
	Financials	.2037	.25917	1.000		-.6740	1.0815
	Information Technology	.1100	.24828	1.000		-.7309	.9508
	Communication Services	-.3463	.20876	1.000		-1.0533	.3607
	Real Estate	.2037	.57670	1.000		-1.7494	2.1568
	Other	.8704	.35518	.850		-.3325	2.0733
Financials	Energy	.7500	.44616	1.000		-.7610	2.2610
	Materials	-.1667	.50066	1.000		-1.8623	1.5289
	Industrials	-.2778	.28043	1.000		-1.2275	.6720
	Consumer Discretionary	.0517	.25611	1.000		-.8156	.9191
	Consumer Staples	.3125	.34878	1.000		-.8687	1.4937
	Health Care	-.2037	.25917	1.000		-1.0815	.6740
	Information Technology	-.0937	.28799	1.000		-1.0691	.8816
	Communication Services	-.5500	.25471	1.000		-1.4126	.3126
	Real Estate	.0000	.59488	1.000		-2.0147	2.0147
	Other	.6667	.38399	1.000		-.6338	1.9671
Information Technology	Energy	.8437	.43992	1.000		-.6461	2.3336
	Materials	-.0729	.49511	1.000		-1.7497	1.6039
	Industrials	-.1840	.27039	1.000		-1.0998	.7317
	Consumer Discretionary	.1455	.24507	1.000		-.6845	.9755
	Consumer Staples	.4063	.34076	1.000		-.7478	1.5603
	Health Care	-.1100	.24828	1.000		-.9508	.7309
	Financials	.0937	.28799	1.000		-.8816	1.0691
	Communication Services	-.4563	.24362	1.000		-1.2813	.3688
	Real Estate	.0937	.59021	1.000		-1.9051	2.0926
	Other	.7604	.37672	1.000		-.5154	2.0363
Communication Services	Energy	1.3000	.41889	.126		-.1187	2.7187
	Materials	.3833	.47652	1.000		-1.2305	1.9972
	Industrials	.2722	.23462	1.000		-.5224	1.0668
	Consumer Discretionary	.6017	.20493	.212		-.0923	1.2958
	Consumer Staples	.8625	.31314	.365		-.1980	1.9230
	Health Care	.3463	.20876	1.000		-.3607	1.0533
	Financials	.5500	.25471	1.000		-.3126	1.4126
	Information Technology	.4563	.24362	1.000		-.3688	1.2813
	Real Estate	.5500	.57471	1.000		-1.3964	2.4964

Real Estate	Other	1.2167*	.35193	.039	.0248	2.4086
	Energy	.7500	.68152	1.000	-1.5581	3.0581
	Materials	-.1667	.71838	1.000	-2.5996	2.2663
	Industrials	-.2778	.58656	1.000	-2.2643	1.7087
	Consumer	.0517	.57533	1.000	-1.8967	2.0002
	Discretionary					
	Consumer Staples	.3125	.62214	1.000	-1.7945	2.4195
	Health Care	-.2037	.57670	1.000	-2.1568	1.7494
	Financials	.0000	.59488	1.000	-2.0147	2.0147
	Information	-.0937	.59021	1.000	-2.0926	1.9051
	Technology					
Other	Communication	-.5500	.57471	1.000	-2.4964	1.3964
	Services					
	Other	.6667	.64254	1.000	-1.5094	2.8428
	Energy	.0833	.50797	1.000	-1.6370	1.8037
	Materials	-.8333	.55646	1.000	-2.7179	1.0512
	Industrials	-.9444	.37097	.657	-2.2008	.3119
	Consumer	-.6149	.35294	1.000	-1.8103	.5804
	Discretionary					
	Consumer Staples	-.3542	.42500	1.000	-1.7935	1.0852
	Health Care	-.8704	.35518	.850	-2.0733	.3325
	Financials	-.6667	.38399	1.000	-1.9671	.6338
Information	-.7604	.37672	1.000	-2.0363	.5154	
Technology						
Communication	-1.2167*	.35193	.039	-2.4086	-.0248	
Services						
Real Estate	-.6667	.64254	1.000	-2.8428	1.5094	

Based on observed means.

The error term is Mean Square (Error) = .619.

\*. The mean difference is significant at the .05 level.

**Table C85**

*Levene test Group 2: Influence of Industry (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.787	9	147	.075
Attitudes	Based on Median	1.370	9	147	.207
	Based on Median and with adjusted df	1.370	9	138.752	.207
	Based on trimmed mean	1.745	9	147	.084

**Table C86***Univariate ANOVA Group 2: Industry (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	7.650 <sup>a</sup>	9	.850	1.255	.266
Intercept	766.000	1	766.000	1131.178	<.001
Industry	7.650	9	.850	1.255	.266
Error	99.544	147	.677		
Total	1680.500	157			
Corrected Total	107.194	156			

a. R Squared = .071 (Adjusted R Squared = .015)

**Table C87***Levene test Group 3: Industry (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.026	10	146	.425
Attitudes	Based on Median	.719	10	146	.705
	Based on Median and with adjusted df	.719	10	128.368	.705
	Based on trimmed mean	.941	10	146	.498

**Table C88***Univariate ANOVA Group 3: Industry (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	7.863 <sup>a</sup>	10	.786	1.480	.152
Intercept	814.569	1	814.569	1533.467	<.001
SD04	7.863	10	.786	1.480	.152
Error	77.554	146	.531		
Total	2165.750	157			
Corrected Total	85.417	156			

a. R Squared = .092 (Adjusted R Squared = .030)

**Table C89***Levene test Group 4: Influence of Industry (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	1.794	10	145	.067
Attitudes	Based on Median	1.234	10	145	.274
	Based on Median and with adjusted df	1.234	10	116.715	.276
	Based on trimmed mean	1.780	10	145	.069

**Table C90***Univariate ANOVA Group 4: Industry (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	15.208 <sup>a</sup>	11	1.383	1.740	.070
Intercept	538.312	1	538.312	677.450	<.001
Industry	15.208	11	1.383	1.740	.070
Error	115.219	145	.795		
Total	1886.000	157			
Corrected Total	130.427	156			

a. R Squared = .117 (Adjusted R Squared = .050)

**Table C91***Levene test Group 1: Reading Duration (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	4.553	33	42	<.001
Attitudes	Based on Median	1.531	33	42	.096
	Based on Median and with adjusted df	1.531	33	10.945	.230
	Based on trimmed mean	4.304	33	42	<.001

**Table C92***Univariate ANOVA Group 1: Reading Duration (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	78.853 <sup>a</sup>	114	.692	1.073	.408
Intercept	1831.948	1	1831.948	2840.929	<.001
Reading Duration	78.853	114	.692	1.073	.408
Error	27.083	42	.645		
Total	2157.250	157			
Corrected Total	105.936	156			

a. R Squared = .744 (Adjusted R Squared = .050)

**Table C93***Levene test Group 2: Reading Duration (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	3.262	41	54	<.001
Attitudes	Based on Median	1.697	41	54	.034
	Based on Median and with adjusted df	1.697	41	13.397	.148
	Based on trimmed mean	3.155	41	54	<.001

**Table C94***Univariate ANOVA Group 2: Reading Duration (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	65.186 <sup>a</sup>	102	.639	.822	.804
Intercept	1318.777	1	1318.777	1695.234	<.001
Reading Duration	65.186	102	.639	.822	.804
Error	42.008	54	.778		
Total	1680.500	157			
Corrected Total	107.194	156			

a. R Squared = .608 (Adjusted R Squared = -.132)

**Table C95***Levene test Group 3: Reading Duration (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	3.992	31	42	<.001
Attitudes	Based on Median	.902	31	42	.614
	Based on Median and with adjusted df	.902	31	4.831	.625
	Based on trimmed mean	3.241	31	42	<.001

**Table C96***Univariate ANOVA Group 3: Reading Duration (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	61.626 <sup>a</sup>	114	.541	.954	.588
Intercept	1779.693	1	1779.693	3141.735	<.001
Reading Duration	61.626	114	.541	.954	.588
Error	23.792	42	.566		
Total	2165.750	157			
Corrected Total	85.417	156			

a. R Squared = .721 (Adjusted R Squared = -.035)

**Table C97***Levene test Group 4: Reading Duration (IV); Index Attitudes (DV)*

		Levene Statistic	df1	df2	<i>p</i>
Index	Based on Mean	5.032	33	49	<.001
Attitudes	Based on Median	1.618	33	49	.062
	Based on Median and with adjusted df	1.618	33	9.251	.223
	Based on trimmed mean	4.484	33	49	<.001

**Table C98***Univariate ANOVA Group 4: Reading Duration (IV); Index Attitudes (DV)*

Source	Type III Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Corrected Model	83.198 <sup>a</sup>	107	.778	.807	.821
Intercept	1433.010	1	1433.010	1486.740	<.001
Reading Duration	83.198	107	.778	.807	.821
Error	47.229	49	.964		
Total	1886.000	157			
Corrected Total	130.427	156			

a. R Squared = .638 (Adjusted R Squared = -.153)