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# **Trust in Motion: Navigating the Liability of Distrust in Autonomous Vehicle Digital Brand Communication**

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We would like to acknowledge that both of the writers have equally contributed to this thesis.

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## **Abstract**

While previous research has primarily focused on the sources and causes shaping attitudes towards artificial intelligence and autonomous vehicles, this research attempts to shed light on the communication efforts employed by autonomous vehicle companies. Using qualitative content analysis of the website material from three distinct SAE level 5 autonomous vehicle organizations, the study aims to achieve two primary objectives: to investigate how digital brand communication in the autonomous vehicle industry addresses the liability of distrust, and to propose improvements for redesigning communication to reduce consumer distrust. This study explores how the autonomous vehicle industry builds trust by means of source credibility by adopting a framing perspective. The findings contribute to a more comprehensive understanding of the communication strategies navigating the liability of distrust in the autonomous vehicle industry. Furthermore, four communication improvements are suggested for autonomous vehicles' digital brand communication. This research provides valuable insights for organizations in the industry aiming to build trust, manage risk perception, and enhance their communication efforts in the rapidly evolving autonomous vehicle landscape.

*Keywords:* Automated vehicles, Autonomous, AV, Artificial intelligence, AI, SAE level 5, Digital Brand Communication, Liability of distrust, Startups, Source credibility model, Framing theory.

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# 1. Introduction

The innovative ideas, entrepreneurial dedication and rapid scalable growth that characterizes many new organizations have made the phenomenon of startups widely recognized, both throughout society and in the world of academia. Over the past decade, the tech industry has experienced an influx of small-scale companies, although not all of them have managed to mature into well-established firms. While it is widely acknowledged that startups are risky endeavours, a well-conceived idea that addresses market gaps, fosters relationships with key stakeholders, and establishes a unique corporate brand can enable a startup to reach global appeal.

A fairly new business field is that of autonomous vehicles (AVs). Artificial intelligence (AI) technology within the transportation industry is not a new concept but has been used for safety features such as autonomous brake systems in regular cars for several years (see Volkswagen, 2023; Volvo Cars, 2023 & Peugeot, 2023). However, fully automated vehicles (i.e., vehicles equipped with systems capable of monitoring the driving environment, allowing an automated driving mode) are still in the starting blocks. Although nearing completion, many have not yet even launched on the market (Gray, 2022).

According to Wiesenberg, Godulla, Tengler, Noelle, Kloss, Klein and Eeckhout (2019), startups are per definition in their early stage of development and are thus no older than ten years. Accordingly, these newly founded AV-focused companies all fall under the category of startups. Within the domain of startup development, numerous companies encounter challenges in effectively communicating their vision, values, and market positioning as essential components of their brand (Wiesenberg et al., 2019). Therefore, it becomes important for AV startups to strategically develop their digital brand communication to establish future progress of the company.

The Society of Automotive Engineers (SAE, 2021) established a classification system comprising six levels for automated vehicles, ranging from complete lack of automation (Level 0) to total automation (Level 5). AVs (SAE level 3 and higher) are a form of advanced technology that has the capability of detecting their surroundings and functioning without the need for human intervention, thereby facilitating automated driving mode (Zhang T., Tao, Qu, Zhang X., Lin & Zhang W., 2019). Whether fully autonomous or mostly automated, self-driving cars utilize AI algorithms to plan routes and prevent collisions (Kaplan, Kessler, Brill & Hancock, 2023).

According to Zhang T. et al. (2019), there have been extensive investments in research and resources for the automotive industry in recent years. Additionally, the authors contend that substantial headway has been achieved in the development and experimentation of autonomous vehicle technologies under real-world traffic situations. In fact, the autonomous driving market could generate between \$300 billion and \$400 billion in the passenger car market by 2035 (Deichmann, Ebel, Heineke, Heuss, Kellner & Steiner, 2023). Zhou, Sun, Liu and Burnett (2022) state that besides reduced congestion and fuel consumption, AVs could facilitate a reduction in the number of traffic accidents and fatalities. Hence, it is understandable that entrepreneurs are drawn to this market and see this as the future of transportation. Nevertheless, laws and regulations are currently restrictive regarding these types of vehicles, and it seems to take a while before we see a commercialisation of the industry (Deichmann et al., 2023).

## **1.2 Problematization**

Although many startups within the AV industry have achieved significant success, a crucial aspect of their continued existence revolves around overcoming the distrust towards artificial intelligence technologies (Niu, Terken & Eggen, 2018). Several scholars have stated that there is scepticism towards both AI in general (Bitkina, Jeong, Lee, Park & Kim, 2020; Rossi, 2018) and AVs in particular (Schoettle & Sivak, 2014; Zhou et al., 2022). According to Prahla and Wen Pin Goh (2021), specific scepticism is directed towards high-consequence domains such as healthcare and transportation, as failure in such industries is believed to cause dreadful consequences such as a loss of human life. According to Kaplan et al. (2023), automated vehicles have already been responsible for fatal accidents resulting from system malfunctions. This results in severe financial and reputational consequences for the companies involved. For instance, Tesla shares fell by almost 8% after the National Transportation Safety Board revealed that Tesla's Autopilot driver assistance system had been engaged during a fatal crash in March 2019 (Levy & Kolodny, 2019).

According to research on the effect perceived risk has on behaviour and attitude, individuals who perceive themselves to be at risk tend to instinctively modify their behaviour to compensate for and decrease the likelihood of the risk (Hedlund, 2000). Nevertheless, as the threat becomes less novel, the impact of risk compensation tends to weaken (Hedlund, 2000). In the context of distrust in automated vehicles, this may lead people to resist the transition to AVs in order to reduce perceived risk. Thus, it is essential to frame AVs and the potential risks associated with them in such a way that they are no longer perceived as a risk as this

would help to decrease the effect of risk compensation and encourage more widespread adoption of AVs.

Moreover, Zhou et al. (2022) establish that despite the eagerness of manufacturers and organizations to bring AVs to the market, a crucial hindrance to the actual implementation of this technology is the insufficient level of trust that the general public currently has towards AVs. In fact, a recent report found that acceptance of autonomous vehicles decreased as the level of autonomy increased (Schoettle & Sivak, 2016). Consequently, human distrust slows down the acceptance of autonomous systems (Stormont, 2008). In contrast, Kaplan et al. (2023, p. 339) state that “People have grown to show considerable trust in the physical properties of vehicles, as evidenced by the number of drivers on the road.”. This indicates that people are accustomed to non-autonomous vehicles because it is what they know and are comfortable with. As a result, introducing autonomous vehicles becomes more complex, as it is something new and non-familiar in a highly consequential realm.

Meanwhile, several scholars account for the importance of trust in artificial intelligence to enable a transition process to autonomous vehicles. According to Zhang T. et al. (2019), trust is the most critical factor in promoting a positive attitude towards AVs. Following this reasoning, Winfield and Jirotko (2018, p. 1) state that "Building public trust in intelligent autonomous systems (IAS) is essential. Without that trust, the economic and societal benefits of IAS will not be realized.". In sum, distrust towards AI is immense for companies working in this industry, and an attempt to improve people's trust is thus crucial to enable a continuing operation within the autonomous market in the future.

Wiesenberg et al. (2019) list five liabilities that characterize startups in the context of corporate development, namely: the liability of newness, the liability of smallness or size, owner centricity, the liability of adolescence or growth and the liability of foreignness. Building upon the literature discussed above, we propose a sixth liability faced specifically by startups within the autonomous industry: *the liability of distrust*. This liability entails startups in the autonomous industry face additional challenges solely due to the industry they operate in.

Söllner, Hoffmann and Leimeister (2016) assert that an organization with a good reputation is more likely to gain consumer trust. Subsequently, corporate credibility plays a crucial role in establishing corporate reputation (Fombrun, 1996; Keller, 1998). To cultivate trust, corporations must thus establish a credible image. Winfield and Jirotko (2018) also



emphasize that it is evident that public trust in Intelligent Autonomous Systems cannot be taken for granted. For this reason, increased demands are placed on strategic communication as a credibility-building tool for overcoming the liability of distrust and its potential consequences on the survival of the business.

### **1.3 Aim and Research Question**

While previous studies have explored trust primarily to gain insights into its sources and causes, the purpose of this thesis is distinct. Rather than focusing on attitudes or intentions, our goal is to investigate the message-framing strategies employed by organizations, utilizing their content as empirical data.

Hence, the overall purpose of this thesis is to gain a deeper understanding of communication efforts conducted to decrease perceived risk of autonomous vehicles. By extension, we aim to examine how AV companies could better address the issue of safety concerns (i.e., the liability of distrust) by means of credibility-strengthening and framing strategies on their websites. Zoox, Einride and Cruise are three distinct corporations operating in different parts of the market, having different stakeholders and are in different stages of development, thus possessing different purposes with their digital brand communication. By scrutinizing these companies as case examples, this research seeks to provide a comprehensive framework applicable to a diverse set of startups in the AV market, regardless of their state, purpose or function. Thus, this study will offer insights that could potentially assist companies operating in the AV industry to navigate the liability of distrust by leveraging communication as a strategic tool to fulfil the organizational missions, in compliance with Falkheimer and Heide's (2018, p. 57) definition of strategic communication. Hence, this thesis will provide a contribution to advancing the comprehensive understanding of digital brand communication, specifically within the context of autonomous vehicle organizations.

Answering the following research question will further examine this process:

*RQ1:* How is the liability of distrust addressed in autonomous vehicle digital brand communication?

*RQ2:* How can autonomous vehicle digital brand communication be redesigned to better overcome consumer distrust?

## **2. Previous research**

### **2.1 User Trust in Artificial Intelligence**

There has been extensive research regarding trust in AI (Kaplan et al., 2023; Rossi, 2018; Schmidt, Biessmann & Teubner, 2020; Yang and Wibowo, 2022; Kim & Song 2023). In a literature review on user trust in artificial intelligence, Yang and Wibowo (2022) identified that higher task complexity increases AI performance expectancy, consequently influencing users' trust in AI. Moreover, if AI businesses withhold information rather than act with integrity, it will decrease the level of trust (Kaplan et al., 2023). Rossi (2018, p.129) takes this one step further and contends that “Companies and users want AI systems that are transparent, explainable, ethical, properly trained with appropriate data, and free of bias.”. In addition, Rossi claims that having trust in technology not only requires having trust in the technology's effectiveness but also in the individuals or entities responsible for its creation and development. The benefaction component of user trust in AI is therefore reflected in the way the organization communicates in a genuine sense to users and takes their needs into account (Yang & Wibowo, 2022). This requires the organizations that enable AI technology to care for their stakeholders by having their employees, partners, the environment, and society into consideration (Yang & Wibowo, 2022). In sum, the level of trust that users have in AI ultimately depends on their overall beliefs about trust, their trust in the organization involved, and their trust in the technology itself.

According to Kaplan et al. (2023), AI performance and reliability are the most significant factors that increase trust in AI technology. However, Kim and Song (2023) tested the trust-building effect of providing people with information on AI's performance and further studied how the presentation of information could be improved. The experiment in the study revealed that people who were not given any information about the performance of AI tended to trust it more than those who received information about its performance, regardless of how the information was framed (Kim & Song, 2023). Consequently, the authors assert that performance information about AI should be managed with care to avoid destructive consequences on trust (Kim & Song, 2023). Further, the relationship and interaction between humans and AI need to be improved in order to establish trust and therefore one has to be very cautious of the framing of AI (Kim & Song, 2023). Even a small change in wording could negatively or positively affect user perception, acceptance and trust in the technology (Kim & Song, 2023). Correspondingly, numerous scholars have extensively studied user trust

in AI. However, to the best of our knowledge, there has been a lack of research investigating how AI enablers establish trust with their stakeholders through their communication initiatives. This research gap highlights the need for further exploration specifically focusing on the communication strategies employed by AI-centric organizations.

## **2.2 Reputation Management and Automated Vehicles**

As the frequency of AI use in business increases, it is probable that the severity of AI failures will also escalate in the upcoming years (Prahl & Wen Pin Goh, 2021). Prahl and Wen Pin Goh acknowledge that crisis communication approaches developed before AI's emergence rely on finding a "fall-person" or someone accountable for the crisis. However, they argue that as businesses progress, questions concerning who is to blame when AI fails will continue to emerge. So far, such incidents have had limited physical consequences (Prahl & Wen Pin Goh, 2021). Nowadays when AI is used in highly consequential spheres, AI failure could lead to the loss of human life. Consequently, the authors state that AI in some cases represents a new type of crisis for public relations professionals and investigates strategies for how companies should publicly respond to AI failures. The main findings indicate that while certain crisis communication strategies remain effective, new approaches are necessary for some instances where AI systems fail. What applies to all organizations, regardless of industry, is that a favourable reputation prior to a crisis affords an organization the advantage of possessing a greater quantity of positive "reputation capital," thereby enabling them to recover more swiftly and with less disadvantage (Coombs & Holladay, 2006). Accordingly, previous literature has primarily focused on the management of the reputation after a crisis has occurred. However, there has been insufficient research on the proactive communication efforts undertaken by organizations in the field of AI. Therefore, a significant gap in the literature is the investigation of how startups in artificial intelligence industries confront these industry-specific challenges through their communication strategies.

## **2.3 Framing of Automated Vehicles**

Several studies have investigated how to understand issue-frames and their effect to increase or decrease trust in AI and AVs, as well as how manipulated messages affect individuals' perceptions of self-driving vehicles (Hemesath & Tepe, 2023; Hopkins & Schwanen, 2021). According to Hopkins and Schwanen (2021), it would be beneficial if more people were involved in discussions about self-driving cars, not just experts. By moving forward from

technocratic and expert-centred logic, it will help imagine, normalize and impose a wider range of autonomous vehicles in the future. While investigating different frames for testing autonomous vehicles on public roads, Hemesath and Tepe (2023) proved that issue frames have a central role in policy agenda-setting and that people's opinions on how to regulate self-driving cars can be easily influenced by manipulations of these frames. For example, citizens are more likely to support the piloting of self-driving cars on public roads if the test is proposed in terms of public safety rather than economic competitiveness. The study also showed that precautionary regulations are preferred by citizens.

Fei, Liu P., Liu J., and Wang (2021) suggest that the emergence of automated vehicles has led to an increase in the use of various terms to describe this type of transportation, including "autonomous," "self-driving," "intelligent," and "driverless". Fei et al. investigated the impact of the names used to refer to vehicles equipped with automated driving systems on attitudes (cognitive, affective, and behavioural) and trust. Their findings highlight the importance of standardizing terminology and the potential advantages of selecting suitable names, especially for advocates of AV technology. The authors used SAE's 6 levels of automation to understand what names were least and most preferred by the public. According to the study, for vehicles with SAE automation level 3-4 the name "automated vehicles" was most favourable, while "driverless vehicles" resulted in less trust. On the contrary, "driverless vehicles" was the most supported name for vehicles with level 5. Meanwhile, "fully automated" and "fully autonomous" resulted in comparatively less trust and less favourable attitudes (Fei et al., 2021). Additionally, results showed the names of vehicles with full automation influenced attitudinal responses and trust even if supplemented with the same information about the technology (Fei et al., 2021). Numerous studies have explored the impact of different framing strategies on individuals in relation to AVs. However, no research has specifically examined the comprehension and evaluation of framing techniques employed by AV companies. Consequently, this highlights a notable research gap in the existing literature concerning the application of message framing in the context of AVs.

### **3. Theoretical framework**

*This chapter will provide an overview of the theoretical framework used in this thesis. The Source Credibility Model functions as a part of the theoretical foundation used for the creation of coding categories, which will later be used in the analysis of autonomous vehicle digital brand communication. Additionally, the most relevant and applicable theoretical components of Framing Theory were selected to establish a robust framework that aligns with the research objectives of this thesis.*

#### **3.1 Source Credibility Model**

The Source Credibility Model posits that the credibility of a source influences the extent to which people are willing to accept the information being presented, as well as the likelihood that they will act on that information (Hovland & Weiss, 1951). In other words, the credibility of the message sender greatly impacts the persuasiveness of the message itself, and thus typically exerts an influence on the receiver's opinions (Hovland & Weiss, 1952; Hovland, Janis & Kelley, 1953). Similarly, McCroskey and McCain (1974) stated that individuals who are perceived as highly credible by receivers are more likely to be respected and have their words more easily accepted. In addition, Yoon, Kim, and Kim (1998) observed that there was a striking resemblance in the components that make up the construct of credibility across cultures. A noteworthy consideration, however, is that of Hovland and Weiss (1951) and Kelman and Hovland (1953), who found that “a source who profited from persuading the audience was judged as less fair and tended to produce less attitude change ...” (Pornpitakpan, 2004, p. 246). Contrastingly, if a source is perceived to have a sincere interest in the welfare of the audience, their persuasive intent is likely to increase the effectiveness of their message (Mills, 1966).

More recent literature on Source Credibility tends to differ between Endorser Credibility (often referred to as celebrity endorsement) and Corporate Credibility. Endorser credibility refers to the credibility of a third-party person, an “endorser”, and their influence on the attitudes, beliefs and intentions of a target (Erdogan, 1999). In a contemporary literature review, Schimmelpfennig and Hunt (2020) concluded that there have been few changes since the much-cited observations by Erdogan were made. Meanwhile, Goldsmith, Lafferty, and Newel (2000) define corporate credibility as consumers’ and other stakeholders’ perceptions

regarding a company's trustworthiness, competence, and believability in terms of its intentions and communication. As this study aims to analyze content produced by corporations (and not individuals), a corporate credibility perspective will be applied.

Previous studies in the field of corporate credibility have mainly researched its effects on attitudes and reactions toward the advertisement, brand, purchase intentions and perceived purchase and privacy risk (Lafferty & Goldsmith, 1999; Pornpitakpan, 2004; Featherman, Miyazaki, & Sprott, 2010; Soesilo, Gunadi & Arimbi, 2020). In a study of the effect of endorser and corporate credibility in the field of technology complex products (i.e. smartphones, laptops and personal computers, but also automotive), Soesilo et al. (2020) found that evidently, the influence of corporate credibility is greater than that of endorser credibility. Furthermore, the authors point out that although the empirical research on the relationship between corporate credibility and consumer reactions is limited, the influence of corporate credibility on consumers' attitudes and behavioural intentions is significant. In addition, high corporate credibility would enhance brand equity (Aaker & Joachimsthaler, 2000). For this reason, Source Credibility Model is reasoned suitable for studying if corporations within the autonomous industries emphasize credible-giving attributes in their communication and by extension, to discuss its implications on stakeholder distrust towards AVs.

In a broader definition of source credibility, literature has discussed three main drivers for increased credibility, namely; expertise, trustworthiness, and attractiveness (Kelman 1961; Pornpitakpan, 2004). However, in the context of corporate credibility, attractiveness appears to be less relevant and is thus typically excluded (Goldsmith, Lafferty, & Newel, 2000). Therefore, within the scope of this study, we define corporate credibility as comprising the two extensively acknowledged dimensions of corporate credibility; expertise and trustworthiness.

While there are no precise definitions of expertise and trustworthiness in the literature related specifically to corporate credibility, the concept of source credibility in both theoretical domains seems to be equivalent. Therefore, it can be inferred that the definitions of endorser credibility can be applied to corporate credibility as well. Consequently, expertise can be defined as a conveyor's experience, knowledge, and/or skills. Schimmelpfennig and Hunt (2020, p. 491) explain this as "his or her [the corporation's] ability to provide information to others due to his or her [the corporation's] experience, training, and aptitude.". The same

authors discuss trustworthiness and define this as “the endorser’s objectivity, honesty, and integrity” (p. 491).

It should be noted that the degree of source influence differs depending on the previous knowledge, experiences and characteristics of the receiving stakeholder. For instance, Lafferty et al. (2005) state that the impact of the sender's expertise is less significant among innovators compared to late adopters, and explains this by the probable innovator’s superior expertise and knowledge in the product category. Moreover, Biswas et al. (2006) assert an endorser's expertise can significantly reduce the perceived performance and financial risks associated with technology-based products. This effect is particularly considerable among consumers who possess extensive knowledge about the advertised product. Similarly, Soesilo et al. (2020) state that technologically complex products contribute to higher levels of performance uncertainty for consumers who are less familiar with the product. Consequently, a greater emphasis is put on the importance of expertise and trustworthiness as key factors driving corporate credibility. As such, it should be emphasized that the perception of credibility is subjective and therefore can differ among the recipients (Schimmelpfennig & Hunt, 2020). Thus, to establish credibility, corporations must address the different expectations of their stakeholders.

### **3.2 Framing Theory**

Many studies have been conducted to explore how individuals or organizations strategically utilize frames to serve their own interests (Olsson & Ihlen, 2018). In the context of strategic communication, Framing Theory is essentially a rhetorical strategy that emphasizes the creation of messages and meanings by public relations professionals with the intent of influencing important publics for an organization (Hallahan, 1999). This entails that framing covers processes of inclusion and exclusion as well as the emphasis on deliberately selected information. Following this logic, framing essentially means choosing and highlighting certain aspects of perceived reality in order to promote a particular problem definition, causal interpretation, moral evaluation, or treatment recommendation (Entman, 1993).

Hallahan (1999, p. 207) contends that “Framing is a critical activity in the construction of social reality because it helps shape the perspectives through which people see the world.”. Consequently, message frames influence people's understanding of the message and affect the way they perceive and respond to it (Hallahan, 1999). However, it is noteworthy that different

organizations have different vantage points (Olsson & Ihlen, 2018). For instance, frames of suggestions from a private actor that is in the public's interest may face greater resistance than a non-governmental organization because of the presumed hidden economic interests of the private actor.

### ***3.2.1 Framing of Attributes***

Framing of attributes refers to the accentuation and ignorance of inherent characteristics of objects, events and people (Hallahan, 1999). According to Levin, Schneider and Gaeth (1998), such framing is typically focused on a singular attribute or aspect of a particular context or object, with the intention of manipulating and drawing attention to the audience's perception of that object. In turn, the effects of the evaluation will be considered in terms of positive or negative judgements or favorability of the presented manipulated object (Levin et al., 1998).

### ***3.2.2 Contextual Framing***

Goffman (1974) defined a frame as a set of interpretive schemas that establish a context for comprehending information and facilitate people's ability to recognize, understand, and assign labels to it. Accordingly, Hallahan (1999) contends framing serves by offering contextual cues that steer the decision-making process and the conclusions made by message recipients. In contrast to the framing of attributes, which emphasizes the inherent qualities of an object, contextual framing can thus be viewed as the act of framing an object by focusing on the context rather than the object itself, in order to influence the perception of the object in question.

### ***3.2.3 Positive-versus-Negative Framing***

Kahneman and Tversky (1979) proposed that the application of a positive or negative frame when presenting a decision functions as a cognitive heuristic or a mental shortcut that influences decision-making in situations that involve risk or uncertainty. According to Hamilton and Zanna (1972), information that is negative in nature carries more weight than positive information, which could be explained by motivational theories suggesting people act to protect themselves. In addition, negative information is more likely to capture attention (Pratto & John, 1991). According to Smith and Petty (1996), negative framing can prompt individuals to engage in more effortful processing or message elaboration, resulting in greater cognitive consideration of the message.



### ***3.2.4 Picture Framing***

Powell, Boomgaarden, De Swert, and de Vreese (2015) infer that images also serve the purpose of dramatizing and reinforcing key ideas in texts by reducing its complexity. It is widely accepted that visuals have a significant impact on fundamental psychological processes (Powell et al., 2015). Not only are images more effective in capturing attention, but also the meaning of images is accessed more quickly than that of text. Moreover, images are better retained in memory than text due to their capacity to create vivid and concrete associations (Powell et al., 2015). An additional finding of Powell et al. showed that when presented alone, the framing effects of images have a greater influence on attitudes and behavioural intentions than text.

## **4. Methodology**

*This chapter provides an overview of the employed research methodology for the study, including its scientific foundation and impact on the analysis. It will further elaborate on the selected case studies, the collected material, as well as the coding strategy and categories. Lastly, the validity and reliability of the study will be discussed.*

### **4.1 Scientific Approach**

“Framing is a critical activity in the construction of social reality because it helps shape the perspectives through which people see the world.” (Hallahan, 1999, p.207). This study thus follows a social constructionist ontological approach based on the assumption that reality does not exist objectively but is rather shaped by the ways in which individuals communicate about it. Hence, the study is grounded on the epistemological assumption that knowledge is interpreted, rather than the idea of its objective existence (Craig, 2007). Consequently, the communication employed by the companies under scrutiny thereby shapes their meaning within the world by influencing the social constructs that define the companies' perceived reality.

The thesis synthesized existing theories and research using empirical material to analyze the message-framing strategies employed in digital brand communication that have an impact on corporate credibility and, by extension, enhance trust. The focus lied specifically on understanding how AV companies strategize to overcome consumer scepticism in their communication, rather than exploring consumer attitudes or intentions. Therefore, the authors aimed to maintain openness to the empirical material while also embracing the usage of pre-existing theories. By the usage of an abductive approach which balances between these two aspects, it was manageable to leverage the strengths of both empirical observations and established theoretical frameworks, resulting in a comprehensive and nuanced analysis (Kennedy & Thornberg, 2018).

### **4.2 Research Method**

According to Yin (2017), case studies are an effective method for providing detailed descriptions that aim to reveal and clarify the underlying mechanisms of a phenomenon. The approach is particularly suitable for phenomena that cannot be isolated and extracted from their context, such as patterns, processes, and approaches (Yin, 2017). Due to this study's aim

to uncover patterns in self-portraying framing strategies supporting credibility conducted by autonomous vehicle companies, case studies constituted a suitable approach.

Further, Schreier (2018) states that descriptive case studies are conducive to generalization by way of transferability and that the degree to which research findings can be transferred to other contexts depends on the level of similarity between the contexts being studied.

Therefore, cases were intentionally selected to shape a heterogeneous foundation to ensure industry representativeness and thus transferability. Thus, to select the most productive samples to answer the research questions and provide generalizable findings applicable across AV industries, a purposive sampling strategy was adopted. This involves deliberately selecting information-rich instances based on its perceived significance for the study (Schreier, 2018). Accordingly, the sample consisted of three corporations in the autonomous vehicle industry with distinct owners, purposes, and market functions.

Digital brand communication refers to the strategic transmission of a company's unique brand characteristics and associations to customers through any online channel, in order to differentiate the brand from competitors and foster meaningful brand experiences (Chaffey & Ellis-Chadwick, 2019). Despite that the findings generated by this thesis aim to be applicable to any digital communication channel, this study operationalized digital brand communication solely through website material since this medium is considered to contribute with the most fruitful material for the analysis conducted. The data source was selected based on opportunities for generalization as websites are a common digital platform utilized by companies irrespective of their target audience. In contrast, social media platforms typically serve diverse purposes for businesses employing different strategies based on whether they are targeting other businesses or individual customers. Hence, websites are less sensitive to limitations in regard to generalization and findings are thus more relevant to corporations regardless of their intended audience. Furthermore, websites offer greater flexibility with regard to character limits, formatting, and content compared to social media platforms. This makes communication on websites less constrained, enabling companies to formulate and present themselves in more precise accordance with their own brand. Therefore, the utilization of data from websites allowed for a more comprehensive understanding of the communication strategies employed by the companies under study. The empirical material was limited to the main headings presented on each website and all material had to fall under

a heading related to autonomy or explicitly address the autonomous product and/or part of the business.

## **4.3 Case Selection**

### ***4.3.1 Einride***

Einride is a Swedish startup focusing on electric and autonomous vehicles focusing on providing companies with cheaper and more sustainable shipment alternatives through their imminent launch of SAE level 5 autonomous vehicles (Einride, 2023). In 2019, Einride carried out a pilot project in Sweden where they, with support from the Swedish Transport Agency, test-drove their driverless vehicles on public roads. In addition, the company became the first to ever receive permission to test drive autonomous vehicles on public roads in the US in 2022 (Einride, 2022a). The company has expanded from the Swedish market to the US and now the European market, where their electric freight vehicles are present on the roads of Sweden, Norway, the USA, Germany, Belgium, Netherlands and Luxembourg (Mattsson, 2022). The organization's estimated value is 13 billion SEK (Karlsson, 2022), and in December 2022 the company secured \$500 million in financing (Einride, 2022b).

### ***4.3.2 Zoox***

The American startup Zoox was founded in 2014 with the mission "... to make personal transportation safer, cleaner, and more enjoyable – for everyone." (Zoox, 2023a). The purpose of the company is to reinvent personal transportation with autonomous SAE level 5 vehicles, where future customers should be able to book one of their vehicles on-demand from point A to point B (Zoox, 2023b). Zoox differentiates themselves from other vehicles in the autonomous industry by building their vehicle from scratch, while other companies have developed automated driving systems that have been integrated into vehicles from established automakers (Palmer & Levy, 2020). In 2020, Zoox was acquired by tech giant Amazon. However, the company is still operating as a standalone business within Amazon, with the original executive team managing the company (Palmer & Levy, 2020). In 2023, Zoox's robotaxi took its first, completely autonomous ride on open public roads (Zoox, 2023a). Distinguished as the first purpose-built robotaxi of its kind, this vehicle operated without any manual controls and drove autonomously while transporting passengers on public roads.

### **4.3.3 Cruise**

Cruise was founded in San Francisco in 2014 with the intent to make functional self-driving vehicles (Cruise, 2023a). The company was first to secure a permit to charge customers for SAE level 5 self-driving car rides in San Francisco in 2022 and the same year they expanded their business to Austin and Phoenix with all-electric, self-driving car services (Paresh, 2022). With the current laws and regulations, the cars are restricted to driving 48 kilometres per hour and are only available during certain hours during the day and in specific areas in the cities (Paresh, 2022). The company is currently working on developing a delivery domain catering to other businesses with the purpose to create a delivery service that is more affordable for sellers, simple for shoppers, and sustainable for the planet (Cruise, 2023b). In 2016, General Motors (GM) acquired a majority ownership stake in Cruise (General Motors, 2022). According to CEO and co-founder Vogt, Cruise acts as an independent company but is working alongside GM "... in a flexible, collaborative partnership." (General Motors, 2022).

## **4.4 Analysis Strategy**

### **4.4.1 Thematic Content Analysis**

This thesis employed a qualitative content analysis strategy as this allows for the effective identification of categories or themes and enables a systematic description of the meaning of content and core ideas in both texts and visuals (Drisko & Maschi, 2016). Schreier (2014) highlights the efficiency of the approach, as the use of a coding frame helps minimize the volume of empirical data. Further, Drisko and Maschi (2016) underscore the analysis approach is typically not oriented towards generating theory. Rather, it is undertaken with the aim of describing a phenomenon. Therefore, the method suited the aim to increase understanding of corporate credibility and rhetoric-framing strategies in digital brand communication.

### **4.4.2 Coding Scheme**

The analysis was conducted using a coding framework to identify cues of credibility and framing strategies. This systematic approach involved coding the collected data and categorizing it into predetermined segments, as outlined by Schreier (2014). The coding framework was derived from the Source Credibility Model and Framing Theory and thus aimed to define relevant cues of the overarching categories expertise and trustworthiness, as well as attribute, positive-negative, contextual and picture framing. The material was interpreted based on its relevance to the coding subcategories. The application of Framing

Theory aided in analyzing how cues that indicated credibility were either disclosed or concealed to enhance corporate credibility and, consequently, build trust with the stakeholders.

Schimmelfennig and Hunt (2020) define expertise as a culmination of experience, knowledge, and skills. Consequently, this refers to the corporation's capacity to effectively communicate information to others, which is attributed to their experience, training, and aptitude. The concept of trustworthiness pertains to how a company conveys objectivity, honesty, and integrity in their communication (Schimmelfennig & Hunt, 2020). Therefore, to assess how organizations endeavour to enhance their trustworthiness, the analysis identified indicators of these qualities and interpreted their significance. Entman (1993) emphasizes that Framing Theory relies on various interpretations and thus suggests there is no universally agreed way to operationalize it. Hence, components of the comprehensive Framing Theory were chosen deliberately to analyze the digital brand communication of the selected case organizations.

<b>Digital Brand Communication</b>			
<b>Credibility</b>	<b>Expertise</b>	Experience	Learnings and accomplishments resulting in valuable insights, years in the industry, management and personnel's professional and educational implications
		Knowledge	Expression of facts, surrounding situational awareness, insights to stakeholder perceptions, technical expertise
		Skills	External confirmation such as awards, mentions and investments Expression of professional competency such as performing technological innovations
	<b>Trustworthiness</b>	Objectivity	Demonstration of self-awareness and openness about business and/or technological limitations
		Honesty	Clear communication about risks, acceptance of accountability, transparency in their testing process, collaboration with independent organizations
		Integrity	Display of having strong moral principles, adheres to core values and entrepreneurial concepts
<b>Framing</b>	<b>Attributes</b>		Emphasis and ignorance of the inherent qualities of an object
	<b>Positive/Negative</b>		Providing positive-versus-negative cues
	<b>Contextual</b>		Framing an object by focusing on the context rather than the object itself
	<b>Picture</b>		Allowing pictures to impact the overall interpretation of the content

## **4.5 Methodological Reflections and Limitations**

Unlike quantitative methods, which rely on numerical data and statistical analysis, qualitative methods depend on the authors' interpretations of the empirical material. This distinction introduces a potential concern regarding the reliability of the study, as the subjective nature of interpretation could introduce bias into the analysis. Hence, it is imperative to maintain transparency regarding the process of interpretation and employ precise techniques for data analysis and validation to maintain the validity of the study's findings.

A pilot study was conducted following the guidelines proposed by Schreier (2014): first, material from all three case selections was operationalized to ensure comprehensive coverage of the coding frame. The authors then independently applied the categories from the coding frame on the material in two separate rounds of coding. Finally, the findings were documented separately and subsequently compared in the first and second rounds to evaluate and modify the coding frame. Certain codes were deliberated upon during the first round of trial coding, leading to clarifications and improvements. As a result, the second round of coding exhibited enhanced validity, as it achieved greater consistency in coding with respect to the research questions at hand.

Furthermore, the dynamic relationship between empirical material and theories in abductive research can enhance the depth of analysis and openness to unexpected findings, increasing the finding's reliability. However, while abduction may propose highly plausible explanations, it cannot definitively establish truthfulness due to its explorative nature (Kennedy & Thornberg, 2018). In addition, abduction entails presenting a single valid explanation while potentially neglecting other equally plausible explanations, thus impacting the reliability (Kennedy & Thornberg, 2018).

## **5. Analysis**

*The contents of this chapter are divided into two sections and present the findings obtained from analyzing the digital brand communication material of the selected websites. The first part aims to answer the first research question: “How is the liability of distrust addressed in autonomous vehicle digital brand communication?”, and will be organized according to coding themes and subcategories following the Source Credibility Model, listed under 4.4.2. Message Framing Theory will serve as a complement to Source Credibility Model during the analysis process. Based on the findings provided in section one, the second part will provide suggestions for further digital brand communication improvements to increase consumer trust in accordance with the second research question: “How can autonomous vehicle digital brand communication be redesigned to better overcome consumer distrust?”.*

*The analysis provides a brief presentation of the empirical material, while a more comprehensive version of the empirical material is available in the appendix. The material will be referred to by name of the website, followed by its respective subheading. A list of each webname with its related URL-link is provided in the appendix. Additionally, pictures of the empirical material in its original form by the time of collection will be provided in the appendix.*

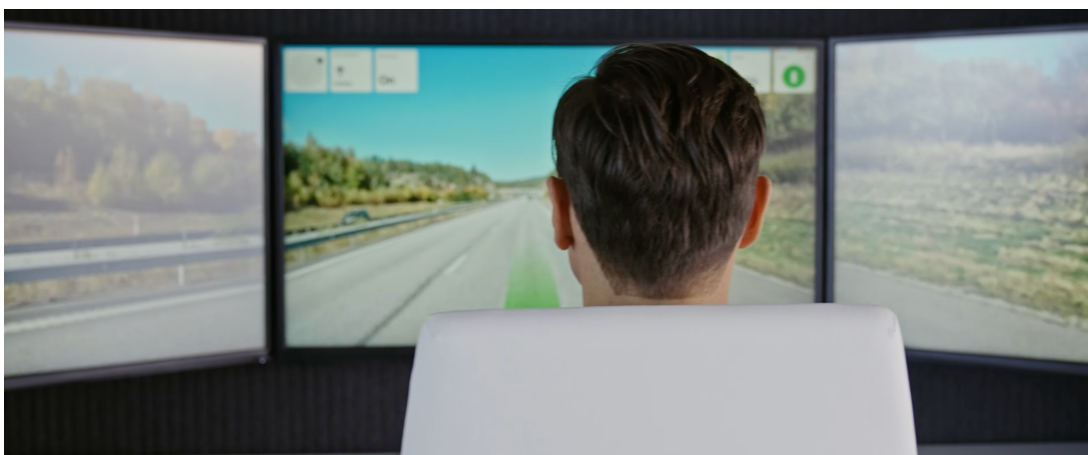
### **5.1 Understanding Autonomous Vehicle Digital Brand Communication**

#### **5.1.1 Expertise: Experience**

Cruise (Safety) presents their approach to safety as comprehensive, and explains that their team of leaders have been hand-picked based on previous experience: “We’ve assembled a team of leaders from safety critical industries like aerospace and aviation. These teams have advanced our approach to safety, working tirelessly to uphold this gold standard.” (Cruise, Safety, A comprehensive approach). This quote is coded as experience, as it refers to personnel and management professional competency, as well as their learnings and accomplishments resulting in valuable insights contributing to the company. By utilizing pre-existing beliefs about ensured safety and advanced well-tested technology of aerospace and aviation, the reader is left assured and confident in the personnel’s expertise. Thus, the rhetorical approach is a case of contextual framing, since the positive experience the reader receives about Cruise’s business is not actually based on the product itself, but rather the context around it.

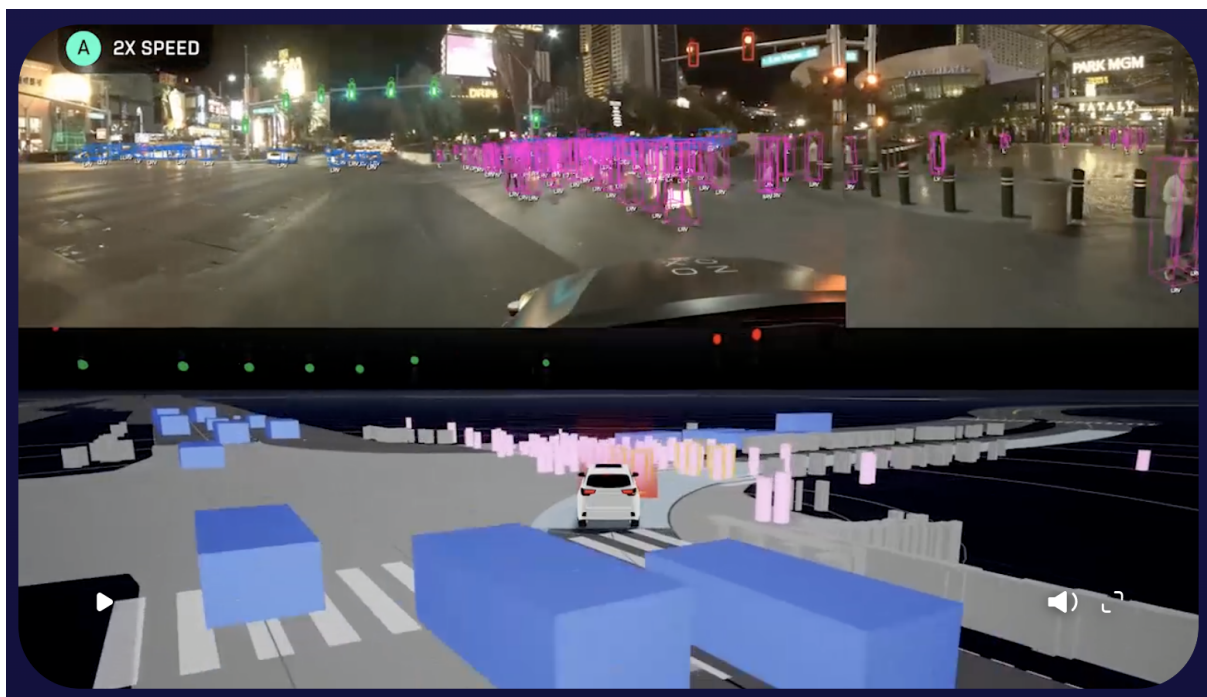


On the other hand, when Zoox (Safety) addresses their management’s experience and by extension, corporate expertise, they do this by emphasizing inherent qualities, i.e., framing of attributes. For instance, their staff is not only presented with position and name but also an honorific, which conveys esteem: “Chief Safety Innovation Officer Dr. Mark Rosekind” (Zoox, Safety, A new bar for safety). Similarly, Zoox (About, Timeline), Einride (About, Founders), and Cruise (About, Leadership) all have extensive presentations of their founding teams, including information about educational backgrounds from prestigious universities, working experience and previous career accomplishments. In accordance with Rossi’s (2018) claim that trusting the individuals or entities responsible for AIs creation and development is crucial to establish trust in the technology, highlighting management and personnel’s experience builds trust in the organization which consequently reflects back on the trust in the technology. Additionally, in accordance with the Source Credibility Model, such expertise contributes to higher credibility which infers a greater chance to influence audiences (Hovland et al., 1953).



(Einride, Home page)

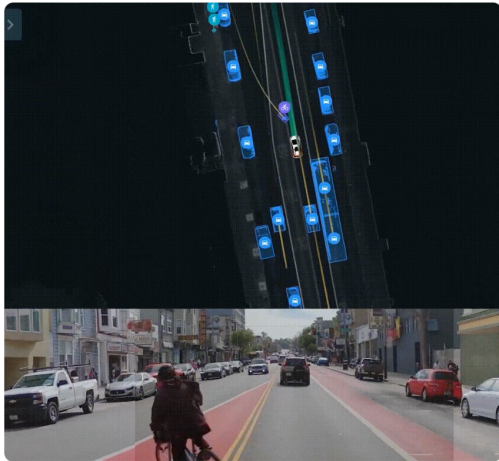
Other ways of conveying corporate experience were found in several visuals across the three websites. For instance, Einride (Home page) repeatedly displays sweeping images of autonomous vehicles driven on empty roads, presented together with images of their remote workers supervising the procedure from the headquarters. This is accompanied by the text “The world’s leading provider of digital, electric and autonomous shipping technology.”. Correspondingly, visuals constitute a common way of portraying the business as already up and running, albeit it is still only operating on a hypothetical stage pending the introduction of less restrictive laws and regulations. As a result, by creating an impression of greater operational experience than they currently possess, Einride appears as more reliable than if only expressing their actual merely hypothetical experience within the autonomous field. In line with Kaplan et al.’s (2023) finding that AI reliability emerged as the foremost predictor influencing trust, the company strengthens their reliability and thereby increases AI trust by using image framing in such a way which according to Stormont (2008) would accelerate the acceptance of autonomous systems.



(Zoox, Autonomy, Fully autonomous even in complex environments)

Zoox (Autonomy) states they are “Fully autonomous, even in complex environments”, and that their robotaxis are driving autonomously in San Francisco and Las Vegas. The statement is demonstrated through seemingly real-life footage videos of a driving Zoox autonomous

car. Accordingly, the video serves as a visual aid in showcasing their practical experience, fact-proofing their textual statement with a picture frame. Similarly, Cruise (Technology, How it works) also provides a more detailed explanation of how their automated vehicle functions by using a combination of animated and real-life videos accompanied by easy-to-understand text to showcase how they operate on public roads:



## Think

Is there room to change lanes? Is it safe to turn left here? Cruise cars consider multiple paths per second, constantly choosing the best ones for unexpected events and changes in road conditions.

(Cruise, Technology, How it works)

AVs rely on advanced technological features that function through a combination of complex components, which may be difficult for the average person to understand. Powell et al. (2015) state images serve by reducing text message complexity. Hence, displaying the technologies in visuals instead of text is a conscious act of picture framing which, according to the authors, allows readers to access the message's meaning with more ease and speed.

Moreover, Einride and Zoox are quick to communicate that they are prominent and first at something in the autonomous field. For example, Einride claims they are “The first vehicle of its type to be operated on a public road.” (Einride, Autonomous, Autonomous Gen 2) and states “Einride and GE Appliances deployed the first cab-less, autonomous, electric truck on a US public road.” (Einride, Home page, Trusted by). Zoox declared “This marked the first time in history that a purpose-built robotaxi –without any manual controls– drove autonomously with passengers on open public roads.” (Zoox, About, Timeline) and in a later explanation of how their vehicle architecture has drawn inspiration from aviation levels of safety, Zoox states they are “... the first to apply them to automotive design.” (Zoox, Safety, More than 100 safety innovations). These statements are examples of learnings and accomplishments resulting in valuable insights and are therefore coded as experience. The companies employ an attribute frame by assigning themselves the attribute of being industry

leaders. Through the promotion of this message Einride and Zoox gain credibility as message senders, increasing their potential to influence their target audiences (Hovland & Weiss, 1952). As aforementioned, Kaplan et al. (2023) state that AI performance has an immense influence on user trust in AI. Meanwhile, Kim and Song (2023) contend that people tend to trust AI more when not given information about its performance. Hence, Einride's and Zoox's presentation of AI performance using the attribute of being industry leaders although not disclosing any information behind the accomplishments is deemed a beneficial communication strategy.

### ***5.1.2 Expertise: Knowledge***

During the process of analysis, two different framing approaches were identified in the empirical material derived from Zoox's website linked to safety. First, Zoox presents their vision and claims that "94% of all U.S. crashes are caused by human error. Removing these mistakes will save thousands of lives." (Zoox, Home page, Our vision). In another segment, they state that "At Zoox, safety and innovation go hand in hand" where they further explain that they started from scratch for the reason that the existing cars do not comply with the future safety standards (Zoox, Safety). These cases are coded as knowledge because of the situational awareness, insights into stakeholder perception and technical expertise that has been taken into account in the development of their vehicle. The current transportation systems involving the human as well as the current safety functions of vehicles, are negatively framed. Negative frames carry more weight than positive frames (Hamilton & Zanna, 1972), and in addition tend to capture more attention (Pratto & John, 1991). Therefore, it is coherent that Zoox tries to influence the reader to reduce their positive beliefs about the current transportation situation. Instead, the framing effort portrays their own autonomous solution as the better alternative which according to them would reduce accidents on the roads, resulting in an increasingly positive perception of their innovative solution. Zoox supports their view on the current transportation situation with knowledge and thus implies expertise which according to Biswas et.al. (2006) further reduces the perceived performance risks when promoting a technological product.

In the second case, however, Zoox solely focuses on their own business and utilizes a positive frame to highlight their innovative autonomous solutions, instead of negatively framing the current transportation system as shown in the example above. This can be observed in the section titled "No single point of failure" and the company explains that "Our vehicle is

engineered with the design objective to eliminate single points of failure in safety-critical systems ...” (Zoox, Safety). In the same segment, Zoox writes that “In the very unlikely event that our battery systems were to experience a failure, or either power converter were to malfunction ...”. Zoox thus knows what safety features need to be implemented, and the statement is, therefore, a depiction of situational awareness coded as knowledge. Consistent with Biswas et al. (2006) argument that the communication of expertise decreases the perceived performance risk, and Rossi's (2018) argument that AI trust is dependent on not only the reliability of the AI but also its enablers, the demonstration of expertise and transparency conducted by Zoox in this scenario consequently increases their the level of trust among users.

Einride employs a negative frame when discussing the current environmental situation in their manifesto, which legitimizes their sustainable business mission: “Climate change is the most important challenge we face today. ... The road freight industry accounts for 7 percent of global CO2 emissions, consuming over 5 million barrels of oil per year.” (Einride, About, Manifesto). Hence, the company displays awareness of the current environmental situation, and the information is therefore classified as knowledge. In contrast, Cruise uses a positive frame to show knowledge and enhance their own environmental work by saying “We don’t just offer all-electric, driverless rides. We’re setting new standards for transportation, supporting renewable energy producers, and clearing the air for future generations.” (Cruise, About, Sustainability). As negative frames have a greater impact and attract more attention than positive frames (Pratto & John, 1991), Einride makes a bigger remark on the reader than Cruise in this situation. In this instance, both companies also apply contextual framing by centring the focus on the environment rather than their autonomous service. This shifts the perception of the company from being solely profit-driven to demonstrating a greater sensitivity towards the public interest. According to Olsson and Ihlen (2018), conveying such a message is particularly challenging for a private sector company compared to a non-profit organization. On the other hand, when companies succeed in using AI to shift the perspective towards environmental sustainability, it enhances their perceived trust among consumers (Yang & Wibowo, 2022).

### ***5.1.3 Expertise: Skills***

Cruise and Einride have two different approaches regarding human involvement in autonomous vehicle operations while communicating their performed technological

innovations. Einride, who has a more human-centred strategy, states “Electric power, digital intelligence and autonomous driving technology – with humans always in the loop – for safe and seamless shipping” (Einride, Autonomous, Autonomous shipping) and “Human-led autonomy.” (Einride, Autonomous, Remote Operations). As evidenced by the number of drivers on the road, Kaplan et al. (2023) infer that people trust regular cars because of their familiarity. Therefore, it is likely the deployed strategy of emphasizing human involvement would increase people’s trust in autonomous vehicles, as the approach is more similar to current transportation alternatives. However, the strategy could also raise awareness of whether autonomy alone is not safe enough, making consumers question its technological reliability. Cruise, on the other hand, declares “The driverless future won’t just make life easier, it will make it safer—for all of us.” (Cruise, Safety, Today’s roads aren’t safe) and “While our driverless cars help make streets safer, they also make people feel safer ...” (Cruise, About, Our mission). Thus, there is a distinct difference between how these companies communicate autonomy. Both companies use positive and negative frames with different purposes, where Einride uses a positive frame for human involvement, and at the same time, Cruise uses a negative frame for human involvement. In other words, it is clear that the companies have different views on the situation and that they use this strategically to better influence their target audiences.

Moreover, Cruise operates in two distinct business areas, serving both customers directly and partnering with other businesses. In the context of their private customer service, they claim “... Cruise vehicles undergo a robust suite of nearly 250,000 simulations in both everyday and extreme conditions, far exceeding the average driver experience.” (Cruise, Safety, Rigorous testing) which indicates a technologically innovative performance that ensures safety. When addressing the topic of safety in another segment on their webpage, they use a similar tone: “While our driverless cars help make streets safer, they also make people feel safer—safer to ride at any time, safer to ride to any neighbourhood, safer to ride exactly as they are.” (Cruise, About, Safety). The framing efforts undertaken here aim to portray Cruise's safety initiatives in a positive light by attributing qualities of being safe and extensively tested to their vehicles.

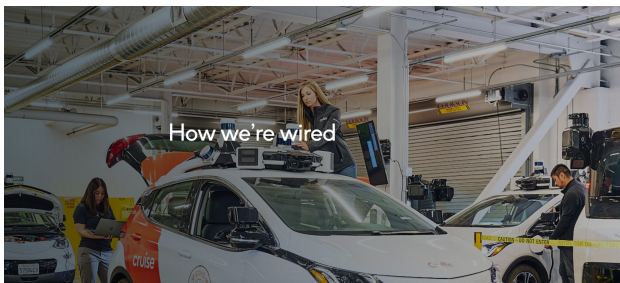
When marketing driverless vehicles designed for deliveries, Cruise adopts a different communication approach and instead puts special emphasis on economic profit as an inherent quality of the technological innovation they offer: “Simply put: self-driving delivery saves

you money and time. Our cars aren't limited by hours, breaks, or illness, which reduces costs and prevents delays." (Cruise, Delivery, Why self-driving?). Einride, which is a pure business-to-business company, uses the same framing efforts; "Night vision allows goods to be moved day or night, ensuring maximal uptime." (Einride, Autonomous, Operates around the clock). By transitioning their emphasis from the attribute of safety to the attribute of economic profit, in a similar manner as Einride, Cruise shows they understand the expectations of their target audiences. This strategic shift enables them to utilize and subsequently match the different expectations of their stakeholders, resulting in increased perceived credibility (Schimmelpfennig & Hunt, 2020). However, regardless of what stakeholder the organization targets, addressing safety concerns and preventative measures is essential. Taking such actions would effectively reduce the level of distrust towards AVs by the general public which, according to Zhou et al. (2022), is what currently hinders the implementation of the technology.

Einride's home page has a significant visual focus on the autonomous freight solution (Einride, Home page). Consistent with Powell et al. (2015) perspective on the attention-capturing power of picture frames, autonomy is retained in the observer's memory. In the segment "Trusted by", the company presents several organizations that use their services. Establishing these corporations as relying on their services attests to external confirmation, which is coded as a skill. There are complimentary texts presented to each organization which explain in what way they use Einride. However, as videos and images mainly focus on autonomy and the texts are toned down in nature, an evident emphasis is put on the autonomous business unit over the electric one. Consequently, although only one of the presented companies uses the autonomous shipping service, and the rest are customers of Einride's electric freight business, it appears as though the autonomous shipping service is commonly utilized by customers presented under the "Trusted by" section. By not clearly differentiating between their business units when presenting who of their customers uses what type of freight solution, Einride creates a contextual frame in which it appears as both electric and autonomous shipping is frequently used, while in reality, electric shipping is currently still their core business. In addition, Yang and Wibowo (2022) propose that the level of complexity of a task has an impact on how humans trust the ability of AI to perform the task, and a higher level of complexity is associated with an increased perception of risk. Given that the autonomous service provided by Einride is highly complex, it is therefore advantageous for the company to frame their autonomous business unit as more successful

than it actually is, in order to enhance their perceived performance and build trust (Yang & Wibowo, 2022).

Moreover, Zoox provides a timeline in which they show proof of external confirmation when introducing that they partnered with Amazon (Zoox, About, Timeline). The acquisition is further explained in another segment on their website; “In 2020, Zoox joined forces with Amazon. And in the process, solidified our future in the autonomous vehicle industry.” (Zoox, About, Zoox, from the ground up). The company leverages contextual framing by placing their company within a larger context, utilizing Amazon’s reputation of being a well-established corporation and highlighting how Amazon contributes to Zoox with capital, expertise, and business development strategies. The same case can be seen in Cruise’s communication. The organization states that “Cruise has received \$10B from well-respected companies and investors –including GM, Honda, Microsoft, T. Rowe Price, and Walmart ...”, which implies the employment of the same contextual framing effects as with Zoox. By applying contextual frames, these companies are able to enhance their credibility which according to McCroskey and McCain (1974) makes their words more easily accepted by stakeholders.



(Cruise, Technology, How we’re Wired)

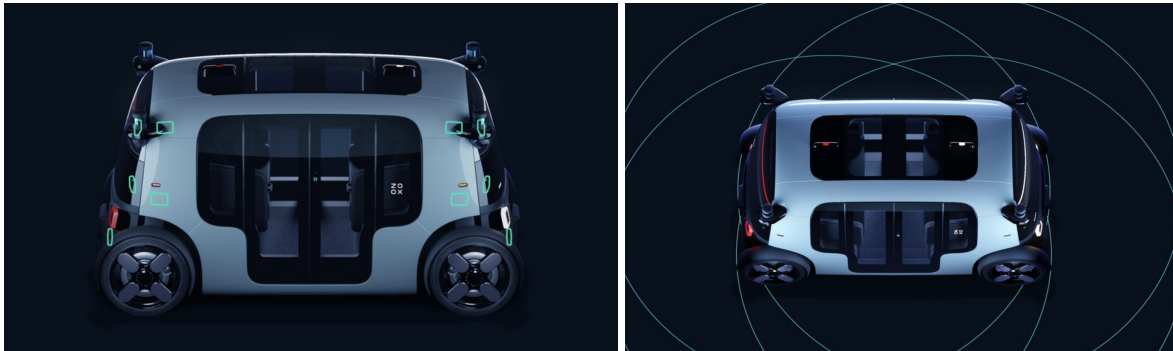


(Zoox, Safety, More than 100 safety innovations)

Moreover, Zoox and Cruise employ picture framing in certain circumstances to emphasize their capabilities. Cruise depicts the inner workings of the company's manufacturing warehouse. The image features a Cruise vehicle with a woman standing beside it, holding a computer. Another woman can be seen making modifications to one of the car's sensors, while a man plugs in the charging cable to one of the other vehicles (Cruise, Technology, How we’re wired). The image highlights skills because Cruise showcases the performed technological expertise and attention to detail of the staff involved in the production processes. Likewise, Zoox uses the same strategy to enhance skills with a picture showing



four employees, two women and two men who are working on their vehicle with different tasks in an industrial environment (Zoox, Safety, More than 100 safety innovations).



(Zoox, Autonomy)

Further, Zoox presents a range of features of the AV, including advanced sensors, a 360-degree field of view, and the ability for their vehicles to see over 150 meters (Zoox, Autonomy). These features are showcased through an interactive scrolling experience depicting futuristic, animated images of their vehicles. Similarly, Cruise employs a slideshow on their website to showcase how their technological innovations work. They highlight features such as the use of sensors that provide a 360-degree view, the ability of the vehicle to consider multiple paths per second, and the capability of the car to order its wheels to turn as needed (Cruise, Technology, How it works). Cruise uses a combination of real-life and animated videos to showcase the capabilities of their autonomous vehicles with the aim of providing a comprehensive demonstration of the technology. Consequently, the use of visuals alongside technological explanations is beneficial for reducing message meaning complexity as explained under 5.1.1 Expertise: Experience, paragraph five. Einride's technology explanations are less detailed, and their use of visuals is not as extensive. As an example of their restraint, the company presents an image of what seems to be a sensor from one of their vehicles, to which they explain; “Employs a range of precision sensing technologies – including advanced lidar, satellite and cameras – to ensure the highest levels of safety.” (Einride, Autonomous, Safety first).

While Zoox exclusively uses animated visuals to showcase their technological features, Cruise employs a combination of animated and real-life visuals. In contrast, Einride opts to use real-life images to showcase their features. By drawing attention to the specific attributes of the animated visuals and not using real-life images, Zoox may appear as though they are in

the early stages of development and have not yet launched and tested their product. On the contrary, displaying real-life images rather than animation showcases actual events and thus counteracts the hypothetical nature of animated images. Following this reasoning, the use of both animated and real-life combinations or solely real-life images deployed by Cruise and Einride makes it seem like their vehicles are already at an operating stage. Enhancing such skills increases their corporate credibility which, according to Hovland and Weiss (1951), greatly impacts the persuasiveness of the message and thereby influences people's attitudes.

#### ***5.1.4 Trustworthiness: Objectivity***

Cruise describes how they are pioneers in self-driving technology and address some of the challenges they are facing: "... hardware, AI, embedded systems, simulation, and infrastructure" (Technology, More than the sum of its parts). By acknowledging the challenges they face, the company demonstrates openness about the limitations of the business, which is a sign of objectivity. However, it can be perceived as though Cruise embraces the challenges as they later emphasize that they are "... creating solutions to problems that have never been solved before". Hence, they are using an attribute frame where they assign themselves the inherent qualities of being solution-oriented and competent enough to take on these quests. Ultimately, framing these challenges as skills.

Another example of a challenge Cruise has expressed that they are facing is that of the technological limitations that their autonomous vehicles may encounter when navigating on the streets: "When a vehicle is unable to navigate an environment independently due to unforeseen circumstances, our Customer Support team will initiate a call directly to passengers." (Cruise, Safety, Supporting customers). Thus, they demonstrate openness about their technological limitations which indicate objectivity. However, Cruise subsequently also presents their solution to the issue, thus downplaying the limitation by instead alluding to their skills.

A further demonstration of how Cruise turns a limitation into a skill is when they present how they hired experts to remotely hack the self-driving vehicle systems. This was done "... to test our systems and suggest improvements" (Cruise, Safety, Threat protection) and led to them now having implemented encrypted links on each vehicle to detect potential attacks and trigger safe stopping manoeuvres when necessary. Accordingly, the risk of getting hacked gets undermined by framing the risk as a solved problem and thus this represents Cruise's openness about the technological limitations of automation, but also an expression of their

professional competency enabling them to use it to gain insights. In contrast, both Einride and Zoox do not provide any explicit mention of the potential risk of hacking on their websites, creating an impression that they may be withholding crucial information. As suggested by Kaplan et al. (2023), this lack of transparency causes increased distrust among stakeholders.

In a similar manner, Zoox offers "TeleGuidance" working as an innovative technology that aids vehicle guidance in challenging situations (Zoox, Autonomy, TeleGuidance). Providing their customers with this solution entails there are in fact situations which are too challenging for the vehicle. However, unlike Cruise who directly states the issue they face and provides a solution for, Zoox does not explicitly admit the technological limitations but instead frames the situation as something Zoox, due to their advanced technology, are able to handle. In addition, they add that this is a tool that is almost never used, and that "Our vehicles learn from these interactions and require less assistance when facing similarly complex situations." (Zoox, Autonomy, TeleGuidance). Therefore, Zoox's approach can be viewed as a way of ignoring objectivity cues, and instead enhancing their skills.

In sum, it was found that when addressing an issue specifically related to autonomous technology or business, organizations tend to frame this as skills by enhancing their characteristic of being competent and solutions-oriented.

#### ***5.1.5 Trustworthiness: Honesty***

Zoox (About, Timeline) presents the company's progress over time, including showcasing several prototypes of their first model to a fully developed functional vehicle being tested on public roads. As transparency in the testing process is seen as a cue of honesty, such disclosure results in increased levels of trustworthiness for the company.

Moreover, Cruise makes a statement saying that "Today's roads aren't safe". They continue by explaining:

Every year, 40,000 families lose a loved one to car crashes. Auto collisions are the second-leading cause of death for our teenagers, and progress on reducing our road fatality rate has stalled in the last decade. There is a better, safer way. One with fewer collisions, more confident riders, and at-ease pedestrians. The driverless future won't just make life easier, it will make it safer—for all of us. (Cruise, Safety).

Hence, a heavily negative frame characterizes the current transportation system, while autonomous is assigned positive cues related to safety and reliability. However, as stated

by Kaplan et.al. (2023), system malfunctions in automated vehicles have already caused cases of fatal accidents. By neglecting to address the possibility of accidents involving their autonomous cars, Cruise fails to disclose who would be held responsible in case of such an event. This exclusion suggests that the company is avoiding accountability, which raises concerns about their commitment to honesty and transparency. According to Kaplan et al., the level of trust in AI businesses will decrease if the AI enabler chooses to conceal information rather than operate with integrity. Consequently, honesty is identified as a concealed cue, which in accordance with the aforementioned claim could cause a decrease in stakeholders' levels of trust.

#### ***5.1.6 Trustworthiness: Integrity***

The presentation of core values of Zoox and Cruise, who cater to private customers, were found to often allude to safety. For instance, Zoox states that “Safety isn’t just part of what we do. It’s why we’re here” (Safety, A new bar for safety). In a similar manner, Cruise (Home page, Safe) claims “Safety is our priority. Period.” and also states they have “A culture of safety” at the company (Safety, A comprehensive approach). Quotes such as “Our top priority” and “Safety is what matters most” are also found (Cruise, Safety). By incorporating safety as a part of their corporate mission, both companies demonstrate a consistent alignment with their entrepreneurial concept which enhances their perceived integrity, and by extension, trustworthiness. The two companies emphasize being caring and considerate as inherent qualities of theirs, exemplifying a case of attribute framing.

Mills (1966) stated that if a speaker is perceived to have a genuine concern for the well-being of the audience, the persuasive intent of their message is more likely to be effective.

However, Pornpitakpan (2004) found that a source that is perceived to benefit from persuading its audience is viewed as less fair and has a tendency to induce less attitude change among its stakeholders. Following this reasoning, by not only presenting safety as something considered in their product development process but instead integrating it into their core values, it becomes evident that their commitment to safety extends beyond mere profit-making and is genuinely driven by their dedication to serving their customers.

Consequently, the two companies are more likely to overcome public judgements and induce attitude change, as highlighted by Pornpitakpan (2004). Thus, claiming safety as a core value affects both Zoox’s and Cruise’s persuasive effectiveness in a favourable way.



(Cruise, Safety)

However, a notable contrast between the two examples is their visual presentation. While Zoox only uses visuals to showcase their own vehicle (Zoox, Safety), Cruise has a stronger contextual focus with images focusing on pedestrians and surrounding traffic. For example, the top three images on the Safety page display a woman and a child in front of a Cruise car, a man, woman and child with a bike at a crossing in front of a Cruise car, and a woman and a child at a crossing (Cruise, Safety). According to Powell et al. (2015), the use of images can dramatize and strengthen important concepts in written content. Thus, by depicting children walking across the street Cruise amplifies the meaning of the text by reinforcing the perceived severity of traffic accidents.

As opposed to Zoox's and Cruise's safety-centricity, Einride, whose services cater to other businesses, emphasizes environmental sustainability as a key aspect of their company's mission, as described in their manifesto:

Climate change is the most important challenge we face today. ... Einride was founded in 2016 as a dream, one based on the conviction that the age of autonomy and electrification gives us the opportunity to create a more desirable version of the future,

one that is aligned with human-centric values and the ecological necessities of our planet. ... (Einride, About, Manifesto).

This illustrates a positively framed promise of a better future in which Einride plays a leading role. The company states that “95% CO<sub>2</sub>e saved when switching from diesel-based freight operations to shipping with Einride” (Einride, Home page, By the numbers). When Einride turns their stated values into action, they demonstrate that they are committed to their entrepreneurial principles and have strong moral values. This, in turn, shows proof of integrity and therefore enhances their trustworthiness. Additionally, this showcases Einride’s capability to effectively communicate their vision, values and positioning, which sets them apart from numerous other startups that encounter difficulties in this aspect (Wiesenberg et al., 2019).

Cruise also addresses the topic of sustainability, and informs the reader that their cars and operational approach is “... clearing the air for future generations.” (Cruise, About, Sustainability). This is further reinforced by Cruise’s claim that their delivery solution will support the sustainability goals of partnering companies (Cruise, Delivery, Why self-driving?). This could be interpreted as an attempt to overcome the aforementioned challenges highlighted by Pornpitakpan (2004) by framing their business solution as beneficial for their stakeholders. Einride makes a similar achievement when stating; “Access the clean, safe and efficient way to ship. With electric and autonomous vehicles coordinated by an intelligent network, you can go green and future-proof your business.” (Einride, Home page, Connect). This way, focus shifts away from their own financial gains, resulting in a sustained chance to influence stakeholder’s attitudes.

Unlike Zoox and Einride, Cruise highlights the benefits autonomous brings in the form of increased accessibility, e.g. for blind people, enabling them to transport independently without aid from others and thereby claims that they are “... eliminating a critical barrier they face across the nation” (Cruise, About, Inclusivity). This is a benefit related to the autonomous service itself and, consequently, their solution is framed in a positive manner compared to regular cars. However, Cruise also highlights other aspects which showcase their strong moral principles which are not actually related to the main business. For instance, they share how they have attended the San Francisco Pride parade, made artist collaborations celebrating culture and diversity and partnered up with Pledge 1%, to whom they “dedicate at least 1% of our self-driving fleet to serving important community needs” (Cruise, About,

Cruise for Good; Cruise in the community). Despite that the features are not things that in fact affect the vehicle performance, it makes Cruise as a whole appear as egalitarian and ethically considerate. Hence, the company utilizes a contextual frame by focusing on the context rather than the object itself. As stakeholders' trust in organizations that enable AI technology is affected by their perceived level of concern for their surroundings (Yang & Wibowo, 2022), the highlighting of Cruise's ethically positive actions likely enhances their persuasive abilities. In addition, in line with Rossi's (2018, p.129) inference that "Companies and users want AI systems that are transparent, explainable, ethical, properly trained with appropriate data, and free of bias.", Cruise demonstrating their strong moral principles has the potential to shape stakeholders' perception that Cruise's vehicle algorithms are likely to be unbiased and ethical.

## **5.2 Communication Improvements**

### ***5.2.1 Turning Limitations to Skills***

As mentioned under 3.1 Source Credibility Model, Schimmelfennig and Hunt (2020, p. 491) described trustworthiness as "the endorser's objectivity, honesty, and integrity". Within the scope of trustworthiness, integrity was observed to receive greater emphasis compared to objectivity and honesty, and the times when objectivity and honesty were identified in the communication it was often either concealed or reframed into skills. In the empirical material, honesty was identified as concealed due to the neglect of the possible occurrence of accidents involving autonomous cars. By avoiding accountability it appears as though autonomous solutions outperform current transportation methods. Likewise, objectivity was identified in terms of communicating challenges regarding technological risks and limitations specific to AVs. However, it was evident that these attributes were not stated independently. Instead, they were embedded into skills, highlighting the companies' professional competency through their ability to surmount the addressed limitations. By turning an objectivity cue into skills the organization downplays the issue and thus dodges the negative reverberation following a presentation of the risk. Considering the preexisting scepticism directed towards AI in transportation, as suggested by Schoettle and Sivak (2014) and Zhou et al. (2022), this could be perceived as a successful strategy.

On the other hand, in line with Kelman's (1961) and Pornpitakpan's (2004) inference that trustworthiness is a key factor when building credibility, organizations that do not disclose full objectivity could suffer from decreased trustworthiness and thus lower their corporate

credibility. Therefore, to improve their trustworthiness, it would be advantageous for companies in the autonomous automotive industry to adopt a more transparent communication approach. For instance, via openness about technological limitations, acceptance of accountability or transparency in their testing process, as explained under 4.4.2 Coding Scheme. Consequently, credibility leads to increased trust (Söllner et al., 2016) which leads to decreased risk avoidance (Hedlund (2000), thereby accelerating the implementation of AV technology on the market (Zhou et al., 2022). However, an important factor these companies must consider when displaying e.g. technological limitations is that people tend to trust AI more when they are not given information about its performance, regardless of how it is presented (Kim & Song, 2023). Additionally, Kim and Song assert that it is crucial to manage information about AI performance with caution to avoid disadvantageous effects on trust. Hence, when proving objectivity by disclosing limitations AV businesses should address the limitation, present what they do to better the situation, but not disclose information about how they performed while doing so.

Moreover, a notable finding in the empirical material was that organizations in the autonomous vehicle industry tend to promote their expertise in a more explicit manner than traits of trustworthiness. Since expertise can substantially reduce the perceived performance risks related to technology-based products (Biswas et al., 2006) emphasizing expertise helps the organizations gain trust in autonomous technologies. However, credibility is built upon both expertise and trustworthiness (Kelman 1961; Pornpitakpan, 2004), and establishing both dimensions of corporate credibility; expertise and trustworthiness, is thus a more optimal path to pursue. In addition, Soesilo et al. (2020) argue that technologically complex products increase performance uncertainty for consumers less familiar with the product, leading to a greater reliance on both expertise and trustworthiness as key factors driving corporate credibility. Hence, it is crucial organizations in the autonomous vehicle industry improve their efforts to include trustworthiness-building cues in order to gain more credibility. However, it should be noted that the recommendation does not entail reducing the use of expertise in digital brand communication by these corporations. Rather, it underscores the crucial importance of a substantial increase in trustworthiness, as both expertise and trustworthiness play essential roles in establishing credibility (Kelman 1961; Newel, 2000; Pornpitakpan, 2004; Soesilo et al., 2020).



### ***5.2.2 Proactive Communication***

The malfunctioning of automated vehicles has already resulted in fatal incidents (Kaplan et al., 2023). Prahl and Wen Pin Goh (2021) inferred that while some established crisis communication strategies remain effective in crises where AI systems fail, others may not, resulting in a need for new approaches specifically developed for the possible occurrence. According to Coombs and Holladay (2006), a favourable reputation can provide an organization with a greater quantity of positive "reputation capital" which enables the organization to recover more quickly and with less disadvantage. Meanwhile, Aaker and Joachimsthaler (2000) argue that higher corporate credibility results in enhanced brand equity and Keller (1998) infer that having a strong corporate credibility is essential for building a good corporate reputation. Therefore, until new approaches to crisis management within AI industries have been researched, developed and tested, we suggest a proactive communication approach to build "reputation capital" through corporate credibility and thus increase crisis resilience. In addition, in line with Hovland and Weiss' (1952) inference that the credibility of a source affects both the willingness of people to accept the presented information and the probability of them taking action based on that information, it becomes crucial for companies in the AV industries to enhance their expertise and trustworthiness in their proactive communication to better convince audiences of autonomous safety qualities.

### ***5.2.3 Communicating Human Involvement***

The empirical material showed that companies in the autonomous vehicle industry have different approaches regarding human involvement in the process of enabling automated vehicles. Kaplan et al. (2023) contend that the large number of drivers on the road entails that people have developed a high degree of trust in the use of regular vehicles. This trust is fostered by people's familiarity with their active participation in driving, which currently serves as a critical factor in establishing trust in regular vehicles. Because people trust regular cars for the reason of human involvement, as discussed under 5.2.3 Expertise: Skills, it is possible to deduct that in the transition phase before the use of autonomous vehicles has been normalized, it would be beneficial to explicitly communicate the level of human involvement.

Moreover, Fei et al. (2021) found that the most favourable term to describe vehicles with SAE autonomous level 3-4 was "automated vehicles," whereas using the term "driverless vehicles" resulted in less trust from the public which implies the level of perceived human involvement still plays a crucial role in regards to trusting AI. This further establishes that

people are not yet ready for the full transition from regular cars to level 5 AVs. Therefore, it is important companies in the AV industry take this into consideration and intentionally implement human involvement in their communication efforts. However, because 94% of all U.S. crashes are caused by human error (Zoox, 2023c), adding a human factor does not increase the actual road safety, but only the perception of such.

On the other hand, "driverless vehicles" was the most positively perceived term for vehicles with level 5 automation (Fei et al., 2021). At level 5, "driverless vehicle" implies that the vehicle can operate independently, indicating a high level of reliability and performance in the AI technology. According to Kaplan et al. (2023), this perception would significantly contribute to building trust. Thus, in a futuristic scenario when trust between humans and AI technology is well established, companies could transition from emphasizing human involvement to instead taking an entirely rational approach emphasizing autonomous safety superiority.

#### ***5.2.4 Conveying Message Meaning through Visuals***

Soesilo et al. (2020) argue that technologically complex products often give rise to increased levels of performance uncertainty among consumers. Since autonomous vehicle companies specifically deal with highly complex products, it is plausible that this could lead to heightened levels of performance uncertainty among consumers. Prahl and Wen Pin Goh (2021) claim that people experience concerns regarding the use of AI in transportation, and it therefore becomes more important for AV organizations to be able to communicate e.g. safety information effectively so that the reader understands it. The empirical material revealed that complex information occasionally was communicated using text that was dense and difficult to understand (see e.g. Zoox, Safety, More than 100 safety innovations). According to Powell et al. (2015), visuals not only help to simplify complex ideas in texts but also serve to dramatize and reinforce key concepts, consequently making the message meaning better retained in memory. To raise the level of understanding about complex safety information it would thus be beneficial for AV companies to complement heavily textual sections with visual components.

Hopkins and Schwanen (2021) infer the inclusion of more people in the discussions about self-driving cars will help envision, normalize and bring about a greater variety of autonomous vehicles in the future. Consequently, it is crucial audiences are assisted in receiving an increased understanding of the subject to enable participation in such discussion.

Because the inherent qualities of visuals contribute to breaking down complex information into simpler terms, increasing the use of such visuals found in the empirical material would thus help to move away from an expert-centred logic, subsequently affecting the common perception of the technologies.

Moreover, Powell et al. (2015) argue that using images in communication has several advantages over using text alone in terms of capturing attention, accessing meaning more quickly, better retention in memory through creating vivid associations, and greater influence on framing effects. Consequently, organizations in the AV industry could leverage this advantage when communicating autonomous and public road safety. By moving away from the use of images only focusing on their vehicles and instead utilizing images to showcase their vehicles in relation to e.g. pedestrians, companies have the potential to alter the perception of autonomous vehicles. This shift in visual representation plays a crucial role in reshaping the public's perspective on autonomous vehicles and effectively emphasizes their significance as a safety measure.

## **6. Conclusion**

### **6.1 How is the liability of distrust addressed in autonomous vehicle digital brand communication?**

This study concludes that the liability of distrust is addressed in autonomous vehicle digital brand communication through various framing efforts. The current transportation system is repeatedly characterized by a negative frame, while the solutions employed by AV companies to the stated issue are portrayed positively by means of strengthening both corporate trustworthiness and expertise. Because strengthened credibility increases enablers' trust, trust in the technology will thus follow. Conversely, AV organizations that neglect to address the accountability of potential AI malfunctions raise concerns about their commitment to transparency, resulting in increased distrust. The application of a positive frame which features the company in a beneficial manner is extendable to a range of different domains, such as their combat against environmental issues. Moreover, various companies within the AV industry hold distinct perspectives on the role of human involvement in autonomous operations, leading to diverse potential outcomes. Human involvement can provide more trust, but it can also raise questions about whether technological reliability is secure enough to operate independently.

Findings displayed different approaches to applying visual material. Images are used to emphasize message meaning and alter message recipient perception. For instance, the inclusion of pedestrians, especially children, in images is used to showcase consideration for the vehicle surroundings, effectively portraying themselves as caring entities and ultimately overcoming the liability of distrust. Companies strategically employ visual framing to showcase their advanced technology and demonstrate their attention to detail, which in turn reinforces their expertise and thus reduces the perceived performance risks typically related to technology-based products. This visual frame also serves to simplify complex messages, allowing for better understanding and engagement. As more individuals gain a comprehensive understanding of the underlying technology, its integration into society becomes more normalized, ultimately facilitating a faster transition to AVs through enhanced public acceptance. In addition, companies utilize visual aids through real-life footage to present a greater sense of operational experience than they currently possess. Consequently, the experience increases perceived reliability, which significantly impacts trust.

Companies operating in several domains have the opportunity to leverage a contextual frame that transfers the existing trust in other parts of the company to the autonomous domain by emphasizing their expertise in closely related areas. Similarly, contextual frames could also serve by transporting external expertise through the capitalisation of the established trust in other industries by transferring either technological or personnel expertise to the own autonomous business. Furthermore, emphasizing the activities employed by the company beyond its own core business positively enhances the company image and ultimately affects stakeholders' trust in the organization. Additionally, the portrayal encourages a perception of the technology as unbiased and ethical which increases trust and enhances the persuasive abilities.

Furthermore, organizations tend to frame limitations related to autonomous operations as an opportunity to instead showcase their inherent qualities of being competent and solutions-oriented by emphasizing their abilities to address such challenges. Instances where limitations are not addressed may lead to a perception of information withholding, thereby generating increased distrust. Incorporating strong moral values in organizational core values not only positions the startup brand on the market resulting in a greater chance of survival but also alters the perception of the company from solely profit-making to having a sincere interest in the welfare of the audience. Consequently, affecting the persuasive effectiveness in a favourable way. Lastly, AV companies gain credibility by employing different communication strategies to effectively engage their stakeholders. They communicate safety-related messages to consumers, while businesses are targeted with messages emphasizing financial gains. Besides, irrespective of the target audience, prioritizing safety concerns and implementing preventative measures is crucial in enabling the successful adoption of AI technologies.

## **6.2 How can autonomous vehicle digital brand communication be redesigned to better overcome consumer distrust?**

Technological limitations can be either communicated as skills or thoroughly concealed to make the AV organization appear more competent. On the other hand, concealing objectivity decreases the organization's trustworthiness. AV companies should, therefore, embrace a communication approach that emphasizes transparency. However, companies should be cautious in revealing AI performance details and the organization should thus promote

transparency by disclosing limitations and showcasing improvement efforts while avoiding disclosing too specific performance information.

Other findings include organizations in the autonomous vehicle industry tend to promote their expertise more explicitly than trustworthiness. However, as both dimensions play essential roles in establishing credibility it is crucial for these organizations to also enhance their communication efforts in building trustworthiness. Since credibility leads to increased trust and decreased risk avoidance, this adaption would accelerate the implementation of AV technology.

In the context of AI system failures, certain established crisis communication strategies remain effective, while others may fall short. This highlights the need for new approaches specifically designed to address such situations. Having strong corporate credibility is crucial in developing a positive corporate reputation, equipping organizations with abundant "reputation capital". Prior to new crisis management approaches tailored to the AI industry are established, there should thus be a greater focus on proactive communication efforts to enhance corporate credibility and, consequently, bolster resilience in times of crisis.

In the transitional phase towards normalizing autonomous vehicles, it is crucial for companies in the AV industry to incorporate human involvement in their communication efforts. This strategic move not only supports the perception of acting responsibly but also helps build trust between humans and AI technology. As the relationship between humans and AI matures and trust becomes firmly established, companies can gradually shift their emphasis from human involvement to using a more rational approach, underscoring the inherent safety superiority of autonomous systems.

Autonomous vehicle acceptance into society is dependent on active involvement of a broader range of individuals in the discourse surrounding these vehicles. In order to facilitate a more inclusive discussion where people comprehend the information presented, AV companies must leverage the inherent qualities of visual elements to simplify complex information concerning their technology. In addition, reducing the perceived complexity of highly complex products would also lower the performance uncertainty among consumers.

Therefore, in order to enhance the understanding of complex safety information, it would be advantageous for AV companies to incorporate visual elements alongside text-heavy sections. Lastly, images have the power to shape the perception of a company's operational purpose.

By featuring pedestrians in visuals instead of solely presenting the vehicle and its technological features, the company portrays itself as caring about its surroundings. Consequently, reshaping the public's perspective on autonomous vehicles.

### **6.3 Implications and Suggestions for Further Research**

This study primarily focused on SAE level 5 vehicles, and while it is plausible that the findings can be applicable to SAE levels 3-4, it is recommended that future research undertake in-depth case studies involving companies operating at those levels to yield more definitive conclusions. Additionally, to gain deeper insights into both the decision-making processes and communication challenges within AV organizations, it would be valuable for future research to include interviews with marketing personnel working in the autonomous vehicle industry. Furthermore, we observed notable differences in communication priorities between business-to-consumer and business-to-business contexts. Consequently, a comparative study, preferably quantitative in nature, measuring the frequency of safety communication versus financial gains would facilitate a more comprehensive understanding of the strategic choices made by these companies in their representations. Further, this study solely focused on analyzing material sourced from company websites. To gain a more comprehensive understanding of digital brand communication efforts, conducting a qualitative content analysis that encompasses various digital platforms, including social media, would be advantageous. Expanding the scope in this manner would provide valuable insights into the broader landscape of AV brand communication.

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## 8. Appendix

### List of empirical material researched in 5. Analysis:

#### Cruise:

- (Cruise, About) <https://getcruise.com/about/>
- (Cruise, Delivery) <https://getcruise.com/delivery/>
- (Cruise, Home page) <https://getcruise.com/>
- (Cruise, Rides) <https://getcruise.com/rides/>
- (Cruise, Safety) <https://getcruise.com/safety/>
- (Cruise, Technology) <https://getcruise.com/technology/>

#### Einride:

- (Einride, About) <https://www.einride.tech/about>
- (Einride, Home page) <https://www.einride.tech/>
- (Einride, Autonomous) <https://www.einride.tech/autonomous>
- (Einride, Autonomous, Autonomous Gen 2) <https://www.einride.tech/autonomous/vehicles>
- (Einride, Autonomous, Remote Operations) <https://www.einride.tech/autonomous/remote-operation>

#### Zoox:

- (Zoox, About) <https://zoox.com/about/>
- (Zoox, Autonomy) <https://zoox.com/autonomy/>
- (Zoox, Home page) <https://zoox.com/>
- (Zoox, Safety) <https://zoox.com/safety/>
- (Zoox, Vehicle) <https://zoox.com/vehicle/>

All material in its original form can be retrieved and viewed via following link:

[https://drive.google.com/drive/folders/1p75vvDeuh-VXmJRFwlZ8Pwi\\_M2aNNHwX?usp=s](https://drive.google.com/drive/folders/1p75vvDeuh-VXmJRFwlZ8Pwi_M2aNNHwX?usp=s)  
haring