

“Algorithms or Empathy?”

AI-First vs. Human-First Brand Communication and the
Formation of Consumer Trust Across Industries:
Evidence from Healthcare and Insurance

by

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Abstract

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Keywords: AI-first brand communication, human-first brand communication, brand trust, perceived warmth, perceived competence, Stereotype Content Model, Brands as Intentional Agents Framework

Thesis Purpose

This thesis examines how AI-first versus human-first brand communication influences perceived warmth, perceived competence, and brand trust across healthcare and insurance contexts, and whether these effects differ between the two industries.

Methodology

A quantitative between-subjects experiment employing a 2 x 2 factorial design was conducted. Participants (N = 259) were randomly assigned to one of four conditions and evaluated a fictional brand webpage designed to represent either a healthcare or insurance provider. Data were analysed using ANOVA and mediation analysis.

Findings

Human-first communication generated significantly higher brand trust than AI-first communication. Perceived warmth significantly mediated the relationship between communication framing and brand trust, whereas the competence pathway was not significant. Industry context did not significantly moderate any of the hypothesised relationships. Healthcare conditions generated higher warmth, competence, and brand trust than insurance conditions across all framing conditions.

Theoretical and Practical Implications

The study extends the Stereotype Content Model and the Brands as Intentional Agents Framework to strategic brand identity communication. The findings highlight the importance of warmth in trust formation and suggest that human-first communication is more effective than AI-first communication for building consumer trust.

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1. Introduction

The following section introduces the background to this study, starting by presenting the market and giving the psychological context that motivates the research. An outline of the research gap, the aim and objectives of the study, and the research purpose follow. Lastly, the delimitations and the structure of the thesis are presented. The study focuses on examining how AI-first versus human-first brand communication influences perceived warmth, perceived competence, and brand trust, and whether these effects differ between healthcare and insurance services.

1.1 Background

Artificial intelligence (AI) is increasingly influencing how organisations deliver service across a range of sectors. Within healthcare, AI-enabled systems are being applied to support functions such as diagnostic assistance, clinical decision-making, and other healthcare processes. As the use of these technologies expands, regulatory bodies have begun developing dedicated frameworks to govern their development and deployment. For example, the United States Food and Drug Administration (FDA) has issued guidance on the lifecycle management, validation, transparency, and regulatory submission requirements of AI-enabled medical devices, reflecting the growing institutional recognition of AI technologies within healthcare (FDA, 2025).

In insurance, the transformation is similarly evident. Insurers are increasingly using machine learning models to support underwriting decisions, detect potential fraud in claims data, and automate operational processes. Generative AI is also being explored to streamline document-intensive activities such as claims handling and policy administration (KPMG, 2024). While adoption remains uneven across organisations, industry forecasts suggest continued growth. Gartner (2023) projects that by 2026, more than 80% of enterprises will have used generative AI APIs, models, or applications in production environments, while Gartner (2024) estimates that 30% of enterprises will automate more than half of their network activities by the same year.

AI is becoming an increasingly important component of service delivery and, importantly for this study, also features in how organisations present themselves to consumers through brand communication. Brand communication contributes to the development of brand personality, which Aaker (1997) defines as the set of human characteristics associated with a brand. A company that frames its “About Us” webpage around algorithms, automated processes, and

data-driven decision-making projects a particular identity (AI-first brand communication). In contrast, a company that highlights personal care, empathy, and long-term customer relationships projects a different identity (human-first brand communication). Framing theory suggests that such communication choices influence how audiences interpret messages by making certain attributes more salient than others (Entman, 1993). Consequently, AI-first framing emphasises technological capability and efficiency, whereas human-first framing emphasises warmth and individual concern. These differences in salience may activate distinct consumer perceptions, which in turn can influence trust.

Research suggests that consumers frequently evaluate AI in terms of competence, while perceptions of warmth and genuine concern are more difficult to establish (McKee et al., 2023; Fiske et al., 2002). Huang and Rust (2024) argue that a key challenge for AI-enabled customer care is creating emotional understanding and connection comparable to that provided by human service agents. Trust-related concerns are particularly visible in healthcare. Khan et al. (2025) report that more than 60% of patients express skepticism toward AI technologies because of concerns about data privacy and algorithmic bias. Similar concerns are evident in insurance. Insurity's 2025 AI in Insurance Report found declining consumer confidence in AI for property and casualty insurance, with growing concerns regarding transparency, responsible use, and fairness in AI-driven processes (Insurity, 2025). Consistent with these findings, Pitardi and Marriott (2021) found that health insurance consumers reported higher levels of trust when no visible AI was involved in the service interaction.

This creates a strategic challenge for organisations in healthcare and insurance. Highlighting AI in brand communication may signal competence and innovation, strengthening perceptions of technological capability and one dimension of trust. At the same time, it may weaken perceptions of warmth and human concern, which are also important components of trust in service relationships involving personal vulnerability. Whether the overall effect on consumer trust is positive or negative is likely to differ across these two industries, as consumers may place different emphasis on warmth and competence when evaluating service providers.

Healthcare is a high-vulnerability context because patients engage with providers during illness, acute personal risk, and significant uncertainty. In these situations, perceptions that the provider genuinely understands and acts in the best interests of individual patients may play a particularly important role in trust formation. Longoni et al. (2019) found that consumers were reluctant to rely on AI-generated medical recommendations even when AI was described as outperforming human providers. The authors argue that this resistance

stems from concerns that AI may not adequately account for an individual's unique circumstances. While insurance can also involve vulnerability, particularly during claims situations, consumers may place greater emphasis on factors such as accuracy, efficiency, and reliability when evaluating insurers. Consequently, the competence-related signals associated with AI may be perceived differently in insurance than in healthcare.

This study examines these questions through a 2 x 2 between-subjects experimental design comparing AI-first and human-first brand communication across healthcare and insurance. The insurance condition uses stimuli developed for a fictional insurance brand, Norda Insurance, designed to test framing effects in a risk management service context. The healthcare condition uses a fictional healthcare brand developed alongside it. The study builds on a theoretical foundation integrating the Stereotype Content Model (Fiske et al., 2002) and the Brands as Intentional Agents Framework (Kervyn et al., 2012). Together, these perspectives explain how AI-first and human-first brand communication influence perceptions of warmth and competence and how these perceptions shape evaluations of brands. Trust is examined as the focal outcome because prior research identifies warmth- and competence-related judgments as important factors of trust formation. These frameworks jointly generate a parallel mediation model in which communication framing influences brand trust through perceived warmth and perceived competence. Industry context is proposed as a separate moderator of each path, predicting that the warmth effect of human-first framing will be stronger in healthcare and the competence effect of AI-first framing will be stronger in insurance.

1.2 Aim and Objectives

The aim of this study is to investigate how the choice to frame brand communication as AI-first or human-first shapes consumer perceptions of warmth and competence and, through these perceptions, brand trust, and to examine whether these effects differ between healthcare and insurance service contexts.

The specific objectives are as follows. First, it is to develop and test a dual-mediation model in which communication framing influences brand trust through two independent pathways: perceived warmth and perceived competence. Second, it is to test whether industry context moderates the strength of each mediation pathway, predicting that the warmth path is stronger in healthcare and the competence path is stronger in insurance. Third, it is to contribute to the emerging literature on AI in marketing by applying the Stereotype Content Model (SCM) and the Brands as Intentional Agents Framework (BIAF) to the domain of brand identity communication, rather than service delivery. Fourth, it is to generate practical insights for

brand managers in healthcare and insurance regarding the trust consequences of communicating AI involvement in brand identity materials.

1.3 Research Purpose

The purpose of this thesis is to contribute to the emerging literature on AI in marketing by examining how consumers respond to AI-first versus human-first brand communication. Drawing on the SCM and the BIAF, the study investigates the roles of warmth and competence in trust formation and explores whether these mechanisms operate similarly across healthcare and insurance contexts. The findings aim to advance theoretical understanding of AI-related brand communication while providing practical guidance for organisations communicating AI involvement to consumers.

1.4 Research Question

How does AI-first versus human-first brand communication influence perceived warmth, perceived competence, and brand trust, and are these relationships moderated by industry context (healthcare versus insurance)?

1.5 Delimitations

This thesis is limited to two service industries, healthcare and insurance, selected on theoretical grounds as contrasting cases in terms of warmth and competence in trust formation. The focus is on brand-level communication, specifically "About Us" identity texts, rather than specific transactional interactions such as chatbot exchanges or AI-generated recommendations. Fictional brands are used to remove the influence of prior brand familiarity. Caution is advised when generalising the findings to real brands with established reputations, to service touchpoints beyond brand identity communication, or to cultural contexts notably different from the sample used in this study.

1.6 Outline of the Thesis

This thesis consists of seven chapters. Chapter 1 has introduced the background, purpose, research question, and delimitations. Chapter 2, the Literature Review, covers existing research on AI in brand communication, warmth and competence in AI perception, consumer trust in service industries, and the characteristics of healthcare and insurance as industry conditions. The chapter ends with a synthesis identifying the gaps this thesis addresses. Chapter 3, the Theoretical Framework, presents the theoretical foundations and derives the

six hypotheses across the two studies. Chapter 4, the Methodology, describes the research design, stimuli, measurement scales, samples, and analytical plan for both Study 1 and Study 2. Chapter 5 presents the empirical results of both industry conditions. Chapter 6 provides a discussion of results, whereas Chapter 7 presents a conclusion, including theoretical contributions, managerial implications, limitations, and suggestions for future research.

2. Literature Review

This chapter reviews the existing literature on AI in consumer-facing brand communication, examines the specific contexts of healthcare and insurance, and synthesises the findings to identify the research gaps that this thesis addresses.

2.1 Artificial Intelligence in Consumer-Facing Brand Communication

Artificial intelligence is increasingly embedded into consumer-facing service contexts, influencing the way in which organisations communicate and build relationships with their customers. Huang and Rust (2024) argue that recent advances in generative AI have expanded the potential for firms to engage in emotionally charged customer interactions by recognising customer emotions, generating empathetic responses, and providing support during service encounters. As AI becomes more visible in such interactions, consumers evaluate not only functional performance, but also relational qualities of the service provider. This development raises important questions about how AI-centered versus human-centered brand communication influences perceptions of warmth, competence, and ultimately consumer trust.

A growing body of research suggests that consumers respond differently to AI and human actors in service interactions. Longoni et al. (2019) find that consumers are less willing to rely on medical services delivered by AI than those by humans, even when AI is described as equally or more accurate. This resistance is driven by concerns that AI may be less able to account for individuals' unique characteristics and circumstances. Similarly, Luo et al. (2019) demonstrate that disclosing the use of AI chatbots in customer service interactions reduces likelihood of purchase, as customers perceive the chatbot as less knowledgeable and less empathetic than a human agent.

Research on algorithmic decision-making further highlights that consumer preferences depend on task characteristics. Castelo et al. (2019) show that consumers are less willing to rely on algorithms for tasks perceived as subjective rather than objective, because they believe algorithms lack the capabilities needed to perform subjective judgments. Correspondingly, Dietvorst et al. (2015) find that individuals often avoid algorithms after having experienced them make mistakes, even if the algorithms outperform humans. Together, these findings suggest that emphasising AI may strengthen perceptions of analytical

capability while potentially reducing trust in contexts that require subjective judgement or human understanding.

Research further suggests that AI integration in service contexts may influence how consumers evaluate organisations and service providers. Belanche et al. (2019) argue that service robots increasingly act as customer-facing representatives of organisations, making consumer responses to AI an important aspect of service experiences.

More recent studies comparing AI and human decision-making in healthcare reinforce the distinction between human and AI service agents. Zhang et al. (2026) show that patients trust human doctors more than AI doctors, partly because human doctors are perceived as providing greater informational and emotional support. Similarly, Chen et al. (2026) find that AI-based medical triage is trusted less than human triage, with this difference partially explained by greater perceived psychological distance. These findings suggest that emphasising AI may create challenges for trust formation in contexts where consumers value interpersonal support and psychological closeness.

2.2 AI-Driven Communication in Healthcare and Insurance

Healthcare and insurance represent two service contexts in which the tension between AI-first and human-first brand communication is particularly pronounced, because consumer trust is both central to the service relationship and sensitive to the signals organisations project about their orientation toward the individual consumer.

In healthcare, AI systems have been integrated across diagnostic, clinical decision support, and patient management functions. The increasing institutionalisation of AI in healthcare is also reflected in emerging regulatory frameworks for AI-based medical devices (FDA, 2025). Despite this technological progress, consumer trust in AI healthcare communication remains a significant concern. Longoni et al. (2019) show that resistance to AI in medical contexts is driven less by concerns about technical performance and more by concerns that AI may not adequately account for patients' unique characteristics and circumstances. This suggests that how a healthcare brand communicates its orientation toward the patient has consequences that go beyond surface-level messaging.

In insurance, AI is deployed primarily in underwriting, claims processing, fraud detection, and policy administration. Industry reports indicate increasing adoption of machine learning and generative AI across underwriting, claims management, fraud detection, and

administrative processes, particularly for data-intensive and document-heavy tasks (KPMG, 2024). Nevertheless, consumer adoption remains uneven, with relatively few insurers reporting organisation-wide AI integration. Industry surveys also suggest growing consumer concern regarding AI-driven insurance processes, particularly with respect to transparency, reliability, and fairness (Insurity, 2025). The core evaluative question for insurance consumers is therefore different from that in healthcare. Policyholders assess insurers on whether they can manage risk accurately, process claims fairly, and provide reliable financial protection. These are analytical and performance-based criteria for which AI capability may be interpreted as a signal of efficiency and analytical competence, given AI's comparative strengths in data processing, prediction, and analytical decision support (Huang & Rust, 2021).

Together, these two industries offer a theoretically productive contrast. Healthcare may place greater emphasis on individual concern and relational trust, whereas insurance may place relatively greater emphasis on analytical performance and risk-management competence. This contrast makes them well-suited as the two industry conditions in a study examining whether AI-first versus human-first brand communication produces different trust effects depending on the evaluative context in which it is received.

2.3 Literature Synthesis and Research Gap

The review above identifies three connected gaps in the existing literature. First, prior research on AI and consumer trust focuses predominantly on service delivery contexts, specifically on responses to AI agents, chatbot interactions, or algorithmic recommendations, rather than on the brand communication choices that precede any direct service encounter. The question of whether foregrounding AI or human elements in brand identity texts shapes trust has received limited systematic attention. Second, existing studies rarely compare AI-centered and human-centered brand communication framing within the same experimental design. As a result, there are no clear estimates of the magnitude of the framing effect on consumer trust, nor of the psychological mechanisms through which that effect operates. Third, the few comparative studies that exist do not test these effects across industry contexts within the same design, leaving open the question of whether the trust consequences of AI-first brand communication differ in industries where consumers weigh relational concern more heavily than analytical competence, or vice versa.

These three gaps converge on a common theoretical problem: the literature provides strong evidence that consumers form perceptions of AI along the dimensions of warmth and competence. McKee et al. (2023) show that warmth and competence emerge as primary

dimensions of AI perception, while Huang and Rust (2024) demonstrate the growing importance of emotional and relational capabilities in evaluations of AI-enabled customer care. However, the existing literature does not explain how this stereotype activation operates when it is brand communication that carries the AI or human signal, rather than the AI system itself. Nor does it explain whether the trust consequences of activating the AI stereotype are amplified or attenuated by the industry context that determines how warmth and competence are weighted in trustworthiness evaluation.

The theoretical framework developed in the following chapter addresses these gaps directly. The SCM (Fiske et al. 2002) provides the conceptual basis for understanding how consumers evaluate social actors along the dimensions of warmth and competence. The BIAF (Kervyn et al., 2012) extends these dimensions to the brand domain by arguing that consumers evaluate brands in terms of perceived intentions and ability. Together, these frameworks provide a basis for explaining how AI-first and human-first brand communication may influence perceptions of warmth and competence, and how these perceptions subsequently shape consumer trust in brands.

3. Theoretical Framework

This chapter presents the theoretical foundations of the study. It begins with the SCM, which provides the dimensional structure of warmth and competence perceptions. It then presents the BIAF, which connects these perceptions to brand trust. The rationale for integrating these frameworks is explained, followed by the research model and the six hypotheses derived from the theoretical integration.

3.1 Stereotype Content Model

3.1.1 Background

The SCM was developed by Fiske et al. (2002) to explain the fundamental dimensions along which people evaluate other social actors. Drawing on earlier work by Rosenberg et al. (1968) on the structure of personality impressions, Fiske et al. (2002) proposed and empirically validated that social evaluation is organised around two fundamental dimensions: warmth and competence. The model has been validated in more than 30 countries across six continents and has been applied to a wide range of social actors including individuals, social groups, occupational groups, organisations, consumer brands, and artificial intelligence systems (Cuddy et al., 2008; McKee et al., 2023). The central theoretical claim is that people judge social actors "first on warmth, whether the other intends good or ill, and then on competence, whether the other is capable of acting on those intentions" (Fiske et al., 2002).

3.1.2 Warmth

Warmth refers to perceived intentions and includes traits such as friendliness, sincerity, benevolence, and genuine concern for others (Fiske et al., 2002). The model proposes that warmth is evaluated first and carries greater weight in trust-relevant responses, because knowing whether another party has good or bad intentions is more immediately important than knowing their capability. Warmth is partly determined by perceived competition (low competition between observer and target produces higher warmth attributions). Human service providers, who are in a collaborative rather than competitive relationship with consumers, typically receive moderately high warmth attributions. Instead, artificial intelligence systems are generally not perceived as direct competitors to consumers, which according to SCM would not necessarily suppress warmth perceptions. However, research on AI suggests that consumers often perceive AI as lacking the social and relational qualities associated with warmth, resulting in lower warmth evaluations than those typically afforded to human service providers.

Applied to the present study, AI-first brand communication replaces the human intentionality cues that warmth attributions require. This type of language foregrounds algorithms, automated processing, and data-driven systems and does not carry signals of caring, concern, or genuine orientation toward the individual consumer. It activates associations with AI systems that prior research frequently characterises as relatively high in competence but lower in warmth (McKee et al., 2023). Human-first framing is expected to activate warmth perceptions through language emphasising care, empathy, personal service, and concern for consumer wellbeing. This theoretical prediction generates Hypothesis 3.

3.1.3 Competence

Competence refers to perceived ability and includes traits such as intelligence, efficiency, skill, and reliable performance (Fiske et al., 2002). The model proposes that competence perceptions are primarily driven by perceived status: high-status actors receive higher competence attributions, because status signals that the actor has demonstrated effectiveness and earned recognition from the social environment.

The SCM also conceptualises warmth and competence as distinct dimensions, allowing groups or actors to be evaluated positively on one dimension while being evaluated negatively on the other (Fiske et al., 2002). This independence is what produces the characteristic asymmetric pattern of AI perception (high competence attributions do not automatically produce high warmth attributions). Research further suggests a compensatory relationship between competence and warmth, whereby targets perceived as especially high on one dimension may be evaluated less favourably on the other (Judd et al., 2005).

This dynamic is particularly relevant to the moderation prediction developed in Hypothesis 5. Because healthcare services involve high levels of personal vulnerability and reliance on provider intentions, reductions in perceived warmth may be especially consequential. Consequently, AI-first framing may create a larger warmth deficit than would be expected from the removal of warmth-related language alone. Building on these arguments, Hypothesis 5 predicts that the effect of communication framing on perceived warmth will be stronger in healthcare than in insurance.

3.1.4 Application to the Hypotheses

In this study, the SCM generates two a-path predictions that form the foundation of the dual-mediation design. First, human-first brand communication is expected to increase perceived warmth relative to AI-first communication (H3). Second, AI-first brand communication is expected to increase perceived competence relative to human-first

communication (H4). Therefore, human-first framing inverts both effects: warmth is directly activated by care language, while analytical capability is less important. Together, these predictions mirror the dual-pathway structure of the research model and provide the theoretical basis for proposing warmth and competence as simultaneous but independent mediation pathways from communication framing to brand trust.

3.2 Brands as Intentional Agents Framework

3.2.1 Background

The Brands as Intentional Agents Framework (BIAF) was proposed by Kervyn et al. (2012) to extend the SCM from the domain of social perception to the specific domain of brand evaluation and consumer-brand relationships. Their central empirical contribution was to demonstrate that consumers evaluate brands using the same warmth and competence dimensions applied to people, and that brand-level warmth and competence perceptions predict consumer responses in theoretically consistent and practically meaningful ways. Kervyn et al. (2012) argue that consumers evaluate brands using the same two fundamental dimensions that structure interpersonal perception: warmth and competence. This thesis was supported across multiple studies using both survey-based and experimental methodologies, across different product and service categories, and across different consumer populations. Importantly, Kervyn et al. (2012) demonstrate that perceived intentions and perceived ability independently predict purchase intentions and brand loyalty, suggesting that warmth- and competence-related evaluations can influence downstream consumer judgments through separate pathways.

The BIAF also documents the emotional and behavioural consequences of different warmth-competence combinations in brand evaluation. Brands perceived as high in both warmth and competence, what Kervyn et al. call "admired" brands, generate the most positive consumer emotions and the strongest commitment and loyalty. Moreover, brands high in competence but low in warmth, such as luxury brands with exclusive and distant personas, tend to generate admiration for their capabilities but may also evoke envy. Additionally, brands perceived as high in warmth but lower in competence, such as organisations that require external support to remain viable, tend to elicit affection and sympathy but less confidence in their ability to perform effectively. These patterns mirror the emotional consequences of warmth-competence combinations in the social perception literature and confirm that the SCM framework transfers meaningfully to brand evaluation contexts.

3.2.2 Warmth-Based Brand Trust

Within the BIAF, brand warmth reflects perceptions of the brand's benevolent intentions: "is the brand trying to help me?" (Kervyn et al., 2012). High brand warmth signals that the brand genuinely cares about consumers and will prioritise their interests when trade-offs arise between efficiency and individual welfare. This type of trust is relational in character. Consumers who perceive a brand as warm do not merely believe the brand can perform; they believe the brand wants to help them, is oriented toward their specific wellbeing, and will act in their individual interest rather than in purely self-serving ways. Kervyn et al. (2012) demonstrate that perceived brand intentions are important predictors of consumer responses, including purchase interest and brand loyalty. In healthcare, where consumers are highly dependent on providers and often unable to directly evaluate service quality, perceptions of benevolent intentions may be particularly important for trust formation. Healthcare exemplifies these conditions: patients cannot easily assess the technical quality of diagnostic or treatment decisions, they are dependent on the provider's commitment to acting in their individual interest, and the consequences of perceived indifference can be severe and irreversible. The BIAF therefore suggests that warmth-based trust may be a particularly strong driver of overall brand trust in healthcare. This reasoning also provides theoretical support for the expectation that warmth-related effects may be especially salient in healthcare contexts. The warmth-to-trust link is expressed in Hypothesis 3.

3.2.3 Competence-Based Brand Trust

Brand competence reflects perceptions of the brand's ability to deliver on its intentions: "can the brand actually help me?" (Kervyn et al., 2012). High brand competence signals that the brand has the knowledge, systems, and operational precision to fulfil what it promises reliably and consistently. This type of trust is capability-based in character. Consumers who perceive a brand as competent trust it not because they believe it cares about them, but because they believe it is genuinely good at what it does and can be relied upon to deliver. Kervyn et al. (2012) show that perceived brand ability is an important predictor of consumer responses, including purchase intentions and loyalty. In contexts where consumers place particular emphasis on performance, reliability, and technical capability, competence perceptions may therefore play a more prominent role in trust formation.

In insurance, the core service function is analytical and performance-based: accurate risk assessment, fair underwriting, efficient claims processing, and reliable delivery of financial protection. These are tasks that align closely with the analytical capabilities that Huang and Rust (2018) identify as a relative strength of AI systems, particularly in data processing,

consistency, and rule-based decision making. An insurance brand that foregrounds AI capabilities in its brand communication is signalling the type of competence that policyholders evaluate most directly when forming trust assessments. The BIAF therefore suggests that competence-based trust will carry relatively greater weight in insurance trust formation than in healthcare, supporting the moderation prediction in Hypothesis 6. The competence-to-trust link is expressed in Hypothesis 4.

3.3 Rationale for Theory Selection and Integration

The two frameworks employed in this study are individually well established and have been validated extensively across disciplines and contexts. The SCM (Fiske et al., 2002) provides the conceptual basis for understanding how consumers evaluate social actors along the dimensions of warmth and competence. The model specifies the nature of these dimensions and explains how different combinations of warmth and competence shape subsequent evaluations and responses. The model specifies the nature of these dimensions and how different combinations of warmth and competence shape evaluations and responses. Research building on the SCM has also identified compensatory patterns whereby distinctly high competence attributions can sometimes be associated with lower warmth perceptions (Judd et al., 2005). The Brands as Intentional Agents Framework (Kervyn et al., 2012) connects those perceptions to brand trust through distinct warmth-based and competence-based mechanisms. It demonstrates that consumers evaluate brands as social actors with intentions and abilities, and that the type of trust generated by warmth perceptions differs qualitatively from the type generated by competence perceptions. Crucially, the BIAF provides the theoretical basis for distinguishing between warmth-based and competence-based pathways in brand evaluation. Building on this framework, the present study proposes that the relative importance of these pathways may differ between healthcare and insurance because consumer dependence and the relative importance of benevolence versus ability differ across the two contexts.

The integration of these two frameworks produces a coherent, multi-level causal chain. Communication framing activates warmth and competence perceptions by emphasising different brand characteristics and cues. Each perception type translates to brand trust through a distinct psychological mechanism. Industry context is expected to influence how consumers respond to communication framing by affecting the relative importance of warmth and competence in evaluations of service providers. This integrated account generates the six specific and falsifiable hypotheses presented in the following section.

3.4 Research Model and Hypotheses

Based on the theoretical integration of the SCM (Fiske et al., 2002) and the BIAF (Kervyn et al., 2012), this study proposes a parallel mediation model with two mediating pathways, as illustrated in Figure 1. The SCM suggests that consumers evaluate social targets along the dimensions of warmth and competence, while the BIAF extends these dimensions to brand evaluation by proposing that consumers perceive brands as intentional agents possessing both intentions and abilities. Together, these frameworks imply that AI-first and human-first brand communication may influence brand trust through two distinct psychological pathways: perceived warmth and perceived competence.

Because warmth and competence are conceptually distinct dimensions with different antecedents and consequences, the potential moderating role of industry context is examined separately for brand trust, perceived warmth, and perceived competence. This structure allows the relative importance of warmth and competence to be assessed independently across healthcare and insurance contexts.

3.4.1 Conceptual Model

Human-first and AI-first brand communications emphasise different aspects of organisational identity and service provision. Human-first communication highlights interpersonal care, empathy, and concern for individual consumers. AI-first communication emphasises automation, algorithms, and data-driven decision making.

Drawing on the SCM, these alternative communication strategies are expected to influence perceptions of warmth and competence differently. Warmth reflects perceived intentions toward others, including benevolence, sincerity, and concern for wellbeing, whereas competence reflects perceived ability, intelligence, efficiency, and effectiveness. Consumers exposed to human-first communication are therefore expected to perceive higher warmth, whereas consumers exposed to AI-first communication are expected to perceive higher competence (Fiske et al., 2002; McKee et al., 2023).

The BIAF extends these perceptions to the brand level by proposing that consumers evaluate brands using the same fundamental dimensions that guide interpersonal perception. Brands perceived as warm are viewed as having positive intentions toward consumers, whereas brands perceived as competent are viewed as capable of delivering desired outcomes. Both dimensions have been shown to influence consumer responses, including purchase interest and loyalty (Kervyn et al., 2012).

Warmth and competence are therefore proposed as parallel mediators between communication framing and brand trust. Consistent with trust research, perceptions of benevolent intentions are expected to strengthen trust because consumers become more willing to accept vulnerability when they believe an organisation acts in their best interests. Likewise, perceptions of competence are expected to strengthen trust because consumers become more confident in the organisation's ability to deliver reliable outcomes (Mayer et al., 1995).

The relative importance of these pathways is expected to differ across industries. In healthcare, consumers are highly dependent on providers and often unable to directly evaluate service quality, increasing the importance of benevolent intentions and interpersonal concern. In insurance, consumers place greater emphasis on reliable performance, risk assessment, and operational effectiveness, increasing the importance of competence-related evaluations. Consequently, the warmth pathway is expected to be stronger in healthcare, whereas the competence pathway is expected to be stronger in insurance.

Because perceptions of warmth are generally important for trust formation and because AI is often perceived as lower in warmth than human actors, human-first communication is expected to generate higher levels of overall brand trust than AI-first communication (Fiske et al., 2002; Kervyn et al., 2012; Mayer et al., 1995).

H1: Human-first brand communication leads to higher brand trust than AI-first brand communication.

Healthcare is a high-vulnerability context because patients engage with providers during illness, acute personal risk, and significant uncertainty. In these moments, trust is built on the belief that the provider has genuine concern for the individual patient (Mechanic & Meyer, 2000; Longoni et al., 2019). Applying the BIAF (Kervyn et al., 2012) to the healthcare context suggests that warmth-based evaluations may be particularly important there, because patients often cannot directly assess the technical quality of diagnostic or treatment decisions and must therefore rely on beliefs about the provider's intentions and commitment to their wellbeing. In addition, the consequences of perceived indifference can be severe and irreversible. Therefore, the positive effect of human-first communication on brand trust is expected to be stronger in healthcare than in insurance, where analytical competence and risk management performance carry relatively greater weight in trust formation (Mayer et al., 1995; Huang & Rust, 2018).

H2: Industry context moderates the relationship between communication framing and brand trust, such that the positive effect of human-first communication on brand trust is stronger in healthcare than in insurance.

Drawing on the SCM (Fiske et al., 2002), communication that emphasises care, empathy, and personal concern is expected to increase warmth perceptions. AI-first communication, by emphasising automation and algorithms, is expected to generate lower warmth perceptions. The BIAF (Kervyn et al., 2012) implies that warmth perceptions promote brand trust through a relational intentionality mechanism: high warmth signals that the brand is oriented toward the consumer's individual interest, generating willingness to depend on the brand. Mayer et al. (1995) identify benevolence as an independent factor of trustworthiness. This hypothesis proposes that the effect of communication framing on brand trust is mediated by perceived warmth: human-first communication increases warmth perceptions, which subsequently increase brand trust.

H3: Human-first communication increases perceived warmth, which in turn positively affects brand trust.

Consumers consistently attribute high analytical competence to AI-based systems while rating human actors more highly on warmth-related dimensions (McKee et al., 2023; Huang & Rust, 2024). According to the SCM (Fiske et al., 2002), competence is associated with perceived capability, efficiency and technical expertise. When a brand emphasises algorithms, automation, and data-drivenness in its communication, such attributes may increase competence perceptions. The BIAF (Kervyn et al., 2012) suggests that competence perceptions contribute positively to brand evaluations because they signal that the brand is capable of delivering desired outcomes reliably and effectively: high competence signals that the brand can deliver on its promises accurately and consistently. Mayer et al. (1995) identify ability as an independent factor of trustworthiness. This hypothesis proposes that the effect of communication framing on brand trust is mediated by perceived competence: AI-first communication increases competence perceptions, which subsequently increase brand trust.

H4: AI-first communication increases perceived competence, which in turn positively affects brand trust.

Healthcare is a service context in which individual concern forms a central basis of evaluation. Mechanic and Meyer (2000) show that patients place considerable importance on perceptions of caring, concern and commitment to their wellbeing. Similarly, Longoni et al. (2019) demonstrate that consumers resist AI in medical contexts even when it is described as technically superior, because AI is perceived as less capable of accounting for individual

needs. Consequently, communication cues that emphasise interpersonal care and concern may be especially important in shaping warmth perceptions in healthcare. Research on the compensation effect further suggests that high competence perceptions can be associated with lower warmth evaluations (Judd et al., 2005). Because AI-first communication emphasises technological capability and analytical performance, it may produce a larger reduction in warmth perceptions in healthcare than in insurance, where consumers place relatively greater emphasis on competence-related considerations.

H5: Industry context moderates the relationship between communication framing and perceived warmth, such that the positive warmth effect of human-first communication is stronger in healthcare than in insurance.

Consumers consistently perceive AI systems as highly capable in analytical and data-processing tasks (McKee et al., 2023; Huang & Rust, 2024). In insurance, many core service functions, including risk assessment, underwriting, fraud detection, and claims processing, are closely associated with these analytical capabilities (Huang & Rust, 2018; KPMG, 2024). Consequently, AI-first communication may create stronger competence perceptions in insurance because the capabilities emphasised by AI-first framing align closely with the functions consumers associate with insurer performance.

In healthcare, consumers often place greater emphasis on interpersonal care, individual attention, and relational qualities when evaluating providers (Mechanic & Meyer, 2000; Longoni et al., 2019). As a result, the competence signals associated with AI-first communication may be less central to overall evaluations, reducing the positive competence effect relative to insurance.

H6: Industry context moderates the relationship between communication framing and perceived competence, such that the positive competence effect of AI-first communication is stronger in insurance than in healthcare.

Figure 1 illustrates the two independent mediation models and the moderation structure.

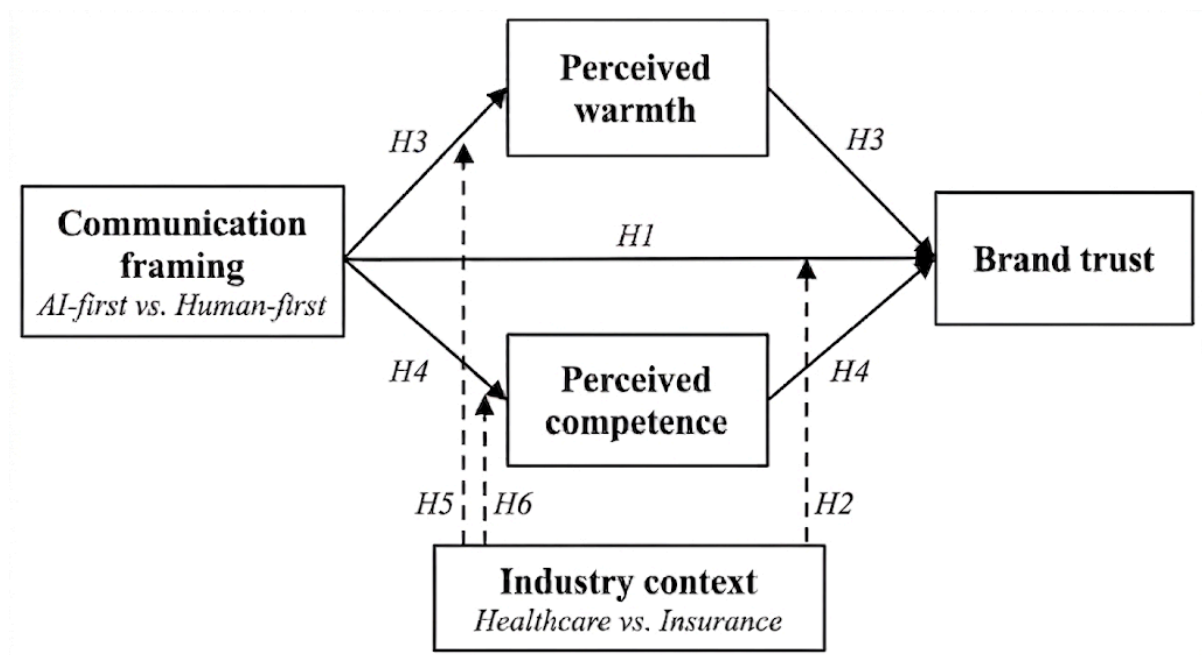


Figure 1: Conceptual Model

4. Methodology

4.1 Research Philosophy

4.1.1 Ontology

This study adopts an internal realist ontological position. Internal realism assumes that reality exists independently of the observer, but that researchers can only access that reality indirectly through measurement and inference (Easterby-Smith et al., 2021). In the context of this study, consumer perceptions of warmth, competence, and trust are real psychological phenomena that exist independently of the researcher, but they can only be accessed through participants' self-reported responses to survey items. This position acknowledges that the constructs under investigation are not directly observable but are inferred from patterns of observed responses.

4.1.2 Epistemology

The epistemological stance of this thesis is positivism. Positivism holds that the world exists externally and that its properties can be measured through objective methods rather than being inferred subjectively through sensation, reflection, or intuition (Easterby-Smith et al., 2021). This study emphasises objectivity and independence: the researchers are independent of what is being studied, and the research design relies on quantitative measurement, experimental control, and statistical inference to test hypotheses derived from theory. The positivist stance aligns with the use of a between-subjects experimental design, standardised measurement scales, and null-hypothesis significance testing.

4.2 Research Approach

This study follows a deductive research approach. A deductive approach begins with existing theory and derives hypotheses that are subsequently tested through empirical investigation (Easterby-Smith et al., 2021). The theoretical framework presented in Chapter 3 generated six specific, falsifiable hypotheses regarding the effects of communication framing on warmth, competence, and trust, and the moderating role of industry context. These hypotheses are tested through a quantitative experimental design involving numerical data and statistical analysis. This approach is appropriate because the study seeks to test theoretically derived causal relationships between variables and to generate findings that may be generalisable beyond the specific sample.

4.3 Research Design

The study employs a quantitative, between-subjects experimental design. A between-subjects structure was chosen over a within-subjects structure to avoid carry-over effects: if a participant were exposed to both AI-first and human-first communication, prior exposure would contaminate subsequent ratings.

The overall design is a 2 (Communication Framing: AI-first vs. Human-first) x 2 (Industry: Healthcare vs. Insurance) factorial structure. This design allows the study to assess the direct effect of communication framing on brand trust (H1), the mediating roles of perceived warmth and perceived competence (H3 and H4), and the moderating role of industry context on both the overall framing-trust relationship and the framing-to-perception pathways (H2, H5, and H6). Participants are randomly assigned to one of four conditions: AI-first healthcare, human-first healthcare, AI-first insurance, or human-first insurance. Each participant sees one stimulus and completes one set of outcome measures.

The study incorporates a pilot study conducted prior to the full data collection. The pilot study used an identical design restricted to the insurance condition (AI-first insurance vs. human-first insurance) and recruited 65 respondents through university networks and personal contacts ($N_{AI} = 31$; $N_{human} = 34$). Its purposes were to validate the stimulus materials, confirm the effectiveness of the manipulation, test the reliability of the measurement instruments, and provide initial evidence on the warmth-mediation pathway. Because the pilot study did not differ in regards to stimuli, measurement instruments, or survey procedure, the pilot observations were retained and incorporated into the final insurance sample. Additional data were subsequently collected to complete the full 2x2 factorial design. The combined dataset constitutes the main study, which forms the basis for hypothesis testing.

4.4 Stimulus Material

In order to eliminate the influence of pre-existing brand attitudes, both industry conditions use fictional brands. The insurance condition features a fictional carrier called Norda Insurance. The healthcare condition features a parallel fictional provider developed specifically for this study, called Norda Health. The use of fictional brands helps minimise the influence of prior brand familiarity and allows differences in responses to be more confidently attributed to the experimental manipulation (Kervyn et al., 2012).

Each participant is shown a realistic mock-up of an "About Us" webpage embedded directly in the survey interface. The webpage is a common vehicle through which organisations present their identity and values to consumers, making it an ecologically valid stimulus for examining strategic brand communication framing. Each brand has two versions of the "About Us" page: an AI-first version and a human-first version. All other elements of the page, layout, colour palette, typography, logo size, and structural organisation, are held constant across conditions so that the only systematic difference is the textual content and the accompanying banner image.

The stimulus texts were developed using a theory-driven lexical approach grounded in the SCM (Fiske et al., 2002) and the BIAF (Kervyn et al., 2012). The AI-first version emphasises competence-related language: references to artificial intelligence, machine-learning models, automated processing, data-driven underwriting, and algorithmic decision-making are used throughout. The human-first version emphasises warmth-related language: care, empathy, honest personal support, long-term relationships, and genuine individual concern are the dominant themes. Both versions are approximately equal in word count and structural organisation to prevent length or complexity from acting as confounds.

The insurance stimuli were initially developed for the pilot study, and were retained unchanged for the full data collection. Its manipulation check results confirm a highly successful framing manipulation ($t(63) = 9.55$, $p < .001$, Cohen's $d = 2.37$). The healthcare stimuli were developed using the same lexical approach and matched to the insurance versions in terms of language register, length, and structural layout.

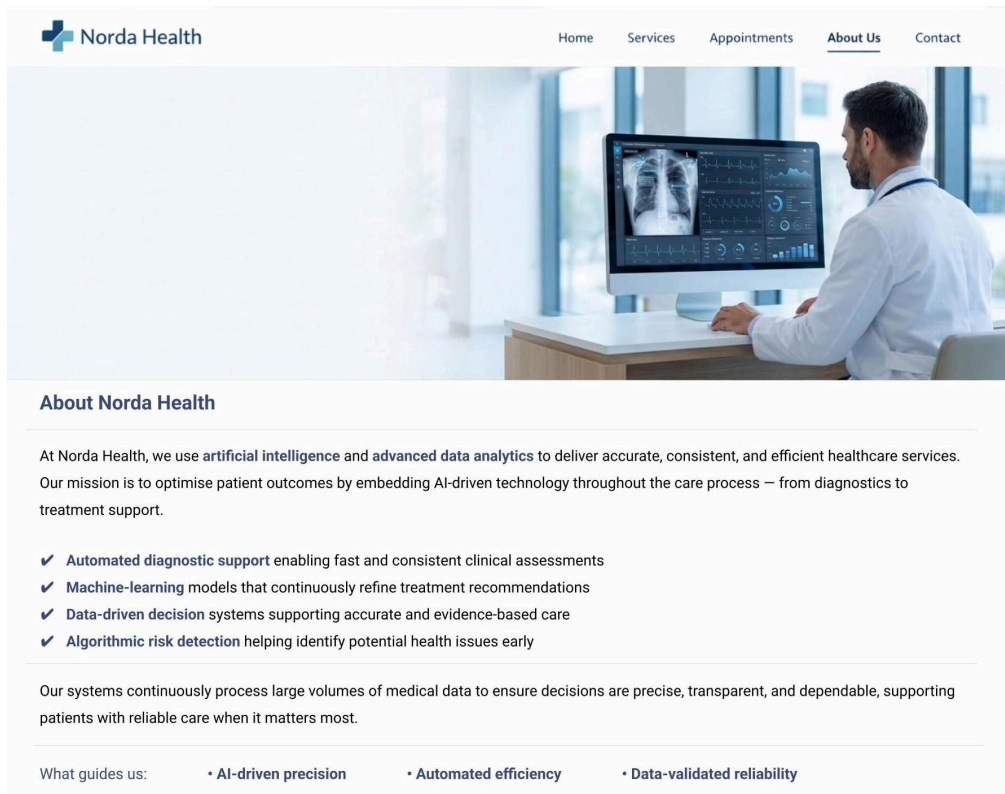


Figure 2: AI-first condition in healthcare

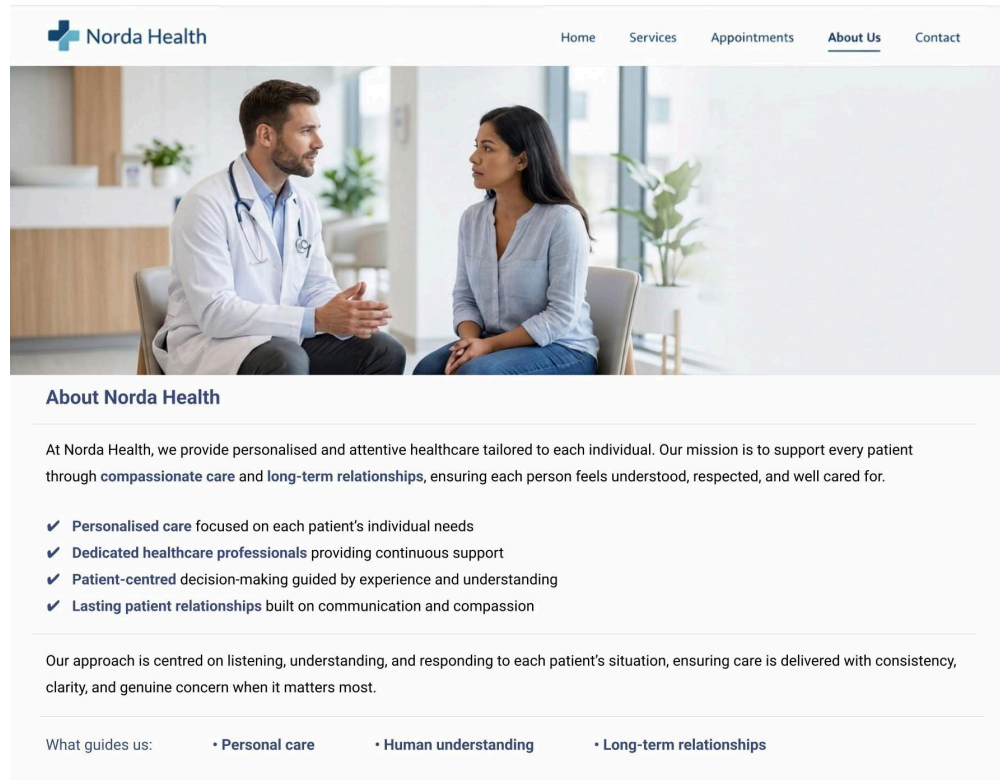


Figure 3: Human-first condition in healthcare

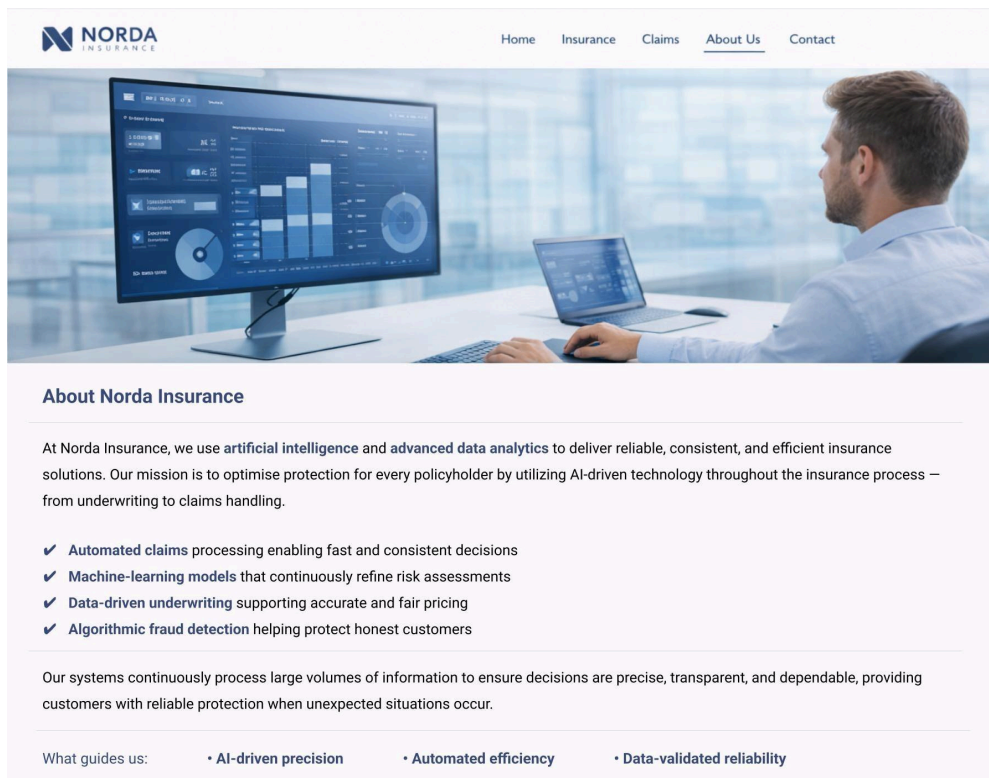


Figure 4: AI-first condition in insurance

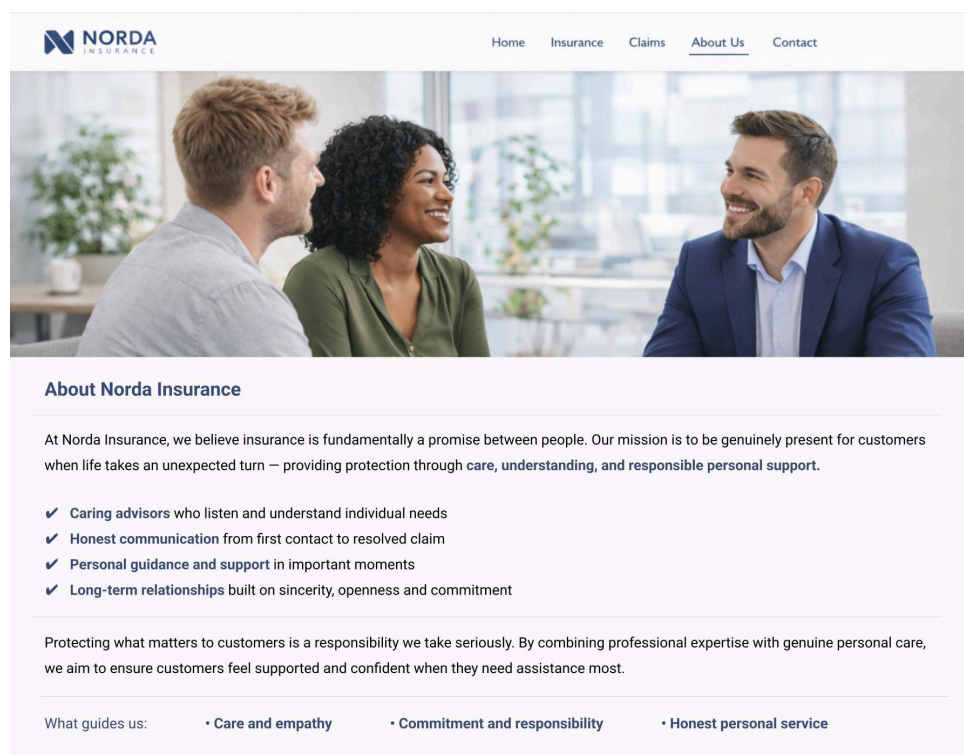


Figure 5: Human-first condition in insurance

4.5 Measurement Instruments

All constructs are measured using established, validated scales adapted from prior research. This approach supports construct validity by grounding the operationalisation in instruments that have demonstrated reliability and discriminant validity in published studies (Easterby-Smith et al., 2021). All items are measured on seven-point Likert scales (1 = Strongly Disagree; 7 = Strongly Agree), with the exception of the manipulation check items, which use seven-point bipolar semantic differential scales. The seven-point format was selected to provide sufficient response variation while maintaining ease of interpretation for respondents. The manipulation check consisted of two bipolar semantic differential items designed to assess whether respondents perceived the communication as more human-oriented or AI-oriented.

Table 1 presents a full operationalisation of all constructs and their measurement items.

Construct	Measurement Items	Source
Manipulation Check (MC)	MC1: Human employees (1) ↔ AI / automation systems (7) MC2: People and personal support (1) ↔ Technology and data-driven systems (7)	Author-developed
Perceived Warmth (W)	W1: This brand has good intentions. W2: This brand cares about customers. W3: This brand seems friendly. W4: This brand seems warm.	Adapted from Fiske et al. (2002); Kervyn et al. (2012)
Perceived Competence (C)	C1: This brand seems competent. C2: This brand seems capable. C3: This brand seems efficient. C4: This brand seems knowledgeable.	Adapted from Fiske et al. (2002); Kervyn et al. (2012)
Brand Trust (BT)	BT1: This brand would be honest and sincere in its explanations. BT2: I could rely on this brand. BT3: This brand gives me confidence.	Adapted from Delgado-Ballester et al. (2003)

	BT4: This brand would not disappoint me.	
Insurance (Healthcare) Familiarity (CV) – Control Variable	CV1: I consider myself knowledgeable about insurance products (healthcare services).	Author-developed

Table 1: Operationalisation of Constructs and Measurement Items

4.6 Data Collection and Sampling

4.6.1 Survey Design and Platform

The survey is administered online. Data are collected through Sunet, a dedicated social science survey platform that supports native randomisation of participants to experimental conditions. The survey is administered in English. All items are displayed on separate pages to avoid context effects between measurement blocks, and all items within each block are presented on a single page to facilitate efficient completion.

The survey proceeds in the following order: (1) informed consent, (2) age eligibility screening; (3) display of the fictional brand webpage stimulus (one of four versions); (4) manipulation check items; (5) perceived warmth items; (6) perceived competence items; (7) brand trust items; (8) industry familiarity control item. The manipulation check was placed immediately after the stimulus and before the outcome measures to verify that participants perceived the intended framing while the stimulus remained salient. The estimated completion time is four to seven minutes.

Step	Content	Format	Items
1	Informed consent	–	–
2	Age eligibility screening (18+)	–	–
3	Webpage stimulus (AI-first or human-first)	Visual mockup	–
4	Block 1: Manipulation check (FPI)	7-pt bipolar semantic differential	2

5	Block 2: Perceived warmth	7-pt Likert scale	4
6	Block 3: Perceived competence	7-pt Likert scale	4
7	Block 4: Perceived brand trust	7-pt Likert scale	4
8	Block 5: Healthcare/Insurance familiarity (control)	7-pt Likert scale	1

Table 2: Survey Flow

4.6.2 Sampling Strategy

This study employs a non-probability sampling strategy combining convenience sampling and, for a portion of the sample, panel-based online recruitment. Convenience sampling, through university networks, social media channels, and personal contacts, is the primary method and is widely used in experimental communication research because it allows efficient recruitment of adults capable of evaluating brand communication materials (Easterby-Smith et al., 2021). The key inclusion criterion is age: participants must be 18 years or older, as confirmed through an eligibility screening question at the outset of the survey.

In order to supplement convenience sampling and increase the diversity of the sample, the study also recruits participants through Prolific, an established academic crowdsourcing platform widely used in experimental consumer research. Prolific allows researchers to recruit participants across age groups and backgrounds who self-select into research participation, providing a more diverse sample than university-network recruitment alone. Participants recruited through Prolific are compensated at a fair hourly rate consistent with Prolific's guidelines.

4.6.3 Sample Size Determination

The target sample size for the main study is 300 participants, corresponding to 75 participants per experimental cell in the 2x2 factorial design (AI-first healthcare, human-first healthcare, AI-first insurance, human-first insurance). This target is grounded in two considerations.

The pilot study demonstrated large effect sizes for the warmth-framing difference (Cohen's $d = 1.09$) and the trust-framing difference (Cohen's $d = 0.85$). However, the sample size target was based on a more conservative assumption of a medium-to-large effect ($f = 0.25$). A standard power analysis for detecting such an effect in a 2x2 ANOVA at $\alpha = .05$ with power = .80 yields a minimum requirement of approximately 52 participants per cell. The target of 75

per cell therefore provides a comfortable power buffer and allows for the reliable detection of moderation effects, which generally require larger samples than main effects.

The final sample includes both newly collected responses and retained observations from the pilot phase for the insurance conditions.

4.7 Data Analysis Plan

The analytical strategy was designed to test each hypothesis using appropriate statistical techniques. All analyses were conducted using Jamovi statistical software. Prior to hypothesis testing, data quality screening, reliability analysis, descriptive statistics, and assumption checks were performed.

4.7.1 Reliability and Preliminary Analyses

Internal consistency reliability was assessed using Cronbach's alpha for all multi-item scales. Descriptive statistics and correlation analyses were also conducted to provide an overview of the relationships between the study variables.

Assumptions underlying the parametric analyses were examined prior to hypothesis testing. These included normality, homogeneity of variance, and independence of observations.

4.7.2 Manipulation Check

To verify that the communication framing manipulation was successful, an independent samples t-test compared the averaged manipulation check scores between the AI-first and human-first conditions. A significant difference, together with a substantial effect size, would indicate that participants perceived the intended distinction between the two framing conditions.

4.7.3 Hypotheses 1 and 2: Effects on Brand Trust

Hypotheses 1 and 2 were tested using a two-way between-subjects analysis of variance (ANOVA) with brand trust as the dependent variable. Communication framing (AI-first vs. human-first) and industry context (healthcare vs. insurance) were entered as fixed factors.

The main effect of communication framing was used to evaluate Hypothesis 1. The interaction effect between communication framing and industry context was used to evaluate Hypothesis 2.

4.7.4 Hypotheses 3 and 4: Mediation Mechanisms

Hypotheses 3 and 4 were tested using the jAMM General Linear Model (GLM) in Jamovi. Communication framing was entered as the independent variable, perceived warmth and perceived competence as parallel mediators, and brand trust as the dependent variable. Industry familiarity was included as a covariate to control for differences in participants' familiarity with the two industries.

The mediation model simultaneously estimated direct, indirect, and total effects. Indirect effects were evaluated using the estimated mediation pathways and their associated confidence intervals. This analysis enabled assessment of whether communication framing influenced brand trust indirectly through perceived warmth and perceived competence.

4.7.5 Hypotheses 5 and 6: Moderation Effects on Warmth and Competence

Hypotheses 5 and 6 were tested using separate two-way between-subjects ANOVAs. For Hypothesis 5, perceived warmth served as the dependent variable. For Hypothesis 6, perceived competence served as the dependent variable. In both models, communication framing and industry context were entered as fixed factors.

The interaction effect between communication framing and industry context was the primary parameter of interest. A significant interaction effect on perceived warmth would support Hypothesis 5, whereas a significant interaction effect on perceived competence would support Hypothesis 6.

4.8 Validity and Reliability

Internal validity is strengthened by the experimental design, random assignment to conditions, and the use of a manipulation check. The between-subjects structure prevents carry-over effects, and the fictional brands eliminate confounding from prior brand attitudes. The placement of the manipulation check immediately after the stimulus helped ensure that participants' perceptions of the communication framing were assessed while the stimulus remained salient.

External validity is necessarily limited by the use of fictional brands and a non-probability sample. The findings may not generalise to real brands with established reputations or to populations outside the sampled demographic. However, the use of fictional brands is common in experimental brand research and is justified by the need to isolate framing effects from prior attitudes (Kervyn et al., 2012).

Construct validity is ensured by using measurement scales that have been validated in prior research and adapted to the present context. The warmth and competence items are derived from the SCM and BIAF literatures, and the trust items are derived from an established brand trust scale (Delgado-Ballester et al., 2003). Face validity was informally assessed during the pilot study, where feedback from participants confirmed that the items appeared to measure the intended constructs in a clear and understandable manner.

Reliability was confirmed through Cronbach's alpha coefficients for all constructs. Values exceeding 0.70 were considered indicative of acceptable internal consistency. In the pilot study, all constructs demonstrated high reliability (perceived warmth: $\alpha = 0.92$; perceived competence: $\alpha = 0.91$; brand trust: $\alpha = 0.93$), supporting the suitability of the instruments for the main study.

5. Results

This chapter presents the empirical findings of the study. It begins with data preparation and reliability checks, followed by descriptive statistics and the manipulation check. The main hypothesis testing results are then reported, and the chapter concludes with a summary of all hypothesis tests.

5.1 Data Preparation and Reliability

A total of 276 responses were recorded spread across the four survey versions (Human x Healthcare: 72, AI x Healthcare: 70, Human x Insurance: 65, AI x Insurance: 69).

For data preparation, responses were screened for quality. Observations failing the manipulation check were defined as cases where participants in the human-first condition scored above the midpoint (>4) or participants in the AI-first condition scored below the midpoint (<4) on the manipulation check items. Excluding these responses resulted in a final sample of 259, which was used for the main analyses. Analyses conducted without excluding midpoint manipulation check responses produced substantively similar results, although the filtered sample was retained to ensure clearer separation between the experimental framing conditions.

As an additional robustness check, a stricter filter was applied, excluding both failed manipulation checks and straightlining responses, defined as responses exhibiting very low variance (standard deviation < 0.5) across the Likert-scale items. This reduced the sample to 213 observations. Results based on this stricter sample were substantively consistent with the main findings, suggesting that the observed effects were robust to alternative filtering procedures.

All survey constructs were measured using seven-point Likert scales (1 = strongly disagree, 7 = strongly agree). Perceived warmth, perceived competence, and brand trust were each measured using four items, which were averaged to create corresponding composite variables.

Internal consistency reliability was assessed with Cronbach's alpha. All constructs demonstrated high reliability, with values exceeding accepted thresholds (perceived warmth: $\alpha = 0.922$, perceived competence: $\alpha = 0.905$, brand trust: $\alpha = 0.926$). These results indicate reliable measurement items that are suitable for further analysis.

5.1.1 Demographic Profile

The final sample of 259 participants was distributed across the four experimental conditions. The demographic composition reflected the combined recruitment channels, with participants from university networks and the Prolific platform. Age verification confirmed that all participants were 18 years or older.

5.2 Descriptive Statistics

Table 3: Descriptive statistics by experimental condition

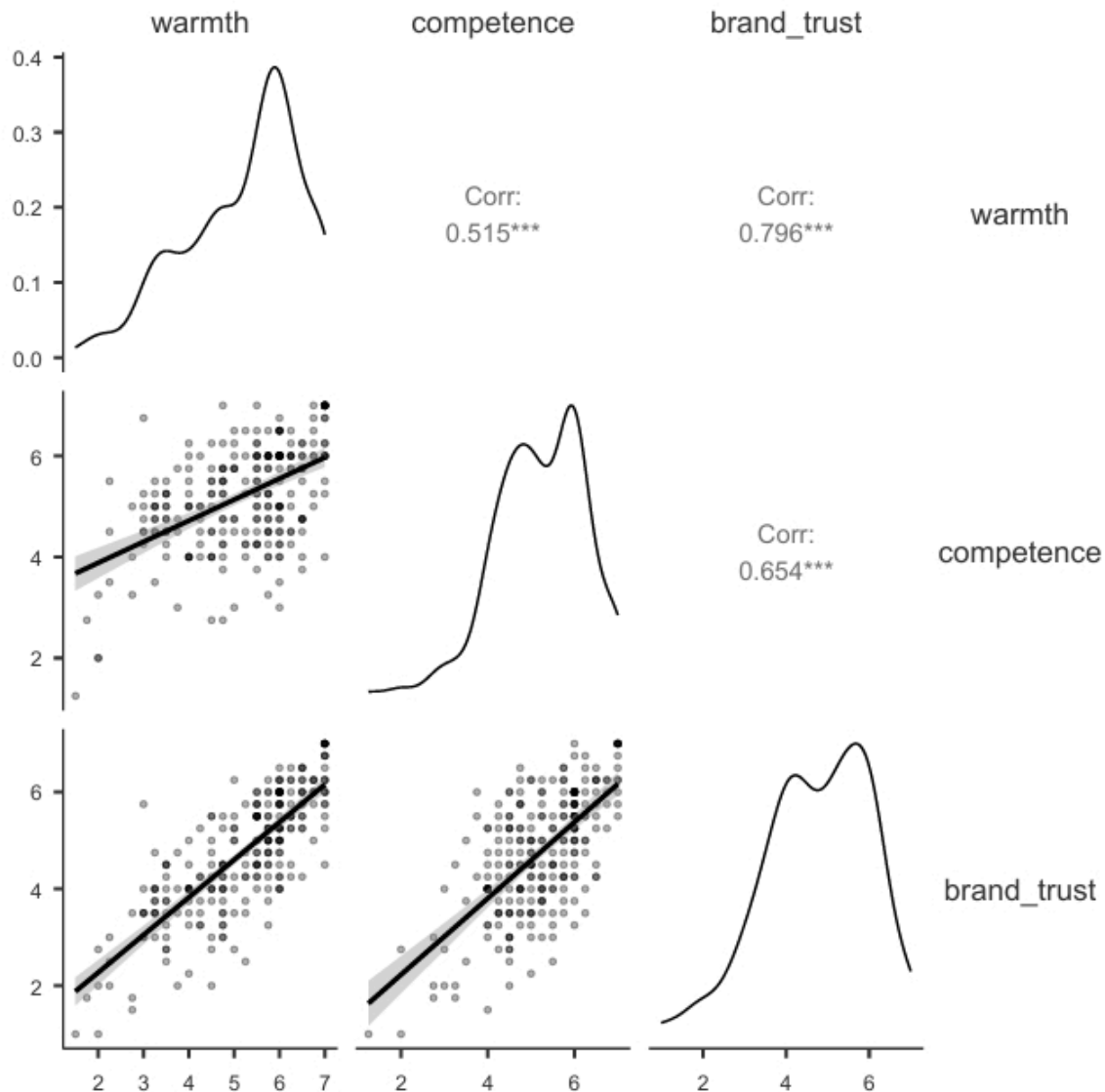
Condition	Warmth (M, SD)	Competence (M, SD)	Brand trust (M, SD)	Industry familiarity (M, SD)	N
AI - Healthcare	4.72 (1.33)	5.37 (1.15)	4.48 (1.37)	4.72 (1.50)	67
AI - Insurance	4.47 (1.36)	5.20 (0.98)	4.17 (1.30)	3.89 (1.60)	65
Human - Healthcare	6.01 (0.72)	5.36 (0.98)	5.35 (0.92)	5.07 (1.38)	69
Human - Insurance	5.66 (0.87)	4.92 (0.97)	5.07 (0.97)	3.76 (1.71)	58

Note. M = mean; SD = standard deviation.

Descriptive statistics for the main variables across the experimental conditions are presented in Table 3. Regardless of industry, participants in the human-first conditions showed higher levels of perceived warmth and brand trust as opposed to those in the AI-first conditions. AI-first conditions showed slightly higher levels of perceived competence, although differences in perceived competence were small, with only small variations observed between the AI-first and human-first conditions. Industry familiarity was generally higher in healthcare than in insurance.

5.2.1 Correlation Analysis

Figure 6: Correlation Matrix and Distribution Plots for the Main Study Variables



Note: Diagonal plots display variable distributions. Scatterplots and Pearson's r correlations are shown for each variable pair. * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 6 displays the correlations between the main study variables. Both perceived warmth and perceived competence are positively correlated with brand trust. Warmth showed the strongest relationship with brand trust ($r = .796$, $p < .001$), whereas competence also showed a substantial positive relationship ($r = .654$, $p < .001$). Additionally, warmth and competence were moderately positively correlated with each other ($r = .515$, $p < .001$).

5.3 Manipulation Check

To verify that the communication framing manipulation was successful, an independent sample t-test was conducted, comparing the framing perception scores between the human-first and AI-first conditions. The two items from the survey were averaged into a composite manipulation check variable.

The results present highly significant differences between conditions, $t(257) = 45.20$, $p < .001$, with participants in the AI-first condition perceiving communication as significantly more AI-focused ($M = 6.29$, $SD = 0.84$) than participants in the human-first condition ($M = 1.56$, $SD = 0.85$). The effect size was very large (Cohen's $d = 5.62$).

These findings confirm that the manipulation check worked as intended.

5.4 Hypothesis Testing

5.4.1 Assumption Checks for Parametric Tests

Prior to conducting the two-way ANOVAs and regression analyses, the assumptions underlying parametric tests were examined. Normality of the dependent variables was assessed using the Shapiro-Wilk test and visual inspection of Q-Q plots. While the Shapiro-Wilk test was significant for some variables ($p < .05$), indicating deviation from perfect normality, the Q-Q plots showed only minor deviations at the tails. Given the sample size ($N = 259$), the central limit theorem supports the robustness of parametric tests to modest violations of normality.

Homogeneity of variance was assessed using Levene's test. For brand trust, Levene's test was significant ($F(3, 255) = 4.77$, $p = .003$), indicating unequal variances across groups. For perceived warmth, Levene's test was also significant ($F(3, 255) = 14.30$, $p < .001$). For perceived competence, however, Levene's test was non-significant ($F(3, 255) = 0.18$, $p = .909$), indicating that the assumption of homogeneity of variance was satisfied. Despite the violations observed for brand trust and warmth, the ANOVA results were considered sufficiently robust because the group sizes were relatively balanced across conditions and visual inspection of the Q-Q plots indicated no severe departures from normality.

Independence of observations was ensured by the between-subjects experimental design, in which each participant was randomly assigned to only one experimental condition and completed the survey independently. Multicollinearity was assessed in the regression models

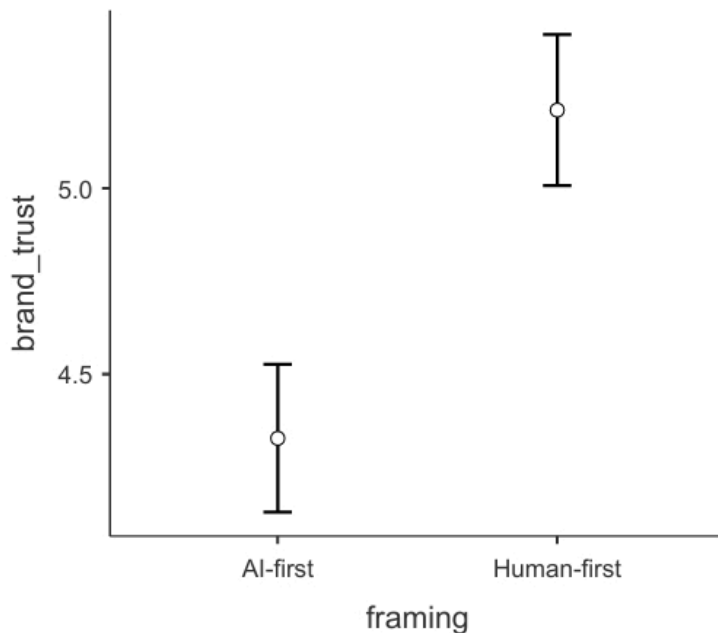
using Variance Inflation Factor (VIF) values. All VIF values were below 2.0, well below the conventional threshold of 5.0, indicating that multicollinearity was not a concern.

5.4.2 Effects on Brand Trust (H1 & H2)

A two-way ANOVA was used in order to evaluate the effects of framing and industry context on brand trust. The results show a significant main effect of communication framing, $F(1, 255) = 37.37$, $p < .001$, $\eta^2 = .128$, implying that brand trust differs between human-first and AI-first communication. Overall, participants exposed to human-first communication reported higher levels of brand trust ($M = 5.21$, $SE = 0.10$) compared to those exposed to AI-first communication ($M = 4.33$, $SE = 0.10$). Post hoc comparisons with Tukey correction further confirmed that participants of the human-first communication reported significantly higher brand trust than those exposed to the AI-first version ($p_{\text{Tukey}} < .001$, Cohen's $d = 0.76$), indicating a moderate-to-large effect size.

Figure 7 illustrates the estimated marginal means for brand trust across the communication framing conditions.

Figure 7: Brand Trust Across Communication Framing Conditions



Note. Error bars represent 95% confidence intervals.

Additionally, a significant main effect of industry context was observed, $F(1, 255) = 4.18$, $p = .042$, $\eta^2 = .016$, indicating that brand trust differs between the healthcare and insurance

industries. Participants exposed to the healthcare context reported slightly higher brand trust levels than those exposed to the insurance context.

However, the interaction effect between communication framing and industry context was not significant, $F(1, 255) = 0.01$, $p = .929$, suggesting that the effect of communication framing does not differ across these industries.

Overall, these findings support Hypothesis 1, whereas Hypothesis 2 is not supported.

5.4.3 Mediation Mechanisms (H3 & H4)

A mediation analysis was conducted using the jAMM General Linear Model (GLM) in Jamovi to examine whether perceived warmth and perceived competence mediated the relationship between communication framing and brand trust. Communication framing was entered as the independent variable, perceived warmth and perceived competence as parallel mediators, brand trust as the dependent variable, and prior industry familiarity as a covariate. The results are summarized in Table 4.

Table 4: Mediation Effects of Communication Framing on Brand Trust

Effect	Estimate	SE	p
Framing → Warmth	1.227	0.132	< .001
Warmth → Brand trust	0.501	0.046	< .001
Indirect effect via Warmth	0.614	0.087	< .001
Framing → Competence	-0.154	0.123	.211
Competence → Brand trust	0.433	0.050	< .001
Indirect effect via Competence	-0.067	0.054	.216
Direct effect of Framing on Brand trust	0.300	0.100	.003
Total effect of Framing on Brand trust	0.848	0.133	< .001

Note. Communication framing was coded as 0 = AI-first and 1 = human-first. Prior industry familiarity was included as a control variable.

The mediation analysis showed a significant indirect effect of communication framing on brand trust through perceived warmth ($b = 0.614$, $p < .001$). Human-first communication significantly increased warmth perceptions, which in turn positively influenced brand trust. These findings support Hypothesis 3 and indicate a significant indirect effect of communication framing on brand trust through perceived warmth.

In contrast, the indirect effect through perceived competence was non-significant ($b = -0.067$, $p = .216$). Communication framing did not significantly predict competence perceptions, although competence itself positively predicted brand trust. Therefore, Hypothesis 4 was not supported.

The direct effect of communication framing on brand trust remained significant after including the mediators ($b = 0.300$, $p = .003$), suggesting that communication framing continued to exert an independent effect on brand trust beyond the indirect effect through warmth.

Prior industry familiarity also showed a significant positive relationship with both mediators and brand trust, indicating that greater familiarity with the industry context was associated with more positive evaluations overall.

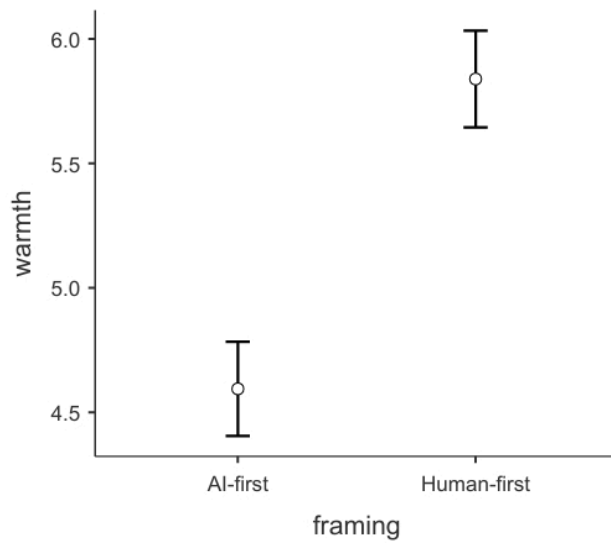
5.4.4 Moderation Effects on Warmth and Competence (H5 & H6)

Two additional two-way ANOVAs were conducted to explore whether industry context moderates the effects of communication framing on perceived warmth and perceived competence.

Regarding perceived warmth, the interaction effect between communication framing and industry context was non-significant, $F(1, 255) = 0.11$, $p = .738$, suggesting that the positive effect of human-first communication on perceived warmth does not differ significantly between the healthcare and insurance industries. Communication framing alone had a significant main effect, $F(1, 255) = 81.56$, $p < .001$, $\eta^2 = .242$, indicating that human-first communication overall generated higher warmth perceptions, independently of industry context. Post hoc comparisons using Tukey correction reinforced the significantly higher warmth perceptions in the human-first condition as opposed to the AI-first condition ($p_{\text{Tukey}} < .001$, Cohen's $d = 1.12$), implying a large effect size.

Figure 8 illustrates the estimated marginal means for perceived warmth across the communication framing conditions.

Figure 8: Perceived Warmth Across Communication Framing Conditions



Note. Error bars represent 95% confidence intervals.

Similarly, there was no significant interaction effect between communication framing and industry context in relation to perceived competence, $F(1, 255) = 1.23$, $p = .269$, suggesting that the industry context did not moderate perceived competence across the framing conditions. Additionally, the main effect of communication framing on perceived competence was not significant, $F(1, 255) = 1.28$, $p = .258$. Post hoc comparisons further did not reveal any significant difference in competence perceptions between framing conditions ($p_{\text{Tukey}} = .258$, Cohen's $d = 0.14$).

Neither Hypothesis 5 nor Hypothesis 6 were supported by these findings.

5.5 Summary of Hypothesis Testing

Table 5: Summary of hypothesis testing

Hypothesis	Description	Result
H1	Human-first communication increases brand trust	Supported
H2	Industry context moderates the effect of framing on brand trust	Not supported
H3	Warmth mediates the relationship between framing and brand trust	Supported
H4	Competence mediates the relationship between framing and brand trust	Not supported
H5	Industry context moderates the effect of framing on warmth	Not supported
H6	Industry context moderates the effect of framing on competence	Not supported

6. Discussion

6.1 Introduction

This study examines how AI-first versus human-first brand communication influences perceived warmth, perceived competence, and brand trust, and whether these effects differ between healthcare and insurance contexts. The findings provide several important insights that both align with and challenge the theoretical predictions derived from the SCM (Fiske et al., 2002) and the BIAF (Kervyn et al., 2012). This chapter interprets the results in light of existing theory and empirical literature, discusses why certain hypotheses were supported while others were not, and addresses the broader implications of the observed patterns for understanding consumer responses to AI in brand communication.

6.2 The Main Effect of Communication Framing on Brand Trust

Hypothesis 1 was supported: human-first brand communication generated significantly higher brand trust than AI-first brand communication. This main effect was robust and consistent across both industries. The finding aligns closely with the theoretical prediction derived from the SCM and BIAF, suggesting that the activation of warmth cues through human-first framing generates a direct positive effect on overall brand trust (Fiske et al., 2002; Kervyn et al., 2012).

This result extends prior research on the "warmth gap" in AI perception (Huang and Rust, 2024; McKee et al., 2023) by demonstrating that the gap extends to brand-level communication contexts. Consumers appear to apply the same warmth and competence stereotypes to brand communication that they apply to AI systems themselves, suggesting that organisational choices about how to frame AI involvement carry significant relational consequences. Even in the absence of actual service interaction, merely reading an "About Us" text that foregrounds algorithms and automation is sufficient to reduce trust relative to a text emphasizing human care and empathy.

The consistency of this effect across healthcare and insurance is noteworthy. It suggests that the warmth deficit associated with AI-first framing is not limited to high-vulnerability contexts but represents a generalised consumer response to AI-centred brand identity. This finding is consistent with Longoni et al. (2019), who showed that consumers resist AI in medical contexts even when it is described as technically superior. Together, these studies

suggest that consumers may perceive AI as less aligned with the relational qualities that underpin trust, even when its technical capabilities are viewed positively.

The primacy of warmth over competence in first impressions is well-established in social perception research (Abele & Wojciszke, 2007), and this tendency replicates in brand communication contexts. Andrei et al. (2017) found that brand-launching communications that emphasised warmth before competence generated more positive brand perceptions and greater word-of-mouth propensity than the reverse sequence. Their findings further suggest that warmth perceptions play an important role in shaping consumers' initial evaluations of new brands.

From a theoretical perspective, this finding extends the SCM literature by demonstrating that warmth and competence stereotypes are activated not only through encounters with AI systems, but also by the linguistic framing of brand identity materials. The SCM has been applied extensively to social groups, organisations, and consumer brands, but its application to AI-centred versus human-centred brand communication represents a novel extension. The results suggest that the cognitive mechanisms underlying stereotype activation are responsive to subtle variations in language and that brand managers can strategically activate or suppress warmth perceptions through careful selection of communication frames.

As AI-related communication becomes increasingly widespread, technological capability may become less distinctive as a source of competitive differentiation. In such a context, warmth-related cues may remain important for trust formation and brand differentiation.

6.3 The Mediating Role of Perceived Warmth

Hypothesis 3 was supported: human-first communication increased perceived warmth, which in turn positively affected brand trust. The mediation analysis revealed a significant indirect effect of communication framing on brand trust through perceived warmth. Human-first communication significantly increased warmth perceptions, which in turn positively predicted brand trust. This confirms the theoretical proposition that warmth serves as a key psychological mechanism through which communication framing translates into consumer trust.

This finding is consistent with the SCM's claim that warmth is evaluated first and carries greater weight in trust-relevant responses than competence (Fiske et al., 2002). It also aligns with the BIAF's prediction that warmth-based brand trust generates particularly strong effects on consumer commitment in service contexts characterised by high dependence and limited

ability to verify provider behaviour (Kervyn et al., 2012). The result suggests that when brands communicate in human-first terms, they activate perceptions of benevolent intentionality that directly address consumers' need to feel cared for, generating willingness to depend on the brand even in the absence of demonstrated capability.

The warmth pathway emerged more clearly than the competence pathway. Both the SCM and BIAF suggest that trustworthiness is more tightly linked to warmth than competence, as warmth-related evaluations are closely associated with perceptions of benevolence, sincerity and friendliness. The findings also align with prior studies showing that AI is often perceived as competent but emotionally distant (McKee et al., 2023; Fiske et al., 2002). Consumers may therefore associate AI-centered communication more strongly with efficiency than empathy, reinforcing the “warmth gap” identified by Huang and Rust (2024). Perceived warmth emerged as the stronger mechanism through which communication framing influenced brand trust. This asymmetry mirrors broader findings in the social perception literature. Warmth judgments are often especially important in trust-related evaluations, while competence and warmth can exhibit a compensatory relationship, such that strong competence attributions may be accompanied by lower warmth perceptions (Judd et al., 2005). For brand managers, this implies that leading with warmth cues in brand communication may be more effective for building trust than leading with competence cues, even in industries where technical capability is highly valued.

The practical implications of this finding are substantial. In an era where organisations across industries are racing to adopt and publicly communicate their AI capabilities, this study suggests that the rhetorical strategy used to present AI involvement matters profoundly for consumer trust. Brands that foreground algorithms, automation, and data-driven processes may inadvertently trigger the “cold” mental representation of AI, undermining the relational foundations of trust. Conversely, brands that embed technological claims within a broader narrative of human care, individual attention, and empathetic service may preserve warmth perceptions while still signalling technological sophistication. This insight has direct application for marketing communication teams responsible for crafting “About Us” pages, brand manifestos, and public-facing identity materials.

6.4 The Non-Significant Competence Mediation

Hypothesis 4 was not supported: AI-first communication did not significantly increase perceived competence, and consequently, the competence-mediated pathway to brand trust was not established. The mediation analysis showed that communication framing did not significantly predict competence perceptions. This unexpected finding suggests that, in the

context of brand communication, as opposed to actual service delivery, simply highlighting AI capabilities in an "About Us" text may not be sufficient to elevate competence perceptions beyond baseline levels.

Several explanations for this null finding can be advanced. First, competence perceptions may require more concrete and credible signals than abstract references to algorithms and automation. In actual service encounters, consumers can infer competence from demonstrated performance, accurate diagnoses, efficient claims processing, and reliable outcomes. In brand communication, by contrast, competence claims are essentially promises that consumers cannot immediately verify. Consistent with the BIAF (Kervyn et al., 2012), competence perceptions are likely to depend on consumers' assessments of a brand's ability to achieve its goals. In the absence of concrete evidence, abstract references to AI may provide insufficient information for consumers to infer superior capability.

Second, the use of fictional brands may have attenuated the competence-signalling effect. Real brands with established reputations can draw on prior performance records and brand equity to support competence claims. Fictional brands, lacking any track record, may not benefit from the same credibility transfer. Consumers may have treated the AI-first claims with scepticism precisely because the brand had no demonstrated history of delivering on such promises. This interpretation is consistent with research showing that brand trust is partly built on cumulative experience and reputation (Mayer et al., 1995), both of which fictional brands inherently lack.

A further explanation is that competence may be inherently more difficult to manipulate through brief communication stimuli than warmth. Warmth judgments are often formed rapidly from cues regarding intentions and benevolence, whereas competence judgments require information about ability, expertise, and demonstrated performance. Consequently, a short "About Us" text may be sufficient to alter perceptions of warmth but insufficient to meaningfully change competence evaluations.

Another explanation is that consumers increasingly perceive AI capability as an expected baseline rather than a distinctive competitive advantage. As AI adoption becomes more widespread across industries, references to automation and machine learning may no longer meaningfully elevate competence perceptions.

6.5 The Absence of Industry Moderation Effects

Beyond the direct and mediated effects of communication framing, the study also examined whether industry context would affect these relationships. Hypotheses 2, 5, and 6 were not

supported: industry context did not significantly moderate any of the relationships between communication framing and the outcome variables (warmth, competence, or brand trust). The interaction effects were all non-significant, suggesting that the effects of AI-first versus human-first brand communication are broadly similar across healthcare and insurance contexts. These findings were unexpected given the theoretical predictions that industry context would strengthen the positive effect of human-first communication on brand trust and warmth in healthcare, and strengthen the competence effect of AI-first communication in insurance.

Several factors may explain the absence of moderation effects. First, brand communication may operate at a relatively general level of consumer evaluation, where warmth and competence cues influence trust perceptions across different service contexts. However, the absence of significant moderation effects in the present study should not be interpreted as conclusive evidence that industry context is irrelevant for AI-first versus human-first communication. While healthcare and insurance differ in their core service functions, consumers may apply a uniform heuristic when evaluating brand identity texts: warmth cues signal good intentions, competence cues signal capability, and the present findings suggest that communication content may have exerted a stronger influence on trust perceptions than the industry manipulation.

Prior research nevertheless suggests that the relative importance of warmth and competence may vary across contexts (Cortes et al., 2024), indicating that industry-specific boundary conditions may still exist despite the non-significant moderation effects observed in this study.

The use of fictional brands may also have attenuated the salience of industry-specific expectations. When participants evaluate a fictional brand called "Norda Health" or "Norda Insurance," they cannot draw on prior experiences with real healthcare or insurance providers to calibrate their expectations. Without these experiential anchors, the industry manipulation may have functioned primarily as a semantic label rather than as a fully activated contextual schema. Future research could employ real brand names or describe specific service scenarios to increase contextual involvement and test whether industry differences emerge under conditions of higher personal relevance. Industry-specific differences may therefore still emerge under conditions of stronger contextual activation, alternative industry comparisons, or more immersive service scenarios than those employed in the present study.

Additionally, an unanticipated main effect of industry context complicated the interpretation of the moderation hypotheses. Participants in the healthcare condition reported higher brand

trust, higher perceived warmth, and higher perceived competence than those in the insurance condition, regardless of communication framing. This suggests that consumers may hold more favourable baseline perceptions of healthcare providers than insurance companies, independent of how each brand communicates. Prior research has shown that trust and perceptions of benevolent intentions are central to healthcare relationships (Mechanic & Meyer, 2000; Longoni et al., 2019). These pre-existing attitudes may have influenced responses to the stimuli and reduced the likelihood of observing interaction effects.

The compensation mechanism proposed by Judd et al. (2005) may also have operated differently than hypothesised across industries. In healthcare, where warmth is dominant, the suppression of warmth by AI-first framing may have been so severe that it masked any potential competence gain. In insurance, where competence is theoretically more valued, the negative warmth signal may have been equally damaging, preventing consumers from appreciating the competence cues. Thus, rather than industry context moderating the competence effect of AI-first framing, the warmth deficit may have been universally damaging across both sectors.

6.6 Unexpected Findings: Industry Main Effects and Polarisation

The finding that healthcare generated higher competence perceptions than insurance, despite theoretical predictions to the contrary, merits separate discussion. Healthcare brands were perceived as more competent, warmer, and more trustworthy than insurance brands across both framing conditions. This pattern suggests that the two industries selected for this study may have been more polarised in consumer sentiment than anticipated.

One explanation is that healthcare is associated with advanced technology, scientific rigour, and life-saving capability, all of which signal high competence. Consumers may view medical diagnostics, pharmaceutical research, and clinical expertise as inherently sophisticated and intellectually demanding, whereas insurance underwriting and claims processing may be perceived as more routine or even predatory administrative functions. The negative public perception of insurance companies, fuelled by media coverage of claim disputes, premium increases, and perceived unfairness, may have depressed competence ratings for insurance regardless of AI framing.

Another explanation relates to the sample composition. Data collected through Prolific included participants from multiple countries, and cultural attitudes toward healthcare and insurance may have varied systematically. In countries with nationalised healthcare systems,

for example, healthcare providers may be viewed as public servants with high integrity, whereas insurance companies may be viewed as commercial entities motivated by profit. These cultural priors could have amplified the industry main effects and suppressed the framing interactions.

6.7 Summary

Overall, the findings provide strong support for the warmth-mediated pathway from communication framing to brand trust, while challenging assumptions regarding competence signalling and industry moderation. Human-first communication consistently generated higher trust across both industries, suggesting that warmth remains central to trust formation even in increasingly AI-driven contexts. At the same time, the findings indicate that competence may be more difficult to signal through brand communication alone, particularly when AI capability is increasingly perceived as a baseline expectation.

7. Conclusion

This final chapter consolidates the key findings of the study and situates them within the broader landscape of AI marketing research. It begins by addressing each research aim and objective, then outlines the theoretical contributions, managerial implications, limitations, and directions for future research. The chapter concludes with final reflections on the significance of the study.

7.1 Research Aims and Objectives

The aim of this study was to investigate how the choice to frame brand communication as AI-first or human-first shapes consumer perceptions of warmth and competence and, through these perceptions, brand trust, and to examine whether these effects differ between healthcare and insurance service contexts. The specific objectives were to develop and test a dual-mediation model, to test industry moderation effects, to contribute to the literature on AI in marketing, and to generate practical insights for brand managers.

The first objective was achieved: the study successfully developed and tested a dual-mediation model in which communication framing influences brand trust through two independent pathways. The results demonstrated a significant indirect effect through perceived warmth, while the competence-mediation pathway was not supported. This asymmetric pattern provides a nuanced understanding of how brand communication framing translates into consumer trust and highlights the primacy of warmth in trust formation.

The second objective was not achieved: industry context did not significantly moderate the relationships examined in the conceptual model. The hypothesised interaction effects on brand trust, perceived warmth, and perceived competence were not supported. While this finding challenges the theoretical prediction that healthcare and insurance would differentially weight warmth and competence, it nonetheless contributes valuable knowledge about the boundary conditions of context-specific trust formation. The absence of moderation suggests that brand communication operates through a generalised warmth-competence heuristic that may be less sensitive to industry labels than previously assumed.

The third objective was achieved: the study contributes to the emerging literature on AI in marketing by applying the SCM and the Brands as Intentional Agents Framework to the domain of brand identity communication. This represents a novel extension of these well-established theories and demonstrates their explanatory power in a new context.

The fourth objective was achieved: the study generates actionable insights for brand managers navigating the AI transformation of service industries. The finding that human-first communication consistently generates higher trust across both healthcare and insurance provides a clear strategic direction for brand communication strategy.

7.2 Theoretical Implications

This study makes several contributions to the literature on AI in marketing and brand communication. First, it extends the application of the SCM (Fiske et al., 2002) and the Brands as Intentional Agents Framework (Kervyn et al., 2012) to the domain of strategic brand communication, demonstrating that communication framing choices systematically activate warmth and competence perceptions, which in turn shape brand trust. While prior research has applied these frameworks to social groups, organisations, and brands as static objects, this study shows that they also explain dynamic responses to manipulated brand identity texts.

The asymmetric mediation pattern further contributes to theoretical understanding of warmth-competence dynamics. Warmth significantly mediated the relationship between communication framing and brand trust, whereas competence did not, and a significant direct effect of framing on brand trust remained after both mediators were controlled. This residual direct effect suggests that communication framing carries trust-relevant meaning beyond its capacity to alter warmth or competence perceptions. One theoretical account is that AI-first framing activates a broader identity schema, consumers may infer something about organisational values and priorities from framing choices that is not fully reducible to warmth or competence attributions. This interpretation is consistent with Mayer et al.'s (1995) three-factor model of trustworthiness, which identifies integrity, the perception that a trustee adheres to acceptable principles, as a dimension independent of both benevolence and ability. Future research should examine whether integrity perceptions mediate part of the residual direct effect, potentially extending the theoretical model to a triple-mediation structure.

Second, the study contributes to the emerging literature on AI-mediated communication by showing that the "warmth gap" documented in prior research (Huang and Rust, 2024; McKee et al., 2023) extends to brand-level communication contexts. Consumers appear to apply the same warmth and competence stereotypes to brand communication that they apply to AI systems themselves, suggesting that organisational choices about how to frame AI involvement carry significant relational consequences. More broadly, the findings are consistent with Framing Theory (Entman, 1993), which argues that communication influences evaluations by making particular attributes more salient. In the present study,

AI-first communication increased the salience of competence-related cues, whereas human-first communication increased the salience of warmth-related cues.

The finding that industry context did not moderate the effects of communication framing raises important theoretical questions about the boundary conditions of context-specific trust formation. It may be that brand communication operates at a more general level of consumer evaluation, where the fundamental warmth-competence trade-off transcends industry-specific differences in trust criteria. Alternatively, the use of fictional brands may have attenuated the salience of industry-specific expectations. Either interpretation suggests that the BIAF's predictions about context-dependent warmth and competence weighting require further qualification and that the framework may need to account for baseline industry sentiment as a separate influence.

The unexpected industry main effects, healthcare generating systematically higher warmth, competence, and brand trust than insurance across all conditions, represent a theoretically meaningful finding in their own right. The SCM proposes that social actors are evaluated along warmth and competence dimensions partly as a function of perceived competition and perceived status (Fiske et al., 2002). Applied to industry categories, healthcare providers may occupy a high-warmth, high-competence position in consumer social cognition because they are associated with life-critical expertise and benevolent service missions, while insurance companies may occupy a lower-warmth position because they are associated with commercial risk management and perceived adversarial interests at the moment of claims. This suggests that industry-level SCM stereotypes function as a baseline from which communication framing effects operate, rather than as a moderator of those effects. The BIAF does not formally account for pre-existing category-level warmth and competence priors, and the present findings suggest that incorporating baseline industry stereotypes as a boundary condition would strengthen the framework's predictive precision. This interpretation is broadly consistent with SCM research showing that social categories are associated with characteristic warmth and competence perceptions (Cuddy et al., 2008).

The non-significant effect of AI-first framing on competence perceptions also challenges the assumption that competence can be signalled through brand communication alone. The findings suggest that competence claims may require tangible confirmations, such as performance data or demonstrated outcomes, to influence consumer trust.

Furthermore, the non-significant moderation effects and the systematic review by Cortes et al. (2024) highlight the need for further theoretical refinement regarding boundary conditions. While the primacy of warmth is robust, the relative diagnosticity of warmth versus

competence varies across consumer contexts, and the BIAF may need to account for how cultural values, industry characteristics, and brand maturity interact with communication framing to shape trust formation.

7.3 Managerial Implications

The findings carry important implications for brand managers in healthcare, insurance, and other service industries considering how to communicate AI involvement to consumers.

First, the consistent positive effect of human-first communication on brand trust suggests that organisations should carefully consider the balance between highlighting technological capabilities and emphasising human-centric values in their brand communication. Even in industries where AI competence is technically relevant, leading with warmth cues may generate stronger consumer trust than leading with technological sophistication. This does not mean that organisations should hide their AI investments; rather, they should frame them within a broader narrative of human care and individual attention. This reframing preserves the competence signal while embedding it within a warmth-oriented narrative. As AI communication becomes increasingly widespread, consumers may also become desensitised to AI-focused messaging. In this context, human-first communication may function as a stronger differentiator by offering a more relational and emotionally engaging alternative to increasingly standardised AI-centric brand narratives.

Second, the finding that competence perceptions were not significantly elevated by AI-first framing suggests that brand communication alone may not be sufficient to signal analytical capability. Organisations wishing to build competence-based trust may need to complement brand-level communication with tangible demonstrations of AI performance, such as accuracy statistics, efficiency metrics, third-party validations, or transparent reporting on AI outcomes. Without such evidence, competence claims in "About Us" texts risk being perceived as empty marketing rhetoric. Brand managers should consider integrating performance dashboards, certification badges, and customer success metrics into their digital presence to substantiate competence claims.

Third, the absence of significant industry moderation effects suggests that human-first brand communication may represent an effective strategy across multiple service contexts, although further research is needed to determine how industry-specific conditions shape these effects. This simplifies strategic decision-making for multi-industry organisations, as a consistent human-first brand identity may be effective across diverse service portfolios. The consistently higher warmth and trust perceptions observed in the healthcare conditions further suggest that

baseline industry sentiment may shape consumer evaluations independently of communication framing. Insurance brands may therefore face stronger initial trust barriers than healthcare brands, requiring broader trust-building efforts beyond communication strategy alone. Insurance brand managers, in particular, face a challenging trust environment and may need to invest in broader reputation management initiatives.

Fourth, the unexpected finding that healthcare brands were perceived as more competent than insurance brands suggests that industry stereotypes can override communication strategies. Insurance brand managers face a particularly challenging trust environment and may need to invest in broader reputation management, transparency initiatives, customer advocacy programmes, and fairness guarantees, before competence claims can be credibly received. This finding also suggests that brand communication cannot fully overcome deeply held industry stereotypes and that structural changes to business practices may be necessary to shift consumer perceptions.

The practical implications extend beyond the healthcare and insurance sectors examined in this study. Any service industry in which consumers must form trust impressions before direct service encounters, including financial services, legal services, education, and hospitality, may benefit from human-first brand communication strategies. The generalisability of the warmth effect suggests that brand managers across sectors should audit their current communication materials for warmth cues and consider whether AI-first framing may be inadvertently undermining trust formation.

7.4 Limitations

This study has several limitations that should be acknowledged. One important limitation concerns the use of fictional brands, which eliminates the influence of prior brand attitudes but also reduces ecological validity. Future research should test whether the findings generalise to real brands with established reputations, where prior warmth and competence perceptions may interact with communication framing effects in complex ways. Established brands possess cumulative brand equity that may buffer or amplify the effects of framing manipulations. Excluding midpoint manipulation-check responses may also have increased the separation between the experimental conditions and thereby influenced observed effect sizes, although supplementary analysis indicated similar overall patterns of results without this exclusion.

Another limitation is that the study focused on a single communication touchpoint (the “About us” page) and captured only immediate post-exposure perceptions. Future research

could examine how framing effects evolve over time and across multiple touchpoints such as advertising, social media, and direct interactions. Furthermore, studies conducted over longer periods of time may help determine whether initial trust perceptions persist or change with repeated exposure to AI-first or human-first communication.

The sampling approach may also limit generalisability to broader consumer populations. The inclusion of participants from multiple countries introduced cultural heterogeneity that may have influenced industry perceptions. Future research should replicate the study with more representative samples and across different cultural contexts, as warmth and competence perceptions may vary across cultural settings. Cultural differences in attitudes toward AI, healthcare systems, and insurance markets may systematically shape the warmth-competence trade-off.

Additionally, the non-significant moderation effects of industry context warrant further investigation. Future research could employ more salient industry manipulations, such as using real brand names, describing specific service scenarios, or measuring prior industry involvement, to test whether industry differences emerge under conditions of higher contextual activation. Future research could employ more immersive or contextually rich stimuli to increase the salience of industry context.

Finally, the study did not measure actual behaviour or behavioural intentions beyond brand trust. While trust is a strong predictor of behavioural outcomes, future research should examine whether the observed framing effects translate into concrete behaviours such as purchase intentions, service adoption, or word-of-mouth recommendations. The relationship between brand trust and actual consumer behaviour represents a critical next step in establishing the practical significance of these findings.

7.5 Future Research

Building on the limitations identified above, several avenues for future research emerge.

Future research could examine how the effects of AI-first versus human-first brand communication evolve over time. The present study captured immediate post-exposure perceptions, but repeated exposure to AI-first framing might either habituate consumers to the warmth deficit or amplify it through cumulative scepticism. Understanding the temporal dynamics of framing effects is essential for predicting long-term brand trust trajectories.

Another important avenue for future research concerns the role of individual differences in moderating responses to AI-first communication. Variables such as AI literacy, technology

acceptance, need for human interaction, and prior negative experiences with AI may determine whether consumers respond to AI-first framing with interest or aversion. Segmenting consumers based on these characteristics could help brands tailor their communication strategies to specific audience profiles.

Future studies should also investigate whether stronger and more tangible competence signals can overcome the warmth deficit associated with AI-first framing. Including performance metrics or third-party validations may help disentangle the effects of promised capability from demonstrated capability.

Research could further examine how consumers respond to hybrid communication strategies that simultaneously emphasise both human warmth and AI competence. Rather than treating warmth and competence as competing frames, future studies could test whether integrated frames (e.g., "Our caring team uses AI to serve you better") can activate both dimensions simultaneously, potentially achieving higher trust than either pure frame alone.

Finally, future research should test the generalisability of the findings across different cultural and industry contexts. Variations in AI adoption, service expectations, and cultural attitudes toward technology may shape the relative importance of warmth and competence in trust formation. Extending the model to other service industries such as financial services, education, or legal services would further strengthen the theoretical framework and provide broader managerial guidance. Comparing a broader range of industries may also help clarify whether industry context moderates responses to AI-first versus human-first communication under different levels of perceived risk, emotional vulnerability, or technological expectations.

7.6 Final Reflections

This study provides empirical evidence that AI-first versus human-first brand communication systematically influences consumer perceptions and trust, with warmth serving as the primary psychological mechanism. Human-first communication consistently generates higher brand trust than AI-first communication, and this effect is mediated by perceived warmth. The absence of a significant competence effect and the absence of industry moderation, while unexpected, offer valuable theoretical and practical insights. They suggest that brand communication may operate through warmth- and competence-based evaluation heuristics that, in the present study, appeared relatively consistent across the two industry contexts examined.

For brand managers navigating the AI transformation of service industries, the evidence from this study points to a clear strategic imperative: when it comes to building trust, empathy is more powerful than algorithms. As AI continues to reshape service delivery across sectors, organisations face a fundamental choice in how they present themselves to consumers. The findings suggest that leading with human-centric values in brand identity communication is a broadly effective strategy for building consumer trust, even in industries where AI competence is technically relevant and operationally valuable.

The challenge for future research is to identify the conditions under which AI-first communication can successfully signal competence without eroding the warmth that remains the foundation of consumer trust. This challenge is not merely academic: as AI adoption accelerates and consumers become increasingly sophisticated in their evaluation of brand claims, the organisations that succeed will be those that master the delicate balance between technological capability and human connection. The warmth-competence framework provides a powerful lens for understanding this balance, and this study offers an empirical foundation upon which future research can build. Further research comparing a broader range of industries and service contexts is needed to clarify the conditions under which industry-specific moderation effects emerge.

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Appendix

Appendix A: Assumption Checks

A.1 ANOVA Assumption Checks

A.1.1 Brand Trust ANOVA

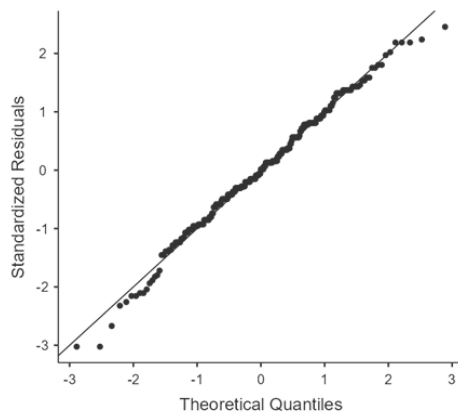
Assumption Checks

Homogeneity of Variances Tests

	Statistic	df	df2	p
Levene's	4.77	3	255	0.003
Bartlett's	15.5	3		0.001

Note. Additional results provided by *moretests*

Q-Q Plot



Levene's test suggested some heterogeneity of variances across groups. Visual inspection of the Q-Q plot, however, suggests no severe deviations from normality. Given the relatively balanced group sizes, the ANOVA was considered to be sufficiently robust.

A.1.2 Warmth ANOVA

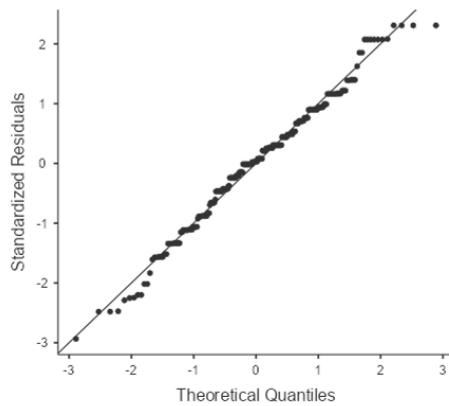
Assumption Checks

Homogeneity of Variances Tests

	Statistic	df	df2	p
Levene's	14.3	3	255	<.001
Bartlett's	35.6	3		<.001

Note. Additional results provided by moretests

Q-Q Plot



Levene's test implied unequal variances across groups. Nevertheless, visual inspection of the Q-Q plot suggested acceptable normality, and the relatively balanced group sizes indicate that the ANOVA is likely to be robust to this violation.

A.1.3 Competence ANOVA

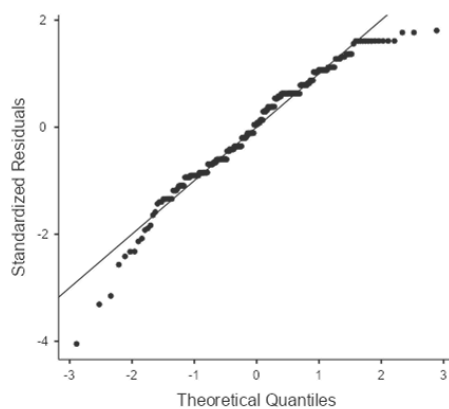
Assumption Checks

Homogeneity of Variances Tests

	Statistic	df	df2	p
Levene's	0.182	3	255	0.909
Bartlett's	2.70	3		0.441

Note. Additional results provided by moretests

Q-Q Plot



For the competence model, no considerable violations of ANOVA assumptions were observed.

A.2 Regression Assumption Checks

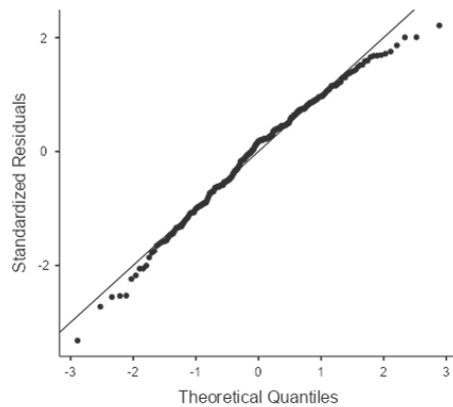
A.2.1 Regression Model Predicting Brand Trust

Assumption Checks

Collinearity Statistics

	VIF	Tolerance
framing	1.61	0.620
warmth	2.23	0.448
competence	1.69	0.593
prior_industry_exp	1.11	0.904

Q-Q Plot



VIF values were below commonly accepted thresholds, implying no substantial concerns of multicollinearity. Furthermore, visual inspection of the Q-Q plot did not indicate any severe normality deviations either.

Appendix B: Full Survey Instrument

B.1 Participant Information and Consent

Study Information and Consent

You are invited to participate in a short academic study at Lund University examining how people perceive company communication. The survey takes approximately 4–5 minutes to complete.

Participation is voluntary and anonymous. No personal data will be collected, and responses will be used only for academic research purposes.

Participation is limited to individuals 18 years or older.

By selecting "I agree", you confirm that you are at least 18 years old and consent to participate in this study.

For questions, please contact:

ma0050kl-s@student.lu.se

B.2 Measurement Items

The full measurement items are presented in Table 1 in Section 4.5.

B.3 Manipulation Check Instructions

Figure B.3.1 presents the manipulation check items used to assess whether participants perceived the communication as primarily AI-first or human-first oriented.

2. Based on the page you just viewed, what did the company primarily emphasise?

(1 = Human employees and personal service, 7 = AI systems and automated processes)

Human employees (1) ↔ AI/automation systems (7)

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6

☐ 7

People and personal support (1) ↔ Technology and data-driven systems (7)

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6

☐ 7

B.4 Example Survey Interface

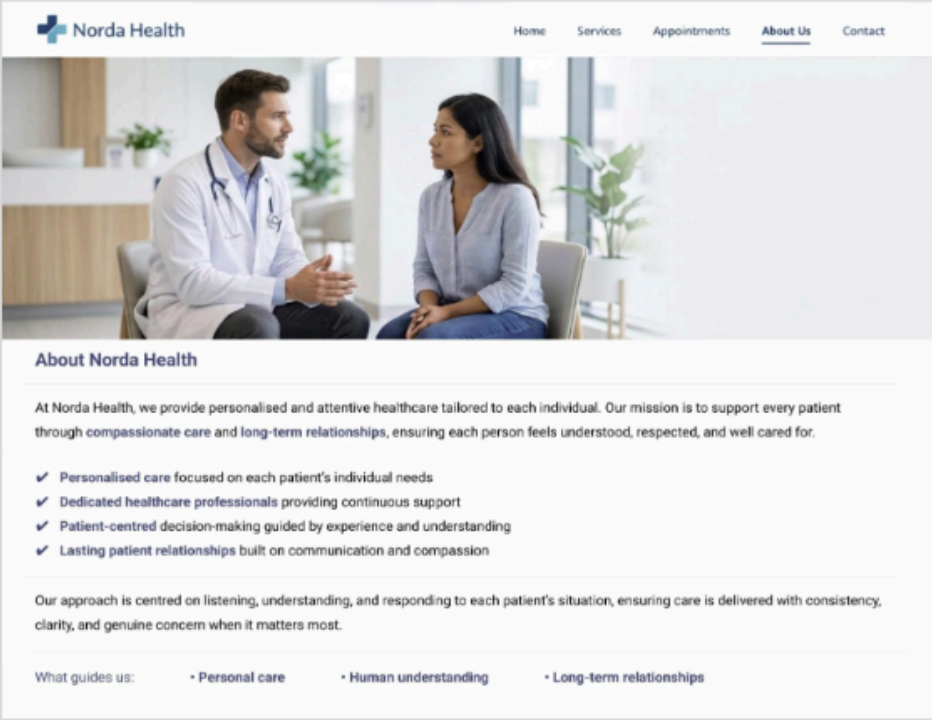
Figure B.4.1 illustrates an example of the stimulus presentation within the online survey interface.

Instructions

Please carefully review the company webpage below.

If you are using a mobile device, you may zoom in or rotate your device to read the text clearly.

When you are finished, confirm that you have reviewed the page at the bottom of your screen.



1. I have reviewed the webpage.

☐ Yes

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Appendix C: AI Use Statement

This thesis was completed with limited use of artificial intelligence (AI) tools to support specific writing and editing tasks, such as:

- Brainstorming ideas and alternative approaches
- Refining wording and improving sentence clarity
- Generating synonyms to avoid repetitive language
- Suggesting titles, headings, and structural improvements
- Explaining and clarifying concepts and terminology

AI tools were not used to generate original research content, produce or interpret statistical analyses, write substantive sections of the thesis, formulate hypotheses, or conduct the literature review. All theoretical development, data collection and analysis, interpretation of findings, critical discussion, and academic argumentation were conducted exclusively by the authors.

The use of AI tools in this thesis was conducted in accordance with the ethical guidelines for AI use in academic work as communicated by Lund University School of Economics and Management.