From "Anxiety Marketing" to "Trust Narratives": A Study on the Transformation of Communication Strategies in Smart Health Brands

Mei Wu

Shanghai Technical Institute of Electronics & Information, Shanghai 201411, China

Abstract: With the deep integration of AI into health management, the traditional "anxiety marketing" model of smart health brands faces trust crises and ethical controversies. Based on narrative communication and trust signaling theories, this study uses a multi-case comparative approach, selecting Xiaomi Health, Huawei Health, and Apple Health as samples. It analyzes how these brands shift from "anxiety marketing" to a positive-value-oriented "trust narrative" model in brand communication. The research aims to reveal brands' significant adjustments and innovative explorations in communication content, methods, and philosophies for building deeper trust in the current social context. The findings show that building trust narratives for smart health brands needs synergistic progress in three dimensions: technological transparency, user value co-creation, and data security ethics, forming a "problem reframing — value resonance — trust consolidation" communication loop. The study's conclusions offer a theoretical basis and practical guidance for smart health brands to overcome marketing ethical dilemmas and set up long-term trust mechanisms.

***Keywords*:** anxiety marketing, trust narratives,smart health brands, communication strategies

1. Introduction

1.1 Research Background

The smart health industry, an emerging sector integrating the digital economy and the health industry, has grown explosively in recent years. Statista (2024)[1] shows that the global market size of smart health devices reached USD 86.7 billion in 2023 and is expected to exceed USD 120 billion by 2025. Amid this, brand competition has shifted from technical functionality to capturing user mindshare. To convert consumers quickly, some brands use "anxiety marketing", amplifying health risks and fostering technology worship to boost demand (Hofstede et al., 2022)[2]. However, this model causes consumer discomfort and erodes brand trust due to data leaks and algorithmic black-boxes, like the 2023 Fitbit data breach.

1.2 Research Questions

Existing studies mainly focus on the short-term effectiveness of anxiety marketing like improving conversion rates, while ignoring its negative impacts on long-term brand trust (Zhang & Wang, 2021). Thus, there is a theoretical need to answer these questions: How can smart health brands reduce over-reliance on anxiety-inducing tactics and rebuild trust with consumers? Also, what are the core dimensions and communication mechanisms of "trust narratives"?

1.3 Research Significance

On a theoretical dimension, this study introduces narrative communication theory into brand trust research, expanding the theoretical boundaries of health communication studies. On a practical dimension, it offers actionable pathways for smart health brands to build trust, promoting the industry's shift from an "anxiety-driven" to a "value-driven" model.

2. Literature Review

2.1 The Connotation and Controversy of Anxiety Marketing

Anxiety marketing is a communication strategy that triggers consumers' uncertainty about basic needs like health and safety, prompting them to buy to relieve anxiety (Lazarus, 2020)[3]. Early studies showed moderate anxiety could boost information acceptance, like disease warnings in anti-smoking ads. But excessive anxiety may cause defensive responses and information avoidance (Taylor, 2019). In smart health, anxiety marketing is often done through "risk exaggeration" and "technological deification," such as saying "not monitoring heart rate means ignoring sudden death risks" or "AI understands the human body better than doctors." The former uses loss aversion psychology, and the latter depends on technology's perceived authority (Hofstede et al., 2022).

2.2 Theoretical Foundation of Trust Narratives

Trust narratives stem from narrative communication theory, using structured storytelling to convey brand values and commitments for consumer trust establishment (Green & Brock, 2018)[4]. Mayer et al. (1995)[5] proposed the trust dimension theory, stating that trust construction needs three elements: ability, benevolence, and integrity. In smart health, technical capability (algorithm accuracy), data benevolence (privacy protection), and ethical integrity (transparent communication) are the core of trust narratives (Sussman & Siegal, 2020)[6].

2.3 Research Gaps

Current studies have two main limitations. First, critiques of anxiety marketing mainly focus on ethics, with inadequate exploration of transformation pathways. Second, research on trust narratives mostly centers on traditional brands, not integrating smart-health technical specificities (e.g., data sensitivity and algorithmic complexity) into the analysis.

3. Research Design

3.1 Research Methodology

This study uses a multi-case comparative approach and selects three representative smart health brands, Xiaomi Health, Huawei Health, and Apple Health, as research subjects. The selection is based on three factors. First, they dominate the market significantly, with IDC (2024) data showing they hold 45% of the global smart health device market. Second, they have distinct strategic differentiation: Xiaomi uses anxiety marketing, Huawei emphasizes technical security, and Apple focuses on privacy protection, offering high comparative research value. Third, publicly available data is accessible, which can be obtained from brand official websites, product launch videos, user communities and other channels.

3.2 Research Methodology

This study selects three smart health brands — Xiaomi Health, Huawei Health, and Apple Health — as research cases. A multi-source data collection strategy was adopted to ensure research validity, including data from brand official website communications (2019 – 2024), video materials from 12 product launch events, 500 randomly selected user community posts across platforms, and third-party evaluation reports. Two researchers independently coded the communication strategies using a predefined coding framework to guarantee coding reliability. The inter-coder consistency rate reached 92%, and discrepancies were resolved through discussion. By triangulating multi-source data, this study comprehensively traces the transformation pathways and outcomes of the three brands' communication strategies from "anxiety marketing" to "trust narratives," offering theoretical and practical insights for smart health brands' sustainable development.

3.3 Analytical Framework

Based on Mayer's trust dimension theory, a "technology-data-ethics" three-dimensional analytical framework was constructed[7]. Specifically, it includes: Technological Transparency Narrative: Reflecting the information-disclosure degree on algorithmic principles, data sources, and error rates;User Value Co-creation Narrative: Focus on user participation in product iteration and personalization of health management solutions.Data Security Ethics Narrative: Address privacy protection and communication on data usage boundaries.

4. Case Analysis

4.1 Technological Transparency Narrative: From "Black Box Mythology" to "White Box Communication"

Smart health brands have transformed their technological communication strategies, moving from ambiguous assertions of technical authority to open and transparent technical explanations. However, implementation pathways and outcomes vary among brands.

In the early stages, the industry showed a trend of technological "black-boxing". For example, in 2020, Xiaomi Health's early marketing often made absolute claims without explaining algorithmic principles or validation methods. Although this created a sense of technological mystery, it also caused user concerns about data accuracy and application boundaries.

During the transformation phase, brands took different approaches to build technological transparency. In its 2023 product upgrade, Xiaomi Health launched a "Technical Analysis Initiative", setting up dedicated explanatory modules to explain heart rate monitoring principles and disclose error margin ranges. Moreover, it opened algorithm optimization testing portals to invite users to validate algorithmic iterations. Huawei Health developed an "Explainable AI (XAI)" communication paradigm. At the 2023 P60 series launch event, technical staff used a three-dimensional visualization interface to show

the neural network structure of sleep apnea detectionalgorithms and compared detection variances to build technological credibility.

Apple Health adopted a "privacy transparency" strategy. Its health data labeling system allows users to control data flows. For instance, the 2023 Apple Privacy White Paper, combined with the iOS 16.2 update, clearly defined the uses of step-count data, helping users understand the technological system.

4.2 User Value Co-creation Narrative: Transitioning from "One-Way Communication" to "Two-Way Interaction"

Smart health brands have transformed their user engagement paradigms from traditional one-way information dissemination to a bidirectional collaborative value creation system. The key to this transformation is that brands redefine user roles via institutionalized mechanisms, turning users from passive information recipients into active contributors and co-creators.

Xiaomi Health established an emotional co-creation pathway via its "Health Story Collection Initiative". It gathered user health improvement cases and turned them into narrative materials. For instance, a hypertensive patient used the app to record medication cycles and blood pressure data, and achieved a 40% improvement in blood pressure control rates. This case became a documentary short film, highlighting the "users as health partners" concept in brand communication. This narrative strategy offers empirical support and enhances user belongingness.

Huawei Health built a research-oriented co-creation ecosystem. It partnered with top-tier hospitals like Beijing 301 Hospital and Shanghai Ruijin Hospital to launch the "Cardiac Health Research" project. The project recruited users to upload ECG data for clinical research. After contributing data, participants got personalized cardiac health assessment reports, creating a "data contribution-research value personal feedback" closed-loop system. As of March 2024, it had amassed over 270 million ECG data points, published 14 SCI papers, and made 73% of participants increase daily health monitoring frequency.

Apple Health adopted a technology-open strategy for ecological co-creation. Its HealthKit framework offers standardized interfaces to third-party developers, allowing users to choose health management apps for data integration. For example, it deeply integrates with Nike Run Club to automatically sync exercise data and create personalized training plans, realizing the "user sovereignty" concept. This open architecture keeps the brand's core platform position and meets users' personalized needs via diversified services.

Theoretically, this narrative transformation validates Sussman & Siegal's (2020)[8] "role elevation in value co-creation" theory, which says transforming users from passive recipients to active participants helps turn brand trust into user self-identification. Research shows successful value co-creation needs three elements: technical infrastructure (e.g., data interfaces and platforms), incentive mechanisms (e.g., personal value return and social recognition), and meaning construction (e.g., storytelling and identity reinforcement). The synergy of these three promotes smart health brands' transition from unidirectional communication to bidirectional interaction.

4.3 Data Security Ethics Narrative: From "Vague Commitments" to "Contextualized Communication"

Smart health brands have evolved their data security and ethics communication strategies, shifting from abstract principle declarations to concrete contextual communication. This aims to reduce users' cognitive load and enhance their perceived control and understanding of data handling.

In the industry's early development, terminologically obscure and semantically ambiguous security commitments were common. For example, at first, Xiaomi Health only generally said it "highly values privacy protection" without explaining specific mechanisms. These declarations, lacking substance, couldn't ease users' data-security concerns.

Post-transformation, brands used multi-layered contextual communication strategies. In 2023, Xiaomi Health released its "Data Security Transparency Handbook" and used visual narratives to explain technical processes. For instance, a comic series compared "encrypted sleep data transmission" to "sealed letter delivery," showing local data encryption, secure transmission, and terminal decryption stages and highlighting that "only users have decryption keys." This metaphor improved user understanding of encryption technologies.

Huawei Health integrated "privacy visualization" features into EMUI 14.0, offering real-time data flow transparency interfaces. When users activate health monitoring, the system shows data storage locations (e.g., "heart rate data processed locally only"), encryption status (e.g., "cloud encryption activated"), and third-party sharing status ("not shared with any third parties"), making security measures perceptible.

In 2024, Apple Health implemented a "Privacy Nutrition Label" system, adapting the nutritional information label to

quantitatively present data collection items and purposes. For instance, it states "12 categories of health data collected in total, 3 for personalized feature optimization, 0 for advertising." This format enhances transparency and allows users to make cross-application comparisons.

5. Research Findings and Discussion

5.1 Three-Dimensional Synergistic Mechanism of Trust Narratives

Case analysis shows establishing strong brand trust depends on the deep synergy of three narrative dimensions: technological, value, and ethical, rather than a single factor. These dimensions form the cognitive basis, emotional bonds, and security guarantees of trust relationships respectively.

Specifically, the technological dimension verifies "the brand has technical capability for reliable health services" to form the rational basis of trust. The value dimension sets shared goals and shows "brand interests align with users'" to construct emotional connections. The ethical dimension focuses on risk management and is committed to ensuring "brand operations won't harm user rights." These dimensions form a "capacity-emotion-security trust triangle model" with interdependent and indispensable elements.

The model's explanatory power is empirically validated. Apple Health is technologically advanced, but its closed ecosystem restricts user and third-party developer participation, leading to significant deficiencies in value co-creation. According to IDC (2024)[9] global user survey data, this value-dimension weakness impacts its overall trust score, making its trust level lower than Huawei Health's in some user segments as Huawei promotes an open research ecosystem. This indicates that single-dimension strengths can't replace multidimensional synergistic development.

5.2 Transition Pathway from "Anxiety Marketing" to "Trust Narrative"

Through longitudinal comparative case analysis of Xiaomi Health, Huawei Health, and Apple Health, this study identifies a four-stage progressive model for smart health brands' communication strategy transformation. This model explains how brands deconstruct anxiety-driven paradigms systematically and gradually construct trust-centered communication systems.

Stage 1: Problem Reframing.

In the initial phase, brands change their communication focus from "health threats" to "health challenges", altering users ' cognitive appraisal frameworks from emphasizing uncontrollable risks to highlighting manageable strategies. For instance, when dealing with hypertensive populations, Huawei Health avoids absolute risk assertions and emphasizes that "regular exercise and continuous monitoring support blood pressure management". This approach was endorsed by the Chinese Society of Cardiology, enhancing scientific credibility.

Stage 2: Technological Demystification.

This phase aims to demystify technological "black boxes" using intelligible language and visualization tools, making complex technologies transparent and understandable. The goal is to shift trust from "blind faith in technological miracles" to "informed recognition of technical principles" without undermining technical authority. For example, Xiaomi Health, when promoting pulse wave monitoring, ditched the vague claim of "98% medical-grade accuracy" and released dynamic infographics on official platforms. These infographics detailed the complete workflow (signal acquisition, noise reduction processing, and algorithmic analysis) and annotated expected error ranges in typical scenarios.

Stage 3: Value Symbiosis.

This stage shifts brand-user relationships from unidirectional value delivery to bidirectional value co-creation. Brands design open participation architectures to turn users from passive "consumers" into active "contributors" and "co-creators", which fosters deep emotional connections and identity recognition. Even though Apple Health ' s ecosystem is relatively closed, its ResearchKit framework enables users to anonymously contribute health data to large-scale medical research, like collaborative studies on women's health with the Harvard T.H. Chan School of Public Health. This helps users recognize the societal value of their data contributions.

Stage 4: Trust Institutionalization.

The final stage aims to institutionalize and sustain prior trust relationships. Core mechanisms transform psychological trust into institutional trust via consistent, verifiable, and responsible practices. All three brands regularly publish annual transparency reports on data access requests, permission management, and security incident responses. These standardized disclosures show commitments to long-term user trust.

6. Conclusions and Implications

6.1 Research Conclusions

This study uses a multi-case comparative analysis of Xiaomi Health, Huawei Health, and Apple Health to explore the transformation pathways and mechanisms of communication strategies in smart health brands. The results show that effective brand communication should shift from short-term "anxiety induction" to long-term "trust construction." Successful trust narratives depend on the three-dimensional synergy of technological transparency, user value co-creation, and data security ethics to convey trust signals in terms of ability, benevolence, and integrity.

Empirical data proves the effectiveness of this transformation. Statista's (2024)[10] industry analysis report shows that brands (e.g., Huawei and Apple) achieving synergistic development across three narrative dimensions had 35 percentage points higher 12-month user retention rates than those using only anxiety marketing. Also, there was about a 60% reduction in negative sentiment on social media and professional forums. This indicates that trust narratives can enhance user loyalty and protect brand reputation. The study reveals trust construction's dynamic and systemic nature. Trust isn't built by isolated marketing activities; instead, it demands an integrated brand strategy covering technological R&D, user interaction, ethical review, and consistent communication. Inadequate development in any dimension, like lack of technological transparency or ethical consideration, creates trust deficits that limit long-term sustainable brand development.

6.2 Practical Implications

Based on the findings, this study offers practical implications for various stakeholders.

For brand managers, it's essential to go beyond traditional marketing department functions and set up cross-functional "narrative consistency management mechanisms." These mechanisms should integrate collaborative review processes among R&D, marketing, legal compliance, and user service departments to ensure external communications strictly match technical accuracy, value orientation, and ethical compliance, thus conveying unified and reliable brand promises to the market.

For industry regulators, we recommend leading the development of "Ethical Guidelines for Smart Health Product Communication" to offer a standardized industry framework. These guidelines should define and restrict practices that exploit user health anxieties (e.g., banning absolute or fearmongering assertions), and advocate evidence-based health communication based on balanced and objective principles. This will help industry competition shift from fear-based marketing to value- and trust-oriented models.

For consumers adopting smart health products, it's crucial to enhance tech and data literacy and cultivate critical evaluation capabilities. Users should identify overstated "technological myth" claims, prioritize brands with strong data permission management, algorithmic transparency and user control measures, and make rational choices based on brands' long-term trustworthy behaviors instead of short-term marketing rhetoric.

In summary, trust construction in the smart health domain is a systematic project. It needs tripartite collaboration among brands, regulators, and consumers to advance communication paradigm shifts and promote the industry's healthy sustainable development.

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