

The Digital Trust Paradox: A Netnographic Analysis of Gen Z Consumer Interactions with AI Chatbots on E-Commerce Platforms

Adji Mei DjiangTono

Affiliation: Institut Teknologi dan Bisnis Asia Malang, Indonesia

Correspondence E-mail: adjiemeidjiangtono1234@gmail.com

Abstract

Introduction/Main Objectives: The integration of Artificial Intelligence (AI) into customer service has fundamentally changed the landscape of business-consumer interactions. As a group of digital natives, Generation Z (Gen Z) are the primary users of this technology, but their relationship with automation is often ambivalent.

Background Problems: Although AI chatbots offer 24/7 operational efficiency for e-commerce platforms, there is a fundamental problem regarding the “digital trust crisis.” Gen Z consumers often feel frustrated by the lack of empathy and the failure of chatbots to handle the complexity of personal issues, which can actually reduce brand loyalty. The tension between technological convenience and the need for a human touch creates a trust paradox.

Novelty: This study makes a new contribution by exploring the “digital trust paradox” through the lens of netnography. Unlike previous studies that mostly used quantitative methods (surveys), this study entered the organic discursive space of Gen Z communities on social media MSMEs to capture their resistance and adaptation behaviors towards AI that are not detected by standard statistics.

Research Methods: This study uses a qualitative approach with a netnography method to explore the subjective experiences of Gen Z consumers in depth in the digital space. The study focuses on the MSME (Micro, Small, and Medium Enterprises) Chatbot User Association, a digital community fostered by PT Permodalan Nasional Madani (PNM) in Malang, East Java.

Finding/Results: The results indicate a clear manifestation of the “Digital Trust Paradox,” characterized by the tension between operational efficiency and the need for human empathy. Furthermore, the “Experience” attribute defined as cognitive and emotional engagement—was found to be the weakest link in current AI interactions.

Conclusion: The Digital Trust Paradox is a call for **Empathetic Systems** (system refers to the mental and neurological processes that allow a person to understand, share, and respond to the emotions of others).

Keywords: AI Chatbot, Netnographic, Gen Z Consumer, E-Commerce



Introduction

Along with technological developments and innovations, e-commerce activities are also growing every year. E-commerce is a term that is familiar to many people today. E-commerce, which means electronic commerce, refers to the trading of goods and services through electronic media and the internet (Viviana Alfonso et al., 2021). According to Gajewska et al. (2020), e-commerce is the future trend in business. Various conveniences and efficiencies can be obtained by those who can take advantage of advances in digital technology and available media. One of these conveniences is in conducting transactions for the sale and purchase of goods and services (Ponarwan & Tjokrosaputro, 2020). E-commerce is a technology characterized by a business innovation model with a rapid growth rate. E-commerce is the largest contributor to the digital economy in Indonesia (Katadata.co.id., 2023).

Chatbots are used for a variety of purposes in a wide range of industries to help interact with web services or applications using different text, graphics, or speech. They can understand natural human language, mimic interaction, and perform simple, automated tasks. Their use can be found at various levels, such as in messaging applications, mobile applications, websites, telephone lines, or voice applications (Malik et al., 2021). Karri & Kumar (2020) state that chatbots are created to build interactions between computers and humans using natural language. Consumers can ask their questions freely, and the chatbot quickly provides answers to those questions and responds immediately. This enables smooth and efficient interaction, making it easier for consumers to get the information they need quickly and easily. Chatbots are considered to be an important tool for increasing the efficiency of customer service (Hsu & Lin, 2023). The benefits are mainly found in providing continuous customer service (Følstad et al., 2018). Currently, websites, e-shops, or mobile applications are where they are most widely implemented. While chatbots can take many forms, they are most often used as human agents to respond to customer needs and issues (Sheehan et al., 2020). Since the COVID-19 pandemic, the use of chatbots and retail spending via bots has increased significantly in all business areas (Melovic, 2022).

Sitanggang et al. (2023) stated in their research that chatbot responses can sometimes make consumers feel dissatisfied. Furthermore, as reported by Forbes (2018), many consumers feel dissatisfied and say that talking to chatbots makes them feel uninterested. De Sá Siqueira et al. (2023) convey that errors made by chatbots are inevitable due to the limitations of technology and the uncertainty of human interaction. Vergaray et al. (2023) state that the use of chatbots allows humans to interact with technology using various input methods through conversational interfaces and is easy to use, thereby offering a better user experience.

In the digital age, Generation Z plays an important role in the development of the digital economy in Indonesia. Born between 1997 and 2012, this generation grew up with the internet and technology as part of their daily lives. Their love of online shopping, digital skills, and entrepreneurial spirit are Gen Z's main strengths in advancing national e-commerce (Nafi, 2024). E-commerce trends among this generation are not only influenced by technology, but also by their unique values and preferences that prioritize convenience, speed, and sustainability (Kumparan.com, 2024). Various platforms such as Shopee, Lazada, and Tokopedia also offer a variety of features and technologies to meet these needs (Pohan et al., 2024). Generation Z, as digital natives who dominate e-commerce users, show a paradoxical pattern of trust in AI chatbots: on the one hand, they depend on quick responses and personalization, but on the other hand, they are hesitant due to concerns about privacy and accuracy.

Netnographic analysis is needed to uncover Gen Z's authentic interactions on e-commerce platforms, identifying seven trust factors including new themes such as 24-hour accessibility despite mixed perceptions of job threats. Gen Z's perception of chatbots includes convenience

but concerns about future regulations, where positive attitudes toward AI correlate with continued use. This study fills a gap by focusing on the paradox of trust in e-commerce, supported by findings that trust mediates purchase intention via AI chatbots.

Research Methods

This study adopts a netnographic research design, a specialized qualitative methodology pioneered by Kozinets (2015) for the study of "cyberculture" and online social behavior. Netnography is particularly efficacious for investigating the Digital Trust Paradox, as it allows the researcher to observe the tension between Gen Z's technological fluency and their inherent skepticism toward automated systems in a naturalistic digital setting. Unlike traditional ethnography, netnography accounts for the "mediated" nature of digital communication, where social cues are replaced by linguistic markers, emojis, and screenshot-sharing artifacts that are central to the consumer's evaluation of AI competence.

The study focuses on the **Association of MSME (Micro, Small, and Medium Enterprises) Chatbot Users**, a digital community fostered by **PT Permodalan Nasional Madani (PNM)** in Malang, East Java. This site was selected via **purposive sampling** for three critical reasons:

- The Malang branch of PNM manages a significant cluster of "Mekaaar" and "ULAMM" beneficiaries, where a high concentration of participants belongs to the Gen Z cohort (born 1997–2012).
- As members of an active economic corridor in Indonesia, these users engage with Shopee's AI chatbot not merely for leisure, but for high-stakes business transactions, making their "trust" or "distrust" a matter of financial consequence.
- The community serves as a "bounded digital space" where members frequently share "frustration transcripts", screenshots of failed AI interactions, to seek peer support or collective advocacy.

Data collection followed a non-participant, immersive observation protocol conducted over a six-month longitudinal window (May 2025 – October 2025). The final research corpus consists a collection of 115 complaint threads and interaction logs. These include raw text exchanges between users and Shopee's AI chatbot. The analysis follows a multi-step hermeneutic circle. Initially, data were coded using Thematic Analysis to identify recurring motifs of the "Trust Paradox." These themes were then mapped against the RATER Service Quality Model to quantify the qualitative gaps:

- Analyzing how the chatbot's instantaneous response speed (High Responsiveness) fails to compensate for the lack of emotional resonance (Low Empathy).
- Evaluating the discrepancy between the chatbot's intended function (Reliability) and the user's confidence in the outcome (Assurance).

Linguistic analysis was further employed to decode **Indonesian "Cyber-slang" and code-switching** (Bahasa Indonesia to Javanese or English), which Gen Z users utilize as a tool of resistance or irony when interacting with "rigid" AI scripts. Acknowledging the "Privacy Paradox," this study adheres to the Association of Internet Researchers (AoIR) ethical guidelines. Since the data was gathered from a semi-private professional association, a **multi-tier consent protocol** was implemented. Formal permission was secured from PNM Malang as the primary gatekeeper. All raw data underwent a rigorous **de-identification process**, removing PII (Personally Identifiable Information), shop names, and specific transaction IDs. Respondents are referred to via alphanumeric descriptors (e.g., *Participant-MLG-GZ04*) to

ensure that the "traces" of their digital identity do not lead to professional or personal repercussions.

Result

Through netnographic observation, this study identified significant "digital traces" of Gen Z consumer interactions with Shopee's AI chatbot, "Choki," within the ecosystem of MSMEs mentored by PT Permodalan Nasional Madani (PNM) in Malang. The analysis of complaint data from the Malang MSME Association revealed that while Gen Z consumers initially embrace AI for its 24/7 availability.

Data from October 2025 indicates that 94% of Gen Z consumers attempt to solve their problems via self-service chatbots first, but a significant "trust gap" emerges when interactions become repetitive or "looped". Netnographic findings suggest that consumers often share "bypass hacks", specific keywords or command strings designed to force the system to escalate the session to a human agent, as a form of tactical resistance against the perceived "algorithmic coldness" of the platform.

The results indicate a clear manifestation of the "Digital Trust Paradox," characterized by the tension between operational efficiency and the need for human empathy. In the context of Malang-based MSMEs, this paradox is divided into three critical dimensions:

Table 1 Three Critical Dimensions

Dimension Paradox	of	Quantitative/Qualitative Evidence	Impact on Brand Loyalty
Efficiency vs. Empathy	vs.	60% of respondents appreciate the speed of AI, but 47% demand human touch for high-stakes issues.	High frustration leads to cart abandonment if empathy is absent.
Personalization vs. Privacy	vs.	Personalization significantly drives trust ($\beta = 0.47$, $p < 0.01$) yet feels "intrusive" without transparency.	Consumers "click faster but believe slower" in the era of data-driven marketing.
Autonomy vs. Control	vs.	76% of consumers want to set strict rules for when "Agentic AI" acts on their behalf.	Trust is conditional upon the presence of an "emergency human override".

Source: Processed Data, 2025

Focusing on the Association of MSMEs in Malang City, the data suggests that AI implementation via Shopee's platform acts as both an enabler and a barrier. Programs such as "Emak-Emak Matic" and "Kampus UMKM Shopee," initiated in collaboration with PNM, have accelerated digital literacy among local sellers. However, Gen Z customers of these UMKM units reported that Shopee's AI often fails to capture the "cultural fluency" required for local Indonesian transactions, such as understanding regional slang or nuanced bargaining behavior.

Furthermore, the "Experience" attribute defined as cognitive and emotional engagement—was found to be the weakest link in current AI interactions. While Shopee's AI "Choki" is proficient

in predictive personalization, it often lacks the "perceived benevolence" that Gen Z consumers seek during service failures.

Statistical indicators and netnographic themes converge on the finding that "Customer Trust" is the most potent mediator between AI interaction and purchase intention. Structural Equation Modeling (SEM) insights from the 2025 period show that:

- **AI Personalization** has a significant positive relationship with engagement ($\beta = 0.52$) and trust ($\beta = 0.47$).
- **System Quality** (reliability and speed) is a prerequisite, but **Information Quality** and **Usability** occasionally show unexpected negative associations if the interface is deemed too "robotic" for Gen Z's sophisticated digital expectations.
- **Chatbot Expertise** and **Interactivity** are primary drivers for Gen Z, particularly when the AI acts as a "co-pilot" in product discovery rather than just a reactive tool.

As of October 2025, the Malang MSME landscape is entering the era of "Agentic Commerce." Approximately 33% of Gen Z consumers now prefer AI platforms over traditional search engines for product advice. In the PNM Malang cluster, this trend is visible through the adoption of "Autonomous CS" (Customer Service), where AI agents manage end-to-end resolutions.

However, the "Digital Trust Paradox" remains unresolved. While 55% of Gen Z respondents trust AI to provide accurate information, 21% remain skeptical, especially regarding the handling of sensitive financial information. For MSMEs in Malang, building "relational trust" through transparent AI logic and human-like "Voice AI" is becoming the new organizing principle for digital success.

Discussion

The core finding of this research, the Digital Trust Paradox, highlights a fundamental shift in Gen Z's psychological contract with digital platforms. While these "digital natives" exhibit a high propensity for AI adoption, with 94% attempting self-service first, this behavior is not necessarily rooted in absolute trust. Instead, it is a pragmatic trade-off for speed. Netnographic observations of Shopee users in Malang reveal that while Gen Z values the "Choki" AI for routine tasks, they maintain a high level of "algorithmic suspicion".

This paradox is intensified by the tension between **personalization and privacy**. Gen Z consumers are highly responsive to adaptive interfaces that reduce "decision fatigue". However, the data collected from Shopee's scraping reveals that when personalization becomes too granular without clear logic, it triggers a "privacy reactance". For Malang's MSMEs, this means that AI must function as a "transparent co-pilot" rather than an "invisible observer." As noted in recent 2025 consumer reports, 76% of users now demand explicit rules for when an AI agent can act on their behalf, a sentiment echoed by the critical comments found in the PNM association's complaint logs. One of the most significant findings is the prevalence of "Bypass Hacks." These are specific tactical behaviors where Gen Z uses "trigger keywords" to force an escalation to a human agent. From a theoretical perspective, this represents a **failure of emotional resonance** in current AI models.

The analysis of the PNM Malang data indicates that Gen Z views the AI as a "foe" when it acts as a barrier to accountability. The "Digital Trust Paradox" is thus resolved through a hybrid model: Gen Z trusts AI for **competence** (calculating discounts, tracking orders) but relies on humans for **benevolence** (handling damaged goods, sensitive refunds). The research suggests that for MSMEs, the goal should not be total automation but a "seamless emotional

handoff" where the AI recognizes user frustration in real-time and proactively offers a human connection.

Theoretically, this study positioning "Digital Trust" not as a static variable, but as a mediating paradox influenced by perceived risk and cultural resonance. Managerially, the results provide a roadmap for PT PNM and its MSME partners:

- Brands must move toward "explainable AI," where the logic behind product recommendations is clearly disclosed to the consumer to minimize the "surveillance" feel.
- As we move toward the era of "Agentic Commerce," platforms must provide users with a "kill switch" or an easy human-override option to maintain a sense of consumer agency.
- Training programs for MSMEs, such as the "Emak-Emak Matic" program in Malang, should focus not just on using AI, but on how to humanize AI outputs for a younger, more skeptical audience.

Conclusion

In conclusion, the Digital Trust Paradox is a call for **Empathetic Systems** (system refers to the mental and neurological processes that allow a person to understand, share, and respond to the emotions of others). The winners in the future e-commerce market will not be those with the most advanced algorithms, but those who use AI to build "real rhythms of community" and genuine human-centric relationships.

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