

AI-Augmented Netnography of Public Sentiment in Aqua Ethical Controversy

Mario Sudianto Chien

Universitas Islam Internasional Indonesia, Indonesia

Email: mario.chien@students.uiii.ac.id

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Abstract

The rapid spread of social media has heightened public scrutiny of corporate ethical practices, especially during crises. In October 2025, Aqua (Tirta Investama) was involved in an ethical scandal regarding groundwater extraction, which contradicted its long-established branding as natural mountain spring water, raising concerns about ethical marketing, environmental sustainability, and corporate responsibility. This research aims to analyze public attitudes toward Aqua's ethical scandal and explore how public sentiment impacts corporate legitimacy and sustainability, while contributing theoretically to the intersection of digital ethics, stakeholder theory, and *netnography*. The study adopts a qualitative approach using *AI-augmented netnography*, combining traditional *netnographic* analysis with artificial intelligence tools that integrate natural language processing (NLP) in sentiment classification, thematic analysis, clustering, and interpretation. The sample consists of 770 original comments gathered from three posts on Aqua's Instagram account released during the peak of public attention. The results reveal that 70.13% of comments were negative; five dominant themes emerged: brand trust crisis, deceptive marketing, environmental degradation, labor welfare, and corporate responsibility. The controversy was perceived as a moral failure, weakening Aqua's credibility and social legitimacy. This study demonstrates how social media discourse can transform an ethical controversy into a legitimacy issue with long-term sustainability implications, highlighting the importance of transparent marketing, responsible resource management, and effective stakeholder communication to maintain corporate trust in the digital age.

INTRODUCTION

The advancement of digital platforms has fundamentally changed the landscape of corporate ethics and responsibility on the global stage (Pullen et al., 2026). Corporate digital responsibility (CDR) has emerged as a fundamental framework to guide and direct a firm's activities toward ethical obligations in the digital age (Lobschat et al., 2021). The focal point of this concept is how a corporation designs a set of values encompassed by norms related to stakeholders' consent (Turilli & Floridi, 2009; Schoenmaker & Schramade, 2023). Lee and Chung (2023) asserted that transparency and accountability are two values that crucially affect corporate legitimacy. Following this, stakeholder theory (Freeman et al., 2010), extended by Dmytriiev et al. (2021), emphasizes that a firm's legitimacy strongly correlates with corporate social responsibility, in which corporate business activities meet the needs of all stakeholders—

consumers, employees, and communities. Thus, nowadays, the primary place to test transparency obligations is on social media platforms (Ahmed 2021).

Social media has developed at an unprecedented pace and serves a wide gamut of services (Srisuk et al., 2023). It allows the worldwide community to communicate easily and effectively (Rosli et al., 2024). Another school of thought suggests that social media platforms have a crucial impact on consumers' behavior and are reshaping public preferences (Siddiqui et al., 2021; Salsabila & Kustiawan, 2025). In this era, social media platforms have become increasingly popular, such as Instagram, X, and TikTok, with total users accounting for 180 million, equal to 62.9% of the population as of October 2025 (Datareportal, 2025). However, these platforms are a double-edged sword. On the one hand, they bring numerous advantages to communities, governments, and companies by enhancing communication and interaction. On the other hand, they have a negative side due to the rapid spread of information related to any kind of issue (Puspita & Thaker, 2022). In marketing practices, specifically in positioning a firm's brand in the market, social media platforms are essential (Puspita & Thaker, 2022).

On October 21, 2025, the governor of West Java, Dedi Mulyadi, visited the factory of Tirta Investama Corporation (Aqua) in Subang, Indonesia (Tempo, 2024). This case went viral for two main reasons. First, Dedi Mulyadi, as the governor of West Java, is a highly popular figure known for promoting cultural values (Detik News, 2025). Second, the visit revealed the water source of Aqua's production: rather than using natural spring water as claimed in its branding, the company relies on borehole water extraction (Tempo, 2024). Subsequently, on October 23, 24, and 27, 2025, Aqua posted three pieces of content on its official Instagram account. These posts clearly stated that its water source is not surface water but deep groundwater (confined aquifers) that is hydrologically connected to mountainous areas. In other words, these posts functioned as an immediate corporate response during a peak period of public scrutiny, when the controversy was perceived as misleading marketing.

This issue spread rapidly through social media networks and elicited controversial responses. As stated by Rosli et al. (2024), social media engagement positions public attention as a key driver influencing customer perception. Regarding this issue, netizens widely shared the news and commented on Aqua's social media accounts. Online comments strongly affect customers' perspectives and behavior, influencing their intention to use a firm's products (Puspita & Thaker, 2022).

The chairman of the National Consumer Protection Agency (BKPN), Mufti Mubarak, stated that consumers have the right to receive accurate and transparent information (The Star, 2025). Furthermore, this issue represents a form of unethical marketing practice, as the company's brand image is strongly associated with natural spring mountain water. Ethical business practices should not harm customers and should protect them through clear and accurate information (Widjaja, 2024).

This viral borehole water source controversy presents an interesting case for exploring the impact of public sentiment expressed through social media comments on customer perception. Interactions in comment sections become a form of persuasion and can inadvertently affect a company's reputation and customers' trust (Araújo et al., 2023). In other words, business sustainability may be affected by this situation, suggesting that corporate social responsibility has been neglected by the firm. Corporate social responsibility plays a crucial role in enhancing a company's brand image and overall business processes (Widjaja, 2024).

A number of previous studies have examined the impact of social media sentiment in the context of ethical issues and online discourse. Rosli et al. (2024) conducted a general study in Malaysia and asserted that user engagement metrics—such as likes, comments, and shares—have a significant impact on consumer purchase intentions while strengthening social media interactions in shaping brand perception. Following this, Van Dat et al. (2025) found that purchase intention and trust are directly affected by user-generated information on social commerce websites (Shopee and Tokopedia), highlighting the role of social media discourse in the consumer–brand relationship. Another cross-industry study conducted by Tahir et al. (2024) found that brand image is highly sensitive to ethical issues, which can adversely affect brand loyalty in the long term. More importantly, Lewin and Warren (2025) revealed that when CSR or public relations communication conflicts with external sources of information—such as viral news or government investigations—stakeholders perceive hypocrisy in the company and respond with social media countersignals such as moral outrage, boycotting, and moral condemnation. Hence, these prior studies mainly focus on brand trust crises at a broader scope and have yet to examine multidimensional public sentiment within a specific, real-time ethical controversy in an emerging market.

This study fills the gap by focusing on a specific and unique case while supporting the rise of digital ethics and transparency concerns. The Aqua controversy provides a distinctive example at the intersection of consumer rights, environmental ethics, and corporate communication, enabling in-depth analysis of how digital publics construct moral judgments about corporate actions. The originality of this paper lies in its AI-augmented netnography methodology, which combines traditional netnography with artificial intelligence. AI-augmented netnography employs NLP-based sentiment classification, thematic coding, and interpretive analysis. The purpose of this study is: (1) to analyze the sentiment of social media users in perceiving Aqua’s controversy, (2) to examine the dominant themes emerging from public discourse, and (3) to assess the implications of public sentiment and dominant themes for Aqua’s corporate legitimacy and business sustainability. The results contribute theoretically by integrating AI tools into netnographic research and practically by providing empirical evidence to corporations regarding the risks of ethical dilemmas in the digital era.

METHOD

This study employed a qualitative approach using AI-augmented netnography. The method combined artificial intelligence tools with netnographic analysis. Netnography was selected because the data were inherently digital, consisting of spontaneous expressions and unsolicited public comments on Instagram. This approach enabled the study to capture authentic consumer sentiments. Unlike survey-based methods, netnography provided more organic and real-time data while minimizing the risk of researcher-induced bias.

Artificial intelligence was used as an analytical instrument to classify sentiments and identify thematic patterns, thereby enhancing the netnographic analysis. Specifically, an NLP-based generative tool was utilized to perform three core functions: (1) sentiment classification by categorizing each comment as positive, neutral, or negative; (2) initial thematic coding to identify recurring semantic patterns across 770 primary comments; and (3) thematic clustering by grouping similar codes into coherent categories.

The outputs generated by the AI were subsequently validated, refined, and contextualized by the researcher to ensure analytical rigor and contextual sensitivity. The analytical process followed three main steps: coding (assigning descriptive labels to meaningful units of comments), clustering (grouping codes into themes and sub-themes), and interpretation (examining how these themes reflected broader social, ethical, and commercial meanings).

Data collection was conducted using Apify, a cloud-based scraping platform, which enabled the extraction of comments from three of Aqua’s Instagram posts.

Table 1. Sample of Data

No	Related Content Link	Post Date	Like	Comment	Primary Comment
1	https://www.instagram.com/sehataqua/reel/DQJDDMqk6J/	Oct. 23rd 2025	6.320	2.287	709
2	https://www.instagram.com/reel/DOLf2Lakfg5/?utm_source=ig_web_copy_link	Oct. 24th 2025	3.295	67	35
3	https://www.instagram.com/reel/DOTBRnqEhff/?utm_source=ig_web_copy_link	Oct. 27th 2025	1.722	102	26
Total Sample					770

Source: Data scraping of Aqua's official Instagram posts (@sehataqua) using Apify, 2025

This study focused on these three posts because they were uploaded during a peak period of public sensitivity, making them particularly relevant for analysis. The posts represented an immediate corporate response at a time when public perception was actively forming.

The first post used the tagline, “*Perlu diketahui tidak semua air itu air AQUA, karena AQUA berasal dari air tanah dalam (akuifer dalam),*” meaning “Not all water is Aqua, because Aqua comes from deep groundwater (deep aquifers).” The second post stated, “*Kami mendengar dan menghargai setiap pertanyaan Anda. Karena itu, kami berupaya memberikan informasi dan edukasi yang akurat untuk menjawab berbagai kekhawatiran yang belakangan ini beredar,*” meaning “We listen to and appreciate the public’s questions; therefore, we strive to provide accurate information to address the concerns that have been circulating.” The third post read, “*Sumber air AQUA yang berasal dari lapisan akuifer tertekan terhubung langsung ke pegunungan,*” meaning “Aqua’s water source, which comes from a confined aquifer layer, is directly connected to mountainous areas.”

Based on these statements, Aqua clarified that its water source was derived from deep groundwater (confined aquifers) rather than surface water. The captions emphasized that Aqua originated from deep aquifer layers that were hydrologically connected to mountainous regions.

Additionally, in terms of sampling, this study used primary comments and excluded reply comments to minimize interaction bias, ensuring that the data reflected more independent viewpoints.

RESULTS AND DISCUSSION

Empirical data based on the qualitative content analysis of Instagram commentaries were gathered from the three official posts. A total of 770 comments were gathered, and to reduce the effects of interaction bias and repetition, the analysis was only conducted on the original comments (omitting the reply). This was done to make sure that the findings are independent of user perceptions.

Sentiment analysis in this study is categorized into three classifications. First is positive comments, in this part, the comments are descriptively reflected on trust, brand support, and a sort of favourable views about Aqua. Second, neutral comments are descriptive in nature, conveying facts without giving any personal opinions. Lastly, negative comments include brand distrust, disappointment, accusation of dishonesty, or ethical criticism toward the Aqua's controversy.

Public Perception of the Aqua's Ethical Controversy

Table 2. Public Sentiment Related to Aqua's Controversy

Sentiment	Total	Percentage
Positive	81	10,52%
Neutral	149	19,35%
Negative	540	70,13%
	770	100,00%

Source: AI-augmented netnographic analysis of 770 primary Instagram comments

The findings reveal that the perception of the general population towards Aqua is mainly negative, with a figure of approximately 70,13% having strong sentiments of distrust, disappointment, and moral outrage. Users of social media doubt the validity of Aqua, using the same slogan of Natural Spring Water that has existed since as early as the 1980s, especially when faced with the accusations of groundwater extraction and the practice of drilling.

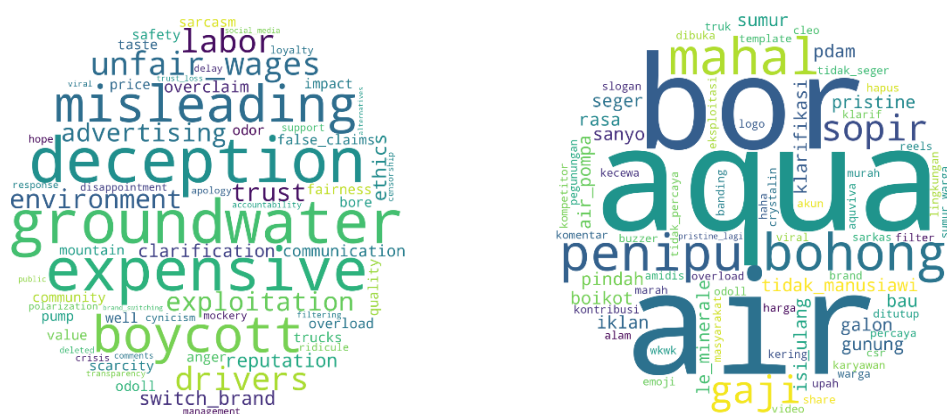


Figure 1. Word Cloud Original Comments and English Version

Source: Author's analysis based on 770 primary Instagram comments using NLP-based thematic clustering

Misleading Marketing

This is the theme that resonates with public curiosity: the branding and advertisement messages from Aqua, particularly those that scrutinize purity and natural water sources, are incompatible with the truth. This theme accounted for around 24.44% of the total negative comments. The public presents the problem as misleading or exaggerated advertising. Examples of such expressions are: “*Iklan air gunung ternyata air bor* – Advertised as mountain spring water, but in fact sourced out of groundwater”, “*Gunanya gambar gunung di botol apa* – What is the point of the ad being made of mountain water?”, “*Langsung bikin reels, bukan air pegunungan* – Shortly make an Instagram reel, to clarify that it is not mountain spring water”, “*Air pegunungan atau apa sebenarnya* – this is from spring mountain water or what source?”, “*Slogannya Ganti dong* – Please change your slogan”, “*Hapus klaim murni pegunungan* – Don’t use pure spring mountain water as claimed.” These assertions indicate that marketing discourses ought to consider ethical marketing since it is at the center of constructing negative meanings of the scandal.

Environmental Exploitation

Environmental concerns arose as the public associated the extraction of groundwater with the larger problems of ecological damage and community burdens. This theme was recorded at 17.96%, and this is an indication of increased societal awareness of the aspect of sustainability and resource management. One can illustrate the original phrases by using the following examples: “*Air warga di sekitar susah* – Residents struggle to access pure water”, “*Air warga disemit* – Residents’ water is restricted”, “*Sumur warga kering* – Causing residents’ wells to dry up”, “*Enak ngambil air gratis* – Taking free water sources just to commercialize it”, “*Bahan baku gratis harga mahal* – Using free raw materials, but it’s too expensive”, These remarks put the matter into perspective as an issue of environmental injustice, not a technical source practice. Furthermore, this is an urgent issue connected with ethical business.

Labour Welfare Issues

Interestingly, labour welfare issues were also raised during the tension of discourse, and the proportion reached 9.07%. Public discourse frames labour issues as public matters in the context of underpayment of workers, overload activities, and the safety of employees. These problems are reinforcers of ideas of corporate ethical failure and emerge in expressions, such as “*Bikin hadiah milyaran, Gaji supir menyedihkan*, – Billion giveaways, wages to drivers are really low”, “*Tidak manusiawi Aqua, ngasih upah sopir*, – Inhuman paying drivers”, “*Gaji supir gak sebanding*, – Driver wages are not fair.” Individualizing the controversy, such narratives bring out the human impacts of corporate activities. Therefore, these words notably aim to criticize the labour welfare issues.

Corporate Accountability

This fifth core presented as the public demand for transparency, responsibility, and meaningful corporate response, accounting for 6.67% of the total share. The public was wondering about the real business practices and questioning the clarifications made by Aqua. Examples of expression include “*Perasaan dulu penjelasannya beda* – The explanation used to be different from previous claims”, “*Ohh jadi ini sejenis klarifikasi secara halus melalui konten ya?* – Then, this is a soft clarification via social content?”, “*Klarifikasi, lebih baik minta maaf* – Company should issue an apology rather than to clarify”, “*Tunjukkan bukti juga* – Please show the proof”, “*Jelaskan dong itu air, SIPA dan BRIN?* – Please, SIPA (Foreign

Research permit) and BRIN (National Research and Innovation Agency), facilitate to explain this source of water”, “*Postingan sebelumnya dihapus* – Previous posts about mountain spring water were deleted”. Such narrative responses show that the public discourse is certainly doubting the responsibility and corporate accountability.

Collectively, these five central dominant themes reveal that the Aqua controversy has been presented as a legitimacy crisis by the media, wherein false marketing and practices of operations elicit mistrust and issues of legitimacy. One more important message is that the intersection of these themes stresses the way the social media discourse can turn the solitary corporate problems into the larger concerns regarding the brand reputation and sustainability of business in the long term.

Sub-Theme and Discursive Patterns

A more detailed study shows that there are several major sub-themes, as evidenced in the sub-theme word cloud (Figure 3). The sub-themes that are most prevalent are brand rejection, reputational concern, issue of product credibility, disappointment, ethical labour issues, and crisis of transparency.



Figure 3. Word Cloud Sub-Themes Related to Users’ Comments

Source: Author's analysis based on sub-thematic patterns identified through AI-augmented netnography

Closely associated with that is the fact that the majority of viewers express brand rejection, indicating that the sentiment of the people is not one of simple criticism but is active withdrawal-oriented, with many viewers referring to the potential long-term harm to the image of the company, a lack of trust toward it, and possible business ramifications. The phrases to this sub-theme are reflected, such as “*Pokoknya udah ga percaya, ga bakal beli Aqua lagi* – I no longer trust it at all and will not buy Aqua anymore”, “*Move ke merk lain* – Switching to another brand”, “*Bye Bye Aqua*”, “*Sekelas Aqua kok reputasinya jadi begini* – A big Brand like Aqua, it is so shocking to see its reputation being ruined”, etc. These reputational issues imply that the scandal is a challenge to the brand position and not a short-term communication problem.

The problem of product credibility further supports this trend by pointing to the uncertainty about the authenticity of the product, the claims of its origin, and the perceived

quality consistency. The question that often arises among consumers is whether Aqua is still reliable when it comes to quality concerns in terms of purity and sourcing. As an example, such a phrase as “*Kirain air pegunungan, ternyata air bor* – I had assumed it was mountain spring water, but actually it was groundwater”, “*Pantesan rasanya beda kaya air isi ulang* – I thought it was refill water as well, because the taste is similar”, etc. In addition, this betrayal is enhanced by disappointment, which elicits emotional reaction among once loyal consumers who have been betrayed after years of trust and habitual use. The expressions are: “*Kecewa banget, dari kecil minum Aqua* – I am so disappointed; I have been drinking Aqua since childhood”, “*Sakit hati rasanya dibohongi bertahun-tahun* – It hurts to feel deceived for so many years”, etc.

Moreover, Ethical Labour Concerns can also be discussed as a topical sub-theme, and users pay attention to such aspects of unfair treatment of workers as low wages, overloading tendencies, and the safety of workers. These issues put a personal face on the controversy, since they are no longer discussing abstract corporate practices, but the human impact of decision-making in the operations, which is reflected in phrases, such as “*Gaji sopir masa 125 ribu, ini kerja rodi*, – Driver paid only IDR125,000, such a forced labor”, “*Muatan 13 ton* – overload 13 tons?”, “*Muatan di tambahin, tetapi gaji sopir dikurangin* – Load of driver is increased, but wages were reduced.”

Lastly, the crisis of transparency sub-theme indicates high levels of distrust in the company in terms of clarification and explanation. Some users wonder whether the responses of Aqua are real accountability or a simple damage control strategy of its company through reputation management that responds to inquiries like “*Ini klarifikasi beneran ato cuma buat nutupin nih* – Is this a genuine clarification or just an attempt to cover things up?”, “*Sekedar animasi, kenyataannya belum lihat* – Just a video animation of clarification, haven't seen the real practices”, “*Jangan cuma video animasi* – Don't rely only on animation videos.”

Collectively. These illustrative remarks show how each of these sub-themes has its foundations in the real manifestations of the public. The overlap of public outcry in the fifth theme of appearance sub-theme supports the way in which the controversy of Aqua grew into greater issues of brand confidence, corporate standing, product reputation, ethical issues, and how this would impact the legitimacy of the business in the long run.

Public Sentiment and Digital Ethics

These results suggest that most of the users of social media assume the Aqua controversy as an ethical crisis in the digital era, as opposed to a simple technical explanation about the water sourcing. The prevalence of negative feelings (70,13%) shows that the reaction of the public is predetermined by the sense of deception, moral outrage, and disappointment, especially with respect to the consistent branding story of Aqua, which is based on purity and natural mountain water. This is aligned with the corporate digital responsibility (CDR) theory by Lobschat et al. (2021) that emphasizes digital ethics encompassed by values and norms are essential in maintaining public sentiment. Otherwise, a company may face moral outrage and moral condemnation (Lewin & Warren, 2025).

The more recent research proves that the negative online discourse enhances the perception of unethical behaviour and speeds up the process of trust loss (Lewin & Warren, 2025; Rosli et al., 2024; Van Dat et al., 2025). Another in line finding that is held by Lewin and Warren (2025), stating that social media would balance the information between internal and external sources of information, and once misinformation was detected, it would lead to

moral judgment. In this sense, retrospective users are re-evaluating decades of consumption and loyalty, adding to the claim that ethical scandals have the power to redefine brand historical impressions. The clarification made by Aqua is a contradiction to previous implicit statements and serves to further increase the doubts of the people, which shows that the moral gray area can lead to a reputational backlash in the online space. Therefore, according to the truthful and transparent marketing principle, one of the fundamental requirements is a responsible business that is highly important (Lee & Chung, 2023; Tanveer et al., 2021).

Dominant Themes and Meaning Construction

The theme analysis shows that the discourse of the public is organized according to five main predominant themes, including Brand Trust, Misleading Marketing, Environmental Exploitation, Labour Welfare Issues, and Corporate Accountability. These themes prove that Instagram users all present the controversy as a legitimacy crisis, but not as a single operating problem. This trend follows the netnographic approach of Kozinets (2023), according to which communities on the Internet create shared meanings based on emotional narratives, symbolic ridicule, and moral judgment.

The dominance of Brand Trust Crisis and Misleading Marketing points to the fact that the gap between the corporate discourse and the reality it should represent weakens the credibility of a brand, which confirms the earlier results that brand image is a highly fragile phenomenon in terms of ethical discrepancies (Rosli et al., 2024; Van Dat et al. 2025; Tahir et al., 2024; Shin & Son, 2025). Furthermore, the fact that such topics as Environmental Exploitation and Labour Welfare Issues emerged demonstrates that the public discourse moves not only to the dissatisfaction of the consumers but also further to the concerns of the whole group of stakeholders, such as the access of the community to water, the management of the resources, and the welfare of the workers.

This is aligned with the stakeholder theory (Freeman et al., 2010) and the relationships between stakeholder theory and corporate social responsibility by Dmytriiev et al. (2021), in which the failure to take into account stakeholders' concerns increases the risk of reputational loss and endangers long-term legitimacy.

Public Sentiment, Corporate Legitimacy and Business Sustainability

Negative public sentiment, such as brand rejection, reputational concern, product credibility issues, disappointment, ethical labour concerns, and crises of transparency, has direct implications for long-term corporate legitimacy and long-term sustainability. A prior related research asserted that negative public sentiment can adversely reduce customer intention to buy, as well as weaken brand awareness (Rosli et al., 2024; Van Dat et al., 2025; Lewin & Warren, 2025; Pang & Lee, 2008; Siddiqui et al., 2021). Besides, based on sustainability views, the corporate sustainability obligation is incorporated in ethical marketing, transparency, labour fairness, and stakeholder objectives (Schoenmaker & Schramade, 2023). In this sense, Aqua neglects trust-based relationships with customers and communities.

Ethical marketing practices showed a strong positive relationship with brand loyalty (Rosli et al., 2024; Van Dat et al., 2025; Lewin & Warren, 2025; Tanveer et al., 2021). Otherwise, the lack of transparency leads to the erosion of trust, loss of consumers, and

decreasing demand. Moreover, there is a skeptical behaviour toward Aqua's clarification efforts that reflects a crisis of transparency, which weakens and aggravates corporate credibility. Araujo, Pereira, & Santos (2023), Lee & Chung (2023), and Shin and Son (2025) asserted that failure in transparency during crises damages corporate reputation and recovery. Furthermore, Lobschat et al. (2021), through a corporate digital responsibility theory (CDR), stated that ethical obligation is inevitable in this digital era, and firms should set boundaries based on values and norms to control their business practices.

Nevertheless, unethical business practices and a lack of transparency are really matters to maintain corporate legitimacy. As stated by Freeman et al. (2010), stakeholders include the whole value chain, shareholders, employees, suppliers, consumers, etc, and the firm has an obligation to meet the stakeholders' concerns without undermining the social environment. This obligation is also extended by Dmytriiev et al. (2021) with the importance of corporate responsibility in order to maintain the public trust and business ecosystem. Otherwise, negative public sentiment disturbs and aggravates business activities and the long-term business legitimacy.

Comparative Analysis and Implication for Digital Marketing Theory

Comparatively, the findings of this research extend the previous studies in social media sentiment, brand trust, purchasing intention, and corporate social responsibility amid the ethical code of conduct issues. Rosli et al. (2024) demonstrated that user engagement metrics, such as likes, comments, and shares, have a positive impact on consumer purchase intentions and strengthen brand perception under normal commercial conditions. In this study, Aqua's case deeply examines the social sentiment amid the crisis, the high volume of comments as amplified moral outrage, rather than brand endorsement or steady social media commerce. In this sense, social media sentiment, such as user engagement metrics, fundamentally has different contexts and meanings depending on corporate issues.

Similarly, Van Dat et al. (2025) found that user-generated content enhances brand trust in the social media environment and drives purchase intention. However, Aqua's case offers a different angle by examining user-generated discourse into destructive sentiment, which leads to the erosion of brand credibility. Nevertheless, this distinction emphasizes the role of user-generated discourse dynamically referring to digital ethics, social responsibility, and public scrutiny.

Most critically, Lewin and Warren (2025) revealed that when CSR information contradicts the external information, it triggers stakeholders' hypocrisy perceptions and social media countersignals. This study is precisely mirrored by the Aqua controversy in its mechanism. Aqua's long-standing branding "natural spring mountain water", implicitly constituted in its CSR claim, was later on directly contradicted by an external revelation of groundwater extraction, triggering mass countersignaling such as moral outrage, deception, brand rejection, ethical issues, and moral condemnation. However, Aqua's case is a unique study on a specific firm with a multi-dimensional stakeholder backlash and patterns, including not only brand trust, misleading marketing, but also environmental exploitation issues, and labour welfare.

These results have fundamental implications for digital marketing theory and practices. First and foremost, the high volume of user-generated engagement metrics is not

merely perceived as brand health, but, on the contrary, a crisis functions as an indicator of reputational damage. Digital marketing should put a dynamically sensitive framework for interpreting social media metrics, separating engagement driven by brand enthusiasm and moral scrutiny. Second, the prior revelations closely refer to brand trust, consumer relations, and purchase behaviour; therefore, there are no themes such as environmental exploitation and labour welfare. This finding demands a broad view to incorporate corporate socio-environmental responsibility into digital marketing practices. Third, this study employs an AI-augmented netnography, a cutting-edge methodology, that contributes to the advancement of digital marketing research to process a large and unstructured social media data effectively and efficiently with a sophisticated analysis.

CONCLUSION

This study provided several interrelated insights. Theoretically, it advanced methodology by integrating AI-augmented netnography, demonstrating how NLP-based sentiment analysis can systematically capture and interpret large-scale social media discourse. Empirically, it showed that ethical controversy can evolve into a multidimensional legitimacy crisis—encompassing brand trust, deception, environmental concerns, labor welfare, and corporate accountability—with 70.13% of negative sentiment reflecting moral outrage and challenges to legitimacy. Practically, the findings emphasized the importance of aligning marketing narratives with business realities, as negative sentiment surrounding credibility, transparency, and reputation can undermine corporate viability in the digital era. Accordingly, firms should prioritize ethical consistency, transparent stakeholder engagement, and responsible resource management to sustain legitimacy and long-term value creation. Future research could expand this approach by applying AI-augmented netnography across different industries or cross-country contexts to compare how cultural and regulatory environments shape public sentiment and corporate legitimacy.

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