THE IMPACT OF DIGITAL SOCIAL RESPONSIBILITY ON ELECTRONIC WORD-OF-MOUTH INTENTION AND BRAND EQUITY: THE ROLE OF IDENTIFICATION AND TRUST

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Abstract

In the context of emissions-data requirements for steel entering the European Union under its Carbon Border Adjustment Mechanism (CBAM), this study examines the relationships among perceived digital social responsibility (DSR), electronic word-of-mouth (eWOM) intention, and consumer-based brand equity. DSR is operationalized through consumers' perceptions of digitally mediated community-support and charitable activities. Data were collected using an online convenience survey of 271 consumers aged 20-45 in Ho Chi Minh City who were familiar with at least one steel brand and had encountered DSR activities. Partial Least Squares Structural Equation Modeling (PLS-SEM) indicates that DSR is positively associated with customer-company identification and brand trust; both are positively associated with eWOM intention and brand equity. The four hypothesized indirect associations are statistically significant. A supplementary model that additionally estimated direct paths from DSR to eWOM intention and brand equity showed positive direct associations alongside the indirect associations, a pattern consistent with complementary partial mediation. Drawing on Social Identity Theory and Signaling Theory, the findings highlight identification and trust as parallel psychological mechanisms linking perceived digital community responsibility with brand-related responses. The findings should be interpreted in light of the cross-sectional design, self-reported measures, and nonprobability sampling.

Keywords: *brand equity, brand trust, customer-company identification, digital social responsibility, electronic word-of-mouth intention, steel industry.*

TÁC ĐỘNG CỦA TRÁCH NHIỆM XÃ HỘI SỐ ĐẾN Ý ĐỊNH TRUYỀN MIỆNG ĐIỆN TỬ VÀ TÀI SẢN THƯƠNG HIỆU: VAI TRÒ TRUNG GIAN CỦA SỰ ĐỒNG NHẤT VÀ NIỀM TIN THƯƠNG HIỆU

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Tóm tắt

Trong bối cảnh các doanh nghiệp thép Việt Nam xuất khẩu sang EU chịu yêu cầu cung cấp dữ liệu phát thải phục vụ cơ chế điều chỉnh biên giới carbon (CBAM), nghiên cứu xem xét mối liên hệ giữa trách nhiệm xã hội số (DSR), ý định truyền miệng điện tử (eWOM) và Tài sản thương hiệu dựa trên nhận thức người tiêu dùng. DSR được đo lường qua nhận thức của khách hàng về các hoạt động hỗ trợ cộng đồng và thiện nguyện được thực hiện thông qua nền tảng số. Nghiên cứu sử dụng dữ liệu khảo sát trực tuyến theo phương pháp chọn mẫu thuận tiện từ 271 người tiêu dùng 20-45 tuổi tại Thành phố Hồ Chí Minh, có nhận biết về ít nhất một thương hiệu thép và đã tiếp xúc với hoạt động DSR. Kết quả PLS-SEM cho thấy DSR có mối liên hệ thuận chiều với Sự đồng nhất khách hàng - doanh nghiệp và Niềm tin thương hiệu; cả hai biến này cũng có mối liên hệ thuận chiều với eWOM và tài sản thương hiệu. Bốn tác động gián tiếp trong mô hình đều có ý nghĩa thống kê. Khi bổ sung các đường dẫn trực tiếp từ DSR đến hai biến kết quả ở mô hình kiểm tra vai trò trung gian, các mối liên hệ trực tiếp và gián tiếp vẫn dương và có ý nghĩa, phù hợp với dạng trung gian một phần mang tính bổ trợ. Kết quả gợi ý rằng sự đồng nhất và niềm tin là hai cơ chế tâm lý song song liên kết nhận thức về hoạt động DSR với phản ứng tích cực đối với thương hiệu. Việc diễn giải cần xét đến giới hạn của thiết kế cắt ngang, dữ liệu tự báo cáo và phương pháp chọn mẫu phi xác suất.

Từ khóa: *Niềm tin thương hiệu, sự đồng nhất khách hàng - doanh nghiệp, tài sản thương hiệu, trách nhiệm xã hội số, ý định truyền miệng điện tử, ngành thép.*

JEL classification: M31, M14, L81.

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1. Introduction

Digital platforms enable consumers to access, assess, and exchange company information beyond firm-controlled communication channels (Erkan & Evans, 2016; Chu & Chen, 2019). In this environment, electronic word-of-mouth (eWOM) intention and consumer-based brand equity (BE) are important indicators of favorable consumer responses. Online recommendations can shape information adoption and purchase decisions (Erkan & Evans, 2016), while brand equity reflects the value consumers associate with a brand's familiarity, associations, and perceived attractiveness (Tasci, 2021). Digital social responsibility (DSR) may be relevant to these outcomes because digitally visible community and social initiatives make aspects of a firm's values more accessible. Prior research has associated digitally communicated responsibility with brand trust and favorable brand responses (Puwirat & Tripopsakul, 2019; Sharma, 2024). However, the strength and nature of these relationships may vary across industries and according to how digital responsibility is measured.

Although social responsibility and its communication through digital platforms have been

examined in services and other consumer-oriented sectors, studies use different conceptualizations and measures of CSR and DSR (Chu & Chen, 2019; Puwirat & Tripopsakul, 2019; Puriwat & Tripopsakul, 2022; Sharma, 2024; Jiang et al., 2025; Çataldaş & Yalçınkaya, 2025). Evidence concerning individual consumers of steel brands in Vietnam remains limited, notwithstanding related domestic research on digital CSR (Dinh, 2022). Steel purchasing is often a high-involvement decision involving performance attributes that non-specialists may find difficult to assess (Darby & Karni, 1973). Even when contractors carry out the transaction, household members may participate in the evaluation of brands. For steel supplied to the EU market, importers' CBAM obligations increase demand for emissions information from non-EU producers (OECD, 2025). These contextual conditions motivate an examination of consumer responses to socially responsible activities visible online. Importantly, the present study uses a four-item measure of consumers' perceptions of digital community-support and charitable initiatives, adapted from Amankona et al. (2024), rather than a firm-level measure of environmental performance, privacy protection, or ESG disclosure quality. We examine two parallel psychological mechanisms - customer-company identification and brand trust - to explain the associations between this operationalization of DSR and eWOM intention and consumer-based brand equity. The focus on consumers in the Vietnamese steel sector provides an industry-specific extension of existing digital CSR research.

Digital social responsibility may serve as a value-related signal in consumer assessments of steel brands, particularly where product information is difficult for non-specialists to evaluate. The present study integrates Social Identity Theory and Signaling Theory to examine the associations of perceived digitally mediated social contributions with customer-company identification and brand trust. The proposed parallel indirect pathways link DSR with eWOM intention and consumer-based brand equity. Using 271 valid consumer responses from Ho Chi Minh City and PLS-SEM, the research examines both the six hypothesized direct structural paths and four specific indirect paths, followed by a supplementary mediation-classification model that includes direct paths from DSR to the two outcomes.

2. Theoretical framework and hypothesis development

2.1. Construct definitions

Digital social responsibility (DSR): DSR broadly refers to social-responsibility initiatives implemented or communicated through digital platforms (Amankona et al., 2024). In this study, DSR is operationalized more narrowly as consumers' perceptions of a steel brand's digitally mediated contributions to communities and charitable causes, measured with four items adapted from Amankona et al. (2024); their published measurement appendix attributes the source DSR items to Puriwat and Tripopsakul (2021). Data privacy, emissions disclosure, and ESG reporting provide broader industry context, while the DSR indicators used here specifically address perceived online community-support and charitable activities.

Customer-company identification (CCI): Customer-company identification refers to the psychological sense of oneness consumers perceive with a company when their personal identity overlaps with the organization's identity. This concept reflects a deep cognitive and emotional attachment where consumers view the company's success as their own (Fatma et al., 2020).

Brand trust (BT): According to Khan et al. (2020), Brand Trust is understood as the confident expectations of a brand's reliability and intentions in situations entailing risk. It encompasses the belief that the brand will fulfill its promises (reliability) and act with integrity for the consumer's welfare (benevolence).

Electronic word-of-mouth intention (eWOM): eWOM intention is the consumer's conscious plan to share positive information or recommendations on online platforms (Shih et al., 2013). Unlike actual behavior, intention reflects the psychological readiness to advocate for the brand within digital communities.

Brand equity (BE): The study focuses on consumer-based rather than financial brand equity. It is operationalized with four consumer-perception items addressing brand familiarity, salient brand associations, favorable evaluations of the company behind the brand, and brand preference (Tran & Nguyen, 2022). Consequently, BE reflects respondents' brand-related perceptions and intended preference as a consumer-based construct, distinct from financial brand valuation.

2.2. Theoretical framework

To construct a theory-informed framework, this study integrates Social Identity Theory (SIT) and Signaling Theory. Grounded in SIT, which was formalized by Tajfel and Turner (1979), consumers may develop their self-concept partly through identification with organizations whose values they perceive as compatible with their own. In this context, digitally communicated social-responsibility activities may serve as cues about organizational values. Perceived alignment between these values and consumers' self-concepts may strengthen customer-company identification (Ashforth & Mael, 1989). This sense of identification may, in turn, be associated with more favorable brand evaluations and willingness to recommend the company.

Complementing the identity-based account, Signaling Theory addresses perceived information asymmetry (Spence, 1973; Connelly et al., 2011). In

steel purchasing, the difficulty of evaluating some product attributes may heighten attention to brand credibility. Publicly visible community-support activities may signal a firm's social commitments, a distinct dimension from verification of product quality or environmental compliance. Consumers may consider these cues when assessing the perceived integrity of a brand. This perspective motivates the hypothesized positive association between perceived DSR and Brand trust as a relationship between consumer perceptions.

The framework thus specifies two parallel psychological pathways. Perceived digitally mediated social initiatives may be associated with Brand trust by providing cues relevant to the firm's integrity, as suggested by Signaling Theory. The same initiatives may be associated with customer-company identification when consumers recognize values that overlap with their own, as suggested by Social Identity Theory. CCI and BT are specified as parallel mediators, with the structural model estimating each pathway separately. The model examines cross-sectional associations with eWOM intention and consumer-based Brand equity.

2.3. Hypothesis development

2.3.1. The direct relationship between DSR, CCI and BT

The hypothesized associations between DSR and the two mediators follow two complementary perspectives. Social Identity Theory suggests that visible community-oriented digital initiatives may communicate values with which consumers identify, thereby supporting customer-company identification (CCI) (Ma et al., 2021; Sharma, 2024). Signaling Theory suggests that credible and consistent communication of socially responsible activities may provide cues about an organization's integrity, particularly when consumers have limited information about the company (Connelly et al., 2011; Xu et al., 2023). These perspectives motivate two parallel pathways through identification and trust.

In the present context, perceived digital community initiatives may be interpreted as signs of organizational concern for social welfare, supporting consumers' confidence in a brand. Prior digital responsibility research reports positive associations between online social-responsibility activities and trust-based brand assessments (Puwirat & Tripopsakul, 2019). The measurement items assess digital community-support practices; environmental disclosure and data privacy are treated as contextual managerial considerations.

H1: Perceived digital social responsibility is positively associated with customer-company identification.

H2: Perceived digital social responsibility is positively associated with Brand trust.

2.3.2. The direct relationship between CCI, BT, eWOM and BE

Customer-company identification (CCI) acts as a key intrinsic mechanism shaping consumer interaction in digital environments. Drawing on Social Identity Theory, when individuals perceive a strong overlap between their self-concept and a company's identity, they become more inclined to support the organization. Empirical research shows that value congruence fostered through responsible corporate practices strengthens this sense of identification (Ma et al., 2021; Sharma, 2024). As a result, identified consumers may engage in electronic word-of-mouth (eWOM) as a form of self-expression and identity reinforcement. Wu and Zhu (2021) found that customer-company identification was associated with behavioral intentions, including eWOM, in a social-media CSR setting. Identification is also relevant to consumers' evaluations of a company and its brand. He and Li (2011) found that brand identification mediated the relationship between CSR associations and service-brand outcomes, including satisfaction and loyalty. Ma and Kaplanidou (2021) identified customer-company identification as a mediator between perceived CSR and corporate brand equity in a sports-brand context. These findings motivate the hypothesized positive association between CCI and consumer-based Brand equity in the present steel-brand context.

Distinct from identification, Brand Trust (BT) can provide reassurance under uncertainty and information asymmetry. In conventional CSR research, trust has been associated with favorable brand evaluations and positive word of mouth (Chaudhuri & Holbrook, 2001; Khan & Fatma, 2023). Research on digital social responsibility in social commerce further links DSR to brand equity partly through consumer trust (Puwirat & Tripopsakul, 2019). Recent research further associates digital CSR disclosure with customer trust and engagement (Alhumud et al., 2025). Together, these studies motivate the hypothesized positive associations between trust, eWOM intention, and consumer-based brand equity in the present survey.

H3: Customer-company identification is positively associated with eWOM intention.

H4: Customer-company identification is positively associated with consumer-based Brand equity.

H5: Brand trust is positively associated with consumer-based Brand equity.

H6: Brand trust is positively associated with eWOM intention.

2.3.3. Mediating roles of CCI and BT in the relationship between DSR, eWOM and BE

Figure 1 presents the prespecified six-path structural model. Two additional direct paths from DSR to eWOM intention and Brand equity were

subsequently estimated in a separate model to classify the mediation patterns (Section 4.2.2).

Research on digital social responsibility has examined customer-company identification (CCI) as a pathway linking perceived DSR with consumer advocacy. Ma et al. (2021) and Sharma (2024) report that CCI functions as a relevant pathway through which DSR is associated with electronic word-of-mouth (eWOM) intention. Consumers who perceive alignment between a firm's online social initiatives and their own values may report stronger identification with the company (Ma et al., 2021). CCI may, in turn, be associated with greater willingness to share brand-related information online (Sharma, 2024). Evidence on the corresponding link with consumer-based Brand Equity in the Vietnamese steel sector remains limited. He and Li (2011) reported an indirect association between CSR and service-brand outcomes through identification. Ma and Kaplanidou (2021) further found that CCI mediated the relationship between perceived CSR and corporate brand equity in a sports-brand setting. On this basis, the study hypothesizes a positive indirect association between perceived DSR and consumer-based Brand equity through CCI.

In parallel, Brand trust (BT) represents a distinct psychological mechanism through which consumers may evaluate responsibility-related information. Evidence from social commerce indicates that trust can mediate the relationship between DSR and brand equity (Puwirat & Tripopsakul, 2019). Research on conventional CSR also links trust with brand-equity outcomes (Zhao et al., 2021). Regarding online advocacy, research on social commerce and CSR finds positive associations between trust and consumers' willingness to share favorable recommendations (Zainudin et al., 2020; Khan & Fatma, 2023). These findings motivate the proposed indirect pathways through Brand trust, while the present study examines such relationships specifically among individual consumers familiar with steel brands.

H7: Perceived DSR has a positive indirect association with eWOM intention through customer-company identification.

H8: Perceived DSR has a positive indirect association with Brand equity through customer-company identification.

H9: Perceived DSR has a positive indirect association with Brand Equity through Brand Trust.

H10: Perceived DSR has a positive indirect association with eWOM intention through Brand trust.

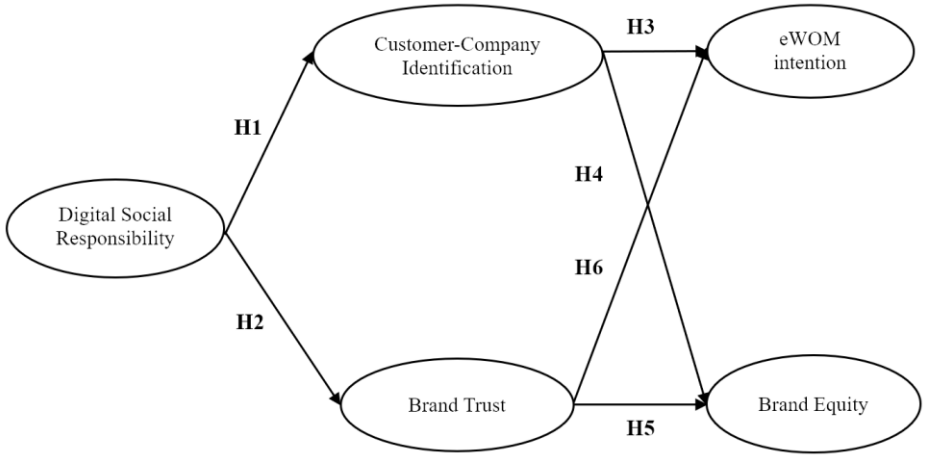


Figure 1: Hypothesized six-path structural model

3. Methodology

3.1. Sampling and data collection

The study was conducted in Ho Chi Minh City using a cross-sectional, online convenience survey. Eligible respondents were aged 20-45, recognized at least one steel brand operating in Vietnam, and had previously encountered or interacted with social-responsibility activities on digital platforms. The 20-45 age range was adopted as a study-specific eligibility criterion to focus on working-age adults with prior exposure to online social-responsibility activities. The resulting findings are interpreted within this age-defined survey population. Screening focused on steel-brand awareness and DSR exposure, with purchasing experience considered a separate characteristic of the target population. The final survey was conducted from November 13 to November 26, 2025.

The questionnaire was distributed through Google Forms links shared via online channels, including Facebook, Zalo, and email. Data screening removed responses that failed the eligibility criteria or showed evident response-quality problems. The final analysis comprised 271 valid responses. The nonprobability sample provides evidence from digitally exposed respondents meeting the specified criteria, with interpretation focused on comparable consumer groups in Ho Chi Minh City. The eligibility screening assessed brand recognition and DSR exposure; purchasing history was outside its scope.

3.2. Measures

All constructs were measured on five-point Likert agreement scales (1 = strongly disagree; 5 = strongly agree). The source items were adapted from established research, with the numbers of indicators and references summarized in Table 1. A focus-group discussion involving seven consumers was used to review wording and contextual relevance, followed by a quantitative pilot yielding 96 valid responses. The focus-group review informed the Vietnamese wording and steel-sector contextualization, and all 18 indicators were retained following the pilot. DSR items specifically capture perceived online community-support and charitable activity, whereas BE items address consumer-based perceptions and brand preference.

Table 1: *Measurement Scales*

Construct	Abbreviation	Items	Source
Digital social responsibility	DSR	4	Amankona et al. (2024)
Customer-company identification	CCI	4	Fatma et al. (2020)
Brand trust	BT	3	Khan et al. (2020)
eWOM Intention	eWOM	3	Shih et al. (2013)
Brand equity	BE	4	Tran and Nguyen (2022)

3.3. Data analysis

Following recommended PLS-SEM assessment procedures (Hair et al., 2021), data were analyzed in SmartPLS 4, with SPSS 27 used for preliminary diagnostics. The measurement model was evaluated through indicator loadings, Cronbach's alpha, composite reliability, average variance extracted, and HTMT. The structural model was then examined using collinearity diagnostics (VIF), explanatory power (R^2), relative effects on R^2 (f^2), and out-of-sample prediction with PLSpredict (Q^2predict). A 5,000-subsample bootstrap was used to assess the six hypothesized direct paths and four specific indirect associations. Two-sided 95% confidence intervals were approximated as $\beta \pm 1.96 \times$ bootstrap STDEV using a Wald-type normal approximation (Efron & Tibshirani, 1986). The baseline model was estimated first; a separate supplementary model added DSR-to-outcome direct paths for mediation classification. Accordingly, the findings are interpreted as hypothesized statistical associations within a cross-sectional survey design.

4. Results and discussion

4.1. Measurement model assessment

A preliminary check for common-method variance using Harman's unrotated single-factor procedure found that the first factor accounted for 45.513% of the variance. This result provides a preliminary diagnostic of common-method variance within the single-source survey design (Podsakoff et al., 2003). Measurement reliability and validity were subsequently assessed using outer loadings, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE), as reported in Table 2.

Table 2: *Summary of measurement model quality (Convergent Reliability and Validity)*

Construct	Cronbach's Alpha	CR	AVE	Outer Loadings
DSR	0.775	0.856	0.598	0.745 - 0.815
CCI	0.827	0.885	0.658	0.801 - 0.817
BT	0.811	0.888	0.725	0.846 - 0.860
eWOM	0.819	0.892	0.734	0.845 - 0.863
BE	0.820	0.881	0.650	0.786 - 0.835

The final 18 indicators had outer loadings ranging from 0.745 (DSR4) to 0.863 (eWOM3), according to the item-level measurement results; all 18 indicators were retained in the pilot and final assessments. Cronbach's alpha values ranged from 0.775 to 0.827, CR from 0.856 to 0.892, and AVE from 0.598 to 0.734. These results meet commonly used criteria for internal consistency and convergent validity (Hair et al., 2021). Table 2 summarizes the observed minimum and maximum loading within each construct.

Following this, discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) ratio of correlations, a criterion for assessing discriminant validity (Hair et al., 2021). The results are presented in Table 3.

Table 3: *Discriminant Validity Assessment (HTMT Ratio)*

	DSR	CCI	BT	eWOM	BE
DSR					
CCI	0.720				
BT	0.777	0.592			
eWOM	0.737	0.833	0.751		
BE	0.706	0.790	0.678	0.828	

All HTMT values in Table 3 were below the recommended threshold of 0.85, with the highest value of 0.833 observed between CCI and eWOM. These results support discriminant validity among the constructs based on the HTMT criterion (Hair et al., 2021).

4.2. Structural model assessment and hypothesis testing

4.2.1. Structural model assessment

Structural model assessment began with VIF diagnostics to evaluate predictor collinearity, followed by f^2 effect sizes to assess each predictor's incremental contribution to the endogenous construct's R^2 (Hair et al., 2021). Table 4 reports these diagnostics for the original six-path baseline model.

Table 4: *Structural model collinearity diagnostics and f^2 effect sizes (baseline model)*

Path	VIF	f^2 (Effect Size)
DSR → CCI	1.000	0.504
DSR → BT	1.000	0.628
CCI → eWOM	1.307	0.464
BT → eWOM	1.307	0.239
CCI → BE	1.307	0.386
BT → BE	1.307	0.146

Structural VIF values ranged from 1.000 to 1.307, indicating low collinearity among predictors in the baseline model. The f^2 statistics describe each predictor's incremental contribution to explained variance, while out-of-sample prediction is assessed separately using PLSpredict in Table 5 (Hair et al., 2021). DSR had large effects on CCI ($f^2 = 0.504$) and BT ($f^2 = 0.628$), while CCI had large effects on eWOM ($f^2 = 0.464$) and BE ($f^2 = 0.386$). BT had a medium effect on eWOM ($f^2 = 0.239$) and a small effect on BE ($f^2 = 0.146$), based on conventional effect-size benchmarks (Hair et al., 2021).

Next, the coefficient of determination (R^2) was used to describe in-sample explanatory power, while Q^2predict from SmartPLS 4's PLSpredict procedure was used to evaluate prediction relative to a mean-based benchmark on held-out folds (Hair et al., 2021). The values in Table 5 were obtained for the baseline structural model.

Table 5: *Baseline model explanatory power (R^2) and PLSpredict results (Q^2predict)*

Dependent Variable	R^2	Q^2predict
CCI	0.335	0.330
BT	0.386	0.379
eWOM	0.573	0.339
BE	0.499	0.304

The baseline model accounted for 57.3% of the variance in eWOM intention and 49.9% in consumer-based brand equity; it also explained 33.5% of CCI and 38.6% of BT. Q^2predict values ranged from 0.304 to 0.379. Positive values suggest that predictions from the PLS model performed better than a simple mean-based benchmark on the corresponding holdout predictions. The PLSpredict output also reported RMSE values of 0.796 (BT), 0.825 (CCI), 0.843 (BE), and 0.820 (eWOM), alongside MAE values of 0.633, 0.656, 0.638, and 0.642, respectively. At the construct level, RMSE and MAE summarize holdout prediction errors; relative prediction accuracy can be investigated by comparing these values across alternative structural specifications (Hair et al., 2021).

Table 6 reports global model-fit indices as supplementary diagnostics. In PLS-SEM, these measures are interpreted alongside measurement quality, structural path estimates, and predictive assessment (Henseler et al., 2016).

Table 6: *Model fit indices*

Fit index	Saturated model	Estimated model
SRMR	0.058	0.074
NFI	0.827	0.830
Chi-square	421.451	414.168

Table 6 presents SRMR values of 0.058 for the saturated model and 0.074 for the estimated model, both below the commonly used 0.08 guideline for approximate fit in PLS path modeling (Henseler et al., 2016). Corresponding NFI values of 0.827 and 0.830 are below the commonly cited 0.90 reference value, while interpretation of NFI in composite-based PLS-SEM warrants methodological caution (Henseler et al., 2016). The chi-square statistics (421.451 and 414.168) are included as supplementary descriptive indices.

Taken together, the measures meet the SRMR guideline while supporting a cautious overall interpretation of model fit (Henseler et al., 2016).

4.2.2. Hypothesis testing

Table 7 presents the coefficient estimates and significance tests for the six hypothesized direct paths and four specific indirect associations in the baseline model. A supplementary model additionally estimated direct paths from DSR to eWOM intention and Brand Equity to assess the mediation patterns. Table 7 reports the baseline coefficients, significance tests, and corresponding 95% confidence intervals.

Table 7: *Hypothesis testing and 95% confidence intervals (baseline model)*

Hypothesis	**Coefficient (β)**	**p-value**	**Result**	95% CI
H1: Perceived DSR → Customer-company identification	0.579	< 0.001	Supported	[0.487, 0.671]
H2: Perceived DSR → Brand trust	0.621	< 0.001	Supported	[0.533, 0.709]
H3: Customer-company identification → eWOM intention	0.509	< 0.001	Supported	[0.411, 0.607]
H4: Customer-company identification → consumer-based Brand equity	0.503	< 0.001	Supported	[0.391, 0.615]
H5: Brand trust → consumer-based Brand equity	0.309	< 0.001	Supported	[0.184, 0.434]
H6: Brand trust → eWOM intention	0.366	< 0.001	Supported	[0.278, 0.454]
H7: Perceived DSR → CCI → eWOM intention	0.294	< 0.001	Supported	[0.229, 0.359]
H8: Perceived DSR → CCI → Brand equity	0.291	< 0.001	Supported	[0.224, 0.358]
H9: Perceived DSR → BT → Brand equity	0.192	< 0.001	Supported	[0.108, 0.276]
H10: Perceived DSR → BT → eWOM intention	0.227	< 0.001	Supported	[0.160, 0.294]

In the baseline model, DSR was positively associated with both Customer-company identification ($\beta = 0.579$, $p < 0.001$) and Brand trust ($\beta = 0.621$, $p < 0.001$). These associations are compatible with the Social Identity Theory and Signaling Theory perspectives. The DSR measure used here specifically reflects perceived digital community contributions and social-support activities.

CCI was positively associated with eWOM intention ($\beta = 0.509$) and Brand equity ($\beta = 0.503$), while Brand trust was positively associated with eWOM intention ($\beta = 0.366$) and Brand equity ($\beta = 0.309$); all four relationships had reported p-values below 0.001. The findings are consistent with literature linking identification to self-relevant support for organizations and trust to favorable brand assessments (He & Li, 2011; Chaudhuri & Holbrook, 2001; Puwirat & Tripopsakul, 2019). The estimates are interpreted as statistically significant associations within the specified model and survey design.

In the baseline model, all four specific indirect associations were positive and statistically significant: DSR through CCI to eWOM intention ($\beta = 0.294$), DSR through CCI to Brand Equity ($\beta = 0.291$), DSR through BT to Brand equity ($\beta = 0.192$), and DSR through BT to eWOM intention ($\beta = 0.227$); all were reported at $p < 0.001$ in the original analysis. To classify mediation, a separate model also estimated direct paths from DSR to eWOM intention ($\beta = 0.134$, $p = 0.035$) and Brand equity ($\beta = 0.158$, $p = 0.027$). With these direct paths included, the corresponding specific indirect estimates were 0.266 (via CCI to eWOM), 0.257 (via CCI to BE), 0.149 (via BT to BE), and 0.190 (via BT to eWOM), each reported at $p < 0.001$. Since the direct and specific indirect estimates were positive and significant, the pattern was consistent with complementary partial mediation for both outcomes through each parallel mediator (Zhao et al., 2010). The estimates from the baseline and expanded models are presented separately to preserve their respective structural specifications. Both analyses describe statistical associations derived from the cross-sectional survey.

5. Conclusion and policy implications

5.1. Conclusion

The study examined how perceived Digital Social Responsibility relates to eWOM intention and consumer-based Brand Equity among steel-brand consumers in Ho Chi Minh City. Analysis of 271 survey responses supported the six hypothesized direct associations and four specific indirect associations in the baseline model. DSR, measured through perceived online community-support and charitable initiatives, was positively associated with both Customer-Company Identification and Brand Trust. These constructs were in turn positively associated with eWOM intention and Brand Equity. Supplementary estimation of direct DSR-to-outcome paths showed positive direct associations alongside positive specific indirect associations, consistent with complementary partial mediation. The findings therefore support two parallel identification- and trust-related mechanisms, as anticipated by Social Identity Theory and Signaling Theory. These findings concern the surveyed consumers in Ho Chi Minh City and are interpreted as cross-sectional associations within a nonprobability sample.

5.2. Theoretical contributions

This research makes three contributions. First, it extends scholarship on digitally mediated social-responsibility activities by considering perceived online

community contributions in a steel-industry consumer context. By integrating Social Identity Theory and Signaling Theory, the model offers two complementary explanations for how social-responsibility perceptions relate to brand responses: perceived value alignment through CCI and confidence in brand integrity through BT. The two mechanisms are specified as parallel indirect pathways in the structural model.

Second, the results provide industry-specific evidence regarding the associations of CCI and BT with eWOM intention and consumer-based Brand Equity. Significant indirect pathways are consistent with prior research in service and digital CSR settings (Ma et al., 2021; Puwirat & Tripopsakul, 2019), while the steel-consumer context adds a further application. The contribution concerns the observed indirect associations linking DSR to eWOM intention and consumer-based brand equity.

Third, the study considers individual steel-brand consumers, an underrepresented group in the research contexts reviewed. This supports the relevance of identity and trust mechanisms outside the service sectors commonly examined, while the specific DSR measure and the sampling design limit claims of universal applicability across heavy industries and business-to-business markets.

5.3. Policy implications

The findings suggest several practical considerations for steel firms communicating community-oriented social-responsibility initiatives through digital channels.

First, developing credible opportunities for value-based engagement. The positive association between CCI and the two brand outcomes suggests that firms may benefit from communicating concrete digital community-support initiatives in ways that make shared values visible. For example, companies could report on the progress of established local assistance programs, acknowledge community partners, and provide digital channels for constructive consumer feedback. Such activities should be supported by documented commitments and consistent implementation.

Second, promoting greater transparency and verifiable disclosure. The association between Brand Trust and favorable brand responses suggests that steel firms should communicate commitments clearly and substantiate claims wherever possible. In addition to the community-support activities measured in this study, businesses may consider accessible product specifications, traceability information, audited environmental reporting, and explanations of sustainability-related initiatives. These proposals extend beyond the observed DSR measures and provide specific directions for future empirical evaluation.

Finally, aligning community engagement and trustworthy communication. The parallel associations involving CCI and BT support complementary attention to perceived value alignment and brand credibility. Consistent public communication, transparent responses to legitimate concerns, and demonstrable fulfillment of commitments may help support constructive relationships with consumers. Future studies could examine these practices in crisis communication and evaluate their implications for brand resilience.

5.4. Limitations

This study has several limitations. First, the 271 valid responses were obtained through online convenience sampling in Ho Chi Minh City among individuals aged 20-45 with steel-brand awareness and prior exposure to digital social-responsibility activities. The sampling frame captures a specific group of digitally exposed consumers in Ho Chi Minh City, with transferability to other consumer populations requiring further evidence. Eligibility screening focused on steel-brand awareness and exposure to DSR activities. Future research could compare regions and recruit consumers with documented purchasing roles. In the sample, 50.6% of respondents reported Hoa Sen as their preferred steel brand, which may further limit brand-level representativeness.

Second, the study examines individual consumers rather than procurement professionals or organizational buyers. Contractors, architects, distributors, and business purchasers may evaluate digital social-responsibility information differently, particularly when technical specifications or procurement requirements are central to their decisions. Replication among such groups would clarify the transferability of the findings. Moreover, the four DSR indicators describe digitally mediated community contributions and charitable practices; data privacy and emissions-reporting quality offer additional dimensions for future research.

Finally, the cross-sectional, self-reported design warrants an associational interpretation and consideration of common-method bias, reverse associations, and unmeasured confounding. Harman's first unrotated factor accounted for 45.513% of the variance, providing a preliminary common-method diagnostic (Podsakoff et al., 2003). Future research could employ longitudinal or multi-source designs, probability-based recruitment where feasible, and comparative predictive-error benchmarks in PLSpredict. The structural model estimates parallel indirect pathways through CCI and BT, with serial mediation remaining a separate question for future investigation.

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