



The Interplay of Electronic Word of Mouth and Social Community in Building Brand Image and Purchase Intention: An Empirical Study on Chinese Heavy Equipment in Indonesia

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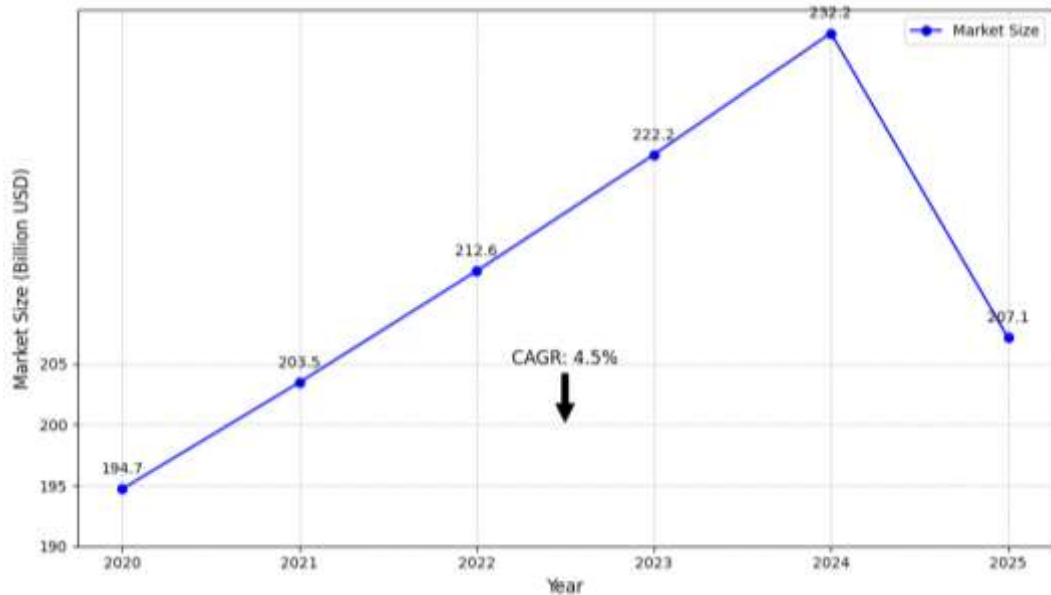


ABSTRACT

This study aims to analyze the influence of electronic Word of Mouth (eWOM) and the social community of heavy equipment in Indonesia on the brand image and purchase intention of heavy equipment products from China. This study uses primary quantitative data with questionnaires as a research instrument. The research population is an active member of the heavy equipment social community in Indonesia and has seen reviews about heavy equipment on the internet, social media or online forums. The sampling technique used was the saturated sampling method and a data sample of 253 respondents was obtained. Data collection was carried out using an online questionnaire given directly to respondents through Google Form. The collected data was analyzed using Structural Equation Modelling - Partial Least Square (SEM-PLS) Version 3. The results of the study show that (1) eWOM has a positive and significant effect on brand image. (2) Social community has a positive and significant effect on brand image. (3) eWOM has a positive and significant effect on purchase intention. (4) Social community has a positive and significant effect on purchase intention. (5) Brand image has a positive and significant effect on purchase intention.

INTRODUCTION

Over the past decade, the heavy equipment industry has been one of the sectors that has experienced significant growth. From 2020 to 2025, global heavy equipment sales will grow driven by various factors, including increased investment in infrastructure, demand from the construction and mining sectors. According to the report until 2025, the heavy equipment market is expected to grow at a Compound Annual Growth Rate (CAGR) of 4.5%, and is predicted to reach a market value of around 207.1 billion.



Source: Statista, 2024

Figure 1. Global Heavy Construction Equipment Size (2020-2025)

The global heavy equipment market shows a positive growth trend from 2020 to 2025, driven by the post-COVID-19 recovery of the construction sector, rising commodity prices, and increased infrastructure investment in various countries. Heavy equipment from China recorded significant growth, especially in developing countries such as Indonesia. This is reinforced by the Belt and Road (BRI) initiative and the increase in infrastructure and mining projects. In Indonesia, heavy equipment imports from China have surged, in line with increasing demand for heavy equipment to support operational efficiency in the mining and construction sectors.

The development of information technology has given rise to the phenomenon of electronic word of mouth (eWOM), which is online communication in the form of consumer reviews and recommendations that have a strong influence on purchasing behavior. Compared to traditional advertising, eWOM is considered more credible because it comes from fellow users. However, eWOM can also have a negative impact if the information being disseminated is detrimental. On the other hand, physical social communities also play an important role in forming trust and purchase intentions, particularly through interactions, shared experiences, and knowledge exchange. In the heavy equipment industry in Indonesia, the professional community is a strategic and influential source of information in purchasing decision-making. Therefore,

understanding the dynamics of eWOM and the role of social communities is key in designing effective marketing strategies in the digital era.

In the context of the heavy equipment industry in Indonesia, social communities such as the Indonesian Heavy Equipment Experts Association (PERTAABI) play a strategic role in information exchange, competency development, and building relationships between industry players. However, there is still a research gap on the simultaneous influence of electronic word of mouth (eWOM) and social community involvement on consumer perception, especially in shaping the brand image and purchase intention of heavy equipment products from China that have a large investment value.

First, although eWOM and social communities have been extensively studied, studies that specifically address the role of both in the context of the heavy equipment industry in Indonesia are still very limited. This research is important to understand how these two factors influence purchasing decisions in the high-value product category. Second, previous research has tended to highlight the positive aspects of eWOM and community, while the reputational risks and challenges of managing perceptions in the digital age have not been widely explored.

Therefore, this study aims to fill this gap by examining in depth the influence of eWOM and the social community on brand image and purchase intention, focusing on PERTAABI as a representation of an active community in the Indonesian heavy equipment industry.

LITERATURE REVIEW

Marketing Communication Theory

Marketing communication theory focuses on how companies convey messages to influence consumer behavior, build long-term relationships, and create brand value. The effectiveness of marketing communication depends on the integration of various communication tools (such as advertising, promotion, public relations, social media, and digital technologies), as well as the ability to tailor the message to the needs and characteristics of the target audience in an ever-evolving cultural and technological context.

Consumer Behavior Theory

Consumer behavior theory includes a variety of perspectives from psychology, sociology, and economics to understand how consumers make decisions. Through approaches such as SDGs as well as considerations of motivation, social value, opportunity cost, cultural context, and ethical principles, this theory provides a solid foundation for companies to design marketing strategies that are relevant, personalized, and responsive to changing consumer behavior in the digital age.

Definisi Electronic Word of Mouth (eWOM)

eWOM is a form of online communication between consumers regarding a product or company. The nuanced differences in these definitions reflect the evolving understanding of eWOM over time and different research contexts.

Definisi Social Community

A social community is a group of individuals who are connected by shared interests and goals, interacting and sharing information and experiences both in real and hypothetical ways that significantly influence consumer judgment, aspiration, and behavior.

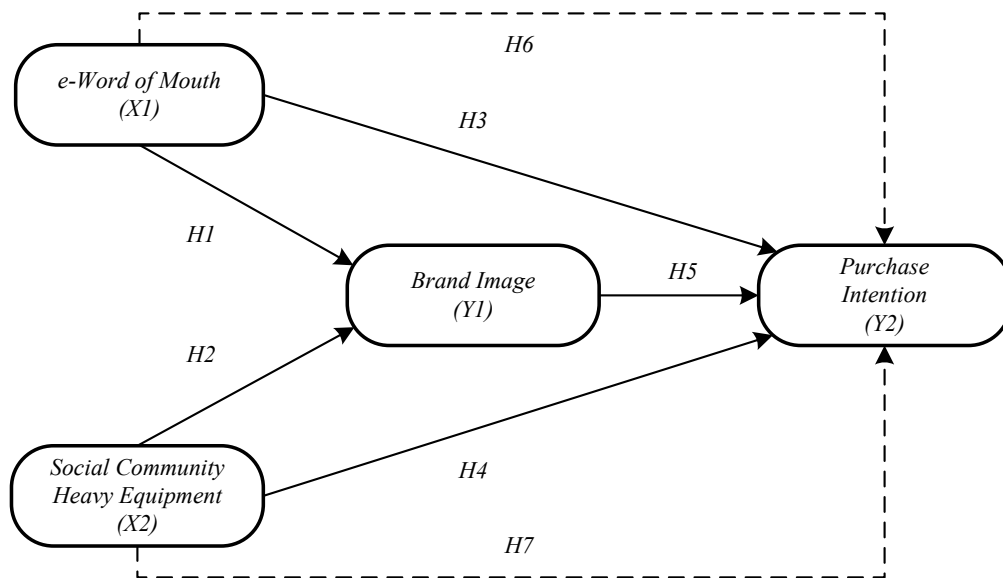
Brand Image Definition

Brand image is the perception and association that consumers have of a brand, formed from experiences, advertising, and interactions with products, which includes brand attributes, benefits, and values, and influences purchasing decisions.

Definisi Purchase Intention

Purchase Intention is the possibility of customers to purchase a good or service that is influenced by the factors of customer needs, preferences, perceptions, and attitudes towards goods, services, market situations, as well as motivational components that drive purchasing behavior.

Research Concept Framework



Source: Data Processing, 2025
Figure 2. Research Concept Framework

Information:

- > : Direct Contact
- - - - -> : Indirect Relationship

Research Hypothesis

From the background of the problem, theoretical studies, previous research, and the framework of the above research concepts, the researcher proposes the following hypothesis:

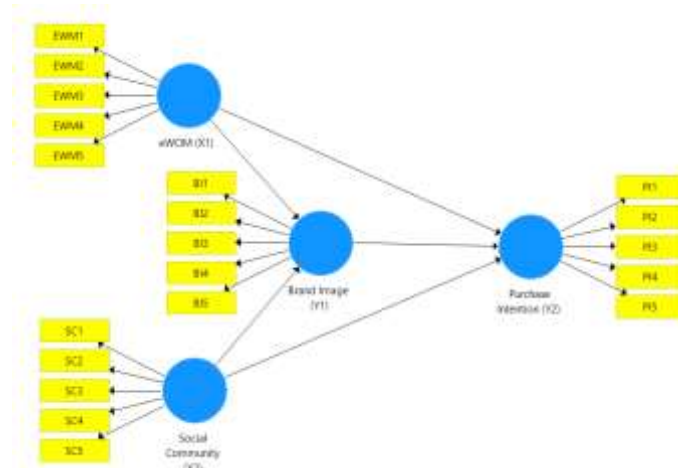
1. Electronic Word of Mouth (eWOM) is suspected to have a positive and significant influence on Brand Image (H1);
2. The Heavy Equipment Social Community in Indonesia is suspected to have a positive and significant influence on Brand Image (H2);
3. Electronic Word of Mouth (eWOM) is suspected to have a positive and significant influence on Purchase Intention (H3);
4. The Social Community of Heavy Equipment in Indonesia is suspected to have a positive and significant influence on Purchase Intention (H4);
5. Brand Image is suspected to have a positive and significant influence on Purchase Intention (H5);
6. Electronic Word of Mouth (eWOM) is suspected to have a positive and significant influence on Purchase Intention mediated by Brand Image (H6);
7. The Social Community of Heavy Equipment in Indonesia is suspected to have a positive and significant influence on Purchase Intention mediated by Brand Image (H7);

METHODOLOGY

This study uses a quantitative approach with a survey method, which is aimed at examining the influence of electronic word of mouth (eWOM) and social community on brand image and purchase intention of heavy equipment products from China. The population in this study is 556 members of the Indonesian Heavy Equipment Experts Association (PERTAABI) who work in the mining and construction sectors, which is also used as a sample using the saturated sampling technique. Data collection was carried out through a structured questionnaire with a 5-point Likert scale, which was distributed using Google Form.

The data collection technique consists of literature study, observation, documentation, and the distribution of online questionnaires. The instruments used have been adapted from previous research and have been tested for validity and reliability.

Data analysis using the Structural Equation Modeling-Partial Least Square (SEM-PLS) method with the help of SmartPLS software. The analysis was carried out through the evaluation of the outer model (validity and reliability), the inner model (path coefficient, R-square, Q-square), and hypothesis testing using the bootstrapping method and partial t-test. The selection of SEM-PLS is based on its ability to handle complex models, small-medium scale data, and reflective and formative indicators.



Source: SmartPLS Data Processing Results, 2025
 Figure 3. Construction of the Path Diagram in PLS

RESEARCH RESULTS AND DISCUSSION

Evaluation of Measurement Models

The initial step in the SEM-PLS analysis is to assess the quality of the indicators used to measure latent constructs. The convergent validity test was carried out by paying attention to the outer loading value, and all indicators on the eWOM, social community, brand image, and purchase intention variables showed values above 0.6, which means that they have a strong contribution to their respective constructs. This is reinforced by the results of the Average Variance Extracted (AVE) test which is also above the 0.5 threshold, indicating that most of the variance of the indicator is explained by its latent construct.

Before analyzing the relationship between variables, it is necessary to test validity and reliability to ensure that the instruments used in this study are feasible. Convergent validity testing is carried out by looking at the outer loading value of each indicator. All indicators show a > value of 0.6, which means it is valid.

Table 1. Convergent Validity Test Results

Variable Laten	Item, Indicator	Loading Factor	T Statistic (> 1.96)	P Value (0.05)	Ket.
X1 - eWOM (EWM)	EWM1 <- EWM	0,836	36,153	0,000	Valid
	EWM2 <- EWM	0,845	36,930	0,000	Valid
	EWM3 <- EWM	0,860	50,821	0,000	Valid
	EWM4 <- EWM	0,689	19,967	0,000	Valid
	EWM5 <- EWM	0,757	22,131	0,000	Valid
X2 - Social Community (CS)	SC1 <- SC	0,739	16,352	0,000	Valid
	SC2 <- SC	0,828	39,695	0,000	Valid
	SC3 <- SC	0,756	20,621	0,000	Valid
	SC4 <- SC	0,641	11,939	0,000	Valid
	SC5 <- SC	0,751	16,672	0,000	Valid

Y1 - Brand Image (BI)	BI1 <- BI	0,648	11,083	0,000	Valid
	BI2 <- BI	0,827	33,274	0,000	Valid
	BI3 <- BI	0,845	41,359	0,000	Valid
	BI4 <- BI	0,820	27,710	0,000	Valid
	BI5 <- BI	0,827	23,395	0,000	Valid
Y2 Purchase Intention (PI)	PI1 <- PI	0,829	38,554	0,000	Valid
	PI2 <- PI	0,790	22,983	0,000	Valid
	PI3 <- PI	0,877	49,147	0,000	Valid
	PI4 <- PI	0,876	59,711	0,000	Valid
	PI5 <- PI	0,798	24,212	0,000	Valid

Source: SmartPLS output, Data processed (2025).

In addition to validity, the reliability of the construct was also tested with Cronbach's Alpha and Composite Reliability. All variables show a value of > 0.7 , which means that they are consistent and reliable in measuring their constructs.

Table 2. AVE and AVE Roots

Variabel Laten	Average Variance Extracted (AVE)	Akar (AVE)
X1 - eWOM (EWM)	0,640	0,800
X2 - Social Community (SC)	0,556	0,745
Y1 - Brand Image (BI)	0,635	0,797
Y2 - Purchase Intention (PI)	0,697	0,835

Source: SmartPLS output, Data processed (2025).

Furthermore, reliability tests using Cronbach's Alpha and Composite Reliability yielded values above 0.7, indicating that all items in the construct are consistent and reliable in measuring the dimensions of that construct. This guarantees that the instruments used can be trusted to proceed to the structural model analysis stage.

Evaluation of Structural Models (Inner Model)

The structural model is evaluated using the R-square value (R^2) to determine how much independent variables can explain the variation in the dependent variable.

Table 3. Coefficient R2

	R Square	R Square Adjusted
Y1 - Brand Image	0,518	0,514
Y2 - Purchase Intention	0,587	0,582

Source: SmartPLS output, Data processed (2025)

The results show that:

- R^2 brand image = 0.518, meaning that 51.8% of the variation in brand image is explained by eWOM and the social community.
- R^2 purchase intention = 0.587, meaning that 58.7% of the variation in purchase intent is explained by eWOM, social community, and brand image.

Both of these values belong to the fairly strong category, which indicates that the model has good explanatory abilities.

Table 4. Predictive Relevance Q2

Variabel Endogen	Q ² (=1-SSE/SSO)
Y1- Brand Image	0,317
Y2 - Purchase Intention	0,389

Source: SmartPLS output, Data processed (2025).

In addition, the Q-square predictive relevance value of 0.801 indicates that the model has very high predictive power. Q² above zero indicates that independent variables can predict dependent variables well, reinforcing the reliability of the model in the context of this study.

Direct Influence Between Variables

The results of the hypothesis test using the bootstrapping method showed that all paths between variables had a t-statistical value of > 1.96 and a p-value of < 0.05, so it was declared significant.

Table 5. Hypothesis Testing Results

Variabel		Koef. Line	T Stat.	P Values	Information Influence	
Exogenous	Endogenous					
EWM (X1)	BI (Y1)	0,417	6,019	0,000	Positive	Significant
SC (X2)	BI (Y1)	0,373	6,229	0,000	Positive	Significant
EWM (X1)	PI (Y2)	0,217	2,856	0,004	Positive	Significant
SC (X2)	PI (Y2)	0,303	4,838	0,000	Positive	Significant
BI (Y1)	PI (Y2)	0,350	5,032	0,000	Positive	Significant

Source: SmartPLS output, Data processed (2025).

Key findings are as follows:

- eWOM → Brand Image ($\beta = 0.417$) This means that the higher the intensity of eWOM received by individuals, the more positive their perception of the brand will be. Reviews, comments, and experiences from fellow professionals are considered credible references in shaping a brand image.
- eWOM → Purchase Intention ($\beta = 0.217$) Online reviews also have a direct influence on purchasing decisions, although not as much as they do on brand image. This indicates that brand perception can act as a mediator in this path.

- Social Community → Brand Image ($\beta = 0.373$) Involvement in communities such as PERTAABI plays a role in strengthening the perception of certain brands. Discussions, seminars, and technical collaborations within the community provide a collective experience that impacts a positive image.
- Social Community → Purchase Intention ($\beta = 0.303$) Communities not only shape perceptions, but can also directly drive purchase intent through socially built sharing experiences, recommendations, and trust.
- Brand Image → Purchase Intention ($\beta = 0.350$) A positive brand image will encourage intent to buy. This underscores the importance of strategic brand management to improve market performance.

Indirect Effects and Total Effects

Table 6. Total Effect Analysis Results

Variable Relationships	Direct Influence	Indirect Influence	Total Effects
X1 (EWM) → Y2 (PI)	0,217	0,146	0,363
X2 (SC) → Y2 (PI)	0,303	0,131	0,434

Sumber: Output SmartPLS, Data diolah (2025).

In addition to the direct influence, the study also identified the indirect and total effects of eWOM and social community on purchase intention:

- The indirect effect of eWOM through brand image is 0.146, bringing the total effect on buying intent to 0.363.
- The indirect effect of social community through brand image was 0.131, with the total effect on purchase intention being 0.434.

This means that the social community has the strongest impact in influencing purchase intention, both directly and indirectly. Community is a highly influential social force in shaping beliefs and purchasing decisions, especially for high-value heavy equipment products.

Implications of the Findings

The results of the study show that electronic communication and professional social communities have a strategic role in purchasing decision-making. In the context of heavy equipment products that involve large investment costs and high technical risks, potential buyers rely heavily on the experience and recommendations of peers.

- eWOM: Information sourced from social media, online forums, or professional groups is the main reference. The credibility of the eWOM source is very important and has a real influence on brand perception and purchase intent.
- Social Community: Communities like PERTAABI become a forum for the transfer of technical knowledge, practical experience, and collective opinions that encourage trust in certain brands. Companies need to

establish active collaboration with these communities as part of their marketing strategy.

- Brand Image: A positive brand image is formed from a combination of personal experience, digital recommendations, and community support. A strong brand image has been proven to increase purchase intent and strengthen customer loyalty.

Strategic Recommendations

Based on these findings, the researchers recommend:

- Active and structured eWOM management by monitoring reviews, responding quickly, and building positive narratives on social media and professional platforms.
- Strengthening the role of the professional social community through sponsorship of community events, joint technical training, and active participation in discussion forums.
- Focus on strengthening brand image through consistent, credible, and communication based on technical values and social benefits.

CONCLUSIONS AND RECOMMENDATIONS

The results of the study show that electronic word of mouth (eWOM) and social community have a positive and significant effect on the brand image and purchase intention of heavy equipment products from China in Indonesia. Online reviews that build trust as well as recommendations from community members have proven to be effective in forming a positive perception of the brand. In addition, a strong brand image significantly increases purchase intent, and also acts as a mediator between eWOM and the social community on purchase intent. Based on these findings, Chinese heavy equipment manufacturers are advised to actively manage eWOM through engaging and interactive content, strengthen relationships with communities such as PERTAABI, and build a positive and trusted brand image. An integrated marketing strategy between eWOM, social communities, and brand image strengthening is key in driving purchase decisions. For PERTAABI, it is recommended to increase its role as a trusted source of information, facilitate discussions between members, and establish more strategic cooperation with producers to expand access to information and improve the capabilities of community members.

ADVANCED RESEARCH

Based on these conclusions, further research can be directed to explore some more specific and contextual aspects. First, follow-up studies can test the role of specific digital platforms (such as YouTube, LinkedIn, or industry forums) in strengthening the effectiveness of eWOM on brand image formation in the B2B sector. Second, in-depth research can also be conducted to analyze the dynamics of involvement in professional communities such as PERTAABI, especially the influence of psychological factors such as trust, community loyalty, and motivation to share information. Third, comparative studies between brands or countries of origin of heavy equipment manufacturers can enrich understanding

of differences in consumer perceptions of eWOM and community reputation. Finally, qualitative approaches or mixed methods can also be used to delve deeper into the motivations behind buying intentions and manufacturers' challenges in building brand image in a competitive market.

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