The Influence of Brand Equity and After-Sales Service on Customer Satisfaction and Repurchase Intention of Sany Heavy Equipment at the Samarinda Branch

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Abstract. The heavy equipment industry in Indonesia is highly competitive and capital intensive, so retaining customers through repeat purchases is strategically critical. This study examines how brand equity and after-sales service influence customer satisfaction and repurchase intention for Sany heavy equipment at the Samarinda Branch, East Kalimantan. Using a quantitative survey design, data were collected from 120 corporate customers who had purchased Sany units more than once and used the company's after-sales services. Responses were measured on a five-point Likert scale and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results show that both brand equity and after-sales service have positive and significant effects on customer satisfaction, as well as on repurchase intention. Customer satisfaction also has a positive and significant effect on repurchase intention. The structural model explains 44.6% of the variance in customer satisfaction and 63.3% of the variance in repurchase intention, indicating a good level of explanatory power for behavioral outcomes in a high-investment, business-to-business context. These findings highlight the importance of building strong brand equity and delivering reliable after-sales support to secure long-term relationships and encourage repeat purchases in the heavy equipment market. Managerially, the study suggests that integrated branding and service strategies are essential for strengthening Sany's competitive position in Indonesia.

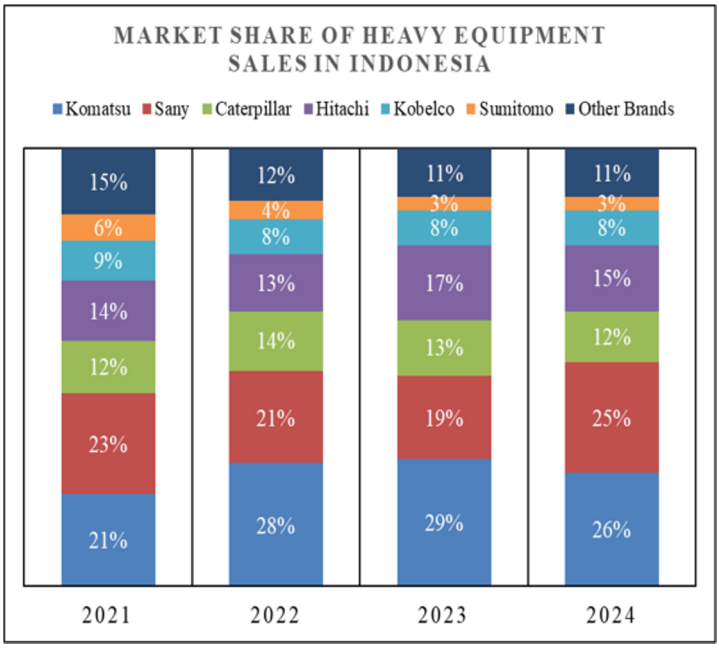
Keywords : Brand Equity; After-Sales Service; Customer Satisfaction; Repurchase Intention; Heavy Equipment

1 Introduction

The heavy equipment industry in Indonesia has undergone a substantial transformation in its competitive landscape over recent years. Established global brands such as Komatsu, Caterpillar, Hitachi, Kobelco, and Sumitomo, which previously dominated the market, are increasingly confronted with intensified competition from Chinese manufacturers, including Sany. This shift in competitive dynamics is particularly pronounced

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in the construction, mining, and plantation sectors, which require large-scale deployment of heavy equipment and exhibit a strong reliance on high-quality after-sales service. Within this industrial context, firm performance is no longer determined solely by product quality but is increasingly shaped by the ability to cultivate long-term customer relationships through strong brand equity and dependable after-sales service.



Source: Dataindustri.com, 2025

Fig. 1. Market Share of Heavy Equipment Sales in Indonesia, 2021–2024

The evolving competitive landscape is reflected in the development of heavy equipment sales market shares in Indonesia during the 2021–2024 period, as illustrated in Figure 1. The trend indicates that several established brands, including Komatsu, Caterpillar, Hitachi, and Kobelco, experienced stagnation or a decline in market share over this period. In contrast, Sany exhibited a more dynamic trajectory. Although its market share decreased from 23% in 2021 to 19% in 2023, Sany subsequently recorded a substantial increase, reaching 25% in 2024. This rebound suggests a shift in customer preferences toward Sany as a brand perceived to deliver more competitive value, particularly in terms of pricing, product quality, and the reliability of after-sales service. Meanwhile, the category of other brands demonstrated a downward trend, declining from 15% in 2021 to 11% in 2024.

This phenomenon is particularly salient in Samarinda and the broader East Kalimantan region, which function as major hubs for mining, construction, and plantation ac-

tivities. Customers operating in these sectors require heavy equipment that ensures stable performance, high operational efficiency, and timely, responsive, and sustainable after-sales service support. Within this context, brand equity and after-sales service represent strategic determinants of customer satisfaction, which in turn influence customers' repurchase intention. Accordingly, identifying the factors that drive repurchase intention is critical for the long-term sustainability of business-to-business (B2B) firms in the heavy equipment industry.

This study positions repurchase intention as the dependent variable because repeat purchasing decisions in the heavy equipment industry serve as a key indicator of the effectiveness of long-term relational exchanges between firms and their customers. Unlike consumer goods, heavy equipment purchases constitute high-value investment decisions that involve substantial financial commitments, operational risks, and long-term performance evaluations. Consequently, repurchase intention provides a relevant indicator for assessing the extent to which brand equity and after-sales service generate customer satisfaction and support the continuity of B2B relationships.

Prior empirical studies report mixed evidence regarding the role of after-sales service in influencing repurchase intention. A positive effect of after-sales service quality on customer satisfaction and repurchase intention in the automotive and consumer vehicle sectors [3, 4, 7] . In contrast, Weaker or statistically insignificant effects in B2B contexts, particularly when purchasing decisions are predominantly shaped by technical considerations, operational cost efficiency, and investment risk [12, 22]. These inconsistent findings point to a research gap concerning the role of after-sales service in driving repurchase intention in industries characterized by high investment intensity.

Furthermore, existing literature has largely focused on automotive, electronics, digital services, and education sectors that are predominantly business-to-consumer (B2C) in nature. Empirical studies that simultaneously examine the effects of brand equity and after-sales service on customer satisfaction and their implications for repurchase intention within the heavy equipment industry remain scarce, particularly with respect to the Sany brand in emerging markets. This study therefore seeks to address this gap by empirically investigating the simultaneous effects of brand equity and after-sales service on customer satisfaction and their subsequent impact on repurchase intention in the context of Sany heavy equipment customers in Samarinda.

The objective of this study is to analyze the effects of brand equity and after-sales service on customer satisfaction and to examine their implications for repurchase intention among customers of Sany heavy equipment in Samarinda. The findings are expected to contribute to the B2B marketing literature by providing context-specific empirical evidence from the heavy equipment industry and by clarifying the role of brand equity and after-sales service in shaping customer satisfaction and repurchase intention in settings characterized by high investment value and substantial operational risk.

2 Literatur Review dan Hypothesis Development

2.1 Literatur Review

2.1.1 Brand Equity

Brand equity describes the added value of a brand based on consumer perceptions, experiences, and responses. Brand equity consists of four main dimensions: brand awareness, brand association, perceived quality, and brand loyalty [1]. These four dimensions form brand strength, which influences consumer evaluations and preferences. Strong brand equity enhances perceived emotional and functional benefits, thereby providing a competitive advantage and driving customer loyalty [14]. Previous research has shown that brand equity contributes to satisfaction and repurchase intention. Brand equity increases satisfaction through positive evaluations of the purchasing experience [16]. Brand equity has a significant influence on repurchase intention across various industrial sectors [5,26].

2.1.2 After-Sales Service

After-sales service encompasses various forms of support provided by a company after the purchase, including installation, warranty, repair, maintenance, spare-parts availability, and customer service [13]. After-sales service functions as a source of competitive differentiation, particularly for high-value products such as heavy equipment that require technical reliability [24]. The quality of after-sales service has been shown to affect customer satisfaction. Speed, accuracy, and attitude of service personnel influence customers' evaluations [3]. Spare-parts availability and good customer service enhance satisfaction and lead to repeat purchase [9]. In the context of loyalty, after-sales service strengthens brand credibility and encourages repurchase.

2.1.3 Customer Satisfaction

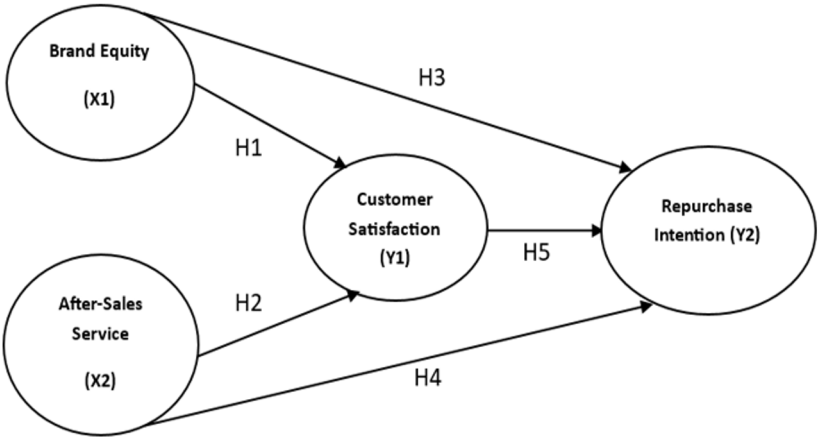
Customer satisfaction is the customer's evaluation of a product or service performance relative to their expectations. Satisfaction occurs when the actual experience is able to meet or exceed customer expectations [13]. A similar view is put forward by [24], who states that satisfaction is the result of a post-purchase evaluation that arises when a product or service delivers value that is equal to or higher than what is expected. Customer satisfaction is shaped by various factors such as product quality, service quality, price, perceived value, and service reliability. Perceived value and perceived enjoyment are key determinants in the formation of customer satisfaction [2]. Service quality and perceived value contribute strongly to satisfaction levels [16]. Satisfaction mediates the relationship between brand image and repurchase intention [6]. Positive relationship between the level of satisfaction and firm performance [18].

2.1.4 Repurchase Intention

Repurchase intention refers to the tendency of customers to repurchase a product based on their previous positive experiences. Satisfied customers are more likely to repeat their purchases and provide recommendations to others [13]. Customer satisfaction and brand equity contribute positively to repurchase decisions [9]. Brand image and brand

awareness enhance repurchase intention by first strengthening customer satisfaction [21]. After-sales service and product quality affect customer loyalty through customer satisfaction as a mediating variable [20].

2.2 Hypothesis Development



Source: Created by the Author, 2025

Fig. 2. Conceptual Framework

2.2.1 Relationship between Brand Equity and Customer Satisfaction

Brand equity plays an important role in shaping customers' positive perceptions of a brand. Strong brand equity can enhance satisfaction through consistent brand experience and brand authenticity [25].

H1: Brand equity has a positive effect on Customer Satisfaction.

2.2.2 Relationship between After-Sales Service and Customer Satisfaction

After-sales service is a crucial factor in enhancing satisfaction, especially for high-value products. The quality of after-sales service has a significant effect on satisfaction [3]. Good after-sales service improves satisfaction and has implications for repeat purchases [7].

H2: After-sales service has a positive effect on Customer Satisfaction.

2.2.3 Relationship between Brand Equity and Repurchase Intention

Brand equity fosters consumer trust and loyalty, which ultimately increases repurchase intention. Brand equity is a dominant factor shaping repurchase intention [23]. Brand equity contributes significantly to repurchase intention [5].

H3: Brand equity has a positive effect on Repurchase Intention.

2.2.4 Relationship between After-Sales Service and Repurchase Intention

High-quality after-sales service influences repurchase by providing a sense of security and technical support for customers. After-sales service builds brand credibility and

loyalty, which in turn drives repurchase intention [9]. After-sales service increases repurchase intention through customer satisfaction [3].
H4: After-sales service has a positive effect on Repurchase Intention.

2.2.5 Relationship between Customer Satisfaction and Repurchase Intention

Customer satisfaction has been proven to be an important predictor in the formation of repurchase intention. Satisfied customers are more likely to repurchase and to maintain their relationship with the brand. The findings [18] confirm that satisfaction is the strongest factor in increasing customer retention, while [25] find that customer satisfaction has a direct and significant effect on repurchase intention. Thus, customer satisfaction plays a strategic role in strengthening repurchase intention.
H5: Customer Satisfaction has a positive effect on Repurchase Intention.

3 Research Method

3.1 Operational Definitions

Brand Equity (X1)
Brand equity is defined as the added value of a brand as reflected in customers' perceptions, associations, perceived quality, and loyalty toward the Sany brand. Referring to [1] and the indicator adaptation [17], this variable is measured using five indicators:

1. Brand Awareness: customers' ability to recognize the Sany brand.
2. Brand Association: positive brand image and associations.
3. Perceived Quality: customers' assessment of product quality.
4. Brand Loyalty: commitment to repeatedly use the brand.
5. Brand Preference: customers' tendency to choose Sany over other brands.

After-Sales Service (X2)
After-sales service is the service provided after the purchase to ensure the optimal functioning of the product and to enhance customers' sense of security. Referring to [9,15], this construct is measured using five indicators:

1. Installation: ensuring that the unit is ready to operate according to standards.
2. Warranty: protection against the risk of damage or product defects.
3. Repair and Maintenance: technical support in the event of breakdowns or for periodic maintenance.
4. Spare-Parts Availability: timely availability of original replacement components.
5. Customer Service: provision of information, complaint handling, and customer assistance.

Customer Satisfaction (Y1)
Customer satisfaction is understood as the affective evaluation of customers after comparing the performance of the product or service with their expectations. Referring to [11,13], and model SERVQUAL [19], this variable is measured using five indicators:

1. Pride in Using the Product: emotional satisfaction with the brand and its quality.
2. Satisfaction with the Purchase Decision: evaluation of the purchase decision and supporting services.

3. Fulfilment of Ideal Product Expectations: congruence between actual performance and expectations.
4. Satisfaction with Responsiveness: speed and accuracy of service handling.
5. Satisfaction with Assurance: reliability, technicians' expertise, and the sense of security provided by the service.

Repurchase Intention (Y2)
Repurchase intention is the tendency of customers to make repeat purchases based on their prior positive experiences. Referring to [15,23,26], this variable is measured using five indicators:

1. Product Reuse: intention to continue using the Sany brand.
2. Product Purchase: plans to make future repeat purchases.
3. Product Recommendation: willingness to recommend the product to others.
4. Exploratory Interest: interest in seeking additional information about Sany products.
5. Product Expansion Intention: intention to add more units or to try other variants from Sany.

3.2 Population and Sample

The population of this study comprises all customers who have purchased and used Sany heavy equipment at the Samarinda branch. Given the business-to-business (B2B) nature of the heavy equipment industry, respondents were selected using a purposive sampling approach based on the relevance of their experience to ensure that evaluations of brand performance and after-sales service were valid. The respondent criteria applied in this study include:

1. Customers who have made repeat purchases of Sany units at the Samarinda branch.
2. Customers who consistently utilize Sany's after-sales services, including maintenance, repairs, and spare parts.
3. Customers who act as decision-makers or are responsible for the maintenance and operation of the equipment units.

The sample size was set at 120 respondents, which is considered adequate for analysis using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The research model consists of four latent variables, each measured by five indicators. Following the 10-times rule, the minimum sample size in PLS-SEM is determined based on the total number of indicators used in the study, which amounts to 20 indicators. Accordingly, the recommended sample size ranges between 100 and 200 respondents [10]. Therefore, the use of 120 respondents exceeds the minimum requirement and is deemed sufficient to produce stable and reliable model estimates.

3.3 Data Collection Techniques

Data for this study were collected using a questionnaire as the primary research instrument. The questionnaire was developed based on the indicators of each research variable and measured using a 5-point Likert scale ranging from "strongly disagree" (1) to

"strongly agree" (5). The instrument was distributed online via Google Forms to respondents who met the research criteria, namely customers who had purchased Sany heavy equipment more than once, used its after-sales services, and were involved in the purchasing decision-making process. The data obtained are primary data, as they were collected directly from respondents through the completed questionnaires. In addition, the researcher also utilized secondary data in the form of supporting documents, company reports, and scholarly literature to strengthen the theoretical foundation and contextual background of the study.

3.4 Data Analysis Techniques

Data were analyzed using SEM-PLS with the SmartPLS software to examine the relationships among variables in the research model. The PLS-SEM method was chosen because it is capable of handling complex models with moderate sample sizes and is more prediction-oriented. PLS-SEM is appropriate when the primary objective of the study is to maximize the variance of endogenous constructs and when the analysis does not require the assumption of normal data distribution [11]. PLS is a flexible approach that can be applied to data with diverse characteristics and is suitable for exploratory research involving a large number of indicators [9].

4 Research Results and Discussion

4.1 Profil Responden

The survey was completed by 120 respondents who are customers of Sany heavy equipment in Samarinda. In terms of gender, the sample is dominated by male respondents, namely 103 people (85.83%), while female respondents amounted to 17 people (14.17%). Based on age, the largest groups are respondents aged 45–54 years (38 persons or 31.67%), followed by those aged 25–34 years and 35–44 years, each 32 persons (26.67%). Respondents aged over 55 years account for 18 persons (15.00%). This shows that the majority of respondents are in the productive and mature age range, which is relevant for strategic decisions related to investment in heavy equipment.

From the education perspective, most respondents hold an undergraduate degree (59 persons or 49.17%), followed by senior high school/vocational school graduates (31 persons or 25.83%) and master's degree holders (17 persons or 14.17%). A smaller proportion completed diploma programs (12 persons or 10.00%) and doctoral studies (1 person or 0.83%). In terms of organizational position, 39 respondents (32.50%) are managers, 34 (28.33%) are business owners, 27 (22.50%) are directors, 12 (10.00%) work in purchasing/procurement, and 8 (6.67%) are supervisors. Furthermore, 74 respondents (61.67%) act as decision makers in the purchasing process, while 46 respondents (38.33%) are responsible for maintenance implementation. This composition indicates that the data largely reflect the views of individuals who are highly involved in strategic purchasing and operational management of heavy equipment.

With regard to business sector, 49 respondents (40.83%) come from the mining sector, 34 (28.33%) from construction, 27 (22.50%) from plantation, and 10 (8.33%) from

heavy equipment rental companies. The frequency of purchasing Sany units is relatively high: 60 respondents (50.00%) have purchased 5–7 units, 45 respondents (37.50%) have purchased 2–4 units, 13 respondents (10.83%) have purchased 8–10 units, and 2 respondents (1.67%) report purchases of more than 10 units. In line with this, the current fleet size of Sany units owned by customers is dominated by those owning 6–10 units (55 respondents or 45.83%) and 11–20 units (35 respondents or 29.17%), while 24 respondents (20.00%) own up to 5 units and 6 respondents (5.00%) own more than 20 units.

Regarding the length of Sany usage, 68 respondents (56.67%) have used Sany equipment for 4–6 years, 28 respondents (23.33%) for 1–3 years, and 24 respondents (20.00%) for more than 7 years. Overall, these characteristics indicate that the respondents are experienced users with relatively large fleets and frequent purchase histories, so their evaluations of brand equity, after-sales service, satisfaction, and repurchase intention can be considered representative of loyal and active customers in the heavy equipment market.

4.2 Data Analysis

Data analysis in this study was conducted using the SEM-PLS method, recommended by [10] because it is capable of estimating complex models with moderate sample sizes and does not require strict data distribution assumptions. Furthermore, PLS-SEM is a flexible and appropriate approach for prediction-oriented research involving latent variables with multiple indicators [9].

a. Convergent Validity

Table 1. Outer loading (Measurement Model)

	X1	X2	Y1	Y2
X1.1	0,932			
X1.2	0,931			
X1.3	0,937			
X1.4	0,932			
X1.5	0,932			
X2.1		0,936		
X2.2		0,937		
X2.3		0,926		
X2.4		0,945		
X2.5		0,928		
Y1.1			0,907	
Y1.2			0,928	
Y1.3			0,956	
Y1.4			0,941	

Y1.5	0,921	
Y2.1		0,916
Y2.2		0,933
Y2.3		0,954
Y2.4		0,941
Y2.5		0,940

Source: Data processed with SEM-PLS, 2025

The outer loading test results in Table 1 show that all indicators in the variables Brand Equity (X1), After-Sales Service (X2), Customer Satisfaction (Y1), and Repurchase Intention (Y2) have loading values exceeding the minimum limit of 0.70 recommended [10]. This finding confirms that each indicator is able to reflect its construct very well and thus meets the convergent validity criteria. All indicators are suitable for use in the structural model analysis stage.

b. Evaluating Reliability and Average Extracted (AVE)

Reliability and AVE evaluations are conducted to ensure the internal consistency of the construct and the indicator's ability to explain the variance of the latent construct. Composite Reliability value above 0.70 and an AVE of at least 0.50 indicate that the construct has good reliability and adequate convergent validity [10]. These two measures are important foundations in assessing the feasibility of the measurement model before proceeding to the structural model analysis [8].

Table 2. Composive Reliability and AVE

	Composite Reliability	**Average Variance Extracted (AVE)**
Brand Equity (X1)	0,971	0,870
After-Sales Service (X2)	0,971	0,870
Customer Satisfaction (Y1)	0,970	0,866
Repurchase Intention (Y2)	0,973	0,878

Source: Data processed with SEM-PLS, 2025

Table 2 shows that the Composite Reliability values for all variables are in the range of 0.970–0.973, indicating very high internal consistency and exceeding the minimum threshold of 0.70 as recommended by [10]. Furthermore, the AVE values range from 0.866–0.878, well above the threshold of 0.50, thus ensuring convergent validity for all constructs [8]. Thus, the measurement model is deemed reliable and valid for use in further structural analysis.

c. Discriminant validity

Discriminant validity in this study was assessed using the Fornell Larcker criterion, as recommended by Hair et al. [10]. Discriminant validity is established when the

square root of the Average Variance Extracted (AVE) for each construct exceeds the correlations between that construct and all other constructs in the model.

Based on the results presented in Table 3, the square root of the AVE for each construct namely after sales service, brand equity, customer satisfaction, and repurchase intention is higher than the corresponding interconstruct correlation values. These findings indicate that each construct demonstrates an adequate level of discriminant validity and empirically represents a distinct concept. Accordingly, it can be concluded that the measurement model in this study satisfies the discriminant validity criterion in line with the guidelines proposed by [10] and is therefore suitable for further structural model analysis.

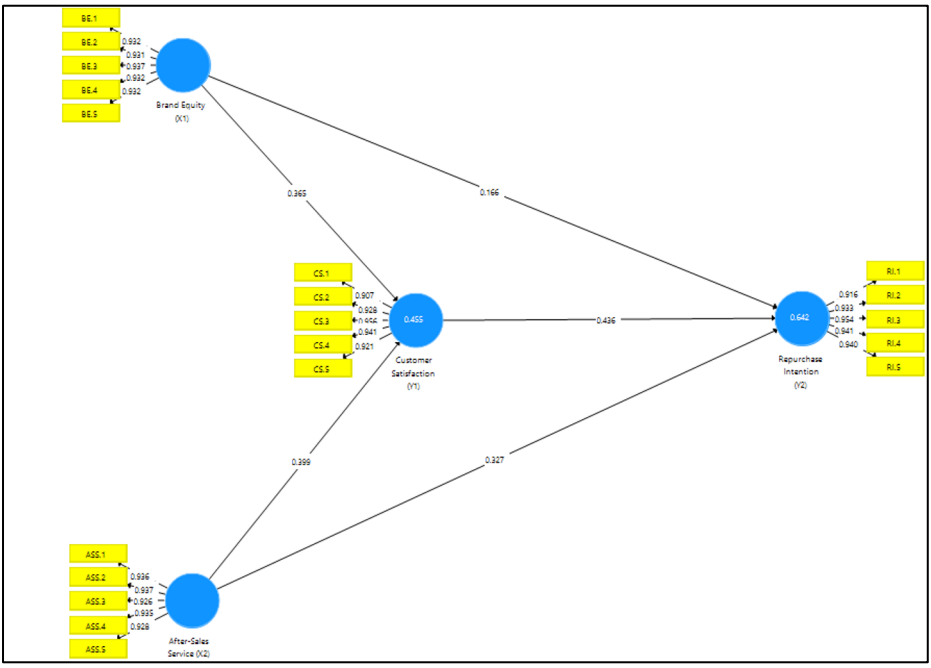
Table 3. Discriminant validity (Fornell and Larcker)

	After-Sales Service (X2)	Brand Equity (X1)	Customer Satisfaction (Y1)	Repurchase Intention (Y2)
After-Sales Service (X2)	0.923			
Brand Equity (X1)	0.563	0.942		
Customer Satisfaction (Y1)	0.477	0.575	0.923	
Repurchase Intention (Y2)	0.563	0.692	0.672	0.932

Source: Data processed with SEM-PLS, 2025

4.3 Structural Model Testing (Inner Model)

Inner model evaluation is conducted to assess the strength of the relationships between latent variables and the model's ability to explain the variance of endogenous constructs. This analysis includes path coefficients and adjusted R-squared values as indicators of the model's predictive ability.



Source: Data processed with SEM-PLS, 2025

Fig. 3. Structural Models

After the structural model in Figure 3, the next step is to evaluate the extent to which exogenous variables are able to explain endogenous variables through the Adjusted R-Square value.

Table 4. Adjusted R-Square Value

	R Square Adjusted
Customer Satisfaction (Y1)	0,446
Repurchase Intention (Y2)	0,633

Source: Data processed with SEM-PLS, 2025

The Adjusted R-Square value for the Customer Satisfaction (Y1) variable was 0.446, indicating that Brand Equity (X1) and After-Sales Service (X2) explained 44.6% of the variance in customer satisfaction. This value indicates a moderate level of prediction, indicating that both factors are quite influential in shaping Sany customer satisfaction [10].

Meanwhile, the Adjusted R-Square value for the Repurchase Intention (Y2) variable was 0.633, indicating that Brand Equity, After-Sales Service, and Customer Satisfaction explained 63.3% of the variance in repurchase intention. This value is in the strong

category, indicating that these three variables play a significant role in encouraging customers to repurchase Sany heavy equipment.

Overall, the Adjusted R-Square value obtained indicates that the model used is able to explain the relationships between the variables quite well. This model is also considered relevant for understanding the factors that influence customer satisfaction and repurchase intentions, especially in the heavy equipment industry which has a high investment value.

4.4 Hypothesis Testing

Hypothesis testing in this study was conducted using the bootstrapping procedure in SEM-PLS to determine the significance of the influence between variables in the structural model. The original sample value, t-statistics, and p-values were used as the basis for determining whether the tested relationship was statistically significant. A relationship is said to be significant if the t-statistic value is greater than 1.96 and the p-value is less than 0.05 at a significance level of 5% [11]. Therefore, the results of the hypothesis testing presented in Table 4 provide an empirical basis for assessing whether the influence of Brand Equity and After-Sales Service on Customer Satisfaction and Repurchase Intention is supported by the data.

Table 5. Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
(X1) -> (Y1)	0,399	0,394	0,088	4,542	0,000
(X2) -> (Y1)	0,327	0,337	0,082	3,966	0,000
(X1) -> (Y2)	0,365	0,371	0,080	4,540	0,000
(X2) -> (Y2)	0,166	0,165	0,068	2,438	0,015
(Y1) -> (Y2)	0,436	0,427	0,088	4,950	0,000

Source: Data processed with SEM-PLS, 2025

Hypothesis testing in this study was conducted using the bootstrapping procedure in SEM-PLS to assess the significance of the influence between variables in the structural model. In the statistical analysis, the significance level used was 5% ($\alpha = 0.05$) with a two-way approach, which is a common standard in research in management and social sciences. At this level of significance, a relationship is considered significant if the t-statistic value is ≥ 1.96 and the p-value is ≤ 0.05 [11]. Based on this basis, the results of the hypothesis test obtained can be used to determine whether the relationship between variables in this research model is empirically supported. Details of the test results for each hypothesis are explained as follows:

H1: Brand Equity (X1) → Customer Satisfaction (Y1)

The test results show that Brand Equity has a positive and significant influence on Customer Satisfaction, with a t-statistic value of 4.542, and a p-value of 0.000. The t-sta-

tistic value is far above the critical limit of 1.96 and a p-value <0.05 indicates that increasing brand equity significantly increases customer satisfaction. From these results, **H1 is accepted.**

H2: After-Sales Service (X2) → Customer Satisfaction (Y1)

After-Sales Service has a positive and significant effect on Customer Satisfaction with a t-statistic of 3.966 and a p-value of 0.000. This value indicates that the quality of after-sales service contributes significantly to increasing customer satisfaction. From these results, **H2 is accepted**.

H3: Brand Equity (X1) → Repurchase Intention (Y2)

The influence of Brand Equity on Repurchase Intention is proven significant with a t-statistic value of 4.540, and a p-value of 0.000. This value indicates that a strong brand perception increases the tendency of customers to make repeat purchases. Therefore, **H3 is accepted**.

H4: After-Sales Service (X2) → Repurchase Intention (Y2)

The test results show that After-Sales Service has a positive and significant effect on Repurchase Intention, with a t-statistic of 2.438 and a p-value of 0.015. This indicates that good after-sales service contributes to customer repurchase decisions. Therefore, **H4 is accepted.**

H5: Customer Satisfaction (Y1) → Repurchase Intention (Y2)

Customer Satisfaction has a positive and significant influence on Repurchase Intention, as evidenced by the t-statistic value of 4.950 and p-value of 0.000. The high t-statistic value and very small p-value indicate that customer satisfaction is a strong determinant in the formation of repurchase intention. Therefore, **H5 is accepted**.

4.5 Endogeneity Test (Gaussian Copula)

To examine potential endogeneity issues in the structural relationships, this study applies the Gaussian Copula approach. Endogeneity may arise due to reverse causality or the presence of unobserved variables, which can lead to biased coefficient estimates in structural models. The Gaussian Copula approach is employed because it does not require additional instrumental variables and is well suited for management and marketing research using partial least squares structural equation modeling (PLS-SEM**)**.

Within this approach, copula variables are constructed from potentially endogenous constructs and incorporated into the structural model. If the copula coefficients are statistically significant, endogeneity is considered to be present. Conversely, statistically insignificant copula coefficients indicate that the structural relationships in the model are not affected by endogeneity bias.

The endogeneity test using the Gaussian Copula approach reveals that all copula coefficients are statistically insignificant ($p > 0.05$). This finding indicates that the research model is free from endogeneity issues, and therefore, the estimated structural relationships in the PLS-SEM analysis can be regarded as robust and unbiased.

Table 6. Gaussian Copula Test – Endogeneity Assessment

Endogenous Relationship	Coefficient	T statistics	P values
GC (Brand Equity (X1)->Customer Satisfaction (Y1)	-0.199	0.685	0.494
GC (After-Sales Service (X2)->Customer Satisfaction (Y1))	0.333	0.977	0.329
GC (Brand Equity (X1)->Repurchase Intention (Y2))	-0.114	0.506	0.613
GC (After-Sales Service (X2)-> Repurchase Intention (Y2)	0.017	0.060	0.952
GC (Customer Satisfaction(Y1)->Repurchase Intention(Y2))	0.319	1.270	0.204

Source: Data processed with SEM-PLS, 2025

4.6 Discussion

The Effect of Brand Equity (X1) on Customer Satisfaction (Y1)

The results of the study indicate that brand equity has a significant effect on customer satisfaction. This finding indicates that brand strength, including brand awareness, positive associations, perceived quality, and brand loyalty, directly contributes to improved customer evaluations after product use. In the context of heavy equipment, strong brand perceptions reduce customer uncertainty regarding technical reliability and operational costs. This finding is consistent with [25], who explain that brand equity shapes customer perceptions of value and experience. Therefore, brand equity is a crucial factor in creating customer satisfaction at Sany.

The Influence of After-Sales Service (X2) on Customer Satisfaction (Y1)

After-sales service has been proven to have a significant impact on customer satisfaction. This shows that responsive after-sales service, spare parts availability, repair quality, and technician expertise are key determinants in shaping customer satisfaction. The heavy equipment industry is highly sensitive to downtime, so the quality of after-sales service determines operational smoothness. These findings support [3,7], who emphasise that the quality of after-sales service is an important factor in customer experience. Thus, improving after-sales service can drive customer satisfaction.

The Influence of Brand Equity (X1) on Repurchase Intention (Y2)

Brand equity has a significant influence on repurchase intention. These findings confirm that strong brand perception creates customer trust and commitment to maintain purchasing decisions. In the context of heavy equipment, brand reputation greatly influences reinvestment decisions because customers tend to choose products with a proven track record. Brand equity is an important predictor of repurchase behavior. Thus, brand equity plays a role in building customer loyalty and repurchase decisions for Sany [23].

The Effect of After-Sales Service (X2) on Repurchase Intention (Y2)
The results indicate that the effect of after sales service on repurchase intention is relatively weaker compared to other structural paths in the model. This finding suggests that, within the context of the business to business heavy equipment industry, after sales service is perceived more as a basic requirement that must be fulfilled rather than as a primary driver of repeat purchase decisions. Repurchase decisions in industries characterized by high investment value tend to be strategic and rational in nature and are therefore more strongly influenced by considerations related to equipment performance, operational efficiency, and long term investment risk than by service experience alone. Nevertheless, service speed, technician competence, and the availability of spare parts play an important role in creating a sense of security and trust among customers. This finding is consistent with [9], who reported that after sales service enhances brand credibility and encourages repeat purchasing. Accordingly, high quality after sales service represents an effective strategy for strengthening customer loyalty. These results are also aligned with the findings of [22], which indicate that in a business to business context, service quality does not always exert a strong direct effect on repurchase intention when customers place greater emphasis on economic and technical considerations. Furthermore, [12] similarly reported that the influence of after sales service on repeat purchase decisions may weaken when purchasing decisions are predominantly driven by firms' strategic considerations.

The Effect of Customer Satisfaction (Y1) on Repurchase Intention (Y2)
The results show that customer satisfaction has a significant effect on repurchase intention. This finding indicates that customer satisfaction is a key factor that shapes repurchase tendency. Customers who have positive experiences with product performance and service quality are more likely to maintain long-term relationships with the same heavy equipment provider. This finding is in line with the results of research [16], which shows that satisfaction is the strongest predictor of increasing customer retention in various service sectors. Separately, research by [22] also confirms that customer satisfaction levels have a direct and significant influence on repurchase intention. The consistency of these findings reinforces that in the context of Sany heavy equipment users, increased satisfaction will directly encourage repurchase decisions.

5 Conclusions

This study aimed to analyze the effect of Brand Equity and After-Sales Service on Customer Satisfaction and its implications for Repurchase Intention among users of Sany heavy equipment in Samarinda. Based on the SEM-PLS results and the hypothesis-by-hypothesis discussion, several key conclusions can be drawn.

First, Brand Equity is proven to have a significant effect on Customer Satisfaction. Strong brand equity, which encompasses brand awareness, positive brand associations, perceived quality, loyalty, and customer preference, enhances customers' positive evaluations of their product usage experience. Thus, brand strength becomes an important driver in the formation of customer satisfaction.

Second, After-Sales Service also has a significant effect on Customer Satisfaction. Responsive and reliable after-sales service, supported by the availability of spare parts and adequate technical support, serves as a determining factor in increasing customer satisfaction, particularly in the heavy equipment industry, which demands high operational reliability.

Third, Brand Equity is found to have a significant effect on Repurchase Intention. A strong brand image increases customers' trust and confidence to continue choosing Sany in subsequent purchases, so that brand equity functions as a driver of loyalty and repeat purchase behavior.

Fourth, after sales service has a significant effect on repurchase intention. Customers who receive effective and reliable after sales service exhibit a higher propensity to engage in repeat purchasing because they feel secure and supported in the use of heavy equipment. The findings further indicate that brand equity represents the primary factor influencing customer satisfaction and repurchase intention in the Sany heavy equipment industry. In contrast, after sales service plays a role in maintaining customer satisfaction, yet its direct influence on repeat purchase decisions is relatively weaker within the business to business context.

Fifth, Customer Satisfaction is proven to be a strong predictor of Repurchase Intention. Customers who are satisfied with product performance and service quality are more likely to engage in repeat purchases and to maintain a long-term relationship with the Sany brand.

This study shows that Brand Equity and After-Sales Service have a positive and significant effect on Customer Satisfaction and Repurchase Intention among Sany heavy equipment customers in Samarinda. Customer Satisfaction also significantly increases Repurchase Intention, confirming its role as a key outcome in the purchase decision process. The Adjusted R-Square value for Customer Satisfaction (Y1) is 0.446, indicating a moderate predictive power, while the Adjusted R-Square for Repurchase Intention (Y2) is 0.633, which is categorized as strong.

These values indicate that the model is able to explain the variance in both constructs quite well and is relevant for understanding customer behavior in a high-investment heavy equipment context. Managerially, the results underline the importance of building strong brand equity and delivering reliable after-sales service to enhance satisfaction and encourage repeat purchases.

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