



The Effect of Social Media Marketing, Service Quality, and Value Co-Creation on Customer Loyalty With Customer Satisfaction as an Intervening Variable

Muhammad Hashfi Aufar^{1*}, Mohamad Rizan², Setyo Ferry Wibowo³
Universitas Negeri Jakarta

Corresponding Author: Muhammad : muhammadhashfiaufar@gmail.com

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ABSTRACT

This study analyzes the effects of social media marketing, service quality, and value co-creation on customer loyalty, with customer satisfaction as an intervening variable. Using a quantitative design, data were collected from 258 respondents selected through purposive sampling and analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4. The findings show that service quality and value co-creation significantly improve customer satisfaction, while social media marketing does not. Service quality, value co-creation, and customer satisfaction significantly increase customer loyalty, but social media marketing has no significant effect. Customer satisfaction mediates the effect of service quality on customer loyalty. These results imply that companies should strengthen service quality and customer involvement to improve loyalty.

INTRODUCTION

Customer loyalty is a crucial factor for the sustainability of service-based companies, including digital training and community-based edutech services. In this sector, loyalty is not only reflected in repeat purchases, but also in customers' willingness to continue using the service, recommend it to others, and participate actively in the learning community. For PT Kelas Digi Kreatif, a digital training company that uses Instagram and TikTok as its main channels for marketing, communication, and customer interaction, customer loyalty represents an important indicator of the effectiveness of its marketing and service strategies.

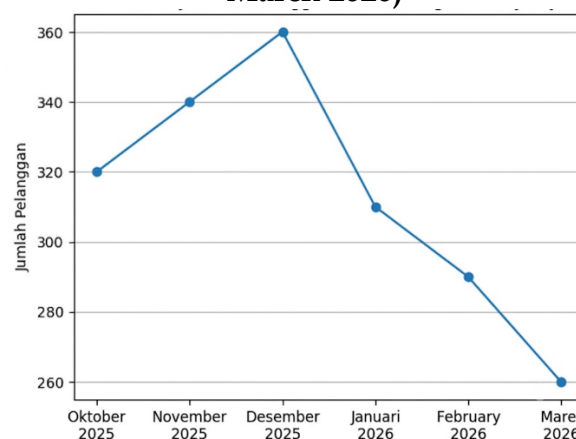
Table 1 Customer Behavior Analysis (October 2025 – March 2026)

Month	New Customers	Active Customers	Repeat Purchase	Churn	Retention Rate (%)	Total Customers
October	40	320	280	20	87.5%	320
December	50	360	310	15	86.1%	360
March	10	260	200	110	76.9%	260

Source: PT Kelas Digi Kreatif

Empirically, PT Kelas Digi Kreatif faces a loyalty problem. Internal company data show that the number of customers fluctuated during October 2025 to March 2026. The number of customers increased from 320 in October 2025 to 360 in December 2025, but then declined to 260 in March 2026. This decline was followed by a decrease in the retention rate from 87.5% in October 2025 to 76.9% in March 2026. In the same period, the company recorded only 10 new customers and 110 churned customers in March 2026. In addition, loyal customers, measured by at least two repeat purchases and active participation in the community, only reached an average of 38% of total active customers. These conditions indicate that the company has not been fully successful in maintaining long-term customer relationships, even though it has actively used social media marketing and community-based learning strategies.

Figure 1. Trend in the Number of PT Kelas Digi Kreatif Customers (October 2025 – March 2026)



Customer satisfaction is considered an important intervening variable in explaining customer loyalty. According to Expectation Confirmation Theory, satisfaction occurs when perceived service performance meets or exceeds customer expectations (Oliver, 1980). In digital training services, satisfaction is shaped not only by learning materials, but also by platform reliability, tutor responsiveness,

interaction quality, community engagement, and the perceived value created during the learning process. Satisfied customers are more likely to repeat purchases, maintain relationships with the company, and recommend the service to others.

Social media marketing is one factor that may influence customer satisfaction and loyalty. Through educational content, two-way communication, and interactive engagement, social media can shape customer expectations and strengthen emotional closeness with the brand. However, in the case of PT Kelas Digi Kreatif, intensive social media activity has not been fully followed by stronger customer loyalty. This condition shows a gap between digital marketing efforts and customers' actual service experience. Therefore, the effectiveness of social media marketing needs to be examined further in relation to customer satisfaction and customer loyalty.

Service quality is also a key determinant of customer satisfaction in service industries. In the context of PT Kelas Digi Kreatif, service quality includes platform reliability, tutor responsiveness, clarity of learning materials, and empathy in handling customer complaints. Consistent and professional service can improve customer trust and satisfaction because customers evaluate digital training services based on the quality of both the learning process and the support they receive. Previous research also shows that service quality can strengthen customer loyalty through customer satisfaction in digital service contexts (Fida et al., 2020; Yeo et al., 2021).

Another important factor in community-based edutech services is value co-creation. Service-Dominant Logic explains that value is not created by the company alone, but through interaction and collaboration between the company and customers (Vargo & Lusch, 2004). At PT Kelas Digi Kreatif, customers do not only act as training participants, but also contribute to value creation through discussions, feedback, mini curriculum co-design, peer mentoring, and project showcases. This active involvement can increase customers' sense of belonging, emotional attachment, and satisfaction with the service.

Several previous studies have examined the relationship between social media marketing, service quality, value co-creation, customer satisfaction, and customer loyalty. However, most of them focus on retail, banking, transportation, or general digital services. Studies that integrate social media marketing, service quality, and value co-creation in one research model with customer satisfaction as an intervening variable in a community-based edutech context remain limited. This study offers a specific contribution by examining customer loyalty in a niche sample, namely customers of PT Kelas Digi Kreatif, a community-based digital training company. The study also enriches relationship marketing theory by combining Digital Relationship Quality Theory, Expectation Confirmation Theory, and Service-Dominant Logic to explain how customer loyalty is formed in a digital learning ecosystem.

Based on these empirical and theoretical gaps, this study aims to analyze the influence of social media marketing, service quality, and value co-creation on customer loyalty with customer satisfaction as an intervening variable.

This study is expected to provide theoretical contribution to the development of digital service marketing literature and practical recommendations for PT Kelas Digi

Kreatif in improving customer retention through more effective social media strategies, better service quality, and stronger customer involvement in value co-creation.

LITERATURE REVIEW

Social Media Marketing refers to the use of social media platforms to communicate, interact, and build relationships with customers. In this study, it is measured through entertainment, interaction, trendiness, customization, and word of mouth.

Service Quality refers to the company's ability to provide services that meet customer expectations. In this study, it is measured through tangibles, reliability, responsiveness, assurance, and empathy.

Value Co-creation refers to the active involvement of customers in creating value together with the company. In this study, it is measured through dialogue, access, risk assessment, transparency, and value realization.

Customer Satisfaction refers to customers' evaluation after comparing their expectations with the actual service experience. In this study, it acts as an intervening variable between Social Media Marketing, Service Quality, Value Co-creation, and Customer Loyalty.

Customer Loyalty refers to customers' commitment to reuse services, recommend them to others, and remain loyal despite competitor offers. In this study, it is measured through repeat purchase intention, retention, referral, resistance to competitor offer, and engagement.

1. Social Media Marketing can improve Customer Satisfaction because relevant, interactive, and engaging content helps customers gain information, enjoyment, and better brand interaction. Based on Uses and Gratifications Theory and Relationship Marketing Theory, effective social media activities can create positive customer experiences.

H1: Social Media Marketing affects Customer Satisfaction.

2. Service Quality can increase Customer Satisfaction when the service performance meets or exceeds customer expectations. Based on Expectancy-Disconfirmation Theory and SERVQUAL Theory, reliable, responsive, and empathetic service strengthens customer satisfaction.

H2: Service Quality affects Customer Satisfaction.

3. Value Co-creation can improve Customer Satisfaction because customers feel more involved when they participate in creating value with the company. Based on Service-Dominant Logic and Self-Determination Theory, customer participation can increase ownership, trust, and satisfaction.

H3: Value Co-creation affects Customer Satisfaction.

4. Social Media Marketing can influence Customer Loyalty by creating customer engagement and stronger relationships with the brand. Interactive social media activities can build trust, emotional attachment, and repeated interaction.

H4: Social Media Marketing affects Customer Loyalty.

5. Service Quality can strengthen Customer Loyalty because customers tend to stay with companies that provide consistent and satisfying services. Based on

Relationship Quality Theory and Expectancy-Disconfirmation Theory, good service encourages repeat purchase and long-term commitment.

H5: Service Quality affects Customer Loyalty.

6. Value Co-creation can increase Customer Loyalty because customer involvement creates stronger emotional attachment and trust toward the company. Based on Service-Dominant Logic and Commitment-Trust Theory, collaborative value creation supports long-term customer relationships.

H6: Value Co-creation affects Customer Loyalty.

7. Customer Satisfaction can influence Customer Loyalty because satisfied customers are more likely to reuse services, recommend them, and maintain relationships with the company. Based on Expectancy-Disconfirmation Theory and Attitude-Behavior Consistency Theory, positive satisfaction leads to loyal behavior.

H7: Customer Satisfaction affects Customer Loyalty.

8. Customer Satisfaction can mediate the relationship between Social Media Marketing and Customer Loyalty. Effective social media activities create satisfying customer experiences, which then encourage loyalty.

H8: Social Media Marketing affects Customer Loyalty through Customer Satisfaction.

9. Customer Satisfaction can mediate the relationship between Service Quality and Customer Loyalty. High service quality creates satisfaction, and satisfied customers are more likely to become loyal.

H9: Service Quality affects Customer Loyalty through Customer Satisfaction.

10. Customer Satisfaction can mediate the relationship between Value Co-creation and Customer Loyalty. Customer involvement in value creation increases satisfaction, which then strengthens loyalty.

H10: Value Co-creation affects Customer Loyalty through Customer Satisfaction.

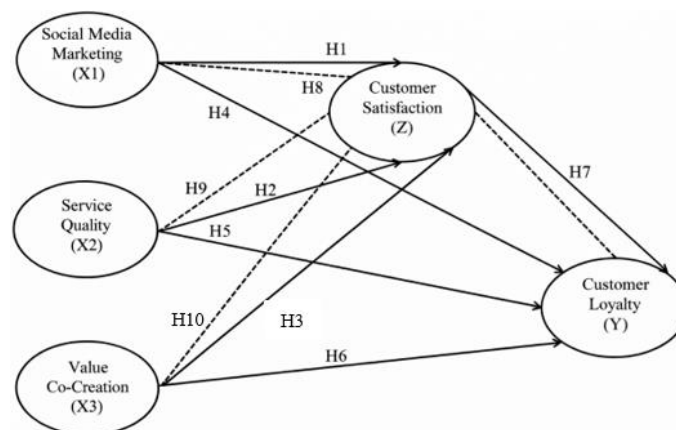


Figure 2. Conceptual Framework

METHODOLOGY

This study employs a quantitative approach combined with an interpretive research methodology to investigate the causal relationship between social media marketing, service quality, shared value creation, customer satisfaction, and loyalty. The study focuses on the perceptions and experiences of 812 active customers of PT Kelas Digi Kreatif during the period from 2023 to 2025. The study sample consisted of 258 respondents selected using purposive sampling based on specific criteria: customers who participated in the training program, interacted with the company's social media accounts, and completed the program. Primary data were collected through a structured questionnaire using a five-point Likert scale, while secondary data were gathered from internal company reports and customer relationship management (CRM) records. The data were analyzed using partial least squares structural equation modeling (PLS-SEM) with SmartPLS software to examine the direct and indirect effects, including the mediating role of customer satisfaction. Instrument testing included validity and reliability tests, while hypothesis testing used path coefficients, t-statistics, p-values, and R^2 .

RESEARCH RESULTS

Measurement Model Testing (Outer Model)

The external model test evaluates the relationship between indicators and their underlying components. This test includes convergence validity, discrimination validity, extracted mean variance (AVE), fitting reliability, and Cronbach's alpha. An indicator is considered valid if its loading factor is greater than 0.70, and its AVE value must be greater than 0.50. A component is considered reliable if its fitting reliability is greater than 0.70 and its Cronbach's alpha is above the lower limit.

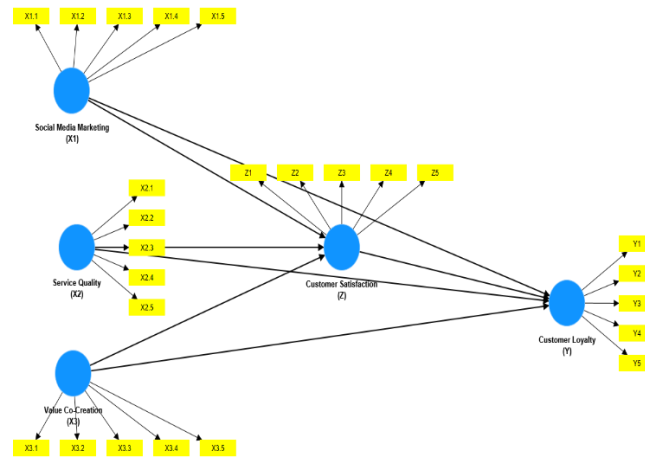
Validity Test

The Validity testing is used to ensure that each indicator accurately measures the underlying structure. In partial least squares structural equation modeling (PLS-SEM), validity testing includes convergent validity and discriminant validity. Discriminant validity can be assessed using the HTMT value, where a value less than 0.90 indicates that the two structures are conceptually distinct and non-overlapping.

Convergent Validity

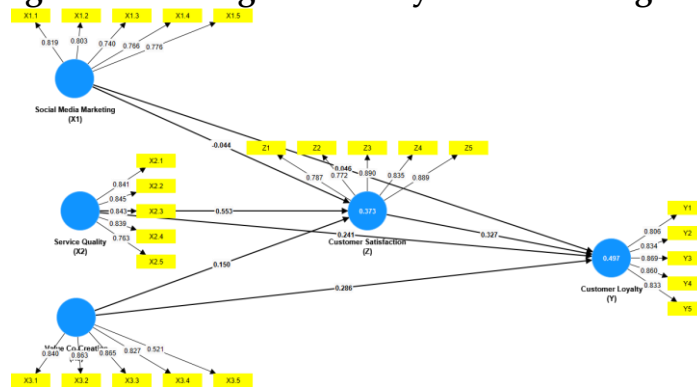
Convergent validity is used to measure whether each indicator represents its latent variable properly. An indicator is considered valid if the outer loading value is greater than 0.70. However, for a model that is still under development, an outer loading value above 0.50 can still be accepted as a tolerance limit.

Figure 3. Initial Convergent Validity Outer Loading Test



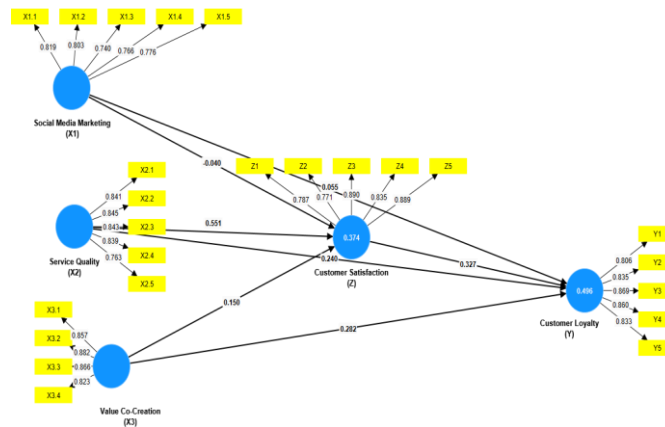
Source: Data processed by the researcher (2026)

Figure 4. Convergent Validity Outer Loading Test



Source: Data processed by the researcher using SmartPLS 4 (2026)

Figure 5. Final Convergent Validity Outer Loading Test



Source: Data processed by the researcher using SmartPLS 4 (2026)

Table 4.4 Convergent Outer Loading Values

	Customer Loyalty (Y)	Customer Satisfaction (Z)	Service Quality (X2)	Social Media Marketing (X1)	Value Co-Creation (X3)
X1.1				0.819	
X1.2				0.803	
X1.3				0.740	
X1.4				0.766	

	Customer Loyalty (Y)	Customer Satisfaction (Z)	Service Quality (X2)	Social Media Marketing (X1)	Value Co-Creation (X3)
X1.5				0.776	
X2.1			0.841		
X2.2			0.845		
X2.3			0.843		
X2.4			0.839		
X2.5			0.763		
X3.1					0.857
X3.2					0.882
X3.3					0.866
X3.4					0.823
Y1	0.806				
Y2	0.835				
Y3	0.869				
Y4	0.860				
Y5	0.833				
Z1		0.787			
Z2		0.771			
Z3		0.890			
Z4		0.835			
Z5		0.889			

Source: Data processed by the researcher using SmartPLS 4 (2026)

This study identifies and measures five main variables, namely Social Media Marketing (X1), Service Quality (X2), Value Co-Creation (X3), Customer Satisfaction (Z), and Customer Loyalty (Y), using a quantitative indicator-based approach assessed through outer loading values. In the initial test, indicator X3.5 of Value Co-Creation had an outer loading value of 0.521. Since this value was below the ideal threshold of 0.70 and could reduce the overall model quality, X3.5 was removed from the analysis. After its removal, all remaining indicators showed outer loading values above 0.70, ranging from 0.740 to 0.890. These results indicate that the research instrument has strong convergent validity, so all remaining indicators are valid and suitable for further analysis.

Discriminant Validity

Discriminant validity in this study was assessed using cross loading values and Average Variance Extracted (AVE). The cross loading test aims to determine whether each indicator has a stronger correlation with its own construct than with other constructs. An indicator meets the discriminant validity criteria when its cross loading value on the original construct is higher than its loading on other constructs. This condition indicates that each latent construct can better explain the indicators within its own block than indicators from other constructs, so the model has good discriminant validity.

Table 4.5 Cross-Loading Values for All Variables and Research Model Constructs

	Customer Loyalty (Y)	Customer Satisfaction (Z)	Service Quality (X2)	Social Media Marketing (X1)	Value Co-Creation (X3)
X1.1	0.306	0.245	0.426	0.819	0.284
X1.2	0.265	0.179	0.354	0.803	0.279
X1.3	0.150	0.106	0.233	0.740	0.192
X1.4	0.243	0.169	0.334	0.766	0.224
X1.5	0.308	0.244	0.333	0.776	0.313
X2.1	0.503	0.515	0.841	0.399	0.389
X2.2	0.450	0.537	0.845	0.378	0.377
X2.3	0.506	0.522	0.843	0.364	0.366
X2.4	0.473	0.467	0.839	0.358	0.309
X2.5	0.449	0.414	0.763	0.332	0.265
X3.1	0.495	0.410	0.389	0.326	0.857
X3.2	0.443	0.302	0.365	0.275	0.882
X3.3	0.420	0.239	0.323	0.284	0.866
X3.4	0.409	0.274	0.337	0.277	0.823
Y1	0.806	0.508	0.471	0.309	0.430
Y2	0.835	0.443	0.451	0.227	0.424
Y3	0.869	0.524	0.492	0.327	0.480
Y4	0.860	0.487	0.518	0.285	0.432
Y5	0.833	0.503	0.489	0.279	0.417
Z1	0.524	0.787	0.510	0.256	0.321
Z2	0.450	0.771	0.493	0.246	0.306
Z3	0.504	0.890	0.503	0.167	0.282
Z4	0.457	0.835	0.486	0.201	0.337
Z5	0.511	0.889	0.497	0.200	0.283

Source: Data processed by the researcher using SmartPLS 4 (2026)

The discriminant validity test shows that all indicators meet the required criteria. Based on the cross loading results, each indicator has a higher correlation with its own latent construct than with other constructs, indicating that each construct can represent its indicators specifically without overlap. Discriminant validity was also confirmed using the Fornell-Larcker Criterion by comparing the square root of AVE with the correlations among constructs. The results show that the square root of AVE for Customer Loyalty (0.841), Customer Satisfaction (0.836), Service Quality (0.827), Social Media Marketing (0.781), and Value Co-Creation (0.857) is higher than the correlations with other constructs. Therefore, all constructs have good discriminant validity and meet the measurement model quality standards.

Table 4.6 Fornell-Larcker Criterion Values for All Research Variables

	Customer Loyalty (Y)	Customer Satisfaction (Z)	Service Quality (X2)	Social Media Marketing (X1)	Value Co-Creation (X3)
Customer Loyalty (Y)	0.841				
Customer Satisfaction (Z)	0.587	0.836			
Service Quality (X2)	0.576	0.596	0.827		
Social Media Marketing (X1)	0.341	0.256	0.444	0.781	
Value Co-Creation (X3)	0.520	0.366	0.415	0.341	0.857

Source: Data processed by the researcher using SmartPLS 4 (2026)

Table 4.7 Heterotrait-Monotrait Ratio (HTMT) Values for All Research Variables

	Customer Loyalty (Y)	Customer Satisfaction (Z)	Service Quality (X2)	Social Media Marketing (X1)	Value Co-Creation (X3)
Customer Loyalty (Y)					
Customer Satisfaction (Z)	0.655				
Service Quality (X2)	0.647	0.669			
Social Media Marketing (X1)	0.371	0.277	0.495		
Value Co-Creation (X3)	0.579	0.404	0.464	0.379	

Source: Data processed by the researcher using SmartPLS 4 (2026)

Based on the Heterotrait-Monotrait Ratio (HTMT) test, all variables in this study have HTMT values below the recommended threshold of 0.90. This indicates that each variable has adequate discriminant validity and is empirically distinct from the other variables. Furthermore, discriminant validity was supported by evaluating the Average Variance Extracted (AVE) values. A construct is considered to have good convergent validity when the AVE value is greater than 0.50, meaning that more than 50% of the indicator variance can be explained by the construct. Therefore, the measurement model meets the validity criteria and is suitable for further analysis.

Table 4.8 Average Variance Extracted (AVE) Values of the Research Model

Average Variance Extracted (AVE)	
Customer Loyalty (Y)	0.707
Customer Satisfaction (Z)	0.699
Service Quality (X2)	0.684
Social Media Marketing (X1)	0.611
Value Co-Creation (X3)	0.735

Source: Data processed by the researcher using SmartPLS 4 (2026)

Based on Table 4.8, all variables in this study have Average Variance Extracted (AVE) values above the minimum threshold of 0.50. The AVE value for Customer Loyalty is 0.707, Customer Satisfaction is 0.699, Service Quality is 0.684, Social Media Marketing is 0.611, and Value Co-Creation is 0.735. These results indicate that each

construct can explain more than 50% of the variance of its indicators. Therefore, all constructs meet the convergent validity criteria. Together with the discriminant validity results, the measurement model is considered valid and suitable for further analysis, including hypothesis testing.

Reliability Test

The reliability test was conducted to assess the consistency and stability of the research instruments in measuring each construct. In PLS-SEM, reliability is evaluated using Cronbach's Alpha and Composite Reliability. A construct is considered reliable if the Cronbach's Alpha value is greater than 0.60 and the Composite Reliability value is greater than 0.70. Based on the results, all Cronbach's Alpha values meet the required criteria, namely Customer Loyalty (0.896), Customer Satisfaction (0.891), Service Quality (0.884), Social Media Marketing (0.844), and Value Co-Creation (0.880).

Table 4.9 Cronbach's Alpha Values of the Research Model

	Cronbach's Alpha
Customer Loyalty (Y)	0.896
Customer Satisfaction (Z)	0.891
Service Quality (X2)	0.884
Social Media Marketing (X1)	0.844
VALUE CO-CREATION (X3)	0.880

Source: Data processed by the researcher using SmartPLS 4 (2026)

In addition, all Composite Reliability values are also above 0.70, namely Customer Loyalty (0.923), Customer Satisfaction (0.920), Service Quality (0.915), Social Media Marketing (0.887), and Value Co-Creation (0.917). Therefore, all constructs in this study are reliable and suitable for further analysis.

Table 4.10 Composite Reliability Values of the Research Model

	Composite Reliability
Customer Loyalty (Y)	0.923
Customer Satisfaction (Z)	0.920
Service Quality (X2)	0.915
Social Media Marketing (X1)	0.887
VALUE CO-CREATION (X3)	0.917

Source: Data processed by the researcher using SmartPLS 4 (2026)

Structural Model Testing (Inner Model)

The inner model test was conducted to evaluate the relationships among latent variables in the research model. This test includes VIF, F-Square, R-Square, path coefficient, and t-statistic to assess the model's ability to explain and predict causal relationships among variables.

Variance Inflation Factor (VIF) Test

The VIF test was used to detect multicollinearity among independent variables. The results show that all VIF values range from 1.255 to 1.866. These values are below the threshold of 10 and also below the PLS-SEM threshold of 3.3. Therefore, the model

is free from multicollinearity problems, and the path coefficient estimation can be considered stable and valid.

Table 4.11 Variance Inflation Factor (VIF) Test

	VIF
Customer Satisfaction (Z) -> Customer Loyalty (Y)	1.596
Service Quality (X2) -> Customer Loyalty (Y)	1.866
Service Quality (X2) -> Customer Satisfaction (Z)	1.381
Social Media Marketing (X1) -> Customer Loyalty (Y)	1.295
Social Media Marketing (X1) -> Customer Satisfaction (Z)	1.293
Value Co-Creation (X3) -> Customer Loyalty (Y)	1.291
Value Co-Creation (X3) -> Customer Satisfaction (Z)	1.255

Source: Data processed by the researcher using SmartPLS 4 (2026)

F-Square (F²) Test

The F-Square test was used to measure the effect size of each independent variable on the dependent variables. Customer Satisfaction has an effect on Customer Loyalty of 0.133. Service Quality has an effect on Customer Loyalty of 0.061 and on Customer Satisfaction of 0.352. Social Media Marketing has a very small effect on Customer Loyalty of 0.005 and on Customer Satisfaction of 0.002. Value Co-Creation has an effect on Customer Loyalty of 0.122 and on Customer Satisfaction of 0.029. These results show that Service Quality has the strongest effect on Customer Satisfaction.

Table 4.12 F-Square Values

	Customer Loyalty (Y)	Customer Satisfaction (Z)
Customer Loyalty (Y)		
Customer Satisfaction (Z)	0.133	
Service Quality (X2)	0.061	0.352
Social Media Marketing (X1)	0.005	0.002
Value Co-Creation (X3)	0.122	0.029

Source: Data processed by the researcher using SmartPLS 4 (2026)

Coefficient of Determination / R-Square (R²) Test

The R-Square test was used to measure how well the independent variables explain the dependent variables. The R-Square value of Customer Loyalty is 0.496, meaning that 49.6% of Customer Loyalty can be explained by the variables in the model, while 50.4% is explained by other factors outside the study. The R-Square value of Customer Satisfaction is 0.374, meaning that 37.4% of Customer Satisfaction can be explained by the model, while 62.6% is influenced by other factors. These values indicate that the model has a moderate to weak explanatory power.

Table 4.13 R-Square (R²) Values of the Research Model

	R-Square
Customer Loyalty (Y)	0.496
Customer Satisfaction (Z)	0.374

Source: Data processed by the researcher using SmartPLS 4 (2026)

DISCUSSION

Table 4.14 Hypothesis Testing for Direct Effects

Relationship Between Constructs	Original Sample (O)	T Statistics	T Table	P Values	Result
Social Media Marketing (X1) → Customer Satisfaction (Z)	-0.040	0.657	1.969	0.511	No significant effect
Service Quality (X2) → Customer Satisfaction (Z)	0.551	9.235	1.969	0.000	Positive and significant effect
Value Co-Creation (X3) → Customer Satisfaction (Z)	0.150	2.058	1.969	0.040	Positive and significant effect
Social Media Marketing (X1) → Customer Loyalty (Y)	0.055	1.105	1.969	0.269	No significant effect
Service Quality (X2) → Customer Loyalty (Y)	0.240	3.665	1.969	0.000	Positive and significant effect
Value Co-Creation (X3) → Customer Loyalty (Y)	0.282	3.973	1.969	0.000	Positive and significant effect
Customer Satisfaction (Z) → Customer Loyalty (Y)	0.327	4.061	1.969	0.000	Positive and significant effect

Source: Data processed by the researcher using SmartPLS 4 (2026)

Table 4.15 Hypothesis Testing for Indirect Effects

Relationship Between Constructs	Original Sample (O)	T Statistics	T Table	P Values	Result
Social Media Marketing (X1) → Customer Satisfaction (Z) → Customer Loyalty (Y)	-0.013	0.618	1.969	0.537	No significant effect
Service Quality (X2) → Customer Satisfaction (Z) → Customer Loyalty (Y)	0.180	4.081	1.969	0.000	Positive and significant effect
Value Co-Creation (X3) → Customer Satisfaction (Z) → Customer Loyalty (Y)	0.049	1.579	1.969	0.114	No significant effect

Source: Data processed by the researcher using SmartPLS 4 (2026)

H1: Social Media Marketing and Customer Satisfaction

The test result shows a p-value of 0.511, which is higher than 0.05. Therefore, H1 is rejected. Social Media Marketing does not significantly affect Customer Satisfaction. This result suggests that customers may place more weight on actual service experience than on digital promotional activities. Although social media can build interaction and engagement (Tatar & Erdoğan, 2021; Tuten & Solomon, 2021), it may not create satisfaction when it is not supported by consistent service quality and real customer value.

H2: Service Quality and Customer Satisfaction

The test result shows a p-value of 0.000, which is lower than 0.05. Therefore, H2 is accepted. Service Quality has a positive and significant effect on Customer Satisfaction. This finding indicates that reliability, responsiveness, assurance, and empathy improve customer experience and satisfaction. This result is consistent with Fida et al. (2020), Yeo et al. (2021), and Zeithaml et al. (2020), who emphasized service quality as a major predictor of customer satisfaction.

H3: Value Co-Creation and Customer Satisfaction

The test result shows a p-value of 0.040, which is lower than 0.05. Therefore, H3 is accepted. Value Co-Creation significantly affects Customer Satisfaction. Customer involvement through ideas, feedback, and participation can make customers feel valued and more satisfied. This result aligns with Chen et al. (2020), Prahalad and Ramaswamy (2004), and Ranjan and Read (2016), who argued that collaborative value creation strengthens customer experience and satisfaction.

H4: Social Media Marketing and Customer Loyalty

The test result shows a p-value of 0.269, which is higher than 0.05. Therefore, H4 is rejected. Social Media Marketing does not significantly affect Customer Loyalty. Social media may increase awareness and interaction, but it is not sufficient to build long-term loyalty without repeated positive service experiences. This finding differs from studies that found social media communities may support loyalty (Bilgin, 2018; Laroche et al., 2013), suggesting that in this context loyalty is driven more by actual service value.

H5: Service Quality and Customer Loyalty

The test result shows a p-value of 0.000, which is lower than 0.05. Therefore, H5 is accepted. Service Quality has a positive and significant effect on Customer Loyalty. Customers who receive reliable, responsive, and satisfying service are more likely to reuse the service and recommend it to others. This finding supports Fida et al. (2020), Rahi et al. (2019), and Yeo et al. (2021), who found that service quality strengthens customer loyalty.

H6: Value Co-Creation and Customer Loyalty

The test result shows a p-value of 0.000, which is lower than 0.05. Therefore, H6 is accepted. Value Co-Creation has a positive and significant effect on Customer Loyalty. Customer involvement in value creation can build emotional attachment, trust, and a sense of ownership toward the company. This result is consistent with Grisseemann and Stokburger-Sauer (2012), Nysveen and Pedersen (2020), and Prahalad and Ramaswamy (2004).

H7: Customer Satisfaction and Customer Loyalty

The test result shows a p-value of 0.000, which is lower than 0.05. Therefore, H7 is accepted. Customer Satisfaction has a positive and significant effect on Customer Loyalty. Satisfied customers tend to make repeat purchases, stay with the company, and recommend the service to others. This finding supports Oliver (1980, 2020), Rahi et al. (2019), and Fida et al. (2020), who positioned satisfaction as a key driver of loyalty.

H8: Social Media Marketing, Customer Satisfaction, and Customer Loyalty

The mediation test shows a p-value of 0.537, which is higher than 0.05. Therefore, H8 is rejected. Customer Satisfaction does not mediate the relationship between Social Media Marketing and Customer Loyalty. This result indicates that social media activities may inform or attract customers, but they do not necessarily create satisfaction that leads to loyalty. In this study, loyalty appears to depend more on service experience than on social media exposure alone.

H9: Service Quality, Customer Satisfaction, and Customer Loyalty

The mediation test shows a p-value of 0.000, which is lower than 0.05. Therefore, H9 is accepted. Customer Satisfaction significantly mediates the relationship between Service Quality and Customer Loyalty. High service quality creates satisfaction, and satisfied customers are more likely to become loyal. This finding is in line with Rahi et al. (2019), Fida et al. (2020), and Yeo et al. (2021), who found that satisfaction strengthens the effect of service quality on loyalty.

H10: Value Co-Creation, Customer Satisfaction, and Customer Loyalty

The mediation test shows a p-value of 0.114, which is higher than 0.05. Therefore, H10 is rejected. Customer Satisfaction does not significantly mediate the relationship between Value Co-Creation and Customer Loyalty. Value Co-Creation may influence loyalty directly through involvement, emotional attachment, and a sense of ownership rather than through satisfaction. This result is consistent with the view that co-creation can build stronger customer relationships through participation and shared value (Prahalad & Ramaswamy, 2004; Ranjan & Read, 2016).

CONCLUSIONS AND RECOMMENDATIONS

Based on the research results, this study concludes that Service Quality and Value Co-Creation significantly influence Customer Satisfaction and Customer Loyalty, while Social Media Marketing does not have a significant effect on both variables. Customer Satisfaction also significantly influences Customer Loyalty and mediates the relationship between Service Quality and Customer Loyalty, but it does not mediate the relationship between Social Media Marketing or Value Co-Creation and Customer Loyalty. These findings imply that PT Kelas Digi Kreatif should prioritize improving service quality, strengthening customer involvement through value co-creation, and aligning social media content with the actual service experience to build stronger customer satisfaction and loyalty.

ADVANCED RESEARCH

This study has several limitations. First, the research was conducted only on customers of PT Kelas Digi Kreatif, so the findings may not fully represent other digital education or service-based companies. Second, the study used a quantitative approach with questionnaire data, which may not capture deeper customer experiences and motivations. Third, the model only examined Social Media Marketing, Service Quality, Value Co-Creation, Customer Satisfaction, and Customer Loyalty. Therefore, future research is suggested to include other variables such as

trust, perceived value, brand image, customer engagement, or digital experience. Future studies may also use qualitative or mixed methods and compare different edutech companies to obtain broader and richer findings.

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