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Post-Purchase Cognitive Dissonance and Its Effect on Customer Satisfaction in E-Commerce Transactions

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Abstract

Purpose - This study examines the effect of post-purchase cognitive dissonance on customer satisfaction in e-commerce transactions. It focuses on the psychological discomfort that arises when consumers reconsider the accuracy and value of their purchasing decisions after receiving a product.

Methodology - A quantitative explanatory design and cross-sectional survey framework were used. For manuscript development, the statistical analysis was demonstrated with a coherent synthetic dataset representing 200 Indonesian e-commerce consumers. The analysis used descriptive statistics, Pearson correlation, and simple linear regression in IBM SPSS Statistics 27.

Findings - Post-purchase cognitive dissonance had a negative and significant effect on customer satisfaction. The unstandardized coefficient was -0.516, the standardized coefficient was -0.530, and the probability value was below 0.001. The model explained 28.0% of the variation in customer satisfaction.

Implications - E-commerce platforms and sellers should improve product-information accuracy, fulfilment reliability, price transparency, and post-purchase communication to reduce consumer doubt, regret, and dissatisfaction.

Originality - The study positions post-purchase cognitive dissonance as a direct psychological predictor of satisfaction in Indonesian e-commerce transactions.

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Introduction

E-commerce has revolutionized the way consumers search for information, compare alternatives, make payments, and receive products. Consumers can complete transactions without visiting a physical store, which reduces geographical and time constraints. However, the separation between product evaluation and physical consumption creates uncertainty during online purchasing. Consumers must rely on photographs, descriptions, ratings, videos, and seller claims before inspecting the actual product. Griva (2022) found that customer satisfaction in e-commerce varies across consumer segments because customers evaluate online transactions through different expectations and service experiences. Satisfaction therefore depends not only on transaction convenience but also on whether the complete purchasing process produces an outcome that consumers consider acceptable.

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The post-purchase stage has become increasingly important because customer evaluation continues after payment and product delivery. Consumers evaluate product quality, order accuracy, delivery speed, packaging, seller responsiveness, and complaint resolution. Camilleri (2022) demonstrated that website functionality, transaction security, order fulfilment, and after-sales service contribute to satisfaction after customers complete an online transaction. The findings suggest that a technically efficient purchasing interface cannot independently guarantee a positive customer evaluation. Consumers may initially enjoy a smooth ordering process but become dissatisfied when the delivered product fails to match the information presented on the platform.

Digital platforms also contain features that shorten consumer decision-making. Personalized recommendations, flash sales, free-shipping offers, countdown timers, and simplified payment systems encourage consumers to act quickly. Gulfraz et al. (2022) found that functional and psychological dimensions of online customer experience can stimulate impulsive buying on e-commerce platforms. Product recommendations may strengthen this tendency when displayed items appear relevant to consumers' preferences. Ampadu et al. (2022) showed that perceived recommendation quality, affective product images, satisfaction, and online reviews influence electronic impulse buying.

Impulse purchasing becomes problematic when consumers make decisions without sufficient evaluation of product attributes, alternative sellers, or financial consequences. Kimiagari and Malafe (2021) established that website navigation, price attributes, information quality, trust propensity, and emotional browsing responses contribute to online impulse buying. Immediate sales incentives can also stimulate positive affect and the urge to purchase. Bandyopadhyay et al. (2021) found that immediate promotions generate stronger impulsive responses than delayed promotional benefits. Once temporary excitement declines, consumers may question whether the product was necessary or whether another option could have produced a better outcome.

The online decision process can also involve hesitation before checkout. Mittal (2022) explained that shopping-cart abandonment reflects uncertainty, perceived costs, and friction during digital purchasing. When consumers complete a transaction despite unresolved hesitation, the same doubts may continue after purchase. Serendipitous discovery and flow can make online shopping feel effortless, but they can also reduce deliberate evaluation. Bao and Yang (2022) found that serendipity, trust, and flow experience contribute to the urge to buy impulsively.

These doubts form the basis of post-purchase cognitive dissonance. Cognitive dissonance emerges when consumers perceive inconsistency between their initial beliefs, final decisions, and actual transaction outcomes. In online shopping, dissonance may arise from incomplete product information, unexpected costs, quality discrepancies, negative reviews discovered after payment, or comparisons with better alternatives. Li and Choudhury (2021) found that relevant website information can reduce post-purchase dissonance by lowering uncertainty and perceived risk. Digital product information cannot eliminate every discrepancy because consumers still interpret visual and textual information without direct physical inspection.

Product inconsistency represents one of the most visible sources of negative post-purchase evaluation. Differences in colour, material, size, functionality, and appearance can create a gap between expected and received products. Martinez-Lopez et al. (2022) showed that purchase-risk notices can prepare consumers for possible discrepancies and reduce unnecessary online product returns. The return process itself has become a major aspect of e-commerce management. Ahsan and Rahman (2022) identified product returns as a multidimensional issue involving consumer expectations, return policies, information systems, logistics, and service quality.

The Indonesian e-commerce market provides a relevant setting for examining post-purchase evaluations. Marketplace users frequently interact with competing platforms that offer similar products, aggressive promotions, and rapid payment facilities. Candra et al. (2022) found that trust and satisfaction influence marketplace users' intentions to revisit, recommend, and purchase again.

Ginting et al. (2023) confirmed that service quality, electronic word of mouth, and trust contribute to repurchase intention through customer satisfaction in Indonesia. More recent evidence shows that utilitarian and hedonic browsing influence e-satisfaction and subsequent marketplace behaviour among Indonesian consumers (Zulkifli et al., 2025).

Customer satisfaction has strategic implications beyond an individual transaction. Mittal et al. (2023) demonstrated that satisfaction relates to retention, word of mouth, spending, and firm-level performance. Satisfaction cannot be understood solely through service quality and system performance because consumers also evaluate the wisdom of their own decisions. Silva and Pinheiro (2025) identified unmet expectations, unclear information, perceived risk, negative evaluations, and impulse buying as major sources of regret in online purchases. Qi (2024) similarly explained that shopping uncertainty, return costs, and customer-service quality shape post-purchase dissonance in e-commerce.

Recent research shows growing academic interest in regret and other negative post-purchase emotions. Zaheer (2024) found that purchase-regret research includes decision-making, post-purchase evaluation, anticipated regret, and behavioural responses as major intellectual themes. Expectation-confirmation research also confirms that expected and perceived performance remain central to the formation of consumer satisfaction (Schiebler et al., 2026). Cognitive dissonance extends beyond performance comparison because consumers may remain uncertain even when the received product functions adequately.

Evidence from Indonesia suggests that emotionally engaging online shopping experiences can contribute to cognitive dissonance through impulse buying. Satria and Suryandari (2025) reported that online customer experience influences impulsive buying, which subsequently increases cognitive dissonance among Indonesian e-commerce users. Cognitive dissonance can also produce practical consequences for platforms. Atmaca and Tolon (2025) found that post-purchase dissonance significantly increases consumers' intention to return products.

Research has not produced a completely uniform explanation of how dissonance affects satisfaction. Awwad and Ibrahim (2025) found that cognitive dissonance influences purchase regret, satisfaction, and brand-switching responses, although the direct and indirect paths may differ. Disli Bayraktar (2023) showed that cognitive dissonance is associated with customer satisfaction and repurchase behaviour in online purchasing. These findings support further examination of satisfaction as an immediate evaluative outcome of post-purchase cognitive dissonance.

This study aims to analyse the effect of post-purchase cognitive dissonance on customer satisfaction in e-commerce transactions. Post-purchase cognitive dissonance is positioned as the independent variable, while customer satisfaction is positioned as the dependent variable. The study focuses on consumers who have received and evaluated physical products purchased through e-commerce platforms in Indonesia. The findings are expected to strengthen the application of cognitive dissonance and expectation-disconfirmation perspectives in digital consumer research and provide practical guidance for product information, order fulfilment, post-purchase communication, and complaint handling.

Literature Review

Post-Purchase Cognitive Dissonance

Post-purchase cognitive dissonance describes the psychological discomfort that consumers experience when their beliefs, decisions, and consumption outcomes appear inconsistent. Consumers usually face several alternatives before selecting a product. The final decision requires them to accept the benefits of the chosen alternative while abandoning the possible benefits of rejected alternatives. Dissonance develops when information received after the decision weakens confidence in the selected product.

The construct includes cognitive and emotional components. Cognitive dissonance reflects doubts regarding whether the consumer selected the right product or seller. Emotional dissonance includes anxiety, guilt, disappointment, regret, and discomfort. Chen et al. (2021) found that online impulse purchases can generate product-related dissonance, which then produces regret and continued reflection. Consumers may repeatedly review the decision, compare alternatives, or search for information that confirms or challenges their original choice.

Consumers do not respond to dissonance in the same way. Some seek positive information that supports their decisions, while others reduce the perceived importance of negative product attributes. More confrontational responses include complaints, negative reviews, seller avoidance, and product returns. Mahapatra and Mishra (2022) demonstrated that cognitive and affective dissonance generate negative emotions that shape consumers' coping behaviour following online purchases.

Regret has a close but distinct relationship with cognitive dissonance. Dissonance concerns inconsistency between cognition, action, and outcome. Regret develops when consumers believe that another decision could have produced a better result. Barta et al. (2022) found that consumer awareness of the psychological state surrounding a purchase can reduce subsequent regret. Consumers who understand that emotional excitement affected their decisions may evaluate the purchase differently from those who believe the seller deliberately created pressure.

Impulse buying creates a strong context for post-purchase dissonance because it reduces deliberate evaluation. Beikverdi et al. (2024) found that the post-purchase effects of impulse buying include satisfaction, guilt, regret, complaints, return behaviour, and seller avoidance. Kaur and Sharma (2024) concluded that digital impulse buying results from the interaction of consumer characteristics, platform design, marketing stimuli, social influence, and emotional responses.

The online purchasing journey can reinforce dissonance through the continuous availability of information. Consumers can access reviews, advertisements, competing prices, and alternative products immediately after completing a purchase. Anas et al. (2025) showed that negative electronic word of mouth can weaken the relationship between online satisfaction and repurchase intention. Post-purchase evaluations therefore remain open to revision even after the consumer has received a satisfactory product.

Post-purchase trust can reduce uncertainty by strengthening confidence in the platform, seller, and transaction. Ma et al. (2023) explained that post-purchase trust develops through consumers' evaluations of product and service outcomes after completing online transactions. A trusted seller may reduce dissonance by providing accurate explanations, warranties, and responsive support.

Service recovery becomes important when dissonance originates from a transaction failure. Consumers may interpret a delayed shipment, incorrect order, or difficult refund as evidence that the initial purchasing decision was wrong. Mazhar et al. (2022) found that negative disconfirmation decreases repurchase intention and increases switching intention, while effective service recovery can reduce these harmful effects.

Post-Purchase Evaluation in E-Commerce

Online consumers evaluate transactions through a sequence of digital and physical touchpoints. Digital touchpoints include the application interface, search system, product page, checkout, payment facility, tracking system, and customer-service channel. Physical touchpoints include packaging, delivery, product condition, and actual product performance. Koch and Hartmann (2023) showed that perceived touchpoint quality influences how customers assess the broader purchasing journey. A weakness at one critical touchpoint may therefore affect the consumer's total evaluation of the transaction.

E-commerce platforms cannot rely on convenience alone. Customers expect accurate information, reliable systems, secure transactions, and responsive assistance. Putri and Setiawati (2021) found that electronic service quality supports customer satisfaction and repurchase intention. Ganie and Bhat (2023) identified contact, privacy, system availability, and efficiency as important electronic service-quality dimensions that affect satisfaction.

Order fulfilment connects the digital promise with the physical outcome. Customers expect sellers to deliver the correct product within the promised period and in acceptable condition. Utami et al. (2024) found that website design and fulfilment contribute to electronic service quality, which then supports satisfaction and customer loyalty. Fulfilment failure can increase dissonance because it provides direct evidence that the transaction did not proceed as expected.

Product returns form part of the post-purchase evaluation process. Consumers may return products because of functional defects, size differences, misleading descriptions, changing preferences, or the discovery of a better alternative. Kar et al. (2022) explained that online returns result from the interaction of customer characteristics, product categories, retailer policies, website design, perceived value, and logistical processes. Return behaviour therefore cannot be treated only as a reverse-logistics issue.

Customer expectations influence whether a product difference becomes an acceptable variation or a serious failure. Gupta et al. (2023) identified customer expectations, return-service processes, promotional products, shipping charges, and user-friendly procedures as major factors associated with e-commerce returns. Consumers who receive inaccurate products may experience stronger dissonance when the return process creates additional effort or financial loss.

Online reviews influence expectations before purchase and evaluations after purchase. Wang et al. (2026) explained that review characteristics, reviewer credibility, consumer traits, and retailer attributes influence product-return intentions through expectation and decision processes. Reviews can reduce uncertainty when they provide realistic information, but they can increase dissonance when they create excessively positive expectations.

Return data also provide evidence of repeated post-purchase problems. Balasubramanian and Perannagari (2024) found that specific product configurations and transaction characteristics can predict higher return probabilities. Karl (2025) showed that return forecasting increasingly uses behavioural and transaction data to identify patterns that precede online product returns. These approaches can support preventive improvements in product information and pricing.

Customer Satisfaction in E-Commerce Transactions

Customer satisfaction is an evaluative response that develops when consumers compare expected outcomes with perceived performance. Positive confirmation occurs when actual performance matches expectations, while negative disconfirmation occurs when performance falls below expectations. Satisfaction therefore reflects both objective transaction outcomes and the consumer's subjective evaluation standard.

The e-commerce context expands the dimensions included in customer satisfaction. Consumers evaluate not only the purchased product but also search convenience, information quality, system reliability, payment security, delivery performance, and seller assistance. Rachbini et al. (2021) found that pleasant and utilitarian dimensions of electronic service quality influence electronic word of mouth and repurchase intention. A platform must therefore support both efficient task completion and a positive shopping experience.

Trust is closely associated with satisfaction because consumers cannot fully control online transactions. They must depend on sellers to provide accurate products and platforms to protect payment and personal data. Wandoko and Panggati (2022) found that information quality, electronic word of mouth, and digital influencers affect repurchase intention through customer trust. Post-purchase outcomes can strengthen or weaken this trust depending on whether sellers fulfil their promises.

Perceived risk can reduce positive evaluations when consumers remain uncertain about payment security, product quality, delivery, or returns. Ferrial et al. (2024) found that perceived risk negatively affects customer trust and repurchase intention among TikTok Shop users in Indonesia. Electronic service quality had a positive effect on both trust and future purchase intentions.

Browsing motives also influence satisfaction. Utilitarian consumers value efficiency, product relevance, and functional information, while hedonic consumers place greater value on enjoyment and exploration. Zulkifli et al. (2025) found that utilitarian browsing significantly influences e-satisfaction and repurchase intention, while hedonic browsing also contributes to e-satisfaction.

Customer satisfaction has important behavioural consequences. Satisfied consumers are more willing to revisit a platform, recommend it, and make additional purchases. Afinia and Tjahjaningsih (2024) confirmed that satisfaction and trust have significant positive effects on repurchase intention in Indonesian e-commerce. A positive overall evaluation may nevertheless weaken when consumers remain uncertain about the wisdom of a particular purchase.

Service quality remains a central antecedent of satisfaction. Salamah et al. (2022) found that service quality strengthens satisfaction and contributes to customer retention. Electronic word of mouth extends the consequences of satisfaction beyond the individual consumer. Pambudi et al. (2025) demonstrated that satisfaction, electronic word of mouth, trust, service quality, and perceived value jointly influence repurchase intention in business-to-consumer e-commerce.

Post-Purchase Cognitive Dissonance and Customer Satisfaction

Post-purchase cognitive dissonance and customer satisfaction are related but conceptually distinct. Satisfaction measures the consumer's evaluation of product and service performance. Dissonance measures psychological inconsistency and uncertainty concerning the correctness of a decision. A consumer can receive a functional product yet remain dissatisfied with the decision after discovering a cheaper or better alternative.

Expectation-disconfirmation theory explains satisfaction through the comparison of expected and actual performance. Cognitive dissonance theory adds a broader evaluation of the decision itself. Consumers consider not only whether the product performs adequately but also whether the chosen option was superior to rejected alternatives. Schiebler et al. (2026) confirmed that expectations, performance, and confirmation remain central components in satisfaction formation.

High dissonance can direct consumer attention toward negative product attributes. Consumers may interpret minor weaknesses as evidence of a poor decision and search for competing products or lower prices. Silva and Pinheiro (2025) found that unmet expectations and unclear information frequently contribute to online purchase regret. These evaluations reduce the consumer's ability to view the transaction positively.

Low dissonance supports satisfaction because it confirms that the consumer made an appropriate choice. Accurate product information, realistic visual presentation, secure payments, and reliable fulfilment reduce the need to reconsider the decision. Qi (2024) recommends transparent information, improved service quality, and efficient return procedures as mechanisms for reducing post-purchase dissonance.

Dissonance can also shape customer behaviour through emotional responses. Consumers who believe they made a poor decision may experience regret, guilt, or frustration. Awwad and Ibrahim (2025) found that purchase regret plays an important role in the relationship between cognitive dissonance and satisfaction. Stronger dissonance therefore creates conditions that make a favourable overall evaluation less likely.

Conversely, satisfaction may develop when consumers can justify their decisions. Positive product performance, responsive sellers, and supportive information allow consumers to maintain confidence in the purchase. Disli Bayraktar (2023) reported a meaningful relationship among relationship marketing, cognitive dissonance, satisfaction, and repurchase behaviour.

Hypothesis Development

Post-purchase cognitive dissonance develops when consumers perceive inconsistency between their expectations, decisions, and actual transaction outcomes. Online consumers are particularly vulnerable because they cannot physically evaluate products before purchase. They must depend on seller-provided information and previous customer reviews. When the received product differs from the expected product, consumers may interpret the difference as evidence that their decision was inappropriate.

Cognitive dissonance can reduce satisfaction through cognitive comparison. Consumers compare the chosen product with available alternatives, prices offered by other sellers, and benefits that they might have received from a different decision. Li and Choudhury (2021) showed that information quality reduces dissonance by helping consumers develop more accurate expectations. Inadequate information creates uncertainty and increases the possibility of negative post-purchase comparison.

Dissonance can also reduce satisfaction through negative emotions. Consumers who question their decisions may experience anxiety, regret, disappointment, or guilt. Mahapatra and Mishra (2022) demonstrated that cognitive and affective dissonance produce negative emotions that shape post-consumption coping behaviour. These emotions can transfer from the specific decision to the consumer's total evaluation of the seller and platform.

The relationship is also visible through behavioural responses. Consumers may attempt to reverse a decision by returning the product or switching to another seller. Atmaca and Tolon (2025) found that cognitive dissonance significantly increases return intention after online impulse purchases. Return intention indicates that consumers no longer accept the purchase as a satisfactory outcome.

Customer satisfaction should improve when consumers perceive consistency between product information and actual performance. Reliable order fulfilment, realistic product descriptions, and responsive service can confirm that the decision was appropriate. Camilleri (2022) found that fulfilment and after-sales service support satisfaction after online checkout. Based on cognitive dissonance theory, expectation-disconfirmation theory, and previous empirical findings, the following hypothesis is proposed:

H1: Post-purchase cognitive dissonance has a negative and significant effect on customer satisfaction in e-commerce transactions.

Research Methods

This study employed a quantitative explanatory design to analyse the effect of post-purchase cognitive dissonance on customer satisfaction in e-commerce transactions. The explanatory design was appropriate because the study tested the direction and statistical significance of the relationship between an independent variable and a dependent variable. Post-purchase cognitive dissonance served as the independent variable, while customer satisfaction served as the dependent variable. A cross-sectional survey framework was used because respondents evaluated one recent completed e-commerce transaction at a single point in time. For transparent manuscript development, the numerical demonstration in the results section used a statistically coherent synthetic dataset representing 200 cases and must be replaced with verified survey output before journal submission.

The intended population consisted of Indonesian consumers who used Shopee, Tokopedia, Lazada, Blibli, or TikTok Shop to purchase physical products. Purposive sampling was selected because respondents needed relevant post-purchase experience. Eligible participants were at least 17 years old, had completed an e-commerce purchase within the previous six months, had received the purchased product, and had personally participated in the purchasing decision. The target sample was 200 respondents. The planned questionnaire distribution used social media, consumer communities, university networks, and instant-messaging applications. Participation was voluntary, and the survey information explained anonymity, data confidentiality, and the right to stop before submission.

Primary data were designed to be collected through a structured questionnaire measured on a five-point Likert scale from 1, strongly disagree, to 5, strongly agree. Post-purchase cognitive dissonance was operationalised through purchase doubt, concern about selecting the wrong product, unfavourable comparison with alternatives, regret, and psychological discomfort. Customer satisfaction was measured through satisfaction with product performance, seller service, order fulfilment, delivery, and the overall transaction experience. The indicators were adapted from established studies of online post-purchase behaviour and satisfaction. Three academics in marketing, consumer behaviour, and quantitative methods were designated to assess content validity. A pilot test of at least 30 qualified consumers was planned before main data collection. An item was considered valid when its corrected item-total correlation exceeded 0.30, while a scale was considered reliable when Cronbach's alpha exceeded 0.70.

IBM SPSS Statistics 27 was designated for data screening and analysis. Screening procedures included incomplete-response checks, duplicate detection, extreme-response review, and consistency assessment. Frequencies and percentages were used for respondent characteristics, while means and standard deviations described the constructs. Corrected item-total correlation and Cronbach's alpha assessed instrument quality. Residual distribution, linearity, heteroscedasticity, and autocorrelation diagnostics evaluated regression assumptions. Pearson correlation assessed the bivariate association, and simple linear regression tested the hypothesis at a 5% significance level. The analytical model was specified as follows:

$$CS_i = \beta_0 + \beta_1 PPCD_i + \varepsilon_i \tag{1}$$

In Equation (1), CS_i denotes customer satisfaction for respondent i, $PPCD_i$ denotes post-purchase cognitive dissonance, β_0 is the intercept, β_1 is the regression coefficient, and ε_i is the error term. H1 was supported when β_1 was negative and the probability value was below 0.05.

Results and Discussion

Draft-data notice. *The numerical results below were generated from a statistically coherent synthetic dataset of 200 cases for manuscript formatting and analytical illustration. They must be replaced with verified field data and original SPSS output before submission or publication.*

Respondent Characteristics

The illustrative analysis represented 200 Indonesian consumers who had completed an e-commerce transaction within the previous six months. Table 1 presents the simulated demographic and transaction profile used to demonstrate the reporting format.

Table 1. Demographic and Transaction Characteristics of Respondents

Characteristic	Category	Frequency	Percentage
Gender	Male	82	41.0
	Female	118	59.0
Age	17-24 years	96	48.0

Characteristic	Category	Frequency	Percentage
	25-34 years	65	32.5
	35-44 years	28	14.0
	45 years and above	11	5.5
Most recently used platform	Shopee	84	42.0
	Tokopedia	46	23.0
	TikTok Shop	38	19.0
	Lazada	20	10.0
	Blibli	12	6.0
Purchase frequency	Less than once a month	20	10.0
	1-2 times a month	79	39.5
	3-4 times a month	67	33.5
	At least 5 times a month	34	17.0
Most recent product category	Fashion products	54	27.0
	Beauty and personal care	38	19.0
	Electronics and accessories	36	18.0
	Household products	32	16.0
	Food and beverages	22	11.0
	Other products	18	9.0

Source: Synthetic primary data prepared and processed by First Author and Second Author using IBM SPSS Statistics 27 (2026).

Female respondents represented 59.0% of the illustrative sample, while consumers aged 17-24 years formed the largest age group. Shopee was the most recently used platform for 42.0% of cases. Fashion, beauty, and electronic products formed the largest product categories. These categories require consumers to evaluate colour, size, material, visual appearance, and specifications through digital information. Singh and Basu (2023) explain that online purchasing decisions involve psychological, technological, social, and situational factors that continue to influence evaluation after a transaction.

Validity and Reliability

Corrected item-total correlation assessed indicator validity, while Cronbach's alpha assessed internal consistency. Table 2 summarises the illustrative measurement results.

Table 2. Validity and Reliability Results

Variable	Items	Corrected item-total correlation	Cronbach's alpha	Decision
Post-purchase cognitive dissonance	5	0.731-0.754	0.895	Valid and reliable
Customer satisfaction	5	0.657-0.707	0.857	Valid and reliable

Source: Synthetic primary data prepared and processed by First Author and Second Author using IBM SPSS Statistics 27 (2026).

All corrected item-total correlations exceeded 0.30. The post-purchase cognitive dissonance scale produced an alpha of 0.895, while customer satisfaction produced an alpha of 0.857. These values indicate strong internal consistency. The result supports the treatment of cognitive dissonance as a coherent combination of purchase doubt, unfavourable comparison, regret, and psychological discomfort. Mahapatra and Mishra (2022) similarly describe post-consumption dissonance as an interaction between cognitive inconsistency and negative emotion.

Descriptive Statistics and Correlation

Table 3 presents the distribution of the two research variables, while Table 4 reports their Pearson correlation.

Table 3. Descriptive Statistics of Research Variables

Variable	Minimum	Maximum	Mean	Std. deviation	Interpretation
Post-purchase cognitive dissonance	1.20	5.00	3.059	0.872	Moderate
Customer satisfaction	1.40	5.00	3.462	0.850	Moderately high

Source: Synthetic primary data prepared and processed by First Author and Second Author using IBM SPSS Statistics 27 (2026).

The mean post-purchase cognitive dissonance score was 3.059, which indicates a moderate level of purchase doubt and psychological discomfort. Customer satisfaction produced a mean of 3.462, indicating a moderately positive transaction evaluation. The results suggest that consumers can remain generally satisfied while still questioning whether they selected the most appropriate product, seller, or price.

Table 4. Pearson Correlation Results

Variable	Post-purchase cognitive dissonance	Customer satisfaction
Post-purchase cognitive dissonance	1.000	-0.530
Customer satisfaction	-0.530	1.000
Significance		<0.001

Source: Synthetic primary data prepared and processed by First Author and Second Author using IBM SPSS Statistics 27 (2026).

The correlation coefficient was -0.530 with a probability value below 0.001. This coefficient indicates a moderate, negative, and statistically significant relationship. Consumers who reported stronger post-purchase cognitive dissonance tended to report lower customer satisfaction. Awwad and Ibrahim (2025) likewise found that dissonance can influence satisfaction through evaluative and emotional processes, especially purchase regret.

Regression Assumption Tests

The regression diagnostics assessed residual distribution, functional form, heteroscedasticity, and autocorrelation. Table 5 presents the results.

Table 5. Regression Assumption Test Results

Assumption	**Test**	**Statistic**	**Decision**
Residual distribution	Skewness and excess kurtosis	-0.266 and -0.387	Within +/-1; acceptable
Linearity	Ramsey RESET	F = 1.585; p = 0.210	Linear specification supported
Heteroscedasticity	Breusch-Pagan	Chi-square = 0.007; p = 0.932	No heteroscedasticity
Autocorrelation	Durbin-Watson	1.751	No material autocorrelation

Source: Synthetic primary data prepared and processed by First Author and Second Author using IBM SPSS Statistics 27 (2026).

Residual skewness and excess kurtosis remained within the commonly used +/-1 criterion. The Ramsey RESET result supported a linear functional form, while the Breusch-Pagan result showed no heteroscedasticity. The Durbin-Watson statistic was close to 2.00. The illustrative model therefore met the main diagnostic requirements for simple linear regression.

Hypothesis Testing

Simple linear regression tested the effect of post-purchase cognitive dissonance on customer satisfaction. Table 6 reports the coefficient estimates, while Table 7 presents the overall model statistics.

Table 6. Simple Linear Regression Coefficients

Variable	**B**	**Std. error**	**Beta**	**t**	**p**	**95% confidence interval**
Constant	5.040	0.187		26.980	<0.001	4.672 to 5.409
Post-purchase cognitive dissonance	-0.516	0.059	-0.530	-8.784	<0.001	-0.632 to -0.400

Source: Synthetic primary data prepared and processed by First Author and Second Author using IBM SPSS Statistics 27 (2026).

The unstandardized coefficient was -0.516. A one-unit increase in post-purchase cognitive dissonance was associated with a 0.516-unit decrease in customer satisfaction. The standardized coefficient was -0.530, the t value was -8.784, and the probability value was below 0.001. The confidence interval did not contain zero. The estimated equation was as follows:

$$\hat{Y} = 5.040 - 0.516(PPCD) \tag{2}$$

Table 7. Model Summary and Analysis of Variance

Model indicator	**Value**
R	0.530
R squared	0.280
Adjusted R squared	0.277
Standard error of estimate	0.722
F statistic	77.153
Significance	<0.001

Source: Synthetic primary data prepared and processed by First Author and Second Author using IBM SPSS Statistics 27 (2026).

The model was statistically significant, with $F = 77.153$ and $p < 0.001$. Post-purchase cognitive dissonance explained 28.0% of the variation in customer satisfaction. Other product, service, relational, and technological factors explained the remaining variation. The negative coefficient and probability value below 0.05 support H1.

Discussion

The findings indicate that post-purchase cognitive dissonance reduces customer satisfaction in e-commerce transactions. Consumers who report stronger doubts, regret, unfavourable comparisons, and psychological discomfort also provide lower evaluations of their transaction experiences. The result supports Cognitive Dissonance Theory because psychological discomfort emerges when a decision conflicts with later information or actual outcomes.

The finding also supports Expectancy-Disconfirmation Theory. Consumers form expectations from product photographs, descriptions, ratings, seller claims, and promotional information. Satisfaction develops when actual performance confirms these expectations. Schiebler et al. (2026) confirm that expectations, perceived performance, and confirmation remain important components of consumer satisfaction. The present result adds that consumers evaluate not only product performance but also the quality of their own decisions.

A product may function properly, but the consumer may still believe that another product, seller, or price would have provided greater value. Cognitive dissonance therefore reflects decision evaluation rather than only product evaluation. Disli Bayraktar (2023) found a meaningful relationship between cognitive dissonance and satisfaction in online purchasing. Consumers who remain confident in their choices can maintain positive evaluations, while unresolved doubts encourage attention to transaction weaknesses.

Product information plays a central role in reducing dissonance. Li and Choudhury (2021) found that relevant and complete website information reduces post-purchase dissonance by lowering perceived risk. Clear photographs, product dimensions, material descriptions, functional limitations, and realistic usage information can help consumers develop accurate expectations before ordering.

The result is also consistent with research on online impulse buying. Chen et al. (2021) reported that impulse purchases generate product-related dissonance, regret, and continued reflection. Rapid purchasing limits the time available to compare products and evaluate financial consequences. Consumers may later question whether they genuinely needed the product or whether promotional pressure influenced their decision.

Digital marketing features can strengthen this process. Flash sales, countdown timers, free-shipping thresholds, and personalised recommendations encourage immediate purchasing. Beikverdi et al. (2024) explain that impulse purchases can produce satisfaction, guilt, regret, complaints, returns, and seller avoidance. These outcomes depend on how consumers evaluate product performance after the temporary excitement of purchasing decreases.

The findings also help explain why cognitive dissonance can produce product-return intention. Consumers may return a product to reverse a decision that they no longer consider correct. Atmaca and Tolon (2025) found that cognitive dissonance significantly increases return intention following online impulse purchases. A high return rate can increase logistics, administration, and inventory costs for sellers.

The explanatory power of 28.0% indicates that cognitive dissonance is important but does not independently determine satisfaction. Camilleri (2022) found that website functionality, transaction security, fulfilment, and after-sales service also contribute to post-purchase satisfaction. A consumer may experience initial doubt but become satisfied when the seller provides responsive assistance and a fair solution.

Electronic service quality can further shape transaction evaluation. Utami et al. (2024) show that website design and fulfilment contribute to electronic satisfaction and customer loyalty. Trust also remains important because consumers depend on platforms and sellers to deliver accurate products and protect personal information. Ginting et al. (2023) found that trust and electronic service quality contribute to repurchase intention through satisfaction.

E-commerce platforms should reduce the discrepancy between digital promises and physical outcomes. Product pages should provide accurate images, complete specifications, realistic colours, size guidance, material details, and product limitations. Platforms should also manage promotional pressure responsibly. Promotional tools may increase short-term sales, but purchases made under excessive urgency can produce regret, dissatisfaction, and returns.

Post-purchase communication can strengthen confidence in purchasing decisions. Sellers can provide product-use instructions, warranty information, delivery updates, and accessible support. Effective service recovery should be rapid, transparent, and fair. Mazhar et al. (2022) found that service recovery reduces the harmful behavioural effects of negative post-purchase disconfirmation. Refunds, replacements, apologies, and clear explanations can restore confidence and improve the final transaction evaluation.

Conclusion

This study examined the effect of post-purchase cognitive dissonance on customer satisfaction in e-commerce transactions. The illustrative findings showed a negative and statistically significant relationship. Stronger purchase doubt, regret, unfavourable comparison, and psychological discomfort reduced consumers' positive evaluations of their online transactions. Post-purchase cognitive dissonance explained a meaningful proportion of variation in customer satisfaction.

The study contributes to consumer psychology by showing that satisfaction depends not only on product and service performance but also on whether consumers consider their purchasing decisions correct and justifiable. E-commerce platforms and sellers should provide accurate product descriptions, realistic images, transparent prices, reliable fulfilment, and responsive post-purchase support. These practices can reduce uncertainty and help consumers maintain confidence in their decisions.

The study is limited by its cross-sectional design, purposive sampling framework, and direct two-variable model. In addition, the numerical outputs in this manuscript draft are synthetic and require replacement with verified empirical data. Future research should use original longitudinal transaction data, broader consumer groups, and variables such as trust, perceived risk, purchase regret, impulse buying, service recovery, and return intention. Comparative studies across platforms and product categories may provide a more detailed understanding of post-purchase evaluations.

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Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this manuscript, the authors used Cloud AI to support initial language drafting, text organisation, and structural refinement. DeepL was used to assist translation and improve linguistic consistency, while Grammarly was used to check grammar, spelling, clarity, and academic style. The authors critically reviewed, verified, and edited all AI-assisted content. The authors take full responsibility for the accuracy, integrity, interpretation, and final presentation of the manuscript. No generative AI or AI-assisted technology is listed as an author because these tools cannot assume responsibility for the published work.

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