Research Article

The Effects of Product Variety and Price Perception on Purchase Decisions: Evidence from ROSCA Tumbler Consumers on the Shopee Marketplace

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Abstract: The rapid growth of digital marketplaces has fundamentally transformed consumer decision-making processes by intensifying price transparency, product comparability, and information exposure. In highly competitive marketplace environments, consumers are frequently confronted with numerous product alternatives and dynamic pricing structures, which shape how they evaluate options and ultimately decide to purchase. This study examines the effects of product variety and price perception on consumers' purchase decisions in the context of ROSCA tumbler products sold on the Shopee marketplace. Using a quantitative explanatory approach, this research employs a survey-based design to analyze the relationships among variables and to estimate their relative effects through multiple linear regression analysis. Data were collected from 100 respondents who had previously purchased ROSCA tumblers on Shopee, selected using purposive sampling based on predefined criteria. The research instrument consisted of 15 Likert-scale items measuring product variety, price perception, and purchase decision. Data analysis included descriptive statistics, instrument validity and reliability testing, regression assumption diagnostics, and hypothesis testing using both partial (t-test) and simultaneous (F-test) procedures. The findings reveal that product variety has a positive and significant effect on purchase decisions, indicating that consumers are more likely to finalize purchases when they perceive product options as sufficiently diverse, relevant, and comparable. Price perception also exerts a positive and significant influence and demonstrates a stronger relative effect compared to product variety. This result underscores the central role of perceived price fairness, competitiveness, and value-for-money in shaping purchase decisions within transparent and highly competitive marketplace settings. Simultaneously, product variety and price perception explain a substantial proportion of variance in purchase decisions, highlighting their combined importance as key marketing stimuli. These findings contribute to the literature on digital consumer behavior by providing empirical evidence from a specific marketplace–product context and offer practical implications for sellers and brand managers in optimizing assortment design and pricing strategies to enhance conversion rates in online marketplaces.

Keywords: Online Marketplace; Price Perception; Product Variety; Purchase Decision; Shopee

1. Introduction

The expansion of digital marketplaces has significantly altered how consumers search for information, compare alternatives, and make purchasing decisions. Unlike traditional retail settings, online marketplaces aggregate a large number of sellers and products within a

single search environment, enabling consumers to compare prices, product attributes, and seller credibility almost instantaneously. While this transparency can enhance market efficiency, it also increases cognitive demands on consumers who must process a high volume of information under conditions of limited attention. Prior research on online marketplaces shows that consumers often rely on fast and frugal cues—such as price and visual presentation—during early screening stages, while more credible and information-rich signals are required when perceived purchase risk or involvement increases (Gorton et al., 2024).

At the same time, the proliferation of alternatives in digital marketplaces raises the risk of information and choice overload. Empirical evidence from online recommender systems demonstrates that presenting too many options may reduce purchase probability, primarily because consumers become less inclined to initiate search or exploration when confronted with excessive alternatives (Long et al., 2025). This phenomenon suggests that more choice does not necessarily translate into better outcomes for sellers, and that the effectiveness of product offerings depends on how consumers perceive and process available options. Consequently, understanding purchase decisions in marketplace contexts requires a behavioral perspective that accounts for cognitive constraints and information-processing mechanisms.

Within marketing theory, purchase decisions are typically conceptualized as the outcome of a sequential process involving need recognition, information search, evaluation of alternatives, purchase, and post-purchase behavior. This process is shaped by controllable marketing stimuli, particularly product-related attributes and pricing strategies (Kotler & Keller, 2016). In online marketplaces, these stimuli manifest through visible product variety, pricing structures that are easily comparable across sellers, and additional informational cues such as ratings and reviews. Among these factors, product variety and price perception are especially salient because they are immediately observable and strongly influence consumers' initial and final evaluations.

Product variety, often discussed in terms of assortment width and depth, plays a dual role in consumer decision-making. On the one hand, greater variety can increase the likelihood of preference matching, enabling consumers to find options that better fit their needs and tastes. On the other hand, perceived variety is not determined solely by the number of available options but also by how easily alternatives can be compared and differentiated. Research indicates that assortment size and alignability jointly shape perceived assortment variety, with well-structured and comparable options enhancing perceived usefulness rather than confusion (Mejía et al., 2021). Empirical studies in digital retail contexts further show that broader assortments can positively affect shopping behavior and sales performance when consumers perceive the options as relevant and manageable (Tian et al., 2024). However, excessive or poorly organized variety may lead to overload and decision deferral, reducing conversion rates (Long et al., 2025; Zhang et al., 2024).

In addition to product variety, price perception represents a critical determinant of purchase decisions in online marketplaces characterized by high price transparency. Consumers form price evaluations not only based on absolute price levels but also through reference prices derived from comparisons across sellers and similar products. Prior studies demonstrate that reference prices influence the consideration stage of online purchasing, even when products are only partially similar (Qin & Liu, 2022). Moreover, perceived price fairness has been shown to shape consumer responses to pricing practices and to interact with trust in influencing purchase intentions, particularly in digital and social commerce environments (Alderighi et al., 2022; Senali et al., 2024). Price transparency further enhances the diagnosticity of price information, affecting consumers' willingness to complete transactions when prices are perceived as clear and justified (Chu et al., 2025).

Despite extensive research on online purchasing behavior, empirical findings regarding the strength and direction of the effects of product variety and price perception remain context-dependent. Meta-analyses and literature reviews emphasize that determinants of online purchase behavior vary across platforms, product categories, and informational environments (Rosário & Raimundo, 2021; Qiu & Zhang, 2024). In highly competitive marketplaces such as Shopee, where consumers face numerous sellers, similar product variants, and dynamic promotional pricing, the relative importance of assortment-related cues and price perceptions warrants context-specific investigation. Moreover, limited empirical evidence explicitly examines the simultaneous effects of product variety and price perception on actual purchase decisions for specific brands and product categories.

Addressing these gaps, this study investigates the effects of product variety and price perception on purchase decisions for ROSCA tumbler products sold on the Shopee

marketplace. The study contributes to the digital consumer behavior literature by providing evidence from a marketplace-specific and product-specific context, highlighting how key marketing stimuli operate under conditions of high transparency and potential choice overload. Practically, the findings offer insights for sellers and brand managers on balancing assortment design and pricing strategies to enhance purchase conversion in online marketplaces. The remainder of this paper is structured as follows: Section 2 reviews the relevant literature and develops research hypotheses; Section 3 describes the research methodology; Section 4 presents the empirical results; Section 5 discusses the findings; and Section 6 concludes with implications and directions for future research.

2. Literature Review and Hypotheses Development

Purchase Decision in Online Marketplaces (Y)

Purchase decision represents the culmination of consumers' evaluative processes after assessing available alternatives, weighing perceived benefits and costs, and committing to a final transaction. In classical marketing theory, purchase decision is positioned as the final stage in a sequence encompassing need recognition, information search, evaluation of alternatives, purchase, and post-purchase behavior (Kotler & Keller, 2016). In online marketplace environments, however, this process becomes more complex due to the abundance of information, product similarity, and intense price competition.

Recent literature emphasizes that online purchase decisions are strongly influenced by consumers' perceptions of value, risk, trust, and information quality. Meta-analytic evidence indicates that factors such as perceived value, trust, and informational cues embedded in product listings consistently shape purchase intention and decision-making across e-commerce contexts (Ghosh, 2024; Qiu & Zhang, 2024). In marketplaces, product pages function as key signaling mechanisms that help reduce information asymmetry between sellers and buyers. Consumers often rely on quick and easily processed signals—such as price and product images—during initial screening, while more credible or information-intensive cues are required for higher-involvement or riskier purchases (Gorton et al., 2024).

Furthermore, empirical studies suggest that purchase decisions in digital environments are not solely driven by rational evaluation of attributes but are also shaped by cognitive constraints and bounded rationality. Consumers must process a large volume of information within limited time and attention, making them more sensitive to how product and price information is structured and presented. As a result, purchase decisions on platforms such as Shopee can be conceptualized as the outcome of consumers' evaluations of salient marketing stimuli—particularly product-related cues and price-related signals—within an information-dense and highly competitive marketplace setting.

Product Variety and Purchase Decision (X1 → Y)

Product variety in retail and marketplace contexts is commonly conceptualized in terms of assortment width and depth, encompassing differences in product models, colors, sizes, features, and designs. From a theoretical perspective, greater product variety increases the likelihood of preference matching, enabling consumers to find options that align more closely with their individual needs and preferences. Consequently, product variety is often expected to exert a positive influence on purchase decisions.

However, prior research indicates that the effect of product variety is not purely linear and depends on how consumers perceive and process available options. Experimental and empirical studies demonstrate that perceived assortment variety is shaped not only by the number of alternatives but also by the degree of align ability, or the ease with which consumers can compare options along relevant attributes. When alternatives are well-structured and easily comparable, consumers are more likely to perceive variety as meaningful and beneficial rather than confusing (Mejía et al., 2021). In digital retail settings, broader assortments have been associated with improved shopping outcomes, such as larger basket sizes and higher sales performance, particularly when consumers perceive the assortment as relevant to their needs (Tian et al., 2024).

Nevertheless, excessive product variety may generate information or choice overload, which can negatively affect decision-making. Evidence from online recommender systems shows that increasing the number of displayed options can reduce purchase probability, largely because consumers become less motivated to initiate search or exploration under high cognitive load (Long et al., 2025). Similar patterns have been observed in other digital commerce contexts, where an overabundance of options diminishes sales performance due

to consumers' limited information-processing capacity (Zhang et al., 2024). These findings suggest that product variety can enhance purchase decisions when it facilitates preference matching, but may hinder decisions when it overwhelms consumers.

In marketplace environments such as Shopee, where many products are functionally similar and differentiation often relies on design or minor features, perceived product variety is likely to influence purchase decisions insofar as consumers view available options as sufficiently diverse, relevant, and easy to compare. Based on this theoretical and empirical reasoning, the following hypothesis is proposed:

H1: Product variety has a significant effect on consumers' purchase decisions for ROSCA tumblers on the Shopee marketplace.

Price Perception and Purchase Decision (X2 → Y)

Price perception is a central element of consumer evaluation and reflects how consumers interpret price information in terms of affordability, fairness, competitiveness, and value-for-money. In online marketplaces characterized by high price transparency, consumers rarely evaluate prices in isolation; instead, they rely on comparative and contextual cues when forming price judgments. As a result, price perception plays a pivotal role in shaping purchase decisions.

Prior research highlights the importance of reference prices in online purchasing. Consumers often anchor their evaluations on prices observed across similar or partially similar products, using these reference points to assess the attractiveness and reasonableness of a focal offer. Empirical evidence indicates that reference prices influence consumers' consideration sets and subsequent choices even when products are not perfectly identical (Qin & Liu, 2022). In marketplace platforms, where multiple sellers offer comparable products, reference price effects are likely to be particularly salient.

Beyond reference prices, perceived price fairness has been shown to significantly influence consumer responses. Studies on dynamic pricing and social commerce contexts demonstrate that consumers' judgments of price fairness affect their trust and willingness to complete transactions, and may moderate the relationship between trust and purchase intention (Alderighi et al., 2022; Senali et al., 2024). When prices are perceived as unfair or unjustified, even high levels of trust or product attractiveness may fail to translate into actual purchase decisions.

Price transparency further shapes price perception by influencing the diagnosticity of price information. Experimental evidence suggests that transparent pricing structures can enhance purchase intention by reducing uncertainty and increasing consumers' confidence in their evaluations (Chu et al., 2025). In online marketplaces, where promotional strategies and price variations are common, clear and transparent price presentation becomes crucial in maintaining positive price perceptions.

Taken together, these findings indicate that positive price perceptions—characterized by fairness, competitiveness, and clarity—are likely to increase consumers' propensity to finalize purchases. Accordingly, the following hypothesis is formulated:

H2: Price perception has a significant effect on consumers' purchase decisions for ROSCA tumblers on the Shopee marketplace.

Conceptual Framework and Simultaneous Effects of Product Variety and Price Perception (X1, X2 → Y)

The literature on digital marketplaces suggests that purchase decisions are shaped by the combined influence of product-related attributes and price-related evaluations. Product variety serves as a stimulus that enhances preference matching and perceived completeness of the offering, while price perception functions as a cost–benefit signal that informs consumers' judgments of value and fairness. These stimuli are processed simultaneously as consumers navigate product listings and compare alternatives in marketplace environments.

Empirical research underscores that online purchase behavior is context-sensitive and influenced by the interaction of multiple cues rather than by isolated factors. Reviews of e-commerce literature emphasize that the relative importance of different determinants varies across platforms, product categories, and informational settings (Rosário & Raimundo, 2021; Qiu & Zhang, 2024). In highly competitive marketplaces such as Shopee, where consumers are exposed to numerous sellers, similar product variants, and dynamic pricing, understanding the joint effects of product variety and price perception is essential for explaining actual purchase decisions.

From a methodological perspective, examining the simultaneous effects of product variety and price perception allows for a more comprehensive assessment of their relative contributions to purchase decisions. While product variety may attract consumers by expanding choice sets, favorable price perceptions may ultimately determine whether consumers proceed to purchase. Therefore, testing both variables together provides a more realistic representation of consumer decision-making in online marketplaces.

Based on this integrated perspective, the following hypothesis is proposed:

H3: Product variety and price perception simultaneously have a significant effect on consumers' purchase decisions for ROSCA tumblers on the Shopee marketplace.
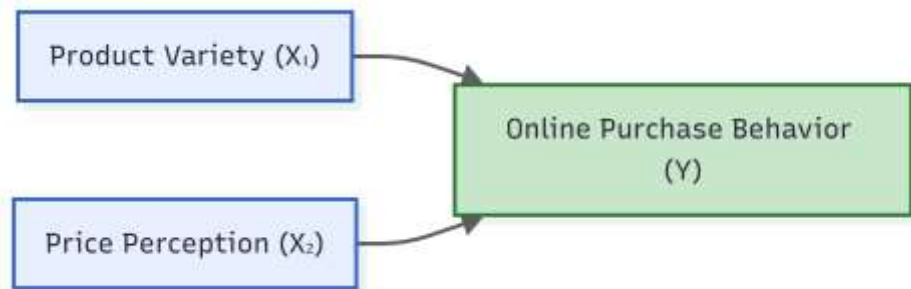

Figure 1. Model Concept.

3. Materials and Method
Research Design and Approach

This study employs a **quantitative explanatory research design** using a **survey method** to examine the effects of **product variety (X1)** and **price perception (X2)** on **purchase decision (Y)** among consumers who have purchased ROSCA tumblers on the Shopee marketplace. An explanatory design is appropriate because the primary objective of the study is to test theoretically grounded hypotheses and to estimate the magnitude and direction of causal relationships among variables through statistical modeling. Quantitative survey approaches are widely applied in digital marketing and consumer behavior research to capture consumers' perceptions and to assess their influence on purchase-related outcomes (Hair et al., 2022; Field, 2024).

Population, Sample, and Sampling Technique

The population of this study consists of all consumers who have previously purchased ROSCA tumbler products on the Shopee marketplace. Because an exhaustive sampling frame of this population was not available, the study adopted a **non-probability sampling approach** using **purposive (criterion-based) sampling**. This technique is suitable when researchers need to ensure that respondents possess specific experiences relevant to the research context (Ahmed, 2024).

The final sample comprised **100 respondents**, which is considered adequate for multiple linear regression analysis involving two predictor variables. Prior methodological literature indicates that such a sample size is sufficient to achieve acceptable statistical power for regression models in behavioral research, particularly when effect sizes are moderate (Kang, 2021).

The inclusion criteria for respondents were as follows:
1) having purchased a ROSCA tumbler on the Shopee marketplace; and
2) being willing to complete the questionnaire fully and accurately.

Data Sources and Data Collection Procedure

The study utilized **primary data** collected through a **structured questionnaire** distributed to respondents who met the inclusion criteria. The questionnaire was administered online, reflecting common practice in e-commerce and marketplace research where respondents are digitally engaged consumers. Survey-based data collection is appropriate for measuring latent constructs such as perceptions of product variety and price perception, which cannot be directly observed but can be inferred from respondents' self-reported evaluations (Phan Tan & Le, 2023; Senali et al., 2024).

All responses were screened for completeness prior to analysis, and only fully completed questionnaires were included in the final dataset.

Research Instrument and Measurement Scale

The research instrument consisted of **15 measurement items**, with **five items for each construct**: product variety (X1), price perception (X2), and purchase decision (Y). All items were measured using a **five-point Likert scale**, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

The use of a five-point Likert scale is common in consumer behavior and marketing research because it provides sufficient response variability while maintaining respondent comprehension and reliability (Koo & Yang, 2025). When multiple Likert-type items are aggregated to form composite scores, they are often treated as approximately continuous variables for parametric statistical analysis, provided that diagnostic assumptions are carefully evaluated and reported (Huh & Gim, 2025).

Operationalization of Variables

Composite scores for each variable were calculated by summing the five corresponding items, yielding a theoretical score range of 5–25. Higher scores indicate more favorable perceptions or stronger purchase decisions.

Product Variety (X1).

Product variety was operationalized as respondents' perceptions of the diversity and relevance of ROSCA tumbler attributes, including differences in models, designs, sizes, and colors offered on the Shopee marketplace. Prior digital retail research suggests that perceived assortment characteristics are closely associated with consumer shopping behavior and purchase outcomes in online environments (Tian et al., 2024).

Price Perception (X2).

Price perception refers to respondents' evaluations of price affordability, fairness, competitiveness, and consistency with perceived product quality and benefits. In e-commerce contexts, price perception—particularly in terms of fairness and value-for-money—has been shown to influence purchase decisions and repeat purchase behavior (Phan Tan & Le, 2023; Senali et al., 2024).

Purchase Decision (Y).

Purchase decision was operationalized as the degree to which respondents expressed decisiveness in purchasing ROSCA tumblers, including confidence in the purchase, satisfaction with the decision, and willingness to recommend the product. In online shopping contexts, purchase decisions are often linked to post-purchase evaluations and behavioral intentions such as recommendation and repeat buying (Phan Tan & Le, 2023).

Instrument Validity and Reliability Testing

Instrument quality was assessed through **validity and reliability testing** prior to hypothesis testing.

Item validity was examined using **corrected item–total correlation**, which evaluates the degree to which each item correlates with the total score of its corresponding construct. Items were considered acceptable when their corrected correlations met commonly used thresholds and were statistically significant, indicating adequate discriminatory power (Polat et al., 2025).

Reliability was assessed using **Cronbach's alpha** to evaluate the internal consistency of items within each construct. Cronbach's alpha values at acceptable or high levels indicate that the items consistently measure the same underlying construct (Polat et al., 2025). Reliability diagnostics were interpreted alongside item-level statistics to identify any items that potentially weakened internal consistency.

Data Analysis Techniques

Data analysis was conducted in several stages using statistical software, following established analytical practices in social science and marketing research (Field, 2024; Hair et al., 2022).

First, **data cleaning and coding** were performed to ensure completeness and accuracy of responses. Likert-scale responses were coded numerically from 1 to 5.

Second, **descriptive statistics** were computed, including minimum and maximum values, means, and standard deviations for product variety, price perception, and purchase decision.

Third, **instrument testing** was conducted, including validity analysis and reliability analysis (Cronbach's alpha) for each construct.

Fourth, **regression assumption diagnostics** were evaluated. Normality of residuals was examined as a diagnostic rather than a strict requirement, in line with contemporary methodological guidance that emphasizes practical interpretation over mechanical threshold testing (Midway & White, 2025). Multicollinearity was assessed using tolerance values and variance inflation factors (VIF), interpreted contextually rather than relying on rigid cut-off values (Kalnins & Hill, 2025). Heteroskedasticity diagnostics were also conducted to assess the stability of residual variance.

Finally, **multiple linear regression analysis** was employed to test the proposed hypotheses. The regression model is specified as:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\varepsilon$$

Hypothesis testing was conducted at a significance level of **α = 0.05**, using:
1) the **F-test** to assess the simultaneous effect of product variety and price perception on purchase decision;
2) **t-tests** to examine the partial effects of each independent variable; and
3) the **coefficient of determination (R^2 and adjusted R^2)** to evaluate the proportion of variance in purchase decision explained by the model.

4. Results and Discussion

Results

Table 1 presents the descriptive statistics for the composite scores of the study variables. Each variable score represents the sum of five Likert-scale items, with a theoretical range of 5–25.

Table 1. Descriptive Statistics of Composite Scores (N = 100).

Variable	Minimum	Maximum	Mean	Standard Deviation
Product Variety (X1)	7	25	19.77	4.05
Price Perception (X2)	8	25	19.55	3.69
Purchase Decision (Y)	5	25	19.56	4.45

The descriptive results indicate that the mean values of all variables are relatively high and close to the upper bound of the scale. This suggests that respondents generally held favorable perceptions of product variety and price, as well as strong purchase decisions regarding ROSCA tumblers on the Shopee marketplace.

Correlation Analysis

Pearson correlation analysis was conducted to examine the bivariate relationships among product variety, price perception, and purchase decision. The results are presented in Table 2.

Table 2. Pearson Correlation Matrix.

Variable	X1	X2	Y
Product Variety (X1)	1	0.647	0.686
Price Perception (X2)	0.647	1	0.706
Purchase Decision (Y)	0.686	0.706	1

All correlations are positive and fall within the moderate-to-strong range. Both product variety and price perception show substantial positive associations with purchase decision, indicating that more favorable perceptions of product variety and price are associated with stronger purchase decisions.

Instrument Quality Assessment
Validity Test
Item validity was assessed using corrected item–total correlation. A practical threshold of corrected correlation ≥ 0.30 and statistical significance at $p < .05$ was applied.
Product Variety (X1).
All five items demonstrated acceptable corrected item–total correlations and were statistically significant. One item showed a relatively weaker correlation compared to the others, but remained above the minimum acceptable threshold.

Price Perception (X2).
Four items exhibited strong and significant corrected item–total correlations. One item did not meet the significance criterion and showed limited variance across responses, indicating weak discriminatory power.
Purchase Decision (Y).
All five items displayed very high corrected item–total correlations and strong statistical significance, indicating excellent item validity.
Overall, the validity results suggest that the measurement instrument adequately captured the intended constructs, although one item within the price perception scale exhibited suboptimal performance.

Reliability Test
Reliability was evaluated using Cronbach's alpha. The results are summarized in Table 3.

Table 3. Reliability Statistics.

Variable	Cronbach's Alpha	Interpretation
Product Variety (X1)	0.842	Good reliability
Price Perception (X2)	0.83	Good reliability
Purchase Decision (Y)	0.97	Very high reliability

All constructs demonstrated satisfactory to very high internal consistency. Diagnostic analysis indicated that removing the weakest item from the price perception scale would increase the alpha value, suggesting that this item reduced overall consistency. Nonetheless, the construct reliability remained acceptable for hypothesis testing.

Regression Assumption Diagnostics
Prior to regression analysis, several diagnostic tests were conducted to evaluate key assumptions.
Residual normality tests yielded mixed results. The Kolmogorov–Smirnov (Lilliefors) test indicated no significant deviation from normality, while the Shapiro–Wilk test detected some deviation. Given the sample size and the robustness of regression estimates, residual normality was treated as acceptable for inferential purposes.
Multicollinearity diagnostics showed tolerance values of 0.582 and variance inflation factor (VIF) values of 1.719 for both independent variables, indicating no multicollinearity concerns.
Heteroskedasticity diagnostics also produced mixed results, with one test suggesting homoscedasticity and another indicating potential heteroskedasticity. To ensure conservative inference, robustness checks using heteroskedasticity-consistent standard errors were applied, and the significance of regression coefficients remained unchanged.

Multiple Linear Regression Results
Model Fit and Explanatory Power
The overall regression model was statistically significant. The coefficient of determination indicates that product variety and price perception jointly explain a substantial proportion of variance in purchase decision.
1) $R^2 = 0.589$
2) Adjusted $R^2 = 0.581$
3) $F(2, 97) = 69.511$, $p < .001$

These results demonstrate that the model has strong explanatory power, with approximately 58.9% of the variance in purchase decision accounted for by the two independent variables.

Regression Coefficients and Hypothesis Testing

Table 4 presents the estimated regression coefficients.

Table 4. Multiple Linear Regression Results.

Predictor	B	Standard Error
Constant	0.36	1.7
Product Variety (X1)	0.43	0.1
Price Perception (X2)	0.54	0.1

The estimated regression equation is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Both independent variables have positive and statistically significant effects on purchase decision. Product variety positively influences purchase decision, indicating that higher perceived product variety is associated with stronger purchase decisions. Price perception also has a positive and significant effect and exhibits a larger standardized coefficient, suggesting a stronger relative influence compared to product variety.

Robust standard error estimation confirmed that both predictors remained statistically significant, reinforcing the stability of the regression results.

Summary of Hypothesis Testing

Based on the regression analysis:

1) **H1** is supported: Product variety has a significant effect on purchase decision.
2) **H2** is supported: Price perception has a significant effect on purchase decision.
3) **H3** is supported: Product variety and price perception simultaneously have a significant effect on purchase decision.

5. Discussion

Overview of Main Findings in the Marketplace Context

This study investigated the effects of product variety and price perception on purchase decisions for ROSCA tumbler products on the Shopee marketplace. The empirical results demonstrate that both variables exert positive and statistically significant effects on purchase decision, both individually and simultaneously. The regression model explains a substantial proportion of variance in purchase decisions, indicating that these two constructs represent core determinants of consumer behavior in this marketplace context.

Descriptive statistics reveal relatively high mean scores for product variety, price perception, and purchase decision, suggesting that respondents generally held favorable evaluations of ROSCA's product offerings and pricing. However, the regression analysis indicates that favorable perceptions alone are insufficient to explain purchasing behavior; rather, the *relative strength* of each determinant provides important insight. Specifically, price perception emerged as the more dominant predictor compared to product variety, highlighting the critical role of price-related evaluations in highly transparent and competitive marketplace environments.

Product Variety and Purchase Decision

The positive and significant effect of product variety on purchase decision supports **Hypothesis 1** and aligns with theoretical arguments that emphasize the role of assortment in facilitating preference matching. In digital marketplaces, product variety increases the likelihood that consumers will identify an option that aligns with their functional needs and aesthetic preferences, thereby strengthening the propensity to finalize a purchase. This finding is consistent with prior research demonstrating that perceived assortment characteristics are associated with favorable shopping outcomes and sales performance in online retail channels (Tian et al., 2024).

Importantly, the results should be interpreted through the lens of *perceived* rather than objective variety. As suggested by Mejía et al. (2021), consumers' evaluations of assortment variety are shaped not only by the number of options available but also by the ease with which alternatives can be compared and differentiated. In the context of ROSCA tumblers on Shopee, product variants such as size, color, and design appear to provide meaningful differentiation that consumers perceive as relevant rather than overwhelming. This supports the argument that well-structured assortments enhance decision quality by reducing uncertainty and increasing perceived control.

At the same time, the findings do not contradict the growing body of literature on choice overload. Prior studies show that excessive or poorly organized options can reduce purchase likelihood by increasing cognitive burden and discouraging search initiation (Long et al., 2025). Evidence from live commerce and other digital settings similarly indicates that more options are not always beneficial when consumers face information-processing constraints (Zhang et al., 2024). The present results suggest that, for the ROSCA tumbler category, product variety remains beneficial because it is likely perceived as manageable and relevant. Thus, the contribution of product variety to purchase decision depends on its ability to balance diversity with comparability.

Price Perception and Purchase Decision

The results provide strong support for **Hypothesis 2**, showing that price perception has a positive and significant effect on purchase decision and represents the most influential predictor in the model. This finding underscores the central role of price-related evaluations in online marketplaces characterized by high price transparency and ease of comparison.

The dominance of price perception can be explained through several interrelated mechanisms documented in the literature. First, reference price effects play a crucial role in online purchasing. Consumers routinely compare prices across similar or partially similar products and use observed prices as anchors when forming consideration sets (Qin & Liu, 2022). In marketplaces such as Shopee, where multiple sellers offer comparable products, even small price differences may substantially affect consumers' evaluations and final decisions.

Second, perceived price fairness emerges as a key psychological mechanism linking price perception to purchase behavior. Empirical studies indicate that when prices are perceived as fair and justified, consumers are more willing to complete transactions and maintain trust in the seller or platform (Alderighi et al., 2022). In social commerce contexts, perceived price fairness has been shown to strengthen the effect of trust on purchase intention, suggesting that favorable price perceptions can amplify the impact of other positive signals (Senali et al., 2024). The present findings imply that ROSCA's pricing is generally perceived as fair and competitive, thereby reinforcing consumers' willingness to purchase.

Third, price transparency contributes to positive price perception by enhancing the diagnosticity of price information. Transparent pricing structures reduce uncertainty and the psychological "pain of paying," which in turn increases consumers' confidence in their decisions (Chu et al., 2025). In highly promotional marketplace environments, clarity and consistency in price presentation become especially important. The strong effect of price perception observed in this study reflects the importance of presenting prices that are not only competitive but also easily interpretable by consumers.

Simultaneous Effects and Relative Importance of Determinants

The significant simultaneous effect of product variety and price perception supports **Hypothesis 3** and highlights the complementary nature of these determinants in shaping purchase decisions. While product variety enhances the attractiveness and completeness of the offering, price perception ultimately determines whether consumers perceive sufficient value to justify the purchase.

The relatively stronger effect of price perception suggests that, in marketplace contexts with intense competition and high transparency, consumers prioritize value-for-money considerations over assortment breadth. This finding is consistent with broader reviews of e-commerce literature, which emphasize that the relative importance of purchase determinants varies across platforms and product categories (Rosário & Raimundo, 2021; Qiu & Zhang, 2024). For standardized or easily comparable products such as tumblers, price-related cues may outweigh assortment-related cues once a minimum threshold of variety is met.

At the same time, the model's explanatory power indicates that a considerable portion of variance in purchase decision remains unexplained. Prior research suggests that factors

such as online reviews, trust, information quality, and seller credibility play important roles in online purchasing behavior (Gorton et al., 2024; Qiu & Zhang, 2024). The absence of these variables in the current model highlights opportunities for future research to extend and refine the explanatory framework.

Methodological Reflections and Robustness Considerations

The instrument quality assessment indicates generally strong validity and reliability across constructs, although one item within the price perception scale exhibited weaker performance. While the overall construct reliability remained acceptable, this finding suggests that certain dimensions of price perception may be more salient than others in this context. Future studies may benefit from refining measurement items to more explicitly capture dimensions such as price fairness, reference price alignment, and transparency, which have been shown to be influential in prior research (Qin & Liu, 2022; Senali et al., 2024; Chu et al., 2025).

Additionally, the robustness checks conducted in response to mixed diagnostic results support the stability of the regression findings. The persistence of significant effects under conservative estimation approaches reinforces confidence in the substantive conclusions drawn from the analysis.

Implications for Theory and Practice

From a theoretical perspective, this study contributes to the digital consumer behavior literature by providing context-specific evidence on how product variety and price perception jointly influence purchase decisions in a highly competitive marketplace. The findings reinforce the notion that marketing stimuli operate as multi-cue signals processed under bounded rationality, where consumers weigh both assortment-related and price-related information when making decisions (Gorton et al., 2024).

From a practical standpoint, the results suggest that sellers and brand managers on Shopee should prioritize strategies that strengthen positive price perceptions, such as maintaining competitive and transparent pricing structures and clearly communicating value propositions. At the same time, product variety should be managed strategically to enhance relevance and comparability rather than merely increasing the number of options. By balancing assortment design with price fairness and transparency, sellers can reduce decision friction and improve purchase conversion rates in online marketplaces.

6. Conclusion

Conclusion

This study examined the effects of product variety and price perception on consumers' purchase decisions for ROSCA tumbler products on the Shopee marketplace. Drawing on survey data from 100 consumers and employing multiple linear regression analysis, the findings provide robust empirical evidence that both product variety and price perception significantly influence purchase decisions, both individually and simultaneously.

The results confirm that **product variety** plays an important role in shaping purchase decisions by enhancing consumers' perceptions of choice relevance and preference matching. When consumers perceive the available product variants—such as design, size, and color—as sufficiently diverse and comparable, they are more likely to finalize their purchase. This finding is consistent with digital retail literature emphasizing that perceived assortment quality, rather than sheer quantity, supports consumer decision-making in online environments (Mejía et al., 2021; Tian et al., 2024).

More importantly, **price perception** emerged as the most influential determinant of purchase decision. This result underscores the centrality of perceived price fairness, competitiveness, and value-for-money in highly transparent and competitive marketplace settings. In line with prior studies, consumers rely heavily on reference prices and fairness judgments when evaluating online offers, particularly when products are easily comparable across sellers (Qin & Liu, 2022; Alderighi et al., 2022; Senali et al., 2024). Clear and transparent price presentation further strengthens consumers' confidence and reduces uncertainty, thereby facilitating purchase completion (Chu et al., 2025).

Taken together, the findings indicate that purchase decisions in online marketplaces are shaped by the **combined effects of assortment-related cues and price-related evaluations**, with price perception playing a more dominant role once a minimum threshold of acceptable product variety is achieved. This study contributes to the literature on digital

consumer behavior by providing context-specific evidence from a marketplace–product setting, reinforcing the view that consumers engage in multi-cue evaluation under conditions of bounded rationality and information abundance (Gorton et al., 2024).

Limitations

Despite its contributions, this study has several limitations that should be acknowledged. First, the research design is **cross-sectional**, which limits the ability to make strong causal inferences. While the direction of relationships is theoretically grounded, longitudinal or experimental designs would provide stronger evidence of causality.

Second, the study relied on a **non-probability purposive sampling technique** and focused on a single product brand and category within one marketplace. Consequently, the generalizability of the findings to other product categories, brands, or e-commerce platforms may be limited. Consumer decision-making processes may differ for products with higher perceived risk or greater involvement.

Third, although the measurement instrument demonstrated acceptable validity and reliability overall, one item within the price perception scale showed weaker statistical performance. This suggests that certain dimensions of price perception may not have been fully captured and highlights the need for further refinement of measurement items.

Finally, the explanatory model, while strong, does not account for all variance in purchase decision. Prior research indicates that other factors—such as online reviews, trust, information quality, and seller credibility—also play important roles in shaping online purchase behavior (Qiu & Zhang, 2024; Gorton et al., 2024).

Future Research Directions

Future research may extend the present study in several ways. First, researchers could adopt **longitudinal or experimental designs** to examine how changes in product variety presentation or pricing strategies influence purchase decisions over time. Such approaches would strengthen causal interpretations and provide deeper insights into consumer response mechanisms.

Second, future studies should consider **expanding the model** by incorporating additional variables such as online reviews, trust, perceived risk, or information quality. Integrating these constructs may enhance the explanatory power of the model and provide a more comprehensive understanding of online purchase behavior (Rosário & Raimundo, 2021; Qiu & Zhang, 2024).

Third, comparative studies across **different marketplaces, product categories, or cultural contexts** would help assess the robustness and boundary conditions of the observed relationships. Given that determinants of online purchasing are highly context-dependent, cross-platform and cross-category analyses would offer valuable theoretical and practical insights.

Finally, further refinement of measurement instruments—particularly for **price perception**—is recommended. Future research could more explicitly operationalize dimensions such as price fairness, reference price alignment, and transparency, which have been shown to play distinct roles in shaping consumer evaluations and purchase decisions (Qin & Liu, 2022; Senali et al., 2024; Chu et al., 2025).

Author Contributions

"Conceptualization: A.N.M. and D.S.L.; Methodology: A.N.M. and D.S.L.; Instrument development: A.N.M. and L.L.; Data collection: A.N.M.; Data analysis: A.N.M. and D.F.; Formal analysis: A.N.M.; D.S.L.; Writing - original draft preparation: A.N.M.; Writing - review and editing: D.S.L., L.L.; Supervision: D.S.L.; Project administration: D.F."

"All authors have read and agreed to the published version of the manuscript."

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Data Availability Statement

"The data presented in this study are available from the corresponding author upon reasonable request. The data are not publicly available due to privacy and ethical considerations related to survey respondents."

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Conflicts of Interest

"The authors declare no conflict of interest"

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