

Determinants of Purchase Decision: a PLS-SEM Analysis of Location, Personal Selling, and Price Perception of Micro, Small, and Medium Enterprises (MSMEs) in Bekasi Regency

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ABSTRACT

This study examines how location, personal selling, and price perception influence consumers' purchase decision using Partial Least Squares Structural Equation Modeling (PLS-SEM). The empirical dataset contains 50 questionnaire responses measured on a five-point Likert scale with reflective indicators (five items per construct). Measurement quality was assessed through outer loadings, internal consistency reliability (Cronbach's alpha and composite reliability), convergent validity (average variance extracted, AVE), and discriminant validity (Fornell-Larcker and HTMT). Structural relationships were estimated with standardized path coefficients and tested using nonparametric bootstrapping (5,000 resamples). The model explains 37.2% of the variance in purchase decision ($R^2 = 0.372$) and shows positive but statistically non-significant effects for location ($\beta = 0.240$), personal selling ($\beta = 0.240$), and price perception ($\beta = 0.252$). Predictive relevance was supported ($Q^2 = 0.183$). The findings indicate that, within this dataset, the three drivers move in the expected direction but additional variance or larger samples may be required to detect significance

INTRODUCTION

Understanding what drives consumers to decide to purchase is central to marketing strategy and managerial decision-making. Location can reduce consumers' search costs and increase accessibility; personal selling can improve information quality and trust; and price perception shapes value judgments and affordability. Although these relationships are widely theorized, their magnitude and statistical support vary across contexts and samples. This study uses PLS-SEM to assess the direct effects of location, personal selling, and price perception on purchase decision using the dataset provided by the author.

Although these relationships are well established conceptually, empirical results may differ across product categories, market conditions, and sample characteristics. This study therefore aims to estimate the direct effects of location, personal selling, and price perception on purchase decision using Partial Least Squares Structural Equation Modeling (PLS-SEM). By reporting both measurement-model diagnostics and structural-model estimates, the paper contributes a transparent, step-by-step illustration of PLS-SEM evaluation and offers managerial insights into which levers are directionally associated with purchase decisions in the observed data (Hair, et al., 2014).

Within the marketing mix, three signals frequently highlighted in retail and service settings are the accessibility of the offering (location), the interpersonal influence embedded in selling interactions (personal selling), and the perceived reasonableness of the monetary sacrifice (price perception). Convenient locations can lower effort and travel time, increasing the likelihood that consumers select the option that is easiest to reach. Effective personal selling can clarify product information, tailor recommendations, and build trust, particularly when consumers perceive risk or lack product knowledge. Meanwhile, price perception captures the extent to which consumers judge a price as fair and aligned with the benefits received; when perceived value is high, consumers are more willing to proceed to purchase (Kotler & Keller, 2016); (Monroe, 1990).

In the consumer decision process, a purchase decision reflects the point at which a consumer converts preferences and intentions into an actual choice among alternatives (Andrian, et al., 2022). This choice is shaped by both internal factors (needs, attitudes, prior experience) and external cues (marketing communications, store attributes, and economic considerations). Because decisions often occur under time and information constraints, consumers rely on signals that reduce uncertainty and simplify evaluation.

LITERATURE REVIEW

PLS-SEM is suitable for prediction-oriented models and small-to-medium samples, particularly when the focus is explaining variance in an endogenous construct rather than reproducing a covariance matrix (Hair, et al., 2014). The measurement model in this study is reflective, where indicators are assumed to be manifestations of their latent constructs.

Methodological foundation (PLS-SEM). This study uses a reflective measurement model, where indicators are assumed to reflect their latent constructs. Following established PLS-SEM guidance, measurement quality is evaluated through indicator reliability, internal consistency, convergent validity, and discriminant validity (Fornell & Larcker, 1981). Structural relationships are then tested using nonparametric bootstrapping, which is appropriate for PLS-SEM's distributional assumptions and supports inference in small samples (Chin, 2000);(Hair, et al., 2014).

Purchase decision. In marketing and consumer behavior research, purchase decision is commonly treated as an outcome of evaluation and choice, reflecting consumers' commitment to buy a product or service after comparing options. In practice, the decision can be influenced not only by product-related attributes but also by situational factors such as time pressure, perceived risk, and the availability of information. As a consequence, managerial actions that reduce effort, increase confidence, or strengthen perceived value can make the decision more likely.

Location (X1). Beyond physical proximity, location quality also relates to visibility, ease of access, parking and transportation convenience, and compatibility with consumers' routines. Favorable location attributes may increase store traffic and reduce the 'non-monetary price' of purchasing (e.g., time and energy), thereby supporting higher purchase decisions. This logic is consistent with distribution and retailing perspectives that treat convenience as a key driver of customer choice (Kotler & Keller, 2016).

Personal selling (X2). Personal selling represents interactive communication that allows salespeople to diagnose needs, adapt messages, and handle objections in real time. Theoretically, these interactions can increase trust and perceived expertise, reduce information asymmetry, and strengthen perceived fit between the offering and the consumer's needs. When customers face uncertainty, persuasive and relationship-oriented selling can therefore increase the likelihood of purchase (Stanton, 1996).

Price perception (X3). Consumers rarely evaluate price as a number in isolation. Instead, they compare it with internal reference prices, competitor prices, and expected benefits, forming judgments about fairness and value for money. A price that is perceived as fair and aligned with quality and benefits can enhance perceived value and encourage purchase, whereas unfair price perceptions may trigger hesitation or rejection (Peter & Olson, 2013).

1. Location. Retail and service location affects convenience, visibility, and the perceived effort required to obtain the product. Accessible locations are expected to increase purchase intention and decision (Kotler & Keller, 2016).
2. Personal selling. Personal selling provides two-way communication, product demonstration, and relationship building. Salespeople may reduce uncertainty, increase perceived quality, and stimulate purchase decisions (Kotler & Keller, 2016). Price perception. Consumers evaluate whether a price is fair and whether the benefits justify the sacrifice. Favorable price perceptions are typically associated with stronger purchase decisions (Monroe, 1990).

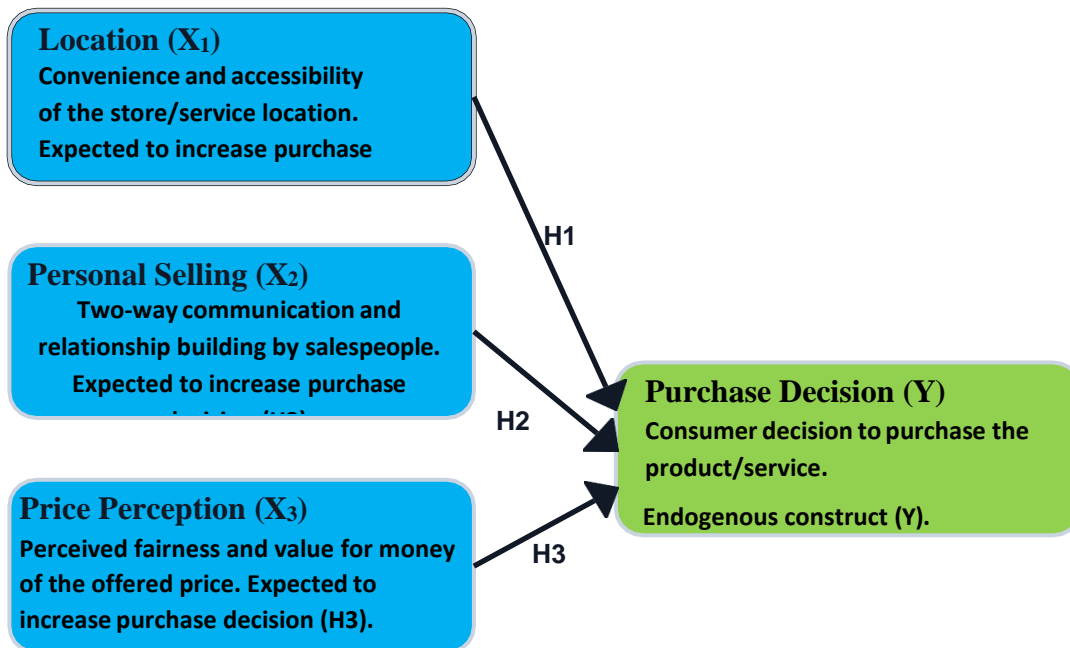


Figure 1. Conceptual Framework

Based on the literature, the following hypotheses are proposed:

1. H1: Location has a positive effect on purchase decision.
2. H2: Personal selling has a positive effect on purchase decision.
3. H3: Price perception has a positive effect on purchase decision.

Study design: cross-sectional survey (n = 50), five-point Likert scale, reflective indicators (5 items per construct). Analysis: PLS-SEM with bootstrapping (5,000 resamples). Structural model tests direct effects: X₁, X₂, X₃ → Y. Key results (directional): beta_LOC = 0.240, beta_PS = 0.240, beta_PP = 0.252; R²(Y) = 0.372; Q² = 0.183.

METHODOLOGY

Research Method

Research Design and Data

The study uses a quantitative, cross-sectional design. The dataset consists of 50 observations with four constructs: location (X1), personal selling (X2), price perception (X3), and purchase decision (Y). Each construct is measured by five reflective indicators on a five-point Likert scale. The raw tabulation used for analysis is provided in the accompanying data file.

Measurement Model

Reflective measurement quality was evaluated using: (1) outer loadings (target ≥ 0.70 , with 0.40–0.70 retained if reliability/validity remain adequate), (2) Cronbach's alpha ($\alpha \geq 0.70$), (3) composite reliability (CR ≥ 0.70), and (4) convergent validity via AVE (≥ 0.50). Discriminant validity was assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait ratio (HTMT < 0.85 or 0.90, depending on strictness).

Structural Model and PLS-SEM Procedure

The structural model specifies direct paths from location, personal selling, and price perception to purchase decision. Inner-model collinearity was assessed with variance inflation factor (VIF). Predictive power was evaluated using R^2 and effect size f^2 . Predictive relevance (Q^2) was estimated using 10-fold cross-validated prediction. Statistical significance of paths was obtained through bootstrapping with 5,000 resamples (two-tailed).

RESEARCH RESULTS

Descriptive Statistics

Table 1. Descriptive Statistics (Construct Scores)

| Construct | Mean | SD | Min | Max |
|-------------------|-------|-------|-------|-------|
| Location | 4.776 | 0.288 | 4.000 | 5.000 |
| Personal Selling | 4.732 | 0.356 | 4.000 | 5.000 |
| Price Perception | 4.740 | 0.295 | 4.000 | 5.000 |
| Purchase Decision | 4.796 | 0.266 | 4.000 | 5.000 |

Source: Data processed by SEM-PLS

Table 1 above explains that all four constructs show very high average scores (means between 4.732 and 4.796), indicating that respondents generally gave strongly positive evaluations for Location, Personal Selling, Price Perception, and Purchase Decision. The standard deviations are low (SD 0.266–0.356), which suggests responses are consistent across respondents and there is limited variability in perceptions.

In addition, the minimum score is 4.000 and the maximum is 5.000 for all constructs, meaning responses are concentrated at the upper end of the scale, which may reflect a ceiling effect (most respondents already rated these aspects very highly). Among the constructs, Purchase Decision has the highest mean

(4.796) and the lowest SD (0.266), indicating it is the most positively rated and the most agreed-upon construct. Meanwhile, Personal Selling has the lowest mean (4.732) and the highest SD (0.356), suggesting it is still rated highly but shows slightly more variation in respondents' views compared to the others.

Table 2. Descriptive Statistics (Selected Indicators; Full Table Available Upon Request)

| Indicator | Mean | SD | Min | Max |
|-----------|-------|-------|-------|-------|
| X1_P1 | 4.900 | 0.303 | 4.000 | 5.000 |
| X1_P2 | 4.760 | 0.431 | 4.000 | 5.000 |
| X1_P3 | 4.740 | 0.443 | 4.000 | 5.000 |
| X1_P4 | 4.680 | 0.471 | 4.000 | 5.000 |
| X1_P5 | 4.800 | 0.404 | 4.000 | 5.000 |
| X2_P1 | 4.740 | 0.443 | 4.000 | 5.000 |
| X2_P2 | 4.720 | 0.454 | 4.000 | 5.000 |
| X2_P3 | 4.720 | 0.454 | 4.000 | 5.000 |
| X2_P4 | 4.760 | 0.431 | 4.000 | 5.000 |
| X2_P5 | 4.720 | 0.454 | 4.000 | 5.000 |
| X3_P1 | 4.940 | 0.240 | 4.000 | 5.000 |
| X3_P2 | 4.720 | 0.454 | 4.000 | 5.000 |

Source: Data processed by SEM-PLS

Table 2 above presents descriptive statistics for selected measurement indicators. All indicators show high mean scores (4.680–4.940) with relatively low dispersion (SD = 0.240–0.471). The observed minimum and maximum values range only from 4 to 5 for all items, indicating responses are concentrated at the upper end of the scale. Among the displayed indicators, X3_P1 records the highest mean (4.940) and the lowest standard deviation (0.240), suggesting strong agreement among respondents, whereas X1_P4 shows the lowest mean (4.680) and the highest variability (SD = 0.471).

Measurement Model Assessment

Table 3. Outer Loadings (Reflective Indicators)

| Constructs | Indicator | Loading |
|-------------------|-----------|---------|
| Location | X1_P1 | 0.534 |
| Location | X1_P2 | 0.808 |
| Location | X1_P3 | 0.847 |
| Location | X1_P4 | 0.725 |
| Location | X1_P5 | 0.520 |
| Personal Selling | X2_P1 | 0.714 |
| Personal Selling | X2_P2 | 0.815 |
| Personal Selling | X2_P3 | 0.866 |
| Personal Selling | X2_P4 | 0.848 |
| Personal Selling | X2_P5 | 0.739 |
| Price Perception | X3_P1 | 0.237 |
| Price Perception | X3_P2 | 0.787 |
| Price Perception | X3_P3 | 0.867 |
| Price Perception | X3_P4 | 0.825 |
| Price Perception | X3_P5 | 0.628 |
| Purchase Decision | Y_P1 | 0.601 |
| Purchase Decision | Y_P2 | 0.601 |
| Purchase Decision | Y_P3 | 0.885 |
| Purchase Decision | Y_P4 | 0.737 |
| Purchase Decision | Y_P5 | 0.518 |

Source: Data processed by SEM-PLS

Overall, Table 3 shows that many indicators have moderate to strong outer loadings, meaning several items represent their constructs reasonably well. The strongest loadings appear in Personal Selling (up to 0.866) and Price Perception (up to 0.867), and Purchase Decision includes one very strong item (Y_P3 = 0.885). However, the table also indicates several weak indicators with low loadings – most notably Price Perception X3_P1 = 0.237, and also multiple items around 0.52–0.53 (e.g., Location X1_P1 = 0.534, Location X1_P5 = 0.520, Purchase Decision Y_P5 = 0.518).

In conclusion: while the measurement model contains a number of strong indicators, it also includes some indicators with insufficient loadings, suggesting that certain items may not adequately reflect their constructs and may need to be reviewed, revised, or considered for removal depending on the study’s validity criteria.

Table 4. Reliability and Convergent Validity

| Construct | CronbachAlpha | CompositeReliability | AVE |
|-------------------|---------------|----------------------|-------|
| Location | 0.730 | 0.822 | 0.490 |
| Personal Selling | 0.856 | 0.898 | 0.638 |
| Price Perception | 0.744 | 0.817 | 0.500 |
| Purchase Decision | 0.705 | 0.807 | 0.464 |

Source: Data processed by SEM-PLS

Most indicators exhibit loadings close to or above 0.70, although a few are below 0.60. Composite reliability exceeds 0.80 for all constructs, suggesting adequate internal consistency. AVE is close to 0.50 for location and price perception, while purchase decision shows AVE slightly below 0.50, indicating that measurement refinement (e.g., removing low-loading items) could improve convergent validity.

Discriminant Validity

Table 5. Fornell-Larcker Criterion (Diagonal = Sqrt (AVE))

| Construct | Location | Personal Selling | Price Perception | Purchase Decision |
|-------------------|----------|------------------|------------------|-------------------|
| Location | 0.700 | 0.478 | 0.618 | 0.510 |
| Personal Selling | 0.478 | 0.799 | 0.528 | 0.488 |
| Price Perception | 0.618 | 0.528 | 0.707 | 0.527 |
| Purchase Decision | 0.510 | 0.488 | 0.527 | 0.681 |

Source: Data processed by SEM-PLS

Table 5 above evaluates discriminant validity using the Fornell-Larcker criterion, where the diagonal values represent the square root of AVE (\sqrt{AVE}) for each construct, and these diagonal values should be higher than the correlations with other constructs in the same row/column.

Based on the table:

1. Location meets the criterion because $\sqrt{AVE} = 0.700$ is higher than its correlations with Personal Selling (0.478), Price Perception (0.618), and Purchase Decision (0.510).
2. Personal Selling meets the criterion because $\sqrt{AVE} = 0.799$ exceeds its correlations with the other constructs (0.478, 0.528, 0.488).
3. Price Perception meets the criterion because $\sqrt{AVE} = 0.707$ is higher than its correlations with Location (0.618), Personal Selling (0.528), and Purchase Decision (0.527).
4. Purchase Decision meets the criterion because $\sqrt{AVE} = 0.681$ is higher than its correlations with Location (0.510), Personal Selling (0.488), and Price Perception (0.527).

Overall conclusion: The diagonal \sqrt{AVE} values (0.700, 0.799, 0.707, 0.681) are all greater than the corresponding inter-construct correlations, indicating that discriminant validity is established – each construct is empirically distinct from the others in this model.

Table 6. HTMT Ratios

| Construct | Location | Personal Selling | Price Perception | Purchase Decision |
|-------------------|----------|------------------|------------------|-------------------|
| Location | 1.000 | 0.598 | 0.835 | 0.736 |
| Personal Selling | 0.598 | 1.000 | 0.666 | 0.639 |
| Price Perception | 0.835 | 0.666 | 1.000 | 0.773 |
| Purchase Decision | 0.736 | 0.639 | 0.773 | 1.000 |

Source: Data processed by SEM-PLS

The Fornell-Larcker criterion is satisfied because each construct's square root of AVE exceeds its correlations with other constructs. HTMT values are below 0.85, supporting discriminant validity, with the location-price perception ratio approaching the threshold.

Structural Model Assessment

Table 7. Model Explanatory and Predictive Power

| Endogenous construct | R ² | Q ² (10-fold CV) |
|----------------------|----------------|-----------------------------|
| Purchase Decision | 0.372 | 0.183 |

Source: Data processed by SEM-PLS

Based on Table 7, the structural model explains 37.2% of the variance in Purchase Decision ($R^2 = 0.372$), which suggests moderate explanatory power – the model accounts for a meaningful portion of what drives purchase decisions, but there is still substantial variance left unexplained.

In terms of prediction, the model shows positive out-of-sample predictive relevance from 10-fold cross-validation ($Q^2 = 0.183$). Because Q^2 is greater than zero, the model has useful predictive capability for Purchase Decision, though the predictive strength appears modest-to-moderate rather than strong.

Table 8a. Path Coefficients and Significance (Bootstrapping, 5,000 Resamples)

| Path | Beta | t | p | CI 2.5% | CI 97.5% |
|----------|-------|-------|-------|---------|----------|
| LOC → PD | 0.240 | 1.389 | 0.165 | -0.111 | 0.557 |
| PS → PD | 0.240 | 1.480 | 0.139 | -0.100 | 0.547 |
| PP → PD | 0.252 | 1.334 | 0.182 | -0.122 | 0.616 |

Source: Data processed by SEM-PLS

Based on Table 8a (bootstrapping with 5,000 resamples), none of the tested paths have a statistically significant effect on Purchase Decision (PD) at the 5% level.

- ❖ LOC → PD: $\beta = 0.240$, $t = 1.389$, $p = 0.165$. The 95% CI includes zero (-0.111 to 0.557), indicating the effect is not significant.
- ❖ PS → PD: $\beta = 0.240$, $t = 1.480$, $p = 0.139$. The 95% CI includes zero (-0.100 to 0.547), so it is not significant.
- ❖ PP → PD: $\beta = 0.252$, $t = 1.334$, $p = 0.182$. The 95% CI includes zero (-0.122 to 0.616), so it is not significant.

Although all coefficients are positive (suggesting LOC, PS, and PP are associated with higher PD), the evidence from bootstrapping shows these relationships are not statistically supported in this model/sample.

Table 8b. Effect Size and Collinearity Diagnostics

| Path | F ² | VIF |
|----------|----------------|-------|
| LOC → PD | 0.054 | 1.707 |
| PS → PD | 0.063 | 1.462 |
| PP → PD | 0.055 | 1.825 |

Source: Data processed by SEM-PLS

Note: LOC = Location; PS = Personal Selling; PP = Price Perception; PD = Purchase Decision.

All hypothesized paths are positive. However, the bootstrap confidence intervals include zero and p-values exceed 0.05, indicating non-significant effects in this sample. Collinearity is not problematic (VIF < 2). Effect sizes (*f*²) are small.

DISCUSSION

The estimated coefficients suggest that better location, stronger personal selling, and more favorable price perception are associated with higher purchase decision, consistent with marketing theory. Nevertheless, limited variance in the indicators (most responses cluster at 4–5) reduces the ability to detect statistically significant effects. PLS-SEM is robust for prediction in small samples, but inference still depends on sufficient variability and measurement quality. Future research should consider broader respondent variation, additional constructs (e.g., product quality, brand trust, promotion), and potential mediators/moderators to increase explanatory power.

CONCLUSIONS AND RECOMMENDATIONS

Using PLS-SEM on 50 survey responses, the model explains 37.2% of the variance in purchase decision and demonstrates positive directional effects from location, personal selling, and price perception. While the effects are not statistically significant in this dataset, the results imply that managers should treat accessibility, salesperson effectiveness, and price fairness as complementary levers. Improving measurement (e.g., revising or removing weak indicators) and collecting more diverse data are recommended for stronger empirical conclusions.

FUTURE RESEARCH

Add additional marketing-mix and customer-psychology drivers, such as product quality, service quality, promotion intensity, brand image, brand trust, perceived value, and customer satisfaction.

Test mediation mechanisms to explain “how” effects occur (e.g., Location → Convenience → Purchase Decision; Personal Selling → Trust → Purchase Decision; Price Perception → Perceived Value → Purchase Decision).

Test moderators that may condition effects (e.g., consumer income, price sensitivity, shopping frequency, product involvement, competitive intensity, online vs. offline channels, and urban vs. suburban location).

Consider interaction effects relevant to managerial strategy (e.g., Personal Selling × Price Perception; Location × Promotion) to reflect real-world combinations of marketing levers.

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