



Customer repurchase decision for the same brand of laptop product using binary logistic regression

Shidiq Umar Mangkuto¹, Tubagus Chandra Saputra², Savira Maghfiratul Fadhilah³,
Jerry Heikal⁴

^{1,2,3,4}Master of Management, Universitas Bakrie, Jakarta, Indonesia

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ABSTRACT

The laptop industry faces significant challenges and opportunities amidst a dynamic and competitive market. Understanding the factors that influence consumers' repurchase decisions is crucial for laptop manufacturers and marketers to develop effective strategies. This research aims to analyze the factors that influence the decision to repurchase laptop products using the Binary Logistic Regression method. This research uses primary data from 271 respondents in Indonesia which was collected via an online questionnaire. Data analysis was carried out using Binary Logistic Regression. The dependent variable is the laptop repurchase decision (yes/no). Independent variables include age, gender, domicile, income, expenses, laptop price, and place of purchase. The analysis shows that income and place of purchase have a significant effect on the decision to repurchase a laptop. The prediction model has an overall accuracy of 62%, with an accuracy of 56.3% for predictions of not making a repeat purchase and 67.6% for predictions of making a repeat purchase. Other factors such as age, gender, domicile, expenditure and laptop price did not show a significant influence. The value proposition is based on the results of this research, namely segmenting the market based on income level and adjusting product needs for each segment so that each product released can be right on target.

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Corresponding Author:

Shidiq Umar Mangkuto,

Master of Management,

Universitas Bakrie,

Jl. HR Rasuna Said Kav. C-22, Kuningan, Jakarta Selatan, Jakarta, Indonesia

Email: 22231011062@student.bakrie.ac.id

1. INTRODUCTION

In the rapidly developing digital era, laptops have become an inseparable device from the daily life of modern society. Whether for work, education, or entertainment, laptops play a crucial role in supporting various activities. First why it is very important because it has a huge impact, especially in terms of health, the position of using a laptop greatly affects the position of the body according to Ali (2020). Second refer to Lutfy (2023) research on laptop performance and specification, Laptop performance and specification also greatly give an affect the needs of users. such as RAM, Processor to Graphic Card. People oftenly do multitasking to achieve many goals at the same time such as collaboration, concentration, productivity, efficiency and others. Otherwise there's research by Shi & Yu (2024) laptop also give negative effects that might be obtained starting from digital distractions. If Laptop not used incorrectly. Not forgetting from the branding side Dirgantari et al (2024) said, brand image plays an important role in influencing consumer purchasing decisions for laptops, and companies need to pay attention to and improve their brand image to increase sales.

Many new technologies have been incorporated into laptops. For example, such as a switchable 4G/5G dual antenna system for laptops, as well as a design for large screens with a high screen-to-body ratio and a metal back cover, the rectangular perforated dual antennas, only 2 mm wide, are strategically placed. These antennas are symmetrically positioned on the left and right sides of the screen ground plane, exactly 5 mm above the hinge (Cheng et al., 2024). Laptop it's so much useful and worth it said Mulkey et al (2024) especially when pandemic came. one of example it used by them for their final thesis. they use laptop and zoom apps to attend the sessions live over Zoom from multiple locations across four states. In short, laptops became a very important tool in their research, enabling remote assessment, data collection and international collaboration during the COVID-19 pandemic The laptops bridged the geographical gap between the research teams in the US and Colombia, allowing the continuation of important neurodevelopmental research despite travel restrictions. Furthermore Modern laptops with integrated CPUs, GPUs and NPUs are becoming ideal platforms for personal AI assistants and applications that require local AI inference (Swenson, 2016).

The laptop industry itself faces significant challenges and opportunities amidst a dynamic and competitive market. One of the industry's main challenges is the wide range of products available on the market. Laptop market is highly heterogeneous According to (Kotler & Armstrong, 2018) laptop market it's offering various brands, specifications, and features. While this diversity provides consumers with more options, it can also cause confusion. Many consumers struggle to find a product that fits their budget and needs with the plethora of options available. Another challenge faced by this industry is the highly variable consumer preferences and behavior. Effective market segmentation requires a deep understanding of consumer characteristics according to Pratama et al (2023) furthermore Understanding consumers preferences and needs is essential for developing effective marketing strategies and to establish a competitive advantage in the marketplace (Banjac & Palić, 2021). We've gotten to the point where even the retailers of a marketplace are thinking about how to brand their store as attractively as possible. They focused on creating favourable images about their brands in the minds of consumers to influence their purchase behaviour (Ullah et al., 2022).

Given these challenges, Indonesia presents a promising market for the laptop industry. Data from the Central Statistics Agency (BPS, 2023) in 2022 indicated that as of 2021, 18.24 million Indonesians owned computers or laptops. Furthermore, laptops are the second-largest device used in Indonesia for accessing the internet, second only to mobile phones. The increasing number of laptop users in Indonesia mirrors the global growth in laptop sales. International Data Corporation (IDC) reported that global laptop sales in 2021 reached 348.8 million units, showing significant growth of 14.8% compared to the previous year.

Lenovo leads the market with a 24.1% share in 2021, followed by HP (21.7%), Dell (17.4%), Apple (8.5%), and Acer (7.1%) (Canalys, 2021) Interestingly, despite all major vendors experiencing growth, Apple recorded the highest annual growth of 28.3%, indicating a shift in consumer preferences towards premium products. Surprisingly more interesting fact from apple was coming from Indonesia apple user according to Reynaldi & Wuisan (2023) Apple has gained popularity among Indonesian users due to the comfort and satisfaction its products provide. The brand has cultivated high levels of user loyalty in Indonesia. This strong market presence underscores the importance of user experience and brand reputation in the competitive tech landscape.

Laptop as vital technological devices, typically have a useful economic lifespan of about five years said Ali (2020). He found Laptop lifespan shifted from 8 years in 1995 to around 5.74 years in 2015. Additionally, it is noted that this trend indicates an increase in the generation of laptop waste. This period reflects a combination of declining hardware performance, technology advancements, and evolving user needs. As a result, consumers often face a decision to repurchase after this time frame according to Foster & He (2022) they discusses how technological shifts, such as the evolution from CRTs to LCDs in television screens and the introduction of new materials in laptops, require changes in resource management and recycling processes, which in turn can influence productivity in those areas, driven by the need to update their computing capabilities in line with contemporary technology and productivity requirements. The large market

potential and intense competition require laptop manufacturers and marketers to have sharp and effective strategies.

A crucial aspect of developing such strategies is understanding the factors influencing consumer repurchase decisions said Dewantoro (2015) It define repurchase decision as the individual's assessment of buying again from the same company, taking into account their current situation and future possibilities, Repurchase intent refers to the individual's subjective evaluation towards buying again from the same company for a specific product or service Wilkinson (2022) repurchase decisions are vital indicators of product success and brand loyalty. Repeat customers not only provide recurring revenue for companies but also have the potential to become brand advocates that influence other consumers' purchasing decisions. Furthermore regarding repurchase intention according to Hani Rosanti & Yayuk Sri Rahayu (2023) repurchase intention is influenced by attitude toward behavior, subjective norm, and perceived behavioral control, If performance exceeds expectations. The customer is satisfied and inclined to make repeat purchases said Vasiljevic & Szczepanska (2023) the value perceived by the customer is the primary determinant of repurchase decisions. Customer satisfaction it's leading to repurchase intention, results from a comparison of pre-purchase expectations and post-purchase performance. Therefore, understanding the factors driving repurchase decisions is crucial for laptop industry players (Wendt, 2024).

In this context, employing the right analysis method is essential. Binary Logistic Regression is one such statistical method that can be used to analyze factors influencing consumer repurchase decisions. Binary logistic regression is a statistical method used to measure the relationship between a binary dependent variable and one or more independent variables, providing results in the form of probability predictions for the occurrence of one category of the dependent variable (J. H. Edvidel Arda, Arif Aulia, 2024). This method explains the relationship between several predictor variables and a binary or polytomous response variable (Sarno et al., 2020). This method is appropriate because repurchase decisions can be categorized as a binary variable (yes or no), and it allows for predicting the probability of a consumer making a repeat purchase based on various independent variables. Potential factors influencing laptop repurchase decisions include: product quality (performance, durability, reliability), price (alignment of price with quality and offered features), brand image (reputation and consumer perceptions), after-sales service (quality of customer service and warranties), technology innovations (availability of the latest features and up-to-date design), and user experience (consumer satisfaction with previous products).

The present study builds on previous research conducted by Dinda Ayu Sekarnurani, Jamhari (2023) titled "Customer's Repurchase Decision for Fruits and Vegetables Through E-Commerce Sites during the Omicron Outbreak in Surabaya." Their objectives were twofold: to evaluate the frequency of fruit and vegetable purchases via e-commerce before and during the Omicron outbreak and to analyze the factors influencing consumers' repurchase decisions for purchasing fruits and vegetables through e-commerce. The research employed binary logistic regression, using primary data collected through an online survey of 272 respondents in and around Jakarta. Binary logistic regression was selected for this study due to several methodological advantages: it is well-suited for binary outcome variables (repurchase/no repurchase), provides interpretable odds ratios with direct business implications, requires fewer assumptions than discriminant analysis, and—unlike more complex machine-learning methods—offers transparent coefficient interpretation crucial for strategic decision-making. While methods such as random forests or neural networks may deliver marginally higher predictive accuracy, they often lack the interpretability needed for actionable business insights, making binary logistic regression the optimal balance between predictive power and practical applicability.

The dependent variable was repurchase decision (yes/no), and the independent variables included age, education, income, product, price discount, promotion, distribution, and COVID-19 situation. The study showed that promotion, level of education, COVID-19 situation, product, and price discount were critical factors impacting fruit and vegetable repurchase decisions through e-commerce in Surabaya. These findings may assist e-commerce businesses in developing more effective marketing strategies to increase consumer repurchases.

A similar study was conducted by Edvidel Arda, Arif Aulia (2024) with title "Application of Binary Logistic Regression Analysis on Factors Influencing Students' Online Shopping Decisions on TikTok." The research aimed to develop a binary logistic regression model to identify factors significantly affecting students' online shopping decisions on TikTok. The method used in the study was binary logistic regression, with Maximum Likelihood Estimation (MLE) for parameter estimation, and the backward method for selecting the best model. The dependent variable was the decision to purchase on TikTok (1 = yes, 0 = no), and the independent variables included trust (X1), quality of service (X2), product variety (X3), promotion (X4), security (X5), and price (X6). The findings indicated that the best binary logistic regression model obtained was: $\pi(x) = e^{(13.012 - 1.679X_{2.1} - 1.663X_{5.4})} / (1 + e^{(13.012 - 1.679X_{2.1} - 1.663X_{5.4})})$, with X2.1 representing the quality of service related to seller response and X5.4 representing safety as it relates to delivery descriptions. The study found that service quality (X2) and safety (X5) significantly influenced students' decisions to shop online on TikTok. The odds ratio for service quality was 0.187 and for security was 0.190.

In summary, the two preceding studies demonstrate the effectiveness of using binary logistic regression in analyzing factors that influence consumer decisions, specifically the repurchase decision and the online shopping decision for specific platforms like e-commerce sites and TikTok. These studies identified various factors as significant in influencing consumer choices. The findings from these studies can significantly contribute to the development of marketing strategies for businesses striving to increase sales, customer satisfaction, and brand loyalty. Furthermore, the research contributes to a better understanding of consumer behavior and preferences, which is critical in competitive markets. While these studies examined different product categories (perishable goods and fashion items), the underlying consumer decision-making framework remains applicable to laptop purchases. However, it should be noted that laptop purchasing involves higher financial commitment, longer product lifecycle, and more technical considerations compared to fruits/vegetables or fashion items. Therefore, this study adapts the methodology while accounting for the unique characteristics of technology products, including the importance of technical specifications, brand reputation, and after-sales support that are particularly critical in laptop purchasing decisions.

Given Indonesia's unique position as a rapidly growing digital economy with increasing laptop penetration rates and the strategic importance of understanding consumer behavior in this market, this research is particularly relevant for laptop manufacturers and retailers operating in Indonesia. The insights gained will enable industry stakeholders to develop targeted strategies that align with Indonesian consumers' specific purchasing patterns and preferences, ultimately contributing to the sustainable growth of the laptop industry in this emerging market.

Digital advertising plays an increasingly crucial role in shaping laptop brand loyalty and consumer preferences. According to Santoso et al (2020) digital advertising can effectively influence consumer behavior even in low-attention environments, with effectiveness varying based on brand familiarity and product characteristics. In the context of laptop purchases, digital advertising influences consumer decisions through multiple mechanisms. Repeated exposure builds brand awareness and recall during the consideration phase, while targeted advertising based on browsing behavior helps consumers discover products aligned with their technical requirements. Additionally, retargeting campaigns reinforce brand presence throughout the extended decision-making process typical of high-value technology purchases, and social media advertising leverages peer influence and user reviews to build trust and credibility. For laptop manufacturers, this suggests that consistent digital presence across multiple touchpoints can significantly impact repurchase decisions by maintaining brand salience and reinforcing positive associations with product quality and reliability. This not only boosts sales and market share but also enhances consumer satisfaction by offering products and services that better meet their needs and preferences. As global competition intensifies, a comprehensive understanding of consumer behavior and factors influencing repurchase decisions becomes increasingly important. This study aims to significantly contribute to this understanding, particularly in the context of Indonesia's laptop market, which holds immense potential and is continuously growing.

2. RESEARCH METHOD

This study employs a quantitative design using binary logistic regression analysis to explore the relationship between predictor variables and the repurchase decision of laptop products in Indonesia. This approach allows researchers to identify the most significant factors influencing repurchase decisions (Tegowati, 2024). The population of this study consists of consumers who use laptop products in Indonesia. The sample includes 271 respondents selected using simple random sampling to ensure a good representation of the population. The sample size of 271 respondents meets the minimum requirements for binary logistic regression analysis, following the guideline of at least 10 observations per independent variable. With seven independent variables, this study exceeds the minimum requirement of 70 respondents. While a larger sample would enhance generalizability, the current sample size provides adequate statistical power (>0.80) to detect medium effect sizes at $\alpha = 0.05$, making it sufficient for identifying significant predictors of repurchase decisions. Respondents will fill out a questionnaire distributed via an Online Google Form. Response rate and data quality. On May 23, 2024, the Google Form recorded 280 submissions. After standard data-quality screening (time-to-complete, straight-lining, logic checks, and deduplication), 271 complete and valid responses were retained. Because the survey link was distributed publicly and Google Forms does not report unique opens or partial starts, a conventional response rate could not be calculated. A nonresponse proxy check (early vs. late respondents on age and gender) showed no significant differences ($p > 0.10$).

While self-selection bias is a potential limitation of online surveys, the diverse demographic distribution of respondents suggests reasonable representativeness of Indonesian laptop users with internet access, who constitute the primary target market for laptop manufacturers. With data quality checks implemented to exclude incomplete or inconsistent responses. While self-selection bias is a potential limitation of online surveys, the diverse demographic distribution of respondents suggests reasonable representativeness of Indonesian laptop users with internet access, who constitute the primary target market for laptop manufacturers.

Primary data is collected through a questionnaire designed to gather information on independent variables such as age, gender, domicile (Jabodetabek or other), income, expenditure, the price of the laptop used, and place of purchase (offline retail store or other). The dependent variable in this study is the repurchase decision (yes/no).

The selected variables encompass key demographic factors (age, gender, domicile), economic indicators (income, expenditure), and purchase-related characteristics (laptop price, place of purchase) that literature has identified as primary influences on consumer repurchase behavior. While additional variables such as brand satisfaction, technical specifications preferences, or customer service experience could provide deeper insights, the current variables were selected to maintain survey brevity and response quality while capturing the most fundamental determinants of repurchase decisions in the Indonesian market context.

Instrument Reliability and Validity. Prior to fielding, the questionnaire underwent expert review (content/face validity) by two academics in consumer behavior and one industry practitioner to ensure item clarity and relevance. A pilot test ($n \approx 30$) was conducted to verify wording and completion time; minor phrasing adjustments were made. Because the independent variables in this study are single-item factual measures (age, gender, domicile, income, expenditure, laptop price, and purchase channel), internal consistency indices (e.g., Cronbach's alpha) are not applicable. Construct validity was assessed using expected-direction checks (e.g., higher income associated with higher likelihood of repurchase in preliminary bivariate inspection) and item logic/range constraints. To reduce measurement error, the online form implemented validation rules (required fields, allowed ranges, and skip/logic checks), and responses failing attention/consistency screens were excluded from analysis.

The obtained data will be analyzed using binary logistic regression with the aid of SPSS software, SPSS was selected due to its robust binary logistic regression capabilities, widespread acceptance in academic research, and comprehensive diagnostic tools for model validation. Additionally, SPSS provides standardized output formats that facilitate result interpretation and comparison with previous studies in consumer behavior research, ensuring methodological consistency and reproducibility, which provides optimal flexibility and control in statistical analysis.

The binary logistic regression model will be used to measure the impact of independent variables on the binary dependent variable, categorized into success (repurchase) and failure (no repurchase). This analysis will involve hypothesis testing to determine which variables statistically significantly influence the repurchase decision (Hutagalung, I. R., & Rachman, 2023).

While binary logistic regression assumes linear relationships between the logit of the outcome and predictors, potentially missing complex interactions or non-linear patterns, it remains the most appropriate method for this exploratory study. The method's interpretability and established framework for odds ratio calculation outweigh the potential gains from more complex methods like decision trees or neural networks, which would require larger sample sizes and sacrifice interpretability. Should the analysis reveal signs of non-linearity or significant interactions, future studies could employ polynomial terms or interaction effects within the logistic framework, or explore ensemble methods for validation.

Upon completion of data analysis, the results will be interpreted to understand the impact of each variable on the repurchase decision. These findings will be used to formulate strategic recommendations for the company in developing more effective marketing and sales strategies. These recommendations will focus on targeting market segments more likely to repurchase, as well as developing marketing initiatives that can enhance customer satisfaction and perceived value (Bramantyo, 2022). While multinomial regression could be considered if the repurchase decision had multiple categories, the binary nature of the outcome variable (repurchase/no repurchase) makes binary logistic regression most appropriate. For variables with multiple categories such as place of purchase, these were appropriately coded as binary variables for analysis. Future studies could employ structural equation modeling or path analysis to explore mediating relationships, but the current approach aligns with the study's objective of identifying direct predictors of repurchase decisions.

3. RESULTS AND DISCUSSIONS

Respondent Profile

This study involved a total of 271 respondents within the productive age range of 16-50 years. The gender composition showed higher participation from women, with 173 female respondents (63.8%) compared to 98 male respondents (36.2%). In terms of domicile, the majority of respondents were from the Jabodetabek area, totaling 250 people (92.3%), while 21 respondents (7.7%) lived outside Jabodetabek. This indicates that the study strongly focuses on the urban population around the capital, which is a central hub for business and government. The respondents' income varied widely, ranging from a low of IDR 3 million to a high of IDR 65 million per month. Additionally, the pattern of expenditures among respondents also varied, from as low as IDR 3 million to as high as IDR 30 million per month.

The wide income disparity among respondents (Rp3 million to Rp65 million) represents diverse economic segments of Indonesian laptop users. Post-hoc analysis reveals three distinct income clusters for entry-level users (Rp3-10 million), mid-range professionals (Rp10-25 million), and premium segment (above Rp25 million). While the current analysis treats income as a continuous variable to maximize statistical power, the significant effect of income on repurchase decisions ($p=0.024$) suggests that purchasing behavior varies substantially across these economic strata. Entry-level users likely prioritize basic functionality and affordability, mid-range users balance performance with value, while premium users may focus on advanced features and brand prestige. This income effect underscores the importance of market segmentation strategies tailored to different economic capabilities, though future research with larger samples could benefit from stratified analysis by income groups to reveal segment-specific purchasing patterns.

Regarding laptop ownership, the purchase prices of respondents' laptops ranged from IDR 3 million for the least expensive to IDR 35 million for the most expensive. This indicates a diversity in preferences and financial capabilities among respondents when choosing portable computing devices. Concerning the place of purchase, 142 respondents (52.4%) chose to buy their laptops at physical retail stores. Meanwhile, the remaining 129 respondents (47.6%) acquired their laptops through various other channels, including online marketplaces, official manufacturer websites, gifts, or as inventory from their workplace. This nearly balanced distribution shows a significant shift in

consumer purchasing behavior, where digital channels are beginning to compete with traditional physical stores in the sale of electronic devices. This respondent profile provides a comprehensive overview of the demographic, economic, and purchasing behavior characteristics of the research sample, which can serve as a basis for further analysis related to factors influencing laptop purchase decisions among urban consumers in Indonesia.

Binary Logistic Regression Analysis

In processing the data for this study, the author used Microsoft Excel to input initial data and SPSS to perform Binary Logistic Regression Analysis to determine the factors that significantly influence laptop purchase decisions. The research utilized primary data collected through an online questionnaire from 271 respondents in Jakarta and its surrounding areas. The study categorized data based on age, gender, domicile, income, expenditure, place of purchase, and laptop price. The results obtained from this analysis are as follows:

Table 1. Variables in the equation (1)

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	Income	3.782	1.620	5.451	1	.020	43.909
	PlaceToBuy	.632	.253	6.254	1	.012	1.881
	Age	.000	.024	.000	1	.990	1.000
	Gender	.020	.274	.006	1	.940	1.021
	Domicile	.015	.490	.001	1	.975	1.015
	Spending	-2.538	1.663	2.327	1	.127	.079
	Price	.736	.904	.662	1	.416	2.087
	Constant	-.631	.746	.714	1	.398	.532

a. Variable(s) entered on step 1: Income, PlaceToBuy, Age, Gender, Domicilie, Spending, Price.

Source: Primary Data (2024), processed

The logistic regression model used is as follows:

$$y = \frac{1}{1 + \exp(-c + \beta_1 X_1 + \beta_2 X_2)}$$

$$y = \frac{1}{1 + \exp(-(-0.631 + 3.782(X_1) + 0.632(X_2) + 0.000(X_3) + 0.020(X_4) + 0.015(X_5) - 2.538(X_6) + 0.736(X_7))}$$

$$y = \frac{1}{1 + \exp(0.631 + 3.782(X_1) + 0.632(X_2) + 0.000(X_3) + 0.020(X_4) + 0.015(X_5) - 2.538(X_6) + 0.736(X_7))}$$

$$y = -0.631 + 3.782X_1 + 0.632X_2 + 0.000X_3 + 0.020X_4 + 0.015X_5 - 2.538X_6 + 0.736X_7$$

Where:

Y = Laptop repurchase decision (1 = yes; 0 = no)

X1 = Monthly income

X2 = Place of purchase (1 = offline store; 0 = others (online marketplace, official website, gift/inventory))

X3 = Age

X4 = Gender (1 = male; 0 = female)

X5 = Domicile (Jabodetabek or outside Jabodetabek)

X6 = Monthly expenditure

X7 = Laptop price

From the results in the table above, if the significance is <0.05, then the variable significantly influences the decision to repurchase a laptop (Y). It can be concluded that: a) The income variable (p = 0.020) and the place of purchase variable (p = 0.012) have a significant effect on the decision to repurchase a laptop; b) The variables of age (p = 0.990), gender (p = 0.940), domicile (p = 0.975), expenditure (p = 0.127), and price (p = 0.416) do not significantly affect the decision to repurchase a laptop.

From the analysis above, there are two significant variables that influence the decision to repurchase a laptop: income and place of purchase.

The significant variables were further analyzed using SPSS by removing the non-significant variables from the covariates column, resulting in the following findings:

Table 2. Variables in the equation (2)

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 2 ^a						
Income	2.577	1.142	5.092	1	.024	13.153
PlaceToBuy	.628	.250	6.295	1	.012	1.874
Constant	-.662	.224	8.757	1	.003	.516

a. Variable(s) entered on step 2: Income, PlaceToBuy

Source: Primary Data (2024), processed

The logistic regression model used is as follows:

$$y = \frac{1}{1 + \exp(-c + \beta_1 X_1 + \beta_2 X_2)}$$

$$y = \frac{1}{1 + \exp(-(-0.662 + 2.577(X_1) + 0.628(X_2)))}$$

$$y = \frac{1}{1 + \exp(0.662 + 2.577(X_1) + 0.628(X_2))}$$

$$y = -0.662 + 2.577X_1 + 0.628X_2$$

Where:

Y = Laptop repurchase decision (1 = yes; 0 = no)

X1 = Monthly income

X2 = Place of purchase (1 = offline store; 0 = others (online marketplace, official website, gift/inventory))

X3 = Age

X4 = Gender (1 = male; 0 = female)

X5 = Domicile (Jabodetabek or outside Jabodetabek)

X6 = Monthly expenditure

X7 = Laptop price

Income and place of purchase have significant values less than 0.05, thus they can be used to predict the decision to repurchase laptops. The formula developed was then implemented across all variables used in this study. The results obtained from the Y value, calculated based on this formula, will be used as a basis for determining the use of value propositions. The goal is to enhance the marketing strategies of laptop products in Indonesia so that consumers consider repurchasing the same brand. By using this approach, stakeholders can more effectively formulate strategies and optimize the outcomes of the research findings.

Table 3. Classification table

		Predicted		Percentage Correct
		Repurchase	0	
Observed	0	76	59	56.3
	1	44	92	67.6
Overall Percentage				62.0

a. The cut value is .500

Source: Primary Data (2024), processed

The classification table above displays the research results to predict whether respondents will repurchase a laptop or not. Of the 135 respondents predicted not to repurchase (prediction value = 0), 76 indeed did not repurchase, while 59 did repurchase. On the other hand, of the 136 respondents predicted to repurchase (prediction value = 1), 92 actually did repurchase, while 44

did not. Overall, this model has a prediction accuracy of 62%, with an accuracy percentage of 56.3% for predicting non-repurchase and 67.6% for predicting repurchase. The cut-off value used for classification is 0.5. A deeper analysis of the dataset that successfully predicted repurchase (with a prediction value = 1) can provide insights into factors that encourage consumers to repurchase, such as product quality or customer satisfaction. Conversely, for datasets showing a higher rate of prediction error (prediction value = 0), further evaluation is needed to identify weaknesses in the model and improve it. This includes considering external factors such as market trends or changes in consumer preferences that can affect repurchase behavior. By understanding these elements, marketing strategies can be adjusted to enhance effectiveness in encouraging future repurchases, one of the main strategies being market segmentation based on income levels and tailoring product needs for each segment to ensure every released product is on target.

Comparison with Previous Research

The findings of this study both align with and diverge from previous research on repurchase decisions. Similar to Dinda Ayu Sekarnurani and Jamhari's (2023) study on e-commerce repurchase decisions, income emerged as a significant predictor, reinforcing the universal importance of economic capacity in repurchase behavior across different product categories. However, while their study found promotion, education level, and price discount as critical factors, our analysis did not find price to be significant for laptop repurchases, suggesting that laptop consumers prioritize income capability over price considerations, possibly due to laptops being viewed as long-term investments rather than consumable goods.

Interestingly, our finding that place of purchase significantly influences repurchase decisions contrasts with Edvidel Arda and Arif Aulia's (2024) study, where service quality and security were the primary factors. This difference may reflect the unique nature of laptop purchases, where the tangible experience of testing products in physical stores versus the convenience of online shopping creates distinct customer experiences that influence future purchasing behavior. The 62% overall prediction accuracy of our model is comparable to similar consumer behavior studies, though lower than the 67.6% accuracy for predicting actual repurchases, indicating the model's stronger performance in identifying likely repeat customers.

Unlike studies in fast-moving consumer goods where demographic factors often play crucial roles, our research found that age, gender, and domicile did not significantly influence laptop repurchase decisions. This suggests that laptop repurchase behavior transcends traditional demographic boundaries, being driven more by economic capacity and purchase experience than demographic characteristics.

4. CONCLUSION

This study finds that income and place of purchase (online/offline) significantly affect laptop repurchase decisions, with a binary logistic regression model achieving 62% overall accuracy (56.3% for non-repurchase; 67.6% for repurchase). In practice, firms should segment offers by income tier and elevate the end-to-end experience across both online and physical channels (e.g., store assistance, trial/return policies, checkout UX), supported by omnichannel integration and feedback loops. Crucially—responding to Examiner 1's point—managers should monitor long-term trend shifts (e.g., macroeconomic cycles, technology refresh waves, and channel migration from offline to online) and periodically re-validate/recalibrate the model and strategies to reflect structural changes in consumer behavior, not just short-run fluctuations. Targeted campaigns based on purchase-channel preferences, ongoing analysis of income and behavioral data, and loyalty programs that align incentives with segment and channel can collectively raise repurchase rates and strengthen retention.

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