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The Effectiveness of Logo Design and Packaging form Towards the Buying Interest in Pisang Lumer and Aneka Keripik (Do'a Ibu)

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Abstract

In an era of intense market competition, visual branding elements such as logo design and packaging form are critical for Micro, Small, and Medium Enterprises (MSMEs) to capture consumer attention and differentiate their products. This study addresses a specific gap in visual branding research within peripheral Indonesian markets by analyzing the effectiveness of logo design and packaging form on consumer buying interest for Pisang Lumer and Aneka Keripik (Do'a Ibu) in Bengkalis. Employing a quantitative methodology, primary data were collected through structured Likert-scale questionnaires distributed during the Polbeng Business Expo. Utilizing purposive sampling alongside Slovin's formula, 171 valid responses were successfully gathered from an estimated population of 300 visitors who had directly interacted with the products. Following rigorous instrument quality and classical assumption tests, the data were evaluated using multiple linear regression analysis. The empirical results indicate that both visual branding elements exert a positive and statistically significant impact on purchasing interest. Specifically, logo design demonstrates a stronger, more dominant influence ($\beta = 0.580$, $p < 0.001$) compared to packaging form ($\beta = 0.286$, $p < 0.001$). Furthermore, the Adjusted R^2 value reveals that these variables collectively explain 64.4% of the variation in consumer buying interest. These findings strongly suggest that resource-constrained MSMEs should prioritize clear logo optimization alongside functional, consumer-aligned packaging to strengthen competitiveness and stimulate purchasing decisions.

Keywords: *Logo Design, Packaging Form, Buying Interest.*

1. Introduction

In an era of intense market competition, visual branding elements particularly logo design and packaging form have become critical determinants of consumer purchasing behavior, especially for Micro, Small, and Medium Enterprises (MSMEs) operating with limited resources [1]. While large corporations invest substantially in professional branding, local MSMEs in regions such as Bengkalis, Indonesia, often struggle to compete due to underdeveloped visual identities that fail to capture consumer attention. Pisang Lumer (fried banana with melted chocolate) and Aneka Keripik Do'a Ibu (assorted traditional chips), representative MSMEs in Bengkalis, initially operated without distinctive logos or attractive packaging, relying solely on word-of-mouth promotion a strategy increasingly insufficient in saturated markets[2].

Existing research predominantly examines visual branding effects within large-scale commercial contexts. Fitriani and Nugraha demonstrated that packaging elements significantly influence purchase interest for banana chip MSMEs in Lampung, while Audretsch [3]. confirmed packaging and labeling's positive impact on product differentiation. Liu et al. revealed that visual elements color, graphics, logo, typography, and layout significantly affect purchase intention through brand experience mediation in tea bag products [4]. However, a critical research gap persists: minimal empirical investigation focuses on simultaneous effects of logo design and packaging form on purchasing interest among local, resource-constrained MSMEs in peripheral Indonesian regions like Bengkalis. Furthermore, prior studies predominantly sample urban consumers with distinct visual preferences, neglecting the unique cultural context and aesthetic expectations of consumers in smaller regencies [5].

This study addresses these gaps by investigating how integrated visual branding specifically logo design for Pisang Lumer and packaging form for Aneka Keripik Do'a Ibu simultaneously influences consumer buying interest within

the Bengkalis context [6]. The research novelty lies in testing dual visual elements' combined impact on traditional snack products from micro-enterprises, capturing localized consumer preferences in a non-urban Indonesian setting, and providing actionable design insights for MSMEs with constrained marketing budgets [7]. The central research question guiding this study is: How effective are logo design and packaging form individually and collectively in driving consumer buying interest for Pisang Lumer and Aneka Keripik (Do'a Ibu) products at the Polbeng Business Expo. Answers to this question offer practical value for MSME sustainability while contributing theoretically to visual branding literature in emerging market contexts.

2. Research Methods

2.1 Location and Object of the Study

This study was conducted at Politeknik Negeri Bengkalis during the Polbeng Business Expo held on October 26–27, 2023, with the research location situated in front of the Civil Engineering building adjacent to the Business Administration building to ensure optimal accessibility for visitor engagement and data collection. The research pursued three interconnected objectives to analyze the effectiveness of the Pisang Lumer logo design in attracting consumer buying interest, to examine the influence of Aneka Keripik (Do'a Ibu) packaging form on consumer purchasing interest, and to identify key factors determining the effectiveness of both visual branding elements in shaping consumer purchase decisions within the MSME context [8].

2.2 Population and Sample

The population of this study consisted of all visitors to the Polbeng Business Expo Chapter II held at Politeknik Negeri Bengkalis in October 2023 who directly observed or interacted with the Pisang Lumer and Aneka Keripik (Do'a Ibu) product displays, as they represented potential consumers exposed to the visual branding elements under investigation [9]. From an estimated population of 300 expo visitors, a sample of 171 respondents was determined using Slovin's formula with a 5% margin of error and selected through purposive sampling based on two criteria: being at least 17 years old and having viewed the products for a minimum of 30 seconds to ensure adequate exposure to the logo and packaging stimuli. Of the 300 questionnaires distributed, 171 valid responses were retained after screening for completeness and consistency, yielding a 57% usable response rate sufficient to meet the minimum requirement for multiple regression analysis ($N > 50 + 8m$, where $m = 2$ predictors) and ensuring adequate statistical power for hypothesis testing [10].

2.3 Sampling Techniques

This study employed purposive sampling combined with Slovin's formula to determine the sample size, targeting respondents who had purchased or directly observed Pisang Lumer and Aneka Keripik (Do'a Ibu) products at the Polbeng Business Expo [11]. Based on expo committee documentation, the estimated population was 300 visitors. Using Slovin's formula with a 5% margin of error ($e = 0.05$) $n = N / (1 + N \times e^2)$ the minimum required sample was calculated as $n = 300 / (1 + 300 \times 0.0025) = 300 / 1.75 \approx 171$ respondents. This approach ensured a representative and statistically adequate sample for quantitative analysis while aligning with the study's focus on consumers with direct exposure to the visual branding elements under investigation [12].

2.4 Data Collection Technique

Data for this study were collected using a structured questionnaire, defined by Sugiyono (2018) as a technique involving written questions or statements that respondents answer, which is particularly efficient when the research variables are clearly defined and the target population is large [13]. Given the focused scope of the study and the need to measure specific constructs logo design, packaging form, and buying interest the questionnaire employed closed-ended statements on a 5-point Likert scale to ensure standardized, quantifiable responses. The instrument was distributed directly to respondents during the Polbeng Business Expo, allowing for immediate collection and verification while ensuring all participants had direct exposure to the visual branding elements under investigation [14].

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2.5 Data Analysis Method

To ensure the quality of the research instrument, validity and reliability tests were conducted [15]. Validity was assessed using Pearson product-moment correlation, where each item was considered valid if its calculated r-value exceeded the table r-value (r-table = 0.150 at $\alpha = 0.05$, df = 169) or if its significance value was less than 0.05; all items for logo design, packaging form, and buying interest met these criteria and were retained [16]. Reliability was evaluated using Cronbach's Alpha, with all constructs logo design ($\alpha = 0.679$), packaging form ($\alpha = 0.796$), and buying interest ($\alpha = 0.709$) exceeding the acceptable threshold of 0.60, confirming internal consistency [16]. Data analysis employed descriptive statistics to summarize respondent perceptions and multiple linear regression to examine the influence of logo design and packaging form on buying interest. Prior to regression, classical assumption tests confirmed the model's suitability: normality (Kolmogorov-Smirnov $p = 0.062 > 0.05$), absence of multicollinearity (VIF < 1.115, tolerance > 0.897), no autocorrelation (Durbin-Watson = 1.921 within du < DW < 4−du), and no heteroscedasticity (Gleiser test $p > 0.05$) [17]. The regression model was then tested using t-tests for individual effects and an F-test for simultaneous effects, both at a 5% significance level [18].

3. Results and Discussions

3.1 Research Objective Overview

This study evaluated the effectiveness of visual branding elements developed for two local MSMEs Pisang Lumer and Aneka Keripik (Do'a Ibu) during the Polbeng Business Expo Chapter II in 2023. Pisang Lumer, a fried banana snack filled with melted chocolate operating since June 2021 from Jalan Gatot Subroto, Bengkalis, previously lacked a formal logo; the author designed a distinctive logo to enhance brand recognition and consumer appeal.

Figure 1 Pisang Lumer Logo

Similarly, Aneka Keripik Do'a Ibu, a traditional chip business established in May 2016 in Sungai Alam Village that produces cassava, sweet potato, and banana chips, initially used plain, unbranded packaging; the author introduced a new packaging design to improve product presentation, protection, and communication. Both visual interventions logo for Pisang Lumer and packaging form for Aneka Keripik were implemented specifically for the expo to assess their impact on consumer buying interest, aligning with the research objectives of analyzing the individual and combined effectiveness of these branding elements in a real-market setting.

Figure 2 Packaging Aneka Kripik

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The questionnaire included respondent profiles, including age, gender, and region/residence. Of the 300 questionnaires distributed, 300 were returned and considered eligible for processing, resulting in a 100% response rate.

Table 1 Questionnaire Data

Description	Amount	Percentage (%)
Questionnaires distributed	300	100%
Questions returned	300	100%
Made purchases < 3 times	129	26.33%
Made purchases 3 – 5 times	126	42%
Made purchases > 5 times	45	31.67%
Reduced		
Questions not returned	0	0%
Questions that could not be processed due to incomplete answers	0	0%
Questions that did not meet the criteria	0	0%
Number of usable questionnaires (Respondents who answered that they had purchased)	171	57%

Source: Processed Data, 2026

All 171 distributed questionnaires were successfully returned and all were suitable for processing, so that the response rate and data eligibility reached 57% .

The respondent profile in the research questionnaire consists of age, gender, and region/domicile.

Table 2 Responden Charateristic

Description		Amount	%	Amount	%
Gender	Male	52	54 %	171	100%
	Female	79	46 %		
			Total		
Age	20-30 Years	71	41,33 %	171	100%
	31-40 Years	55	32 %		
	>40 Years	45	26,66 %		
			Total		
Region	Bengkalis	155	90,67 %	171	100%
	Outside Bengkalis	16	9,33 %		
			Total		

Source: Processed Data, 2026

Based on Table 4.2 “Respondent Characteristics,” the survey sample consisted of 171 respondents, with a gender distribution of 92 males (54%) and 79 females (46%); based on age group, 71 respondents (41.33%) were aged 20–30 years, 55 (32%) were aged 31–40 years, and 45 (26.66%) were over 40 years old; and based on region, the majority 155 respondents (90.67%) were from Bengkalis, while only 16 (9.33%) were from outside Bengkalis, indicating a strong regional concentration in Bengkalis that may reflect the localized nature of the study population or sampling methodology. This geographic skew suggests findings should be interpreted with caution regarding generalizability beyond the Bengkalis region.

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3.2 Validity and Reliability Test

Validity testing is used to assess whether the items in a questionnaire are capable of measuring what they are supposed to measure. Validity is tested by correlating the score of each indicator item with the total score. An item is declared valid if the calculated r value is ≥ r table, and invalid if r calculated < r table.

There are 171 samples or respondents (n) and the degree of freedom (df) can be calculated:

Df = n - 2
= 171 -2
= 169
= 0.1501 (R Table)

With df=171 and alpha = 0.05, r table = 0.1501 (see r table at df=171 and alpha=0.05). Details of the validity test conducted by the researcher on each item of the question in the SPSS program can be explained as follows.

a. Logos Design

The validity test for the Logo data processing item using SPSS 27 can be seen in Table:

Table 3 Logo Variable Validity

Question Item	Sig.	Calculated R	Table R	Description
X1.1	0.00	0.539	0.1501	Valid
X1.2	0.00	0.390	0.1501	Valid
X1.3	0.00	0.539	0.1501	Valid
X1.4	0.00	0.528	0.1501	Valid
X1.5	0.00	0.533	0.1501	Valid

Source: Processed Data, 2026

Table above shows that the calculated r value for all items of the Logo variable (X1) is greater than the table r value, with a significance value.

b. Pacakging Form

The validity test of the data processing packaging items using SPSS 27 can be seen in Table:

Table 4 Validity of Packaging Variables

Question Item	Sig.	Calculated R	Table R	Description
X2.1	0.00	0.374	0.1501	Valid
X2.2	0.00	0.276	0.1501	Valid
X2.3	0.00	0.381	0.1501	Valid
X2.4	0.00	0.416	0.1501	Valid
X2.5	0.00	0.348	0.1501	Valid

Source: Processed Data, 2026

Table above shows that the calculated r value for all items of the Packaging variable (X2) is greater than the table r value, with a significance value.

c. Buying Interest

The validity test of the Purchase Interest items using SPSS 27 data processing can be seen in Table:

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Table 5 Validity of Purchase Interest Variables

Question Item	Sig.	Calculated R	Table R	Description
Y3.1	0.00	0.656	0.1501	Valid
Y3.2	0.00	0.397	0.1501	Valid
Y3.3	0.00	0.363	0.1501	Valid
Y3.4	0.00	0.690	0.1501	Valid
Y3.5	0.00	0.681	0.1501	Valid

Source: Processed Data, 2026

Table above shows that the calculated r value for all items of the Purchase Interest (Y) variable is greater than the table r value, with a significance value.

The reliability test aims to measure the level of consistency of the research instrument. According to Ghozali (2016), a questionnaire is considered reliable if the Cronbach's Alpha value is > 0.60. Based on the analysis using SPSS 27, the reliability test results are presented in Table.

Table 6 Reliability Test

Variable	Reliability Coefficent	Cornbach Alpha	Value Alpha	Description
Logos Design (X1)	5 Questions	0,679	0.60	Reliability
Pakaging Form(X2)	5 Questions	0,796	0.60	Reliability
Buying Interest (Y)	5 Questions	0,709	0.60	Reliability

Source: Processed Data, 2026

From Table above, it is known that there are 15 items spread across three research variables, with Cronbach's Alpha values for each variable greater than 0.60.

3.3 Descriptive Statistical Test

The following are the results of descriptive statistical tests, as shown in Table 4.7.

Table 7 Desriptive Statistical Test

	N	Minimum	Maximum	Mean	Std. Deviation
Logos Design (X1)	221	10	15	13.92	1.237
Pakaging Form (X2)	221	9	15	13.40	1.335
Buying Interest (Y)	221	5	15	14.36	1.136
Valid N (listwise)	221				

Source: Processed Data, 2026

3.4 Classic Assumption Test

The following are the results of the normality test, as shown in Table.

Table 8 Normality Test

One-Sample *Kolmogorov-Smirnov test*		
	Unstandardized Residual	**Limit Value**
N	171	
Asymp. Sig. (2-tailed)[c]	0.062	0.05

Source: Processed Data, 2026

From the Kolmogorov-Smirnov test results, the Asymp. Sig. (2-Tailed) value obtained was greater than 0.05 (5%). These test results indicate that the residuals in the regression model are normally distributed.

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The following are the results of the multicollinearity test, as shown in Table.

Table 9 Multicolinearity Test

Variable	Tolerance	Limit Tolerance	VIF	Limit VIF	Description
Logos Design	0.897	0.1	1.115	10	No Multicollinearity
Packaging Form	0.897	0.1	1.115	10	No Multicollinearity

Source: Processed Data, 2026

Multicollinearity testing was conducted to examine the correlation between independent variables. If the Tolerance value is > 0.1 and VIF is < 10, then there is no multicollinearity. Based on the test results, all variables meet these criteria, so the model is free from multicollinearity and the analysis can proceed

The following are the results of the autocorrelation test, as shown in Table.

Table 10 Autocorrelation Test

Durbin-Watson	1.921

Source: Processed Data, 2026

The autocorrelation test in this study was conducted using the Durbin-Watson (DW) approach. The acceptance criterion for stating that there is no autocorrelation in the regression model is if the DW statistic value is in the range of Du < Dw < 4 − Du, where Du is the upper bound value of the Durbin-Watson table. The Du value is determined based on the number of independent variables (K) and the number of sample observations (N).

In this study, there are K=2 independent variables and N=100 observations, so based on the Durbin-Watson table, the value of DU=1.7735 is obtained. Furthermore, the value of 4 − DU is calculated as follows:

4−DU = 4 − 1,7735
= 2,2265.

The test results show that the Durbin-Watson statistic value is 2.030. Because this value is within the range.

1,7735 < 2,030 < 2,2265

It can be concluded that the regression model does not experience autocorrelation problems. Thus, the classical assumption regarding residual independence is fulfilled, and the regression model is suitable for further analysis.

The following are the results of the heteroscedasticity test, as shown in Table.

Table 11 Heteroscedasticity Test

Variable	Sig	Limit Value	Description
Logos Design	0.297	0.05	Heteroscedasticity occurs
Packaging Form	0.053	0.05	Heteroscedasticity occurs

Source: Processed Data, 2026

3.5 Multiple Linear Regression Analysis

The following are the results of the multiple linear regression test, as shown in Table.

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Table 12 Multiple Linear Regression Test

Variable	Unstandardized Coefficients	Sig.
	B	
Purchase Interest	2.451	0.000
Logo Design	0.580	0.000
Buying Form	0.286	0.000

Source: Processed Data, 2026

The following are the results of the t-statistic test, as shown in the table below.

Table 13 t-Test Analysis

Variable	Sig.	Value	Description
Logo Design	0.001	0.05	Accepted
Packaging Form	0.001	0.05	Accepted

Source: Processed Data, 2026

The value of Tcount is known with Ttable at a significance level of 5% with the following equation:

T_{tabel} = n – k – 1 ; a
= 171 – 2 – 1 ; 0.05
= 168 ; 0.05
= 1.654 (see the t-distribution table)

Explanation:
n = number of samples
k = number of independent samples
1 = constant

Table 14 t-Test Analysis t-Values

Variable	T-count	T-table	Description
Logo Design	13.072	1.654	Accepted
Packaging Form	6.946	1.654	Accepted

Source: Processed Data, 2026

However, before comparing the F value, compare it with the value from the 5% significance table. So, F-table; F (k-1; n-k);

F = (2-1; 171-2).
F = (1; 169)
= 3.938.

Based on the F-test, the F value = 154.734 > F = 3.900 with a significance level of 0.001 (< 0.05).

Table 15 f-Test Analysis f-Values

F hitung	F tabel	Keterangan
154.734	3.900	Accepted

Source: Processed Data, 2026

Table 16 f-Test Analysis Anova Output Sig

Calculated F	Table F	Description
0.000	0.05	Accepted

Source: Processed Data, 2026

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Table 17 Coefficient of Determination Test R^2

Adjusted R Square	0.644

Source: Processed Data, 2026

Based on the results of the coefficient of determination test in the Model Summary Table, the Adjusted R Square value obtained is 0.644 or 64.4%. This means that the independent variables Logo Design and Packaging Form together explain 64.4% of the variation in Purchase Interest. The remaining 35.6% of the variation is attributed to other factors not included in this research model, such as price, promotional strategies, brand reputation, consumer attitudes, past experiences, cultural influences, or other psychological and situational variables that may also affect purchasing decisions.

3.6 Discussion

The discussion confirms that both the Pisang Lumer logo design and Aneka Keripik packaging form significantly enhance consumer buying interest, with the logo exerting a stronger influence (β = 0.580) than packaging (β = 0.286). The logo functions not only as a visual identifier but also as a core brand symbol that conveys product character, builds recognition, and fosters emotional appeal, thereby strengthening consumer memory and trust. Meanwhile, the packaging serves dual roles as both protector and communication tool its practicality, aesthetic appeal, and functional design enhance user convenience while shaping positive quality perceptions. The overall effectiveness of these visual branding elements stems from their harmonious integration: clear, unique logos; context-appropriate colors and typography; product-aligned design themes reflecting local snack identity; functional material quality; and informative labeling all tailored to the Bengkalis consumer context. Together, these factors create a cohesive brand image that differentiates the products in a competitive market and effectively drives purchase decisions.

4. Conclusion

Based on the analysis of the results and discussion, the author draws conclusions from the previous chapters. Several conclusions that can be presented are as follows: 1). The logo design in this study has a positive and significant relationship with consumer purchasing interest, where all data is valid and normal. 2). The packaging design in this study has a significant effect on consumer purchasing interest. This can be seen from the data presented and all normal data. 3). The effectiveness of the logo design and packaging shape for Pisang Lumer and Aneka Keripik products has achieved a level of success where the logo design and packaging shape can increase consumer interest in purchasing, as can be seen from the data presented above. The author can provide suggestions for logo design and packaging, so that consumer interest in purchasing can contribute not only in Bengkalis but also outside Bengkalis. In addition, the scope of this questionnaire can extend beyond the region and can be used to learn more about logo and packaging design outside Bengkalis by going directly to the field.

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