Innovation and Technology: Determining Factors of Handphone Sales in Sikapaiya

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ABSTRACT

***Purpose*:** This study investigates the impact of innovation and technological progress on smartphone sales in Sikapaiya, Majene.

Design/Methodology/Approach: This study uses a descriptive quantitative approach with multiple linear regression analysis via SPSS 25 on 100 respondents.

***Findings*:** The results show that innovation and technological progress have a significant effect on smartphone sales, both partially and simultaneously. The findings have significant implications for increasing smartphone sales, suggesting that mobile phone companies can boost sales by developing better innovations and technologies.

Keywords: *Innovation; Technological Advancements; Smartphone Sales; Mobile Phone Industry*

INTRODUCTION

The rapid development of smartphone technology has had a significant impact on the consumption of mobile phone products in Indonesia, including in Sikapaiya, Majene City, West Sulawesi. The increasing demand for smartphones is in line with the growing need for access to information, communication, and entertainment. Innovation and technological advancements in smartphones have been the main drivers of this increasing demand. However, mobile phone sales at Sikapaiya Majene Store have declined over the past 3 years, from 524 units in 2022 to 473 units in 2024. This suggests that consumer preferences for handphone brands vary, as shown in the following table:

Table 1. Mobile Phone Sales at Sikapaiya Store

No.	Phone Brand	2022	2023	2024
1	Samsung	62 units	57 units	23 units
2	Vivo	121 units	88 units	117 units
3	Oppo	115 units	95 units	167 units
4	Redmi	45 units	37 units	65 units
5	Realme	150 units	187 units	98 units

7	Iphone	31 units	21 units	13 units
Total		524	485	473

Source: Sikapaiya Majene Store (2025)

This significant decline in sales indicates a problem that needs to be addressed immediately. If no action is taken, this decline in sales could impact the sustainability of the Sikapaiya Majene Store business. Previous research on the impact of innovation and technological advancements on smartphone sales has shown varying results. Some studies have found that innovation and technological advancements have a significant impact, while others have not found any influence. This shows a knowledge gap regarding the impact of innovation and technological advancements on smartphone sales, particularly in local contexts like Sikapaiya.

This research has high urgency because it can help mobile phone companies understand how innovation and technological advancements can influence product sales in Sikapaiya Majene. Thus, this research can contribute to the development of effective marketing strategies, improvement of product quality and user experience, and enhancement of mobile phone companies' competitiveness in the Sikapaiya Majene market. The findings of this research can also provide recommendations for mobile phone companies to increase product sales by leveraging innovation and technological advancements, thereby improving their market position and profitability.

Based on the above background, the research problem can be formulated as follows: "Does innovation and technological advancement in smartphones have a significant impact on mobile phone sales at Sikapaiya Majene Store?". Based on the problem formulation above, the research hypothesis is: "Innovation and technological advancements in smartphones have a significant impact on mobile phone sales at Sikapaiya Majene Store." Therefore, this study aims to analyze the impact of innovation and technological advancements on mobile phone sales in Sikapaiya, Majene. This research is expected to provide a clear picture of the relationship between technological innovation and sales, as well as the factors that most influence consumer purchasing decisions for mobile phones in Majene.

METHODS

This study employs a quantitative method that is systematic, planned, and structured clearly from the beginning to the design of the research. The study was conducted in Sikapaiya, Majene City, West Sulawesi, using quantitative data expressed in numerical form. The data sources used are primary and secondary data. The objective of this study is to analyze the impact of innovation and technological advancements on smartphones on handphone sales in Sikapaiya, Majene. The population in this study consists of 100 respondents who are

consumers who have made transactions at Sikapaiya Majene. Since the entire population is used as the unit of observation, this study uses a census. Therefore, there is no sample size determination in this study. Since this study uses a census, there is no sampling technique used. The operational variables in this study include Innovation and technological advancements on smartphones as the independent variable, and Handphone sales as the dependent variable. The data collection methods used in this study are observation, questionnaires, and interviews. The data analysis technique used in this study is multiple linear regression analysis, which includes validity testing, reliability testing, classical assumption testing (normality, multicollinearity, heteroscedasticity), partial testing, and simultaneous testing. Thus, this study is expected to provide accurate and reliable results on the impact of innovation and technological advancements on smartphones on handphone sales in Sikapaiya, Majene City.

RESULTS

In the conducted survey, it was found that the majority of respondents were men, with a percentage of 67%. Women followed with 33%. The largest age group was 26-35 years old, comprising 39%, followed by 36-45 years old at 27%, 20-25 years old at 22%, and those over 46 years old at only 12%. The highest education level was high school/vocational school at 55%, followed by bachelor's degrees at 31% and postgraduate degrees at 15%. In terms of work experience, respondents with more than 10 years of experience dominated at 45%, followed by those with more than 5 years of experience at 31%, and those with less than 5 years of experience at 24%.

The distribution of respondents by age shows that the majority of respondents are in the 21-27 year age range, with 35 respondents (35%). Meanwhile, respondents aged 35-40 years have the smallest number, with 12 respondents (12%). These results indicate that this study is dominated by relatively young respondents, who may have different characteristics and needs in using handphone products. The 21-27 year age range may be the most active group in using technology and handphone products, so this study can provide a more accurate picture of the preferences and behavior of this group.

The distribution of respondents by occupation shows that the majority of respondents are students, with 40 respondents (40%). Meanwhile, respondents with an occupation as entrepreneurs have the smallest number, with 18 respondents (18%). These results indicate that this study is dominated by respondents who are still students, who may have different needs and preferences in using handphone products. The dominance of students in this study may be due to factors such as age and status as active learners.

Validity Test

Table 2. Validity Test (Innovation)

Question Items	Calculated R	Table R	Status
X1.1	0.904	0.281	Valid
X1.2	0.731	0.281	Valid
X1.3	0.808	0.281	Valid
X1.4	0.813	0.281	Valid
X1.5	0.589	0.281	Valid
X1.6	0.842	0.281	Valid
X1.7	0.831	0.281	Valid
X1.8	0.697	0.281	Valid
X1.9	0.53	0.281	Valid
X1.10	0.665	0.281	Valid

Source: SPSS 25 output primary data, 2025

Table 3. Validity Test (Technology Advancement)

Question Items	Calculated R	Table R	Status
X2.1	0.291	0.281	Valid
X2.2	0.276	0.281	Valid
X2.3	0.248	0.281	Valid
X2.4	0.284	0.281	Valid
X2.5	0.311	0.281	Valid
X2.6	0.392	0.281	Valid
X2.7	0.341	0.281	Valid
X2.8	0.529	0.281	Valid
X2.9	0.433	0.281	Valid
X2.10	0.286	0.281	Valid

Source: SPSS 25 output primary data, 2025

Table 4. Validity Test (Product Sales)

Question Items	Calculated R	Table R	Status
Y1	0.459	0.281	Valid
Y2	0.740	0.281	Valid
Y3	0.642	0.281	Valid
Y4	0.782	0.281	Valid
Y5	0.702	0.281	Valid
Y6	0.336	0.281	Valid
Y7	0.324	0.281	Valid
Y8	0.315	0.281	Valid
Y9	0.388	0.281	Valid
Y10	0.842	0.281	Valid

Source: SPSS 25 output primary data, 2025

Based on the validity test table of variables X1, X2, and Y above, it shows that the value of the calculated relation coefficient r is greater than the r table, so it can be concluded that the value of all statement items is valid.

Reliability Test

Table 5. Reliability Test

Variabel	*Cronbach alfa*	Keterangan
Innovation	0.892	Reliabel
Technological Advancement	0.664	Reliabel
Product Sales	0.851	Reliabel

Source: SPSS 25 output primary data, 2025

Based on the reliability test table above, it shows that the value of each variable is greater than the Cronbach's alpha value > 0.60. So, it can be concluded that all variables are reliable.

Table 6. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		100
Normal Parameters[a,b]	Mean	0.0000000
	Std. Deviation	1.47312939
Most Extreme Differences	Absolute	0.154
	Positive	0.105
	Negative	-0.154
Test Statistic		0.153
Asymp. Sig. (2-tailed)		.201[c,d]

Source: SPSS 25 output primary data, 2025

Based on the table, the results of the one-sample Kolmogorov-Smirnov test show that the residual value of the dependent and independent variables with a sample size of 100 is 0.201, which means that the data is normally distributed because the value is greater than the alpha value of 0.05 (0.201 > 0.05). Therefore, the conclusion is that the data is normally distributed in the regression model, so it can be used for hypothesis testing.

Table. 7 Multicollinearity Test

Variabel	*Collinearity Statistics*			
	Tolerance	Cut Off	VIF	Cut Off
Innovation	0.923	≥ 0.10	1.05	≤ 10

Technological Advancement	0.923	≥ 0.10	1.05	≤ 10

Source: SPSS 25 output primary data, 2025

Based on the table, it can be explained that the Tolerance value of all independent variables is ≥ 0.10, and the VIF value of all independent variables is ≤ 10, so it can be concluded that there is no correlation between the independent variables, indicating no multicollinearity issue.

Table 8. Heteroskedasticity Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.243	1.765		-1.837	0.071
	Innovation	0.067	0.038	0.229	1.770	0.095
	Technological Advancement	0.040	0.034	0.154	1.165	0.541

Source: SPSS 25 output primary data, 2025

The heteroscedasticity test used in this study is the Glejser test. Based on the table shows that the innovation variable has a t-value of 1.770 with a significance level of 0.095, and the technological advancement variable has a t-value of 1.165 with a significance level of 0.541. Since the significance levels are greater than 0.05, it can be concluded that there is no heteroscedasticity in this regression model, making the regression model suitable for use

Partial Test (t)

In this study, three variables were used, namely 2 independent variables and one dependent variable, to obtain the t table value using a probability of 5% or 0.05 using the formula:

df = n-k
df = 100–3 = 97
where: n = number of samples
k = number of variables

So that the determination of the t table value can be seen in the table test table with a probability of 0.05 listed in column 3 with df 97 showing a t table value of 1,66

Table 9. Partial Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.670	2.494		11.095	0.000
	Innovation	0.587	0.054	0.847	10.920	0.000
	Technological Advancement	0.329	0.048	0.410	8.703	0.001

Source: SPSS 25 output primary data, 2025

Based on the table, it can be concluded that:

1. Innovation (X1)

Obtained a calculated t value of 10.920> t table 1.660 and a significance value of 0.000 <0.05, so it can be concluded that Innovation has a positive and significant influence on the decision to purchase Wasila Cosmetics beauty products.

2. Technological Advancement (X2)

Obtained a calculated t value of 8.703> t table 1.660 and a significance value of 0.001 <0.05, so it can be concluded that technological advances have a positive and significant influence on the decision to purchase Wasila Cosmetics beauty products.

Simultaneous Test (F)

This study uses three variables, namely 2 independent variables and one dependent variable, and then based on the formula obtained:

df1 = 3-1 = 2
df 2 = 100-3 = 97

So that the determination of the f table value can be seen in the f table test table with a probability of 0.05 listed in column 2, with df 97 showing an f table value of 2.69. The following is a simultaneous test table:

Table 10. Simultaneous Test (F)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	267.897	2	133.948	59.632	.000[b]
	Residual	128.037	57	2.246		

	Total	395.933	59			

Source: SPSS 25 output primary data, 2025

Based on the table shows that the F count value is 59.632 with a significance level of 0.000. because the significance level is smaller than 0.05 and the F count is greater than the F table, which is 2.69. So it can be said that innovation and technological progress have a joint influence on the sale of mobile phone products at the Sikapaiya Majene store.

Coefficient of Determination R^2

Here is the R2 determination coefficient test table: The determination coefficient aims to determine how much the independent variable is able to explain the dependent variable. The results of the determination coefficient test can be seen in the following table:

Table 11. Coefficient of Determination R^2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823[a]	0.677	0.665	1.499

a. Predictors: (Constant), Innovation, Technological Advancement

Source: SPSS 25 output primary data, 2025

DISCUSSION

The Influence of Innovation on Handphone Sales at Sikapaiya Store

This study found that innovation has a significant impact on handphone sales in Sikapaiya Majene, which is consistent with previous research by Fontana (2021) and theories proposed by Kanagal (2020) and Mas'ud (2022). The results show that product innovation can improve product quality, add new features, and enhance user experience, ultimately increasing sales. In practical terms, this study demonstrates that businesses like Sikapaiya Majene Store can boost handphone sales by introducing new features and improving product quality. For example, by prioritizing product innovation, Sikapaiya Majene Store can increase brand awareness and customer loyalty, leading to long-term sales growth. Practical studies have shown that product innovation can be an effective marketing strategy for handphone businesses in Sikapaiya Majene. The practical implications of this research are that handphone businesses in Sikapaiya Majene need to prioritize product innovation in their marketing strategy to increase sales and enhance brand awareness, and customer loyalty. To implement this, Sikapaiya Majene Store can apply several product innovation strategies, such as developing new features that enhance user experience, improving product quality to

increase customer satisfaction, and utilizing the latest technology to increase production efficiency and effectiveness. By doing so, this study not only contributes to marketing theory and business management but also provides practical implications that can be applied in the handphone business in Sikapaiya Majene.

The Influence of Technological Advancements on Handphone Sales

This study found that technological advancements have a significant influence on handphone sales at Sikapaiya Majene Store, which is in line with previous research by Dimitri (2022) and theories proposed by Sutpraja (2021) and Feriyansyah & Venanza (2021). The results show that technological advancements can increase consumer satisfaction, enhance customer loyalty, and ultimately increase handphone sales. In practical terms, this study demonstrates that businesses like Sikapaiya Majene Store can boost handphone sales by leveraging the latest technological advancements. For instance, by incorporating advanced features and technologies into their products, handphone manufacturers can differentiate themselves from competitors and maintain a competitive advantage. Practical studies have shown that technological advancements can be a key driver of sales growth in the handphone industry. The practical implications of this research are that handphone businesses in Sikapaiya Majene need to prioritize technological advancements in their marketing strategy to increase sales and stay ahead of the competition. To implement this, Sikapaiya Majene Store can apply several strategies, such as investing in research and development to stay up-to-date with the latest technologies, collaborating with technology providers to access innovations, and training their sales staff to effectively communicate the benefits of technological advancements to customers. By doing so, this study not only contributes to marketing theory and business management but also provides practical implications that can be applied in the handphone business in Sikapaiya Majene.

Innovation and Technological Advancements in Handphone Sales

This study shows that innovation and technological advancements collectively have a significant influence on handphone sales at Sikapaiya Majene Store. This result is in line with theories proposed by Wilujeng (2020) and Rahmawati & Hartono (2022), which state that innovation and technological advancements can increase product sales by creating more sophisticated, efficient, and attractive products for consumers. In practical terms, this study demonstrates that handphone manufacturers can leverage innovation and technological advancements to improve product quality, add new features, increase efficiency, and expand market reach. For instance, by developing more advanced cameras, faster processors, and longer-lasting

batteries, handphone manufacturers can increase consumer satisfaction and enhance customer loyalty, ultimately driving sales growth. The practical implications of this research are that handphone businesses in Sikapaiya Majene need to prioritize innovation and technological advancements in their product development and marketing strategies to stay competitive and increase sales. To implement this, handphone companies can invest in research and development to stay up-to-date with the latest technologies, collaborate with technology providers to access innovations, and develop effective marketing strategies that highlight the benefits of innovation and technological advancements. Additionally, the government can support the development of the handphone industry by investing in technological infrastructure and providing incentives for innovation. By doing so, this study not only contributes to marketing theory and business management but also provides practical implications that can be applied in the handphone business in Sikapaiya Majene.

CONCLUSION

This study shows that innovation and technological advancements have a significant impact on handphone sales at Sikapaiya Majene. Innovation and technological advancements can improve product quality, add new features, and enhance user experience, ultimately increasing sales. Additionally, innovation and technological advancements can also help handphone businesses increase brand awareness and customer loyalty, as well as reduce production costs and improve efficiency. The practical implication of this study is that handphone businesses in Sikapaiya Majene need to prioritize innovation and technological advancements in their marketing strategy to increase sales and maintain a competitive advantage. Thus, this study contributes to marketing theory and business management, and provides practical implications that can be applied in the handphone business in Sikapaiya Majene to increase sales and business success.

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