The Impact of Product and Pricing on X Smartphone Company Marketing Strategy: A Case Study of Nanning, Guangxi, China

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Abstract. This study examines the impact of product and pricing strategies on X smartphone company's marketing strategy in Nanning, Guangxi, China. It analyzes the company's core, formal, expected, additional, and potential products, along with cost-based, competitive, and customer-oriented pricing, to understand their influence on marketing strategy. Using a quantitative method, the research collected 406 valid questionnaires to explore the relationship between these factors and the company's marketing approach. The results reveal that core products and customer-oriented pricing have the most significant impact on the marketing strategy, while cost-based and competitive pricing also play crucial roles in market positioning and brand perception. This study offers insights into how product and pricing strategies shape a company's marketing strategy in a dynamic market environment like Nanning, Guangxi, China.

Keywords: Product Strategy, Pricing Strategy, Marketing Strategy.

1   Introduction

X Smartphone Company's product strategy centers on high-performance, affordable smartphones, which has quickly garnered market share among budget-conscious customers (Huangfeifei et al., 2023)[8]. The company has also broadened its range to include smart home and wearable technology, improving market competitiveness and brand reach (Gu, 2022; Haini et al., 2023)[4][9].

In terms of pricing strategy, Company X has adopted a highly competitive pricing strategy that initially helped it quickly capture market share and establish a solid user base for its long-term development (Gao, 2023)[5]. However, in the context of an increasingly saturated smartphone market and intensifying competition (Wang et al., 2023, Huo, 2023, Yang et al., 2023)[13][6][14], Company X faces many challenges, including how to maintain product innovation, enhance brand value, and further expand its influence in international markets.

The rise of X smartphone company, especially in such a highly competitive market environment, demonstrates the effectiveness of its unique product and pricing strategies (Liang et al., 2023, Muangmee et al., 2023, Daxing, et al., 2024)[11][12][2]. X smartphone company has achieved significant success not only in the domestic market in China but also in international markets, particularly in emerging markets such as India (Huo, 2023, Yan et al., 2024)[6][15].

X smartphone company success not only highlights its strategic foresight but also reflects the overall strength and international competitiveness of Chinese smartphone brands.

2   Research Objective (s)

(1). To study whether various aspects of the product (core products, formal products, expected products, additional products, and potential products) have a positive impact on the marketing strategy of X Smartphone Company.

(2). To study whether different pricing strategies (cost-based pricing, competitive pricing, and customer-oriented pricing) have a positive impact on the marketing strategy of X Smartphone Company.

3   Research Hypotheses

H1: Product has a positive impact on X Smartphone Company's marketing strategy.

H1a: The core product positively influences X Smartphone Company's marketing strategy.

H1b: The formal product positively influences X Smartphone Company's marketing strategy.

H1c: The expected product positively influences X Smartphone Company's marketing strategy.

H1d: The additional products positively influence X Smartphone Company's marketing strategy.

H1e: The potential product positively influences X Smartphone Company's marketing strategy.

H2: Pricing positively impacts X Smartphone Company's marketing strategy.

H2a: Cost-based pricing positively impacts X Smartphone Company's marketing strategy.

H2b: Competitive pricing positively impacts X Smartphone Company's marketing strategy.

H2c: Customer-oriented pricing positively impacts X Smartphone Company's marketing strategy.

4   Scope of the Research

Scope of Content: The impact of product and pricing on x smartphone company's marketing strategy: A case study of nanning, guangxi, china including the following variables:

Independent variables: Independent variables are the variables that influence the dependent variable. They are Product (core product, formal product, expected product, additional product, potential product) and Pricing (cost-based pricing, competitive pricing, customer-oriented pricing).

Dependent Variable: X Smartphone Company's marketing strategy.

Scope of Population: This article studies the impact of product strategy and pricing strategy on X smartphone company marketing strategy: taking Nanning, Guangxi, China as an example. At the end of 2023, Nanning City's permanent population was 8.8917 million. According to relevant theoretical formulas, person X should be selected as the subject of investigation.

Scope of area: The study focuses on subjects located in Nanning, a city in Guangxi, China.

Scope of Time: September 2023 to January 2024.

5   Research Methodology

In order to fully investigate the reality that affects the marketing strategy of X smartphone company, this chapter selects Nanning City, Guangxi, China as the research scope, and mobile phone users in Nanning City as the research object. Through a questionnaire survey, the product strategy, price strategy and marketing strategy of X smartphone company are analyzed. Study the current situation.

The population and the Sample

The Population: This study utilized a questionnaire survey method and, relying on quantitative data, targeted the population of Nanning City, Guangxi, which amounts to 8,850,000 residents. These residents were defined as the total population for this study (according to data from the Nanning Municipal People's Government website, 2023)

The Sample: The study applies the Taro-Yamane formula to determine the sample size using the formula $n = N / (1 + Ne^2)$, where 'n' is the sample size, 'N' is the total population, and 'e' is the margin of error, set at 5%. This yields a sample size of approximately 400 from a population of 8,850,000. The chosen sampling method is stratified random sampling within the framework of probability sampling.

Research Instruments

This study integrates both quantitative and qualitative research methods. Data were gathered through the use of questionnaires. The creation of the questionnaire involved the following steps:

1. Collection of data by analyzing printed sources such as books, articles, and newspaper reviews.

2. The topics and scope of questions will be defined to ensure alignment with the research objectives and the anticipated benefits. This structured approach is detailed in Table 1.

Table 1. The structure of the questionnaire on "The Impact of Product and Pricing on X Smartphone Company Marketing Strategy: A Case Study of Nanning, Guangxi, China"

Variable	Number of verses	Clause	Data	Measurement
Part 1				
Basic information	5	1-5		
Part 2				

Core Products	3	6-8	Likert Scale	5 opinion levels
Formal Product	3	9-11	Likert Scale	5 opinion levels
Expected Product	3	12-14	Likert Scale	5 opinion levels
Additional Products	3	15-17	Likert Scale	5 opinion levels
Potential Products	3	18-20	Likert Scale	5 opinion levels
Cost-based Pricing	3	21-23	Likert Scale	5 opinion levels
Competitive Pricing	3	24-26	Likert Scale	5 opinion levels
Customer-Oriented Pricing	3	27-29	Likert Scale	5 opinion levels
X smartphone company's marketing strategy	6	30-35	Likert Scale	5 opinion levels

3. To ensure content validity, the completed questionnaire was reviewed by experts in business research specializing in measurement and evaluation. These experts assessed the questionnaire for content coverage, language accuracy, and alignment with the research objectives. The list of content validators can be found in Appendix A. The researcher employed the IOC index (item objective congruence) using the following scoring criteria:

+1 indicates confidence that the questions align with the research objective.

0 indicates uncertainty about the alignment of the questions with the research objective.

-1 indicates confidence that the questions do not align with the research objective.

The criterion for selecting question items requires an IOC index value greater than 0.6 (IOC>0.6) (Pukkaew, 2015). Thus, questions meeting this criterion are considered consistent with the intended measurement, as detailed in Table 2.

Table 2. IOC content validity examiner (item objective congruence)

Experts	Experts Qualification	Number (person)
Experts in the field of business administration	Academic or related institutions in business administration	1
Measurement and assessment by statistical experts	Independent scholars or university professors with strong reputations in statistics, measurement and research methods.	1
Experts in the field of marketing strategy	Academic/management participation in marketing strategy studies	1
Total		3

4. The researcher presents the edited draft questionnaire, reviewed by a qualified expert, to advisors for a final review of its completeness. The questionnaire is then tested (try-out) with a group of 30 individuals similar to the intended study sample. Following this trial, the reliability of the questionnaire is assessed using Cronbach's alpha coefficient.

5. The researcher incorporates feedback from the trial to finalize the questionnaire, which is then printed and used for data collection in the research.

Scoring criteria

The questionnaire uses a 5-point Likert scale to measure responses, with the following meanings:

1.Score level 5: Highest level of agreement

2.Score level 4: High level of agreement

3.Score level 3: Medium level of agreement

4.Score level 2: Low level of agreement

5.Score level 1: Least level of agreement

The criteria for interpreting the average scores of the observed variables are divided into 5 levels as follows:

1.Average score 4.50 – 5.00: Highest level

2.Average score 3.50 – 4.49: High level

3.Average score 2.50 – 3.49: Medium level

4.Average score 1.50 – 2.49: Low level

5.Average score 1.00 – 1.49: Lowest level

The reasons for setting such rules are as follows:

1. Arithmetic Mean Range: The calculated arithmetic mean can be any value within the range of 1 to 5, such as 1.75, 4.50, or 5.00.

2. Continuous Score Levels: The score levels 1-5 are continuous values represented on a straight line. Each period is separated by 1 unit, forming a continuous scoring range.

3. Criterion Adjustment: Based on the actual data collected, the minimum value is 1 and the maximum is 5. Therefore, the criteria are adjusted to use 1.00 – 1.50 instead of 0.50 – 1.50, and 4.50 – 5.00 instead of 4.50 – 5.50.

4. Interpretation of Arithmetic Mean: When the calculated arithmetic mean (X) corresponds to the interval between levels, the interpretation is at the higher level of opinion. For example, an arithmetic mean of 4.50 indicates the highest level of opinion on that matter.

Determining the quality of research tools

To ensure the quality of the research tools, the researcher conducted tests for both validity and reliability of the created questionnaire as follows:

1. Determination of Validity:

The researcher checked the content validity of each item to ensure it meets the study's objectives.

This was done by consulting with three subject matter specialists who examined the clarity of language, wording, and content accuracy.

The consistency of the questions in the questionnaire with the study's objectives was assessed using the Index of Item-Objective Congruence (IOC) with the following scoring criteria:

+1: When the expert is certain that the question is consistent with the content.

0: When the expert is unsure whether the question is consistent with the content.

-1: When the expert is certain that the question is inconsistent with the content.

follow formula:

$$IOC = \frac{\sum R}{N}$$

IOC Instead, it evaluates the alignment between queries and research objectives.

$\sum R$ Instead, it aggregates the viewpoints of specialists or professionals.

N   Instead, it considers the quantity of specialists or professionals.

In order to establish consistency between the questionnaires and the research objectives, the Index of Conformity (IOC) value should surpass 0.6. Achieving this threshold indicates that the questionnaire's content accuracy is within acceptable standards and is appropriate for subsequent data collection.

2. Determination of reliability

The questionnaire, which had been verified by the advisory committee and subject matter experts, was revised based on their feedback.

The revised questionnaire was then tested with 30 participants who had similar characteristics to the sample group to be studied. This was done before using the questionnaire with the actual sample group.

Reliability was assessed using the Cronbach's Alpha coefficient method (Cronbach, 1990). Typically, a Cronbach's Alpha coefficient exceeding 0.7 is deemed acceptable, and a coefficient over 0.8 signifies a high level of reliability.

The results of the reliability analysis are summarized in Table 3.

Table 3. Questionnaire Cronbach'α

Variable Items	Sample size	N of Items	Cronbach'α
Core Products	30	3	0.894
Formal Product	30	3	0.895
Expected Products	30	3	0.894
Additional products	30	3	0.888
Potential Products	30	3	0.890
Cost-Based Pricing	30	3	0.896
Competitive Pricing	30	3	0.891
Customer-Oriented Pricing	30	3	0.892
X Smartphone Company Marketing Strategy	30	6	0.942
Total	30	24	0.898

From Table 3, the overall Cronbach's alpha for the questionnaire is 0.898. The Cronbach's alpha for Core Products is 0.894. The Cronbach's alpha for Formal Product is 0.895. The Cronbach's alpha for Expected Products is 0.894. The Cronbach's alpha for Additional products is 0.888. The Cronbach's alpha for Potential Products is 0.890. The Cronbach's alpha for Cost-Based Pricing is 0.896. The Cronbach's alpha for Competitive Pricing is 0.891. The Cronbach's alpha for Customer-oriented Pricing is 0.892. The Cronbach's alpha for X smartphone company marketing strategy is 0. 942. Since all the confidence values for the individual factors and the overall questionnaire exceed 0.8, it can be concluded that the questionnaire is reliable and suitable for collecting actual data, meeting the acceptance criteria.

6   Result

The regression coefficient analysis results clearly indicate the impact of Product and Pricing on the marketing strategy of X Smartphone Company (XSCMS), as shown in Table 4.

Table 4. The impact of product and pricing on the marketing strategy of X Smartphone Company (XSCMS).

Model Product, Pricing	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	VIF
	B	Std. Error				
(constant)	0.363	0.159		2.331	0.020	
Product	0.555	0.063	0.199	8.805	0.000	2.073
Pricing	0.337	0.058	0.202	5.862	0.000	1.594
R				0.704[a]		
R^2				0.495		
Adjusted R^2				0.492		

In the provided regression analysis table, the effects of the Product and Pricng on the marketing strategy of a smartphone company (XSCMS) are quantified.

The constant term is significant with a B coefficient of 0.363 and a standard error of 0.159, yielding a t-value of 2.331 (p = 0.020).

The Product variable shows a positive impact on XSCMS with a B coefficient of 0.555, a standard error of 0.063, and a standardized Beta of 0.199, which is statistically significant (p < 0.001) and has a VIF of 2.073, indicating a moderate level of multicollinearity.

The Pricing also demonstrates a significant positive effect with a B coefficient of 0.337, a standard error of 0.058, a standardized Beta of 0.202, and a t-value of 5.862 (p < 0.001), with a VIF of 1.594 suggesting moderate multicollinearity.

The model's R is 0.704, indicating a strong correlation between the predictors and the dependent variable. The R-squared value is 0.495, and the adjusted R-squared is 0.492. With an F-value of 197.462, the model's overall significance is established. This analysis implies that both Product and Pricing positively contribute to the marketing strategy of XSCMS.

This article examines the effects of products (core, formal, expected, additional, potential) and pricing strategies (cost-based, competitive, customer-oriented) on X Smartphone Company's marketing in Nanning City, Guangxi. It uses rational analysis to confirm the validity of hypotheses H1a-e and H2a-c, as detailed in Table 5.

Table 5. Summary table of study hypothesis validation results

Number	research hypothesis	conclusion
H1	H1: Product has a positive impact on X Smartphone Company's marketing strategy.	Accepted
H1a	H1a: The core product positively influences X Smartphone Company's marketing strategy.	Accepted
H1b	H1b: The formal product positively influences X Smartphone Company's marketing strategy.	Accepted
H1c	H1c: The expected product positively influences X Smartphone Company's marketing strategy.	Accepted
H1d	H1d: The additional products positively influence X Smartphone Company's marketing strategy.	Accepted
H1e	H1e: The potential product positively influences X Smartphone Company's marketing strategy.	Accepted
H2	H2: Pricing positively impacts X Smartphone Company's marketing strategy.	Accepted
H2a	H2a: Cost-based pricing positively impacts X Smartphone Company's marketing strategy.	Accepted
H2b	H2b: Competitive pricing positively impacts X Smartphone Company's marketing strategy.	Accepted
H2c	H2c: Customer-oriented pricing positively impacts X Smartphone Company's marketing strategy.	Accepted

data source: based on the rational analysis

7 Conclusion and Discussion

7.1 Conclusion

The product strategy positively influences the marketing strategy of the X smartphone company.

The core product positively influences the marketing strategy of the X smartphone company.

The formal product exerts a positive impact on the marketing strategy of the X smartphone company.

The expected product enhances the marketing strategy of the X smartphone company.

The additional products contribute positively to the marketing strategy of the X smartphone company.

The potential product benefits the marketing strategy of the X smartphone company.

The pricing strategy positively affects the marketing strategy of the X smartphone company.

Cost-based pricing positively influences the marketing strategy of the X smartphone company.

Competitive pricing has a positive impact on the marketing strategy of the X smartphone company.

Customer-oriented pricing enhances the marketing strategy of the X smartphone company.

7.2 Discussion

X Smartphone Company's product strategy focuses on technological innovation and cost-effectiveness, enhancing its marketing effectiveness and competitiveness. By emphasizing product performance and a diverse product line, the company attracts various consumers, increasing market coverage and brand loyalty. Product strategy is crucial for business success and marketing implementation, aligning with the 4Ps model Derived (1960). Hadi (2021)[7] and Jiang et al. (2019)[10] highlight its core role in marketing, affecting promotion, market demand fulfillment, and long-term growth. An effective product strategy requires a deep understanding of market trends, customer needs, and the ability to adapt to market changes.

Research findings indicate a positive impact of pricing strategies on X Smartphone Company's marketing strategies., crucially influencing its market position and appealing to cost-aware consumers, thus enhancing its reputation for quality at affordable prices. Such strategies impact sales and market share, providing a competitive advantage (Ali and Anwar, 2021)[1]. Tailoring prices for different customer segments, such as offering student discounts, maximizes profits across diverse groups (Faiz Zainal Abidin et al., 2023)[3].

In summary, X Smartphone Company's pricing strategy is vital for its market competitiveness and overall marketing success. By using effective pricing strategies, the company can better position itself, attract target consumers, and maintain an edge in a competitive market.

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