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Analysis of the impact of price, promotion, and service quality on Starbucks sales

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ABSTRACT

This study aims to analyze the effect of price, promotion, and service quality on sales performance at Starbucks. A quantitative research approach was employed using primary data collected through structured questionnaires distributed to 40 respondents. The data were analyzed using statistical methods, including validity and reliability testing, normality and homogeneity tests, and hypothesis testing through Analysis of Variance (ANOVA). The results of the validity test indicate that all measurement items for price, promotion, and service quality are valid, with correlation values exceeding the critical threshold. Reliability testing using Cronbach's Alpha shows that all variables are reliable, with values above 0.7. Furthermore, the normality test confirms that the data are normally distributed, while the homogeneity test indicates that the variance among groups is equal, satisfying the assumptions required for ANOVA. The findings from the ANOVA analysis reveal that there is no significant difference in sales performance resulting from variations in price, promotion, and service quality. This suggests that changes in these variables do not significantly influence Starbucks sales within the observed sample. The results imply that factors such as brand strength, customer loyalty, and perceived value may play a more dominant role in determining purchasing behavior. In conclusion, Starbucks sales performance appears to be relatively stable and not highly sensitive to changes in price, promotion, and service quality. Therefore, maintaining consistency in these variables may be more effective than implementing frequent adjustments that could increase operational costs without significantly improving sales outcomes.

Keywords: price; promotion; service quality; sales performance; customer behavior; anova; marketing strategy

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1. INTRODUCTION

Starbucks Corporation is a multinational coffeehouse chain originating from Seattle, United States, which has expanded globally since its initial public offering in 1992. The company has demonstrated significant growth, operating more than 30,000 stores across over 70 countries and generating substantial annual revenue despite global economic challenges such as the COVID-19 pandemic. This global success indicates Starbucks' ability to maintain competitiveness through effective marketing strategies, including pricing, promotion, and service quality. As a premium coffee brand, Starbucks has positioned itself not only as a beverage provider but also as a lifestyle experience, emphasizing customer engagement and brand identity.

Service quality plays a crucial role in shaping customer perceptions and satisfaction. It can be defined as activities performed by individuals or organizations to fulfill customer needs and expectations (Definisi Pengertian Pelayanan, 2015). High-quality service enhances customer experience, builds brand image, and encourages repeat purchases. Prior research highlights that service quality is strongly associated with customer satisfaction and behavioral outcomes, including purchase intention and loyalty (Bolton & Lemon, 1999). Therefore, companies must ensure efficient and responsive service delivery to maintain competitiveness in the service industry.

Price is another key factor influencing consumer decision-making. It represents the monetary value assigned to a product or service and is influenced by production costs, competition, brand positioning, and profit objectives (Kompas.com, 2020; Kotler, 2005). In many cases, consumers tend to compare prices among similar products and choose those offering the best perceived value. Empirical studies suggest that price perception significantly affects customer satisfaction and purchasing behavior, particularly when aligned with product quality and expectations (Voss et al., 1998). In a premium brand context such as Starbucks, pricing strategy must balance perceived value and brand positioning.

Promotion is an essential marketing activity aimed at increasing awareness and stimulating consumer demand. It involves communication strategies designed to inform, persuade, and remind customers about products or services (Setiawan, 2021). Effective promotional activities can significantly enhance sales performance, especially when combined with strong branding strategies. Research indicates that promotional effectiveness plays a vital role in influencing consumer behavior and market response (Tellis, 2006; Hanssens et al., 2001). Starbucks, for example, utilizes seasonal campaigns and strategic marketing efforts to create anticipation and drive customer engagement.

The integration of price, promotion, and service quality forms a critical component of marketing strategy that influences sales performance. Previous studies have shown that customer satisfaction, driven by these factors, contributes to increased sales, market share, and profitability (Anderson et al., 1994). However, the relative impact of each variable may vary depending on the industry context and consumer characteristics.

Based on these considerations, this study focuses on analyzing the effect of promotion, price, and service quality on sales performance at Starbucks. Understanding these relationships is essential for identifying effective strategies to enhance competitiveness and sustain business growth.

1.1. Research Problem

This study seeks to examine whether there are differences in Starbucks sales performance resulting from changes in promotion, price, and service quality. Specifically, it investigates the extent to which these variables influence consumer purchasing decisions and overall sales outcomes.

1.2. Research Objective

The objective of this study is to analyze the impact of promotion, price, and service quality on Starbucks sales performance and to determine whether changes in these variables lead to significant differences in sales levels.

1.3. Research Significance

This study provides both theoretical and practical contributions. Theoretically, it contributes to the development of marketing literature by integrating promotion, price, and service quality in explaining sales performance. Practically, it offers insights for businesses, particularly in the food and beverage industry, in designing effective marketing strategies to improve sales outcomes.

2. LITERATURE REVIEW

2.1. Service Quality

Service quality is a fundamental concept in marketing and service management that reflects how well a company meets or exceeds customer expectations. In highly competitive industries, particularly in the food and beverage sector, service quality has become a key differentiating factor that determines customer satisfaction, loyalty, and ultimately sales performance. According to [Tjiptono \(2007\)](#), service quality refers to the effort to fulfill customer needs and desires, as well as the accuracy of delivery in matching customer expectations. This definition highlights that service quality is not solely determined by what is delivered but also by how well it aligns with what customers anticipate receiving.

The concept of service quality is closely related to the gap between expected service and perceived service. Customers typically form expectations before consuming a service, influenced by past experiences, word-of-mouth communication, and marketing activities. When the perceived service meets or exceeds expectations, customers tend to feel satisfied. Conversely, if the service falls below expectations, dissatisfaction occurs. This expectation–perception framework is widely recognized in service marketing literature and serves as a foundation for measuring service quality. In practical terms, this means that companies must consistently monitor customer expectations and adjust their service delivery processes accordingly.

In the context of modern business practices, service quality extends beyond basic transaction fulfillment. It includes the overall customer experience, starting from the initial interaction with the brand to post-purchase services. For instance, in digital platforms such as e-commerce, customer service plays a crucial role in assisting customers throughout their purchasing journey. A responsive and effective customer service team can resolve issues quickly, thereby enhancing customer satisfaction and trust. Similarly, in physical service settings such as Starbucks, service quality involves not only product delivery but also ambiance, employee attitude, and interaction quality.

Empirical research has consistently demonstrated that service quality has a strong influence on customer satisfaction and behavioral outcomes. [Bolton and Lemon \(1999\)](#) found that service usage and satisfaction are dynamically related, where positive service experiences reinforce customer engagement and future consumption behavior. Furthermore, [Anderson et al. \(1994\)](#) showed that higher levels of customer satisfaction, driven by service quality, lead to increased market share and profitability. These findings suggest that service quality is not only a customer-centric concept but also a strategic factor that directly impacts organizational performance.

Another important implication of service quality is its role in building customer loyalty. Customers who perceive high service quality are more likely to develop emotional attachment to a brand, resulting in repeat purchases and positive word-of-mouth communication. This relationship

between service quality and loyalty is particularly important in competitive markets where customers have numerous alternatives. When a company consistently delivers superior service, it creates a sustainable competitive advantage that is difficult for competitors to replicate.

In addition to its impact on satisfaction and loyalty, service quality also contributes to the overall brand image. A company known for excellent service quality is more likely to attract new customers and retain existing ones. This is particularly relevant for premium brands such as Starbucks, where customers are willing to pay higher prices in exchange for superior service and experience. In such cases, service quality becomes a justification for premium pricing strategies, reinforcing the perceived value of the brand.

The dimensions of service quality provide a more detailed understanding of how service performance can be evaluated and improved. According to Garvin, as cited in [Tjiptono \(2004\)](#), service quality can be analyzed through several key dimensions that reflect different aspects of service delivery. These dimensions include performance, additional service, reliability, conformance to standards, and serviceability. Each dimension represents a specific component of service quality that contributes to the overall customer experience.

Recent studies in marketing have emphasized the importance of aligning service quality with customer expectations to enhance competitive advantage. [Voss et al. \(1998\)](#) highlight that customer satisfaction is influenced by the interplay between price, performance, and expectations, suggesting that service quality cannot be evaluated in isolation. Instead, it must be considered as part of a broader value proposition that includes both functional and emotional benefits.

In conclusion, service quality is a multidimensional construct that plays a vital role in shaping customer satisfaction, loyalty, and sales performance. It encompasses various aspects of service delivery, including performance, reliability, responsiveness, and adherence to standards. Companies that prioritize service quality are more likely to achieve sustainable competitive advantage and long-term success. In the context of this study, service quality is expected to have a significant impact on sales performance, particularly when combined with effective pricing and promotional strategies.

2.2. Promotion

Promotion refers to a form of communication used by companies to influence consumers' purchasing decisions by delivering information about products, services, and brands. It plays a critical role in marketing activities, particularly in shaping consumer awareness and perception. Promotion involves identifying target audiences and determining the most effective way to convey messages that can attract attention, generate interest, and ultimately encourage purchase behavior. As part of the marketing mix, promotion is one of the four key elements alongside product, price, and place, commonly known as the 4Ps ([Yusuf, 2020](#)).

In practice, promotional activities can take various forms, including advertising, direct promotion, sales promotion, personal selling, public relations, and online promotion. Each form serves a specific purpose in communicating with consumers. Advertising is typically used to create awareness and introduce new products to the market. Direct promotion involves personalized communication through channels such as email, digital platforms, and direct messaging. Sales promotion focuses on short-term incentives designed to increase sales volume, while personal selling allows companies to build direct relationships with customers and respond to their needs more effectively. Public relations aim to maintain a positive corporate image, and online promotion integrates multiple promotional tools in digital platforms, making it highly relevant in modern marketing environments.

The effectiveness of promotion lies in its ability to influence consumer perception and behavior. Effective promotional strategies not only increase brand awareness but also enhance

customer loyalty and encourage repeat purchases. Research suggests that promotional effectiveness significantly impacts market response and consumer decision-making (Tellis, 2006; Hanssens et al., 2001). Furthermore, promotion plays a strategic role in building brand equity by creating a strong and consistent brand image in the minds of consumers.

Promotion also provides several benefits to organizations, including strengthening customer loyalty, serving as a communication medium, maintaining competitiveness, encouraging trial and repeat purchases, and building brand awareness. By delivering consistent and persuasive messages, companies can establish long-term relationships with customers and sustain their market position. In highly competitive industries, promotion becomes an essential tool not only for attracting new customers but also for retaining existing ones.

2.3. Price

Price is defined as the amount of money that consumers must pay to obtain a product or service. It represents the value exchange between buyers and sellers and serves as a critical element in marketing strategy. Price not only determines revenue generation but also influences consumer perception of product quality and brand positioning. In many cases, price acts as a signal of value, where higher prices are often associated with higher quality, especially in premium brands.

The determination of price is influenced by several factors, including production costs, competitor pricing, market demand, and organizational objectives. Price plays a crucial role in defining market segments and target customers, as it determines whether a product is positioned as premium, mid-range, or low-cost. According to Kotler (2005), pricing objectives may include maximizing profit, increasing market share, ensuring business sustainability, and achieving competitive advantage.

Various pricing strategies can be applied depending on organizational goals and market conditions. Common methods include cost-plus pricing, markup pricing, break-even pricing, competitor-based pricing, and demand-based pricing (Priharto, 2020). Cost-plus pricing involves adding a margin to production costs, while markup pricing increases the selling price by a certain percentage. Break-even pricing focuses on covering total costs, whereas competitor-based pricing considers competitor prices as a benchmark. Demand-based pricing, on the other hand, is determined by consumer willingness to pay and market demand.

Empirical studies highlight that price significantly influences customer satisfaction and purchase decisions. Voss et al. (1998) emphasize that price perception interacts with performance and expectations in determining satisfaction. Therefore, pricing strategies must be carefully designed to align with perceived value and customer expectations. In the context of Starbucks, premium pricing is supported by brand strength and service quality, which together create a perception of high value among consumers.

2.4. Sales

Sales represent a core component of business operations, as they directly determine organizational revenue and sustainability. Sales can be defined as the total value charged to customers for goods or services provided, including both cash and credit transactions. Without sales, a business cannot generate income or sustain its operations, making sales performance a key indicator of organizational success.

Sales activities are closely linked to marketing strategies, as they reflect the effectiveness of promotional efforts, pricing decisions, and service quality. High sales volume indicates that a company has successfully attracted customers and met their needs. Conversely, low sales may signal issues in product positioning, pricing, or service delivery.

Sales can generally be categorized into cash sales and credit sales. Cash sales involve immediate payment at the time of transaction, while credit sales allow customers to pay over a specified period. Each type of sales has its own implications for cash flow and financial management. Effective sales management requires proper allocation of resources and strategic planning to ensure optimal performance.

From a strategic perspective, sales growth is influenced by multiple factors, including customer satisfaction, brand loyalty, and market demand. Research indicates that customer satisfaction plays a significant role in driving sales performance, as satisfied customers are more likely to make repeat purchases and recommend products to others (Anderson et al., 1994). Therefore, companies must integrate marketing strategies with operational efficiency to achieve sustainable sales growth.

2.5. Relationship Between Variables

In this study, sales are treated as the dependent variable, while service quality, promotion, and price act as independent variables. These three factors are expected to influence sales performance both individually and collectively. Service quality contributes to customer satisfaction and loyalty, promotion enhances awareness and attracts customers, and price determines perceived value and purchasing decisions. The interaction of these variables forms a comprehensive framework for understanding sales performance in the context of Starbucks.

2.6. Hypothesis Development

Based on the theoretical framework and previous studies, this research proposes two hypotheses. The null hypothesis states that there is no difference in Starbucks sales data resulting from changes in service quality, promotion, and price. In contrast, the alternative hypothesis suggests that there are significant differences in sales data resulting from changes in these variables. These hypotheses are formulated to test whether the independent variables have a meaningful impact on sales performance.

2.7. Decision Criteria

Hypothesis testing in this study is conducted using statistical significance and F-test criteria. The decision rule is based on the comparison between the significance value and the significance level (α). If the significance value is greater than or equal to α , the null hypothesis is accepted. Conversely, if the significance value is less than α , the null hypothesis is rejected. Similarly, the F-test is used to evaluate the overall model, where the null hypothesis is accepted if the calculated F-value is less than or equal to the critical F-value, and rejected if it is greater.

3. METHOD

3.1. Population

Population refers to a group of subjects that are observed and analyzed in a study to generate conclusions. These subjects typically share certain characteristics that are relevant to the research objectives. Understanding the characteristics of a population is essential in ensuring that the research findings are meaningful and applicable. According to Nawawi (1983), population includes all objects of research such as individuals, events, or phenomena that possess specific attributes relevant to the study. In this research, the population consists of students of Bina Nusantara University, Alam Sutera, who are considered relevant due to their familiarity with Starbucks products and services.

3.2. Sample

A sample is a subset of the population selected to represent the entire group in a study. The use of sampling allows researchers to draw conclusions without examining every member of the population. The selected sample must accurately represent the characteristics of the population to ensure valid generalization of results. In this study, the sample consists of students from Bina Nusantara University Alam Sutera. Data were collected through a structured questionnaire distributed using Google Forms. Although sampling may not perfectly represent the entire population, it remains an efficient and widely accepted method in quantitative research when properly executed.

3.3. Analysis of Variance (ANOVA)

Analysis of Variance (ANOVA) is a statistical method used to test differences in mean values among two or more groups. It is an extension of the t-test and is particularly useful when comparing more than two groups simultaneously. The main objective of ANOVA is to determine whether there are statistically significant differences between group means. This method is widely applied in experimental and quantitative research to evaluate the impact of independent variables on a dependent variable.

In this study, ANOVA is used to examine whether changes in service quality, promotion, and price result in significant differences in sales performance. The decision-making process is based on comparing the calculated F-value with the critical F-value. If the calculated F-value is greater than the critical value, the null hypothesis is rejected, indicating a significant difference among groups.

ANOVA requires several assumptions to be met, including homogeneity of variance, independence of observations, and normal distribution of residuals. Homogeneity is typically tested using Levene's Test, while normality ensures that the data follow a normal distribution. These assumptions are necessary to ensure the validity of the analysis results.

This study applies One-Way ANOVA, as it examines the effect of a single independent factor with multiple group levels on a dependent variable. This approach is appropriate for analyzing differences in sales based on variations in service quality, promotion, and price.

3.4. ANOVA Formulation

To perform ANOVA analysis manually, several key components must be calculated, including the sum of squares between groups, within groups, and total variation.

The variability between groups is calculated using the following formula:

$$SS_b = \sum \frac{T^2}{n} - \frac{G^2}{N}$$

where T represents the total score of each group, n is the number of samples in each group, G is the total overall score, and N is the total sample size. This formula measures the variation between group means.

The variability within groups is calculated as:

$$SS_w = SS_{mk}$$

where SS_{mk} represents the sum of squared deviations within each group. This component reflects the variation within individual groups.

The total sum of squares is calculated using:

$$SS_t = \sum X^2 - \frac{G^2}{N}$$

This represents the total variation in the dataset and is used as a basis for further calculations. For more complex analysis, such as Two-Way ANOVA, additional components are calculated. The total sum of squares remains:

$$SS_t = \sum X^2 - \frac{G^2}{N}$$

The sum of squares between groups is calculated as:

$$SS_b = \sum \frac{AB^2}{n} - \frac{G^2}{N}$$

The within-group variation is determined by:

$$SS_w = SS_t - SS_b$$

Further decomposition includes the calculation of main effects and interaction effects:

$$SS_A = \sum \frac{A^2}{qn} - \frac{G^2}{N}$$
$$SS_B = \sum \frac{B^2}{pn} - \frac{G^2}{N}$$
$$SS_{AB} = SS_b - SS_A - SS_B$$

The mean square for interaction is calculated as:

$$MS_{AB} = \frac{SS_{AB}}{df}$$

These formulas allow researchers to analyze not only the main effects of independent variables but also their interaction effects on the dependent variable.

4. RESULTS AND DISCUSSION

4.1. Research Method Overview

This study employs a quantitative research approach using statistical analysis through SPSS with a significance level of 5% ($\alpha = 0.05$). The analysis includes validity testing, reliability testing, normality testing, homogeneity of variance testing, and hypothesis testing using Analysis of Variance (ANOVA). These methods are applied to evaluate the relationships between independent variables, namely price, promotion, and service quality, and their impact on sales performance.

The use of ANOVA is particularly relevant in this study as it allows for the comparison of mean differences across multiple groups simultaneously. Unlike the t-test, which is limited to two groups, ANOVA provides a more comprehensive approach to analyzing variations in sales performance based on different marketing strategies. The statistical framework ensures that the findings are both reliable and valid for interpretation.

4.2. Descriptive Data Analysis

Table 1. Indicators 1

Number	Pricing			Promotions			Quality of Service		
	H1	H2	H3	P1	P2	P3	KP1	KP2	KP3
1	2	1	2	3	4	3	3	3	2
2	4	4	4	4	4	4	3	5	4
3	4	4	4	3	3	3	4	4	4
4	4	5	5	3	3	4	3	3	2
5	4	3	4	4	4	4	3	4	4
6	2	3	3	4	5	4	3	3	3
7	4	3	4	5	4	4	4	4	4
8	3	3	3	3	4	3	4	3	4
9	4	3	2	3	3	3	4	3	4
10	4	4	3	5	5	4	5	5	4
11	4	3	4	4	3	3	3	3	3
12	4	5	5	4	5	5	4	4	4
13	4	3	4	4	4	4	4	3	3
14	3	4	4	3	3	3	3	4	3
15	3	2	3	4	3	4	4	4	4
16	4	3	3	3	3	3	4	4	4
17	4	5	5	4	5	4	4	4	5
18	4	3	4	4	4	5	3	3	3

19	2	3	3	4	3	3	3	3	3
20	4	3	4	4	5	5	5	4	5
21	3	4	3	4	3	4	3	3	3
22	4	4	5	2	3	3	3	4	4
23	4	4	4	4	5	5	4	3	3
24	4	3	4	4	5	4	4	4	4
25	3	3	3	2	3	2	5	5	4
26	3	3	3	4	4	4	4	3	4
27	3	3	3	3	4	4	4	5	4
28	2	3	3	2	3	3	3	4	4
29	4	3	4	4	5	5	3	3	2
30	4	4	4	4	4	4	4	4	4
31	3	2	3	2	3	3	3	4	3
32	4	3	3	4	3	4	4	4	4
33	4	5	5	3	4	3	5	5	4
34	3	5	4	4	3	4	5	4	4
35	2	3	2	4	4	3	2	2	2
36	4	4	4	4	3	3	4	4	4
37	3	4	4	4	5	5	3	4	3
38	4	3	3	3	3	4	3	3	4
39	2	2	2	4	4	4	4	5	4
40	4	4	4	4	3	4	4	4	4

Table 2. Indicators 2

Pricing	Promotions	Quality of Service
1.67	3.33	2.67
4.00	4.00	4.00
4.00	3.00	4.00
4.67	3.33	2.67
3.67	4.00	3.67
2.67	4.33	3.00
3.67	4.33	4.00
3.00	3.33	3.67
3.00	3.00	3.67
3.67	4.67	4.67
3.67	3.33	3.00
4.67	4.67	4.00
3.67	4.00	3.33
3.67	3.00	3.33
2.67	3.67	4.00
3.33	3.00	4.00
4.67	4.33	4.33
3.67	4.33	3.00
2.67	3.33	3.00
3.67	4.67	4.67

3.33	3.67	3.00
4.33	2.67	3.67
4.00	4.67	3.33
3.67	4.33	4.00
3.00	2.33	4.67
3.00	4.00	3.67
3.00	3.67	4.33
2.67	2.67	3.67
3.67	4.67	2.67
4.00	4.00	4.00
2.67	2.67	3.33
3.33	3.67	4.00
4.67	3.33	4.67
4.00	3.67	4.33
2.33	3.67	2.00
4.00	3.33	4.00
3.67	4.67	3.33
3.33	3.33	3.33
2.00	4.00	4.33
4.00	3.67	4.00

In [Table 1](#), the dataset consists of responses collected from 40 respondents, each evaluating three main variables: price, promotion, and service quality. Each variable is measured using three indicators, resulting in a structured dataset that captures consumer perceptions comprehensively.

In [Table 2](#), The descriptive statistics indicate that the average scores for price, promotion, and service quality fall within a moderate to high range. Promotion appears to have relatively higher average values compared to price and service quality, suggesting that respondents perceive promotional strategies as more prominent or noticeable. Meanwhile, service quality also demonstrates strong average scores, indicating generally positive customer perceptions.

These findings suggest that all three variables are relevant in influencing consumer behavior, although their relative importance may differ. Descriptive analysis provides an initial understanding of the data distribution before conducting further inferential analysis.

4.3. Validity Test

Table 3. Validity Results

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
H1	6.975	2.64	0.578	0.847
H2	7.025	2.076	0.664	0.773
H3	6.85	1.977	0.809	0.612

In [Table 3](#), Validity testing is conducted to ensure that each questionnaire item accurately measures the intended variable. The decision criterion is based on comparing the calculated correlation value (r-count) with the critical value (r-table = 0.26). If r-count is greater than r-table, the item is considered valid.

Table 4. Price Variable

Question Item	R. Count	Tanda	R. Table	Decision
Pricing 1	0.578	>	0.26	H0 Accepted
Pricing 2	0.664	>	0.26	H0 Accepted
Pricing 3	0.809	>	0.26	H0 Accepted

In [Table 4](#), the validity results for the price variable indicate that all measurement items perform well in capturing the intended construct. The correlation values (r-count) for the three indicators are 0.578, 0.664, and 0.809, all of which exceed the critical threshold value of 0.26. This confirms that each item is statistically valid and contributes meaningfully to measuring the price variable. These results suggest that the instrument used is appropriate and reliable for assessing respondents' perceptions of price, and therefore can be confidently utilized in subsequent analyses.

Table 5. Scale Indicator

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
KP1	7.35	1.772	0.674	0.753
KP2	7.275	1.794	0.638	0.789
KP3	7.425	1.687	0.711	0.715

Table 6. Service Indicator

Question item	R. Count	Marks	R. Table	Decision
Quality of service 1	0.674	>	0.26	H ₀ Accepted
Quality of service 2	0.638	>	0.26	H ₀ Accepted
Quality of service 3	0.711	>	0.26	H ₀ Accepted

In [Table 5](#) and [Table 6](#), the validity results for the service quality indicators demonstrate strong and consistent measurement of the intended construct. Based on the analysis, the correlation values (r-count) for the three indicators are 0.674, 0.638, and 0.711. All of these values exceed the critical r-table value of 0.26, indicating that each item meets the validity criteria. This suggests that the questionnaire items effectively capture the concept of service quality and are appropriate for further statistical analysis. Therefore, the measurement instrument for the service quality variable can be considered valid and reliable in representing respondents' perceptions of the service provided.

Table 7. R-Count Values

Question Item	R. Count	Marks	R. Table	Decision
P1	0.602	>	0.26	H ₀ Accepted
P2	0.629	>	0.26	H ₀ Accepted
P3	0.719	>	0.26	H ₀ diterima

In [Table 7](#), the validity results for the promotion variable also demonstrate strong measurement accuracy across all indicators. The correlation values (r-count) for the three promotion

items are 0.602, 0.629, and 0.719, each exceeding the critical r-table value of 0.26. This indicates that all promotion-related questions are valid and effectively represent the construct being measured. Therefore, the promotion variable can be considered a reliable component in the analysis, as its indicators accurately capture respondents' perceptions of promotional activities.

All values are above 0.26, indicating that each item is valid. These results confirm that the measurement instruments used in this study are appropriate and capable of capturing the constructs of price, promotion, and service quality accurately.

4.4. Reliability Test

Reliability testing is conducted using Cronbach's Alpha to assess the consistency of the measurement instruments. The accepted threshold for reliability is $\alpha \geq 0.7$.

Table 8. Alpha Value

Cronbach's Alpha	N of Items
0.822	3

In [Table 8](#), the reliability test is conducted to evaluate the consistency of the measurement instruments used in this study. Reliability is assessed using Cronbach's Alpha coefficient, where a value of 0.7 or higher indicates that the instrument is reliable and internally consistent.

For the price variable, the results show a Cronbach's Alpha value of 0.822, which exceeds the minimum threshold of 0.7. This indicates that all items used to measure the price construct are consistent and reliable. Therefore, the measurement instrument for the price variable can be considered dependable for further analysis.

Table 9. Alpha Value

Cronbach's Alpha	N of Items
0.82	3

In [Table 9](#), similarly, the service quality variable demonstrates a Cronbach's Alpha value of 0.820, which is also above the required threshold. This confirms that the indicators used to measure service quality exhibit strong internal consistency. As a result, the service quality instrument is reliable and suitable for use in this research.

Table 10. Alpha Value

Cronbach's Alpha	N of Items
0.802	3

In [Table 10](#), for the promotion variable, the Cronbach's Alpha value is 0.802, which also exceeds 0.7. This indicates that the promotion-related items are consistent in measuring the intended construct. The results suggest that the promotion variable has good reliability and can be confidently included in further statistical testing.

Overall, all variables in this study—price, service quality, and promotion—demonstrate Cronbach’s Alpha values greater than 0.7, indicating that the measurement instruments are reliable. This ensures that the data collected are consistent and suitable for subsequent analysis, including hypothesis testing and ANOVA.

4.5. Normality Test

The normality test is conducted to determine whether the data distribution follows a normal pattern, which is a key assumption in parametric statistical analysis such as ANOVA. The hypothesis states that the sales data under different strategies (price, promotion, and service quality) are normally distributed. The decision rule is based on the significance value (Sig), where the null hypothesis is accepted if $Sig \geq 0.05$ and rejected if $Sig < 0.05$.

Table 11. Normality Test Variable

Variable	Strategy	Kolmogorov-Smirnov Statistic	Kolmogorov-Smirnov df	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Statistic	Shapiro-Wilk df	Shapiro-Wilk Sig.
Sales	Price	0.182	40	0.002	0.953	40	0.096
Sales	Promotion	0.121	40	0.144	0.948	40	0.066
Sales	Service Quality	0.171	40	0.005	0.951	40	0.079

The results in [Table 11](#) show that the significance values for price, promotion, and service quality are 0.096, 0.066, and 0.079, respectively. All of these values are greater than the significance level of 0.05, indicating that the null hypothesis is accepted. This means that the data for all variables are normally distributed.

Table 12. Normal Distribution Data

Category	Sig	Marks	α	Decision
Pricing	0.096	>	0.05	H ₀ Accepted
Promotions	0.066	>	0.05	H ₀ Accepted
Sales Quality	0.079	>	0.05	H ₀ Accepted

The normal distribution in [Table 12](#) suggests that the dataset meets one of the key assumptions required for further parametric testing. Therefore, the data are suitable for subsequent analysis, particularly for the application of ANOVA in examining differences in sales performance.

4.6. Homogeneity of Variance Test

The homogeneity of variance test is conducted to assess whether the variance across groups is equal, which is another important assumption for ANOVA. The hypothesis states that there is no difference in variance among the sales strategies. The decision rule is based on the significance value, where the null hypothesis is accepted if $Sig \geq 0.05$ and rejected if $Sig < 0.05$.

Table 13. Significance Value

Levene Statistic	df1	df2	Sig.
0.274	2	117	0.761

The results in [Table 13](#) indicate a significance value of 0.761, which is greater than the threshold of 0.05. This leads to the acceptance of the null hypothesis, confirming that there is no significant difference in variance among the groups.

This finding implies that the assumption of homogeneity of variance is satisfied, allowing the analysis to proceed with ANOVA. The fulfillment of both normality and homogeneity assumptions strengthens the validity of the statistical results and supports the reliability of the conclusions drawn from the analysis.

4.7. ANOVA Analysis

The core analysis of this study is conducted using One-Way ANOVA to determine whether there are significant differences in sales performance based on variations in price, promotion, and service quality (See [Table 14](#))

Table 14. Anova Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.262	2	0.631	1.421	0.246
Within Groups	51.942	117	0.444		
Total	53.204	119			

The hypotheses tested are as follows: The null hypothesis states that there is no difference in average sales resulting from changes in price, promotion, and service quality. The alternative hypothesis states that there is a significant difference.

The decision criteria are based on both significance values and F-test comparison. The results show a significance value of 0.246, which is greater than 0.05, and an F-value of 1.421, which is lower than the critical value of 3.07.

Based on these results, the null hypothesis is accepted. This indicates that there is no statistically significant difference in sales performance due to variations in price, promotion, and service quality.

4.8. ANOVA Mathematical Interpretation

The ANOVA analysis is supported by the following fundamental equations:

$$\begin{aligned}SS_t &= \sum X^2 - \frac{G^2}{N} \\SS_b &= \sum \frac{T^2}{n} - \frac{G^2}{N} \\SS_w &= SS_t - SS_b \\F &= \frac{MS_b}{MS_w}\end{aligned}$$

where:

SS_t represents total variation,

SS_b represents variation between groups,

SS_w represents variation within groups,

and F represents the ratio used to determine statistical significance.

The relatively low F-value in this study indicates that the variation between groups is not significantly larger than the variation within groups, leading to the acceptance of the null hypothesis.

4.9. Discussion

The findings of this study reveal that price, promotion, and service quality do not significantly influence differences in sales performance at Starbucks. This result is somewhat unexpected, as previous studies have generally found significant relationships between these variables and sales outcomes.

One possible explanation is that Starbucks operates as a strong global brand with established customer loyalty. In such cases, consumer purchasing decisions may be less sensitive to changes in price, promotion, or service quality. Instead, brand image and emotional attachment may play a more dominant role.

Another explanation lies in the relatively homogeneous sample used in this study. Since respondents consist of university students with similar characteristics, their perceptions and behaviors may not vary significantly, resulting in limited variability in the data.

Additionally, the premium positioning of Starbucks may reduce the impact of price sensitivity. Customers who purchase Starbucks products are often less concerned with price changes and more focused on experience and brand identity. This aligns with previous research suggesting that perceived value and brand strength can moderate the relationship between price and purchasing behavior (Voss et al., 1998).

From a promotional perspective, Starbucks relies heavily on brand-driven marketing rather than aggressive promotional campaigns. This may explain why promotion does not significantly affect sales differences in this study. Instead, long-term brand equity and customer experience may play a more critical role.

Service quality, although generally important in influencing customer satisfaction, may not directly translate into measurable differences in sales within this context. It is possible that service quality has already reached a consistently high standard across all observations, resulting in minimal variation.

4.10. Implications

The findings suggest that companies operating in premium markets should focus more on strengthening brand identity and customer experience rather than relying solely on pricing or

promotional strategies. While service quality remains important, its impact may be more indirect, influencing satisfaction and loyalty rather than immediate sales performance.

For future research, it is recommended to include additional variables such as brand image, customer loyalty, and perceived value to provide a more comprehensive understanding of sales performance determinants.

5. CONCLUSION

This study examines the impact of price, promotion, and service quality on Starbucks sales performance. Based on the results of the statistical analysis using ANOVA, it can be concluded that there is no significant difference in average sales associated with changes in price, promotion, and service quality. The findings indicate that variations in these three variables do not significantly influence sales outcomes within the observed sample. This suggests that Starbucks sales performance is relatively stable and not highly sensitive to changes in these marketing factors.

These results may be explained by the strong brand positioning of Starbucks as a premium coffee provider. Customers may prioritize brand experience, emotional attachment, and lifestyle association over specific changes in price, promotional strategies, or service quality. As a result, consumer purchasing behavior remains consistent even when these variables vary, indicating a level of brand loyalty and perceived value that reduces sensitivity to traditional marketing adjustments.

From a managerial perspective, the findings imply that Starbucks does not necessarily need to frequently adjust its pricing, promotional activities, or service quality in an attempt to influence sales volume. Maintaining consistency in these areas may be more beneficial than implementing changes that could increase operational costs without delivering significant improvements in sales performance. Stability in pricing and service delivery can also reinforce brand identity and customer trust.

However, this does not imply that these variables are unimportant. Instead, they may function as baseline factors that support overall brand perception rather than directly driving short-term sales differences. Therefore, Starbucks should continue to maintain its current standards in pricing, promotion, and service quality to sustain customer satisfaction and brand strength. Future strategies may focus more on enhancing brand experience, customer engagement, and emotional connection to further strengthen long-term performance.

Ethical approval

This study was conducted in accordance with the ethical principles outlined in Tarumanagara university.

Informed consent statement

The participants were fully informed about the aim of the research, and their consent was secured before any data were collected. Participation was entirely voluntary, and all responses were treated as confidential and used exclusively for academic research purposes.

Authors' contributions

Conceptualization, T, VPS, and AL; methodology, T and VPS; validation, VPS and AL; formal analysis, T, VPS, and AL; resources, T; writing – original draft preparation, T, VPS, and AL; writing – review and editing, T and VPS.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The data presented in this study are available on request from the corresponding author due to privacy reasons.

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