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Determinant Factors of Customer Satisfaction with Agricultural Products in Helmand Province, Afghanistan

Ali Ahmad[1], Abdul Qadeer Khadim[2*], Arsalan Watandar[2]

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ABSTRACT

In this research, an effort was made to assess customer satisfaction with agricultural products in Helmand province and determine which marketing mix dimensions and factors significantly impact customer satisfaction. For data collection, 65 questionnaires were gathered from customers who had visited industrial production companies within the last three days. The collected data were later analysed using SPSS 26.0, OLS, and correlation techniques. The results show that Product has a positive relationship with customer satisfaction, Price has a positive relationship with customer satisfaction, Place has a positive relationship with customer satisfaction, Promotion has a positive relationship with customer satisfaction, Physical evidence has a positive relationship with customer satisfaction, People have a positive relationship with customer satisfaction, Process has a positive relationship with customer satisfaction. Based on the model, the obtained Adjusted R Square value was calculated, and if converted into a percentage, it is significant. Overall, the research findings indicate that all independent variables significantly impact the dependent variable, meaning that the independent variables contribute considerably to the changes in the dependent variable.

INTRODUCTION

Helmand is one of Afghanistan's 34 provinces, located in the southern part of the country. It is the largest province, covering an area of 58,584 square kilometers (20,000 square miles). The Helmand River system project provides irrigation water for approximately 150,000 hectares of land. The northern part of the province does not have direct access to river water. It relies on groundwater and natural springs for irrigation, often channeled through an ancient system known as "karez." In the northern regions, deep wells are also drilled. Due to an extensive irrigation system built by the United States around 40 years ago, Helmand has a strong history of agricultural production. Crops such as wheat, corn, barley, and mung beans are cultivated where irrigation is available. The climate is favorable for double-cropping, allowing for summer and winter crops. Due to the lack of processing factories, industrial crops like cotton, peanuts, and soybeans are grown on a smaller scale. Vegetable production mainly meets local needs, with a small surplus sold in local markets. The cultivation of nuts and fruits also takes place (Ahmad *et al.*, 2017).

Marketing is not merely an attempt to sell products but a scientific and creative process to identify and satisfy customers' needs. It plays a fundamental role in business development and social welfare. Over time, this concept has evolved from focusing solely on selling products to emphasizing the fulfillment of customer and societal needs. Marketing is a management philosophy based on principles of customer satisfaction, organizational unity of effort, and profitability (Efendi *et al.*, 2023).

Customer satisfaction is crucial for companies and organizations providing financial, communication, and related services. Customer satisfaction refers to comparing expectations and the actual services or products received. If the services provided and products delivered meet expectations, customers are satisfied; otherwise, they are dissatisfied. Customer dissatisfaction with services arises due to several factors: first, the gap between expectations and reality; second, poor service; third, poor behavior by staff; fourth, an unreliable and inadequate physical environment; fifth, high costs and long distances; and sixth, significant discrepancies between advertising and reality (Temba, 2013).

Research Problem

Today's markets are highly competitive, and marketing is one of the key factors for survival in such a market. Globally, organizations use various marketing methods to increase the sales of their products and services and ensure customer satisfaction. One of the prominent methods is the 7P Marketing Mix (Pramesty *et al.*, 2022). On the other hand, Helmand province is one of Afghanistan's major agricultural regions, leading in the production of wheat, corn, pomegranates, grapes, vegetables, and other crops. Although these products are offered to local and international markets, there is a lack of accurate information regarding customer satisfaction. Product quality, pricing, packaging, and market accessibility influence customer satisfaction. Extensive research has been conducted worldwide in this area, achieving various results. Increased attention to marketing has enhanced its perceived value.

[1] Department of BBA, Faculty of Economics, Bost University & Research Center, Helmand University, Afghanistan
[2] Department of BBA, Faculty of Economics, Bost University, Helmand, Afghanistan
[*] Corresponding author's e-mail: kochikhadim8@gmail.com

Considering the importance of marketing, agricultural companies in Helmand use various marketing strategies to boost their sales and satisfy customers. However, it remains unclear whether customers are satisfied with the existing agricultural products in Helmand. Due to this uncertainty, this research aims to evaluate customer satisfaction with Helmand's agricultural products using the 7P Marketing Mix framework.

Research Objectives

1. To measure the impact of product quality and pricing on customer satisfaction and purchasing behaviour.
2. To evaluate the impact of distribution systems and marketing strategies on customer satisfaction.
3. To assess the impact of professional staffing, service processes, and physical evidence on customer satisfaction and purchasing decisions.

MATERIALS AND METHODS

Research Design

For this research, a Cross-Sectional design was utilized because we collected data about the variables at a specific time. This is because we gather information from a defined population (customers of production companies) at a particular moment. There is no need to revisit the participants after the data collection. Another reason is that in this design, different variables are measured without any intervention or change made to the variables (Muslih, 2022).

Research Approach

In terms of research approach, we have used the Deductive Approach in this study. Here, based on existing theory, we formulate hypotheses. In this approach, the researcher moves from a general situation to a specific situation (Muslih, 2022).

Research Strategy

For the research method, we used a quantitative method to analyze the data collected from the customers. The rationale behind using a descriptive design is that descriptive research answers the "What" and "How much" questions (Muslih, 2022).

Research Area and Participants

Bost University conducted this research during a three-day exhibition organized to market Helmand Province's agricultural and industrial products. Data was collected through structured questionnaires from the visitors and later analyzed.

Sampling Method

In this research, we used the Opportunity Sampling method. In this sampling method, we actively select customers at our discretion. The reason for choosing this method is that it provides accessibility and ease (Rahman *et al.*, 2018).

Dependent Variable

- Customer Satisfaction

Independent Variables

- Product
- Price
- Place
- People
- Promotion
- Process
- Physical Evidence

RESULTS AND DISCUSSIONS

Reliability Test

The reliability test determines whether the questionnaire can consistently collect data. If data is collected multiple times using the same questionnaire and produces similar results, then the questionnaire is considered reliable. The standard for this test is that the Cronbach's Alpha value should be greater than or equal to 0.7. If this condition is met, we can conclude that our data and questionnaire are reliable (Hair *et al.*, 2021).

Table. 1: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.814	.826	8

Source: Researcher's analysis

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) is employed when researchers seek to identify the underlying structure among a set of variables. It is particularly useful for uncovering the fundamental constructs that explain the patterns of correlations within observed data. Researchers utilize EFA to explore potential factors without imposing a preconceived structure on the outcome (Hair *et al.*, 2021).

Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Test of Sphericity

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity are statistical techniques used to assess the suitability of data for factor analysis. A KMO value above 0.5 indicates that the sample is adequate, with values exceeding 0.8 considered excellent. Bartlett's Test evaluates whether the correlation matrix significantly differs from an identity matrix, thus justifying the application of factor analysis (Hair *et al.*, 2021).

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.724
Bartlett's Test of Sphericity	Approx. Chi-Square	201.882
	df	28
	Sig.	.000

Source: Researcher's analysis

According to Table 1-2, the KMO value is 0.599, which exceeds the minimum threshold of 0.5. This indicates that the sample size used for the study is sufficient and acceptable for conducting factor analysis (Hair *et al.*, 2021).

Regarding Bartlett's Test of Sphericity, the significance value (Sig) is reported as 0.000, less than the required threshold of 0.05. This result suggests a strong correlation between the variables, indicating that the dataset is appropriate for factor analysis (Hair *et al.*, 2021).

Tests for Normality

Since two main categories of statistical analysis exist, parametric and non-parametric, it is crucial to determine the data distribution before selecting the appropriate analytical method. To assess the normality of the data, the following approaches were employed:

Analysis of Skewness and Kurtosis

Skewness measures the asymmetry of the distribution relative to the mean, while kurtosis assesses the peakedness or flatness of the distribution.

- The skewness value should fall within the range of ±3.
- The kurtosis value should fall within the range of ±5 (Darren, 2016).

Analysis of Q-Q Plots

Additionally, Q-Q plots (Quantile-Quantile plots) were utilized to visually inspect whether the data's distribution follows a normal pattern. A linear pattern in the Q-Q plot would indicate that the data is normally distributed.

Table. 3: Skewness and Kurtosis for Data Normality

		product	price	place	promotion	Phy. Evid.	people	process	cs
N	Valid	66	66	66	66	66	66	66	66
	Missing	0	0	0	0	0	0	0	0
Skewness		-1.621	-.103	-.078	-.251	-.719	-.380	-.189	-1.156
Kurtosis		2.512	-.239	-1.273	-1.210	.325	-.002	-.002	2.668

Source: Researcher's analysis

By looking at the table above, the Skewness values are as follows

- Product: -1.621
- Price: -0.103
- Place: -0.78
- Promotion: -0.251
- Physical Evidence: -0.719
- People: -0.189
- Process: -0.189
- Customer Satisfaction: -1.156

Regarding Kurtosis values

- Product: 2.512
- Price: -0.239
- Place: -1.273
- Promotion: -1.210
- Physical Evidence: 0.325
- People: -0.002
- Process: -0.002
- Customer Satisfaction: 2.668

Normality based on Q-Q Plot

If the data points are close to the 45-degree line, it indicates that the data is normally distributed. By observing Figure 4.9, it is clear that the data points are very close to the 45-degree line and distributed around it. Therefore, we can conclude that our data is usually distributed.

Collinearity Test Results

The collinearity of the independent variables was assessed using the Variance Inflation Factor (VIF) and Tolerance statistics. According to the guidelines (Darren, 2016), a VIF value less than 4 and a Tolerance value greater than 0.25 indicate no significant issue with multicollinearity among the predictor variables. In our analysis, the VIF values for all predictors were below 4, and the Tolerance values were above 0.25, suggesting that collinearity does not pose a problem in our model.

Normality of Data

To assess the normality of the data distribution, we conducted tests on skewness and kurtosis. Skewness measures the asymmetry of the distribution, while kurtosis provides information about the "tailedness" of the distribution. According to Darren (2016), for a normal distribution, skewness should be within the range of ±3, and kurtosis should be within the range of ±5. The skewness values for all variables were within the acceptable range, indicating that the data do not exhibit significant skew. The kurtosis values were

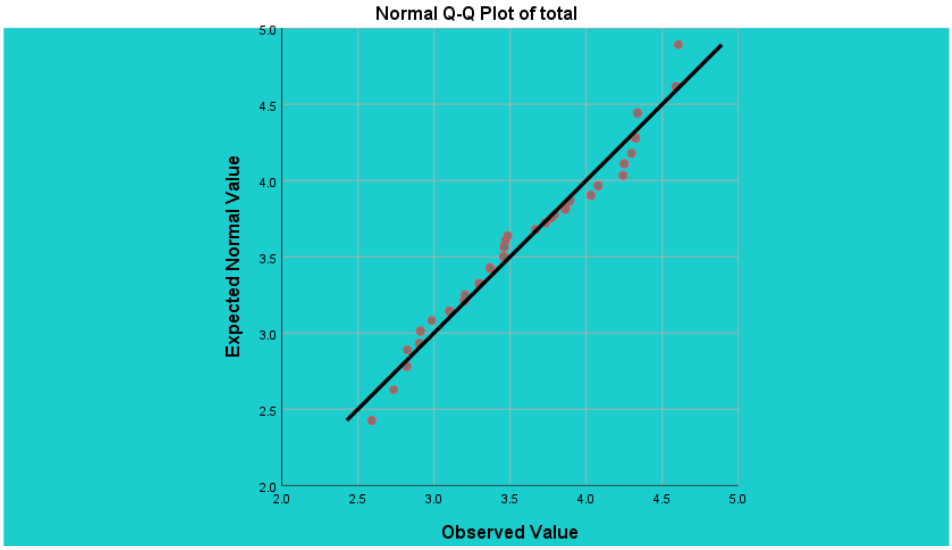

Figure 1: Normality based on Q-Q Plot

also within the acceptable range, suggesting that the data distribution is relatively normal. Additionally, the Q-Q plots were analyzed. The data points in the Q-Q plot were closely aligned with the 45-degree line, which further supports the assumption that the data follows a normal distribution. This alignment indicates that the deviations from normality are minimal, and the data can be considered normal for further analysis.

Table 4: Collinearity Test

va	Tolerance	VIF
	.761	1.315
price	.493	2.028
place	.397	2.516
promotion	.639	1.566
Physical. evidence	.720	1.388
people	.774	1.291
process	.560	1.787

Source: Researcher's analysis

Table 5: Correlations

		product	price	place	promotion	Phy. Evid.	people	process	cs
product	Pearson Correlation	1							
price	Pearson Correlation	.222	1						
place	Pearson Correlation	.273*	.699**	1					
promotion	Pearson Correlation	.436**	.299*	.360**	1				
Phy. Evid.	Pearson Correlation	.145	.445**	.329**	.289*	1			
people	Pearson Correlation	.078	.586**	.476**	.576**	.503**	1		
process	Pearson Correlation	.092	.500**	.611**	.116	.357**	.406**	1	
cs	Pearson Correlation	.334**	.434**	.422**	.276*	.441**	.309*	.407**	1

**. Correlation is significant at the 0.05 level (2-tailed).*
***. Correlation is significant at the 0.01 level (2-tailed).*
Source: Researcher's analysis

Table 5. Shows the correlation levels between production, price, place, promotion, physical facilities, people, process, and customer satisfaction. Production has a weak positive relationship with customer satisfaction (Sig = 0.001), with (p < .001, r = .334*). Price has a weak positive relationship with customer satisfaction (Sig = 0.001), with (p < .001, r = 0.434). Place has a weak positive relationship with customer satisfaction (Sig = 0.001), with (p < .001, r = 0.422). Promotion has a weak positive relationship with customer satisfaction (Sig = 0.001), with (p < .001, r = 0.276). Physical facilities have a weak positive relationship with customer satisfaction (Sig = 0.001), with (p < .001, r = 0.441). People have a weak positive relationship with customer satisfaction (Sig = 0.003), with (p < .003, r = 0.309). Process has a weak positive relationship with customer satisfaction (Sig = 0.001), with (p < .001, r = 0.407). The Pearson correlation coefficient matrix in Table 4.13 indicates that price and physical facilities have a significant positive relationship with customer satisfaction.

Table 6: Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.596[a]	.355	.278	.48456

a. Predictors: (Constant), process, product, physical. Evidence, promotion, price, place, people

It is essential to explain the adjusted R Square for Multiple Regression. In the above table, based on the model, the obtained Adjusted R Square is equal to 0.278. If expressed as a percentage, it becomes 27.8%. From this, it can be concluded that this model can explain 27.8% of the variation in the dependent variable (DV).

ANOVA

The purpose is to respond to the H0 (Null Hypothesis) using the Statistical F-test. In the above table, the key point is the F-test significance (Sig/Significance or p-value). The result obtained is (Sig = 0.000), which is less than 0.05 or 5%. Therefore, with complete confidence, we can reject the H0 (Null Hypothesis). At the same time, we can accept the H1 (Alternative Hypothesis) and conclude that the model has explanatory power and has relationships between the variables (Hair *et al.*, 2021).

Table 7: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.604	7	2.515	1223.664	.000b
	Residual	.119	58	.002		
	Total	17.723	65			

a. Dependent Variable: cs

b. Predictors: (Constant), process, promotion, people, product, physical. evidance, price, place

Source: Researcher's analysis

Table 8: T Test Results

Model		Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	2.123	.454	4.673	.000
	product	.333	.082	2.828	.006
	price	.488	.098	4.471	.000
	place	.496	.108	4.569	.000
	promotion	.343	.069	2.922	.005
	Phy. Evid.	.306	.098	2.576	.012
	people	.446	.114	3.990	.000
	process	.450	.099	4.035	.000

Source: Researcher's analysis

In Table 8, we have the t-test results for each individual independent variable (IDV), and their respective Sig/p-values are given as follows:

- Product: Sig = 0.000,
- Price: Sig = 0.006,
- Place: Sig = 0.000,
- Promotion: Sig = 0.005,
- Physical Evidence: Sig = 0.012,
- People: Sig = 0.000,
- Process: Sig = 0.000.

From these results, it can be concluded that all the independent variables included in the model have Sig/ Significance or p-values smaller than 0.05 (5%).

Thus, it can be stated that all the independent variables are significant. Based on this, we can again reject the Null Hypothesis (H0), which predicts that all coefficients are equal to zero. We can state that each independent variable's coefficient is different from zero and can explain the changes in the dependent variable (DV).

The results show that the Product has a positive and significant impact on customer satisfaction with a Beta = 0.333 and Sig. = 0.006. Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis. Price positively and significantly impacts customer satisfaction with a Beta = 0.488 and Sig. = 0.000. Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis. Place positively and significantly impacts customer satisfaction with a Beta = 0.496 and Sig. = 0.000. Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis. Promotion positively and significantly impacts customer satisfaction with a Beta = 0.343 and Sig. = 0.005. Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis. Physical Evidence positively and significantly impacts customer satisfaction, with a Beta = 0.306 and Sig. = 0.012. Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis. People positively and significantly impact customer satisfaction with a Beta = 0.446 and Sig. = 0.000. Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis. Process positively and significantly impact customer satisfaction with a Beta = 0.450 and Sig. = 0.000. Therefore, the researcher rejects the null hypothesis and accepts the alternative hypothesis.

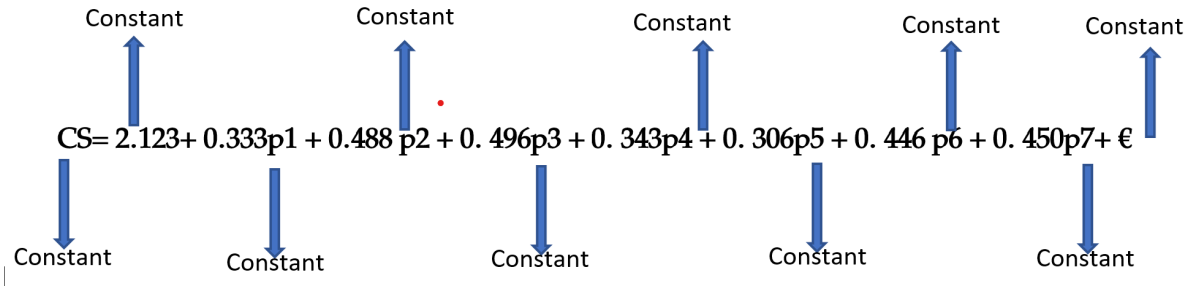

Figure 2: Hypothesis Test

Discussion

Impact of Marketing Mix on Customer Satisfaction:

The results of this study indicate that the marketing mix has a positive and significant effect on customer satisfaction. Specifically, all marketing mix elements, product, price, place, promotion, people, physical evidence, and process, significantly contribute to customer satisfaction.

Individual Analysis of Marketing Mix Elements

Product

The product positively and significantly impacts customer satisfaction (Beta = 0.333, Sig. = 0.006). Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted. This finding is consistent with the study conducted by Yuliantine and Siyoto (2018).

Price

The price also positively and significantly impacts customer satisfaction (Beta = 0.488, Sig. = 0.000). The researcher thus rejects the null hypothesis and accepts the alternative hypothesis. Similar results were obtained by Wardani *et al.* (2024b).

Place

Place positively and significantly affects customer satisfaction (Beta = 0.496, Sig. = 0.000). The null hypothesis is rejected, and the alternative hypothesis is accepted, aligning with the findings of Pramesty *et al.* (2022b).

Promotion

Promotion positively and significantly influences customer satisfaction (Beta = 0.343, Sig. = 0.005). The null hypothesis is rejected, supporting the alternative hypothesis. A similar conclusion was reached by Anjani *et al.* (2019).

Physical Evidence

Physical evidence also positively and significantly affects customer satisfaction (Beta = 0.306, Sig. = 0.012). The null hypothesis is rejected, consistent with findings by Prasetyawan *et al.* (2024).

People

The role of people in customer satisfaction is positive and significant (Beta = 0.446, Sig. = 0.000). Thus, the researcher rejects the null hypothesis. These results align with Efendi *et al.*'s (2023b) results.

Process

Finally, the process element positively and significantly affects customer satisfaction (Beta = 0.450, Sig. = 0.000). Therefore, the null hypothesis is rejected, confirming

findings from Tariq Khan (2014).

Overall, this study confirms that all marketing mix dimensions significantly contribute to enhancing customer satisfaction. These findings are consistent with prior research and highlight the importance of strategic marketing management in achieving higher levels of customer satisfaction.

CONCLUSION

The product has a weak positive correlation with customer satisfaction at a significance level of (Sig = 0.001) ($p < .001$, $r = .334$*). The price has a weak positive correlation with customer satisfaction at a significance level of (Sig = 0.001) ($p < .001$, $r = 0.434$).

The place has a weak positive correlation with customer satisfaction at a significance level of (Sig = 0.001) ($p < .001$, $r = 0.422$). Promotion has a weak positive correlation with customer satisfaction at a significance level of (Sig = 0.001) ($p < .001$, $r = 0.276$).

Physical evidence has a weak positive correlation with customer satisfaction at a significance level of (Sig = 0.001) ($p < .001$, $r = 0.441$). People have a weak positive correlation with customer satisfaction at a significance level of (Sig = 0.003) ($p < .003$, $r = 0.309$).

The process has a weak positive correlation with customer satisfaction at a significance level of (Sig = 0.001) ($p < .001$, $r = 0.407$). According to the model, the obtained Adjusted R Square value is 0.278. If expressed as a percentage, it becomes 27.8%.

From this, it can be concluded that the model explains 27.8% of the variations in the dependent variable (DV). Furthermore, the result obtained from the ANOVA test shows (Sig = 0.000), which is less than the 0.05 (5%) threshold. Based on this, we can confidently reject the null hypothesis (H0), which suggests that the model has no explanatory power and no relationship among the variables. At the same time, we can accept the alternative hypothesis (H1), confirming that the model has explanatory power and that a relationship exists among the variables.

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