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The Relationship Between Net Promoter Score (NPS) and Customer Satisfaction in After-Sales Service in 2022

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ABSTRACT

This research study, conducted in a technology company, focused on using Net Promoter Score (NPS) to assess customer satisfaction and loyalty regarding after-sales services. Changes in processes due to the pandemic and the subsequent adaptation to the new normal prompted this research study. The sample was gathered over fifteen days, consisting of 12 data points from before the implementation of improvements. An equivalent amount of data was gathered afterward to evaluate the effectiveness of the improvements made to address claims received via WhatsApp, including transportation, and the resulting customer satisfaction.

Keywords: service perception, NPS, customer satisfaction.

INTRODUCTION

In today's globalized world, customers have become increasingly demanding, emphasizing the importance of satisfaction in the after-sales service. As a result, companies are investing more and more in this area. As noted by Bueno (2017), *Lo que caracteriza a este entorno económico es que el consumidor ya no demanda productos o servicios de calidad, sino experiencias que conecten con sus emociones* [The characteristic of this economic environment is that consumers no longer just demand quality products or services; they demand experiences that connect with their emotions] (p. 3).

In the Latin American market, discussing the sale of a product or service is also considered a loyalty strategy. This approach goes beyond merely completing a commercial transaction and addressing the customer's immediate needs. According to Aparicio (2017) *la calidad de servicio es primordial para tener una buena relación con los clientes y poder competir eficientemente en el mercado* [the quality of service is paramount to building good relationship with customers and competing efficiently in the market] (p. 40). Today, service quality is widely recognized as a competitive differentiator for companies.

Moreover, technology has significantly enhanced processes within the industry and improved the experiences of regular consumers. As a result, after-sales service has become a crucial differentiator and is increasingly preferred by customers

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(Chiriboga-Mendoza et al, 2019). Companies in Peru are particularly aware of this trend; they strive to continuously improve and reinvent themselves. By embracing the risks associated with innovation, they enhance their operations, as "Risk-based thinking enables an organization to determine the factors that could cause its processes and its quality management systems to deviate from the planned results" International Organization for Standardization (ISO 2015, p. vii).

Nowadays, companies that provide services are keen on understanding their customers' perceptions to ensure their processes align with expectations and positively impact their sales; a satisfied customer is more likely to make future purchases or recommend the service to others. One of the most popular and innovative methodologies for assessing customer satisfaction is the Net Promoter Score (NPS). The NPS serves as a key indicator for measuring customer loyalty, widely used by organizations to gauge customer perceptions through satisfaction surveys (Jiménez & Llaury, 2021).

The technology company under study sells computer equipment and offers repair services during the warranty period to address manufacturing defects. During the pandemic, the company faced significant challenges as it had to reinvent its service model to effectively assist customers and maintain satisfaction levels. Despite these efforts, the company noticed a decline in the NPS and, thus, in customer perception.

An analysis of detractor surveys was conducted to better understand the reasons behind this decline. It revealed two major sources of dissatisfaction among customers:

- The primary source of dissatisfaction was the delay in response time via WhatsApp when reporting equipment failures, with an average response time of six (6) days.
- There were also issues regarding poor coordination with the carrier, resulting in an average of eight (8) complaints.

This research study is significant because it emphasizes the need for innovation in after-sales service delivery, particularly in transitioning to a digital format. During the pandemic, many companies adapted their processes to meet the new demands of consumers, shifting towards remote services without prior experience. Throughout this transition, they learned from the challenges they faced, despite receiving numerous complaints. According to Papanicolau et al. (2022), "Consumer preferences when selecting a product have changed as a result of the pandemic. Accordingly, different suppliers have had to reformulate their strategies and develop new sales and distribution channels to adapt to the situation" (p. 187).

The tech company under study was no exception; it had to adapt its support center to serve customers via WhatsApp. Customers were instructed to report product issues via telephone; the introduction of the WhatsApp channel at the beginning of the pandemic was well received. However, a new problem emerged: the number of customer inquiries began to exceed the number of operators available to handle these requests. While a chatbot manages the first contact with customers, a human operator must handle any follow-up response to gather details about the equipment problem. This resulted in significant delays, with customers sometimes waiting over two hours for a response, only to find that their chat was closed because the system did not keep conversations open.

Another major complaint involved the transportation and pickup schedule. Customers had to remain at home from 08:00 AM to 05:00 PM, Monday to Friday, waiting for the pickup of their defective products. This schedule proved to be complicated for most people who work or study. Additionally, the company coordinated pickups solely via phone calls, and if customers missed two calls, the warranty service was canceled. Due to the pandemic, the number of transport collaborators was reduced from two to one; the sole driver was now responsible for receiving and delivering equipment, as well as handling documentation, which further extended the time required for transportation.

To address these issues, this research study aims to implement improvement actions that consider the changes brought about by the pandemic and the growing demand for remote after-sales service. This effort aims to enhance customer satisfaction through a more efficient warranty service, ultimately reflected in the NPS of the company.

The general hypothesis states that there is a relationship between NPS and customer satisfaction in after-sales services. Additionally, two specific hypotheses are proposed: 1) Implementing improvements in customer service via WhatsApp increases customer satisfaction in after-sales service, and 2) Implementing improvements in transportation service for pickup and delivery increases customer satisfaction in after-sales services.

Theoretical Framework

In the past, companies only focused on producing high-quality products. Today, however, after-sales service has become a key differentiator to remain competitive in the market. This service is now one of the main strategies employed by companies aiming to foster customer loyalty, and it has a direct proportional impact on their sales. According to Gargate (2022), “All areas of the company must have a dynamic process, be committed, and take appropriate actions and decisions for the company to achieve strategic competitiveness and profits above the market average” (p. 56).

Companies strive to monitor the progress of all their processes in real time to identify any deviations. This knowledge enables them to implement measures and actions to improve these processes. As noted by the ISO (2015) “the process approach enables an organization to plan its processes and their interactions, to achieve the intended results” (p. viii).

Customer perception of product or service quality is crucial, and companies recognize the importance of understanding customer opinions. In this context, surveys are used to gather feedback, providing companies with a clear picture that helps them take the right steps to achieve their planned results satisfactorily.

Net Promoter Score (NPS)

The Net Promoter Score (NPS) is a widely recognized metric used by organizations to measure customer loyalty based on the experiences customers have with their products or services. It is important for companies to take informed actions based on this indicator, which offers greater ease of use compared to other traditional methods (Bueno, 2017).

The NPS calculation formula subtracts the percentage of detractors from the percentage of promoters (% promoters − % detractors = NPS). On this 10-point scale, respondents scoring 0 to 6 are considered “detractors”, those scoring 7 to 8 are “passive”, and those scoring 9 to 10 are classified as “promoters” of the brand. Companies should focus on achieving a score of 9 or 10. On this, Bueno (2017) claims that *una puntuación de 9 o 10 solo es buena si es mejor que la de los competidores* [a score of 9 or 10 is only meaningful if it surpasses that of competitors] (p. 8). Therefore, brands must analyze and leverage the results from these surveys. It should be noted that the NPS can be applied across various organizations, regardless of their size.

As Alava (2021) notes, one of the most significant benefits of the NPS is that it not only measures customer loyalty but also reveals whether customers would recommend the brand to friends or family. This is typically measured by the question “How likely are you to recommend the product/ service to a friend, relative, or colleague?”. This approach has made NPS one of the most popular methods for companies looking to assess customer experience and emotions.

Customer Perception

Customer perception refers to the value that a customer assigns to their interaction with a product or service, significantly influencing their level of satisfaction. According to Alava (2021), *sólo la percepción que el cliente tenga de la satisfacción de sus necesidades y expectativas define el nivel de calidad alcanzado por una organización* [only the customer’s perception of the satisfaction of their needs and expectations determines the level of quality achieved by an organization] (p. 24).

Customer perception operates on an unconscious level; it is shaped by factors such as efficiency, fairness, and quality (Suárez et al., 2021). Quality plays a major role not only in products but also in services. This ongoing evolution also impacts after-sales service, as highlighted by Silva-Treviño et al. (2021), who argue that "Service quality is considered an alternative for companies to obtain a competitive and sustainable advantage in a globalized economic environment" (p. 85).

Satisfaction

Almiron and Pacheco (2020) assert that satisfaction *se alcanza al lograr que la percepción del cliente sea superada por sus expectativas, los cuales son expresados mediante sentimientos que pueden ser de alegría, placer, felicidad, deleite, alivio, ambivalencia entre otros, dándose como consecuencia una recomendación positiva* [is achieved when a customer’s perception exceed their expectations, which are expressed through emotions such as joy, pleasure, happiness, delight, relief, or even ambivalence, ultimately resulting in a positive recommendation] (p. 29). Thus, satisfaction is a positive emotional state derived from customer’s interaction with a product or service.

In addition, Tarí (2000) mentions that customer satisfaction depends on the gap between the customer's initial expectations and their perception of the product or service provided; higher satisfaction leads to higher expectations.

Importance of Customer Loyalty

Customer loyalty is viewed as a competitive advantage for companies, impacting both economic and emotional levels. It occurs when customers have a positive perception of the brand and the products or services they have received, which exceeds their expectations and leads to satisfaction. Customer loyalty is of vital importance for any company, as it fosters a sense of allegiance among customers based on their positive experiences (Alava, 2021).

Focusing on customer loyalty is nowadays a crucial aspect for any competitive company *que tiene clara la necesidad de mejorar de manera continua sus procesos, que comprende que la variación constante en las necesidades del cliente implica también cambios constantes* [that recognizes the need for continuous improvement in its processes, and understands that the constant evolution of customer needs requires them to adapt constantly] (Berna, 2015, p. 7).

Satisfying customer needs is fundamental to building customer loyalty. By effectively utilizing customer information, companies can create strong relationships, foster trust, and retain customers over time. The ultimate goal of building customer loyalty is to encourage them to return and recommend the brand, making customer loyalty a valuable competitive strategy (Silva-Treviño et al., 2021).

METHODOLOGY

This is a quasi-experimental research study that explores how certain variables are manifested and the relationship between them. The quasi-experimental design involves manipulating at least one independent variable to test the hypothesis; however, the groups are not randomly assigned; instead, groups are pre-defined to analyze the effects of the intervention (Hernández-Sampieri and Mendoza, 2018).

The study is also quantitative, as it assesses the current situation of a company and proposes improvements to address the identified problems. The sample was gathered over fifteen days, consisting of 12 data points, including complaints regarding customer service via WhatsApp and transport service for pickup and delivery of equipment before and after implementing improvements. The SPSS statistic software, version 26, was used to test the hypothesis.

Variables

V_1: Net Promoter Score (NPS)

- Service perception
- Customer loyalty

V_2: Customer satisfaction

- Customer service via WhatsApp
- Transportation service for pickup and delivery

Unit of analysis:

- Customers

Population:

- A census sample consisting of 12 data points was used for each dimension.

Inclusion criteria:

- The participants in the study were individuals over 18 years old who reported issues with their equipment.

First, the data were analyzed, and opportunities were identified and sorted to highlight the main issues. Proposed improvements include:

Customer service via WhatsApp: The number of agents has been increased; each agent can manage up to nine (9) conversations in a row. A supervisor will be present on the floor to assist agents with diagnostics and problem-solving, thereby reducing service time. Additionally, agents who receive negative feedback will undergo training and receive support.

Transportation service for pickup and delivery: The transportation provider's employees received reinforcement in soft skills, and they received support in adopting best practices. Adjustments were also made to the schedule to address critical time intervals.

Through these improvements, the company aims to enhance its after-sales service, therefore, increasing customer satisfaction and ultimately leading to increased sales.

RESULTS

Normality Testing

Null hypothesis (H_0): The NPS follows a normal distribution.

Alternative hypothesis (H_1): The NPS does not follow a normal distribution.

Alpha (α): 0.05

Considering the number of data points, the Shapiro-Wilk normality test was selected, as shown in Table 1.

Table 1. *Normality Testing for the General Hypothesis.*

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
NPS Before	.140	12	.200*	.947	12	.593
NPS After	.115	12	.200*	.976	12	.960

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction.

Source: Prepared by the authors.

The *p*-value is greater than 0.05 for both the "NPS Before" and "NPS After" values; therefore, the data follows a normal distribution and a parametric test was applied.

General Hypothesis Testing

H_0: The NPS is not related to customer satisfaction in after-sales service.

H_1: The NPS is related to customer satisfaction in an after-sales service.

α: 0.05

Student's *t*-test was used, as the analysis involved parametric data with paired samples. The results of the testing conducted are shown in Table 2.

Results showed a significance level of .001; therefore, H_0 is rejected and H_1 is accepted. Improvements made in customer service via WhatsApp have reduced complaints and led to an increase in customer satisfaction, as demonstrated by the NPS result.

Table 2. *General Hypothesis Testing.*

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	NPS Before and After	12	.813	.001

Source: Prepared by the authors.

Normality Testing: Specific Hypothesis 1

H_0: Customer service via WhatsApp before and after improvements follow a normal distribution.

H_1: Customer service via WhatsApp before and after improvements do not follow a normal distribution.

α: 0.05

The results of the normality test conducted are presented in Table 3.

Table 3. *Normality Testing for Specific Hypothesis 1*

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Customer service via WhatsApp before improvements	.242	12	.050	.753	12	.003
Customer service via WhatsApp after improvements	.150	12	.200*	.905	12	.185

*. This is a lower bound of the true significance.

a. Lilliefors significance correction.

Source: Prepared by the authors.

This table shows the values obtained before and after, therefore, a parametric test was used.

Testing of Specific Hypothesis 1

H_0: Improvements made to customer service via WhatsApp do not increase customer satisfaction in after-sales service.

H_1: Improvements made to customer service via WhatsApp increase customer satisfaction in after-sales service.

α: 0.05

The results of the conducted test are presented in Table 4. A Student's *t*-test was used because the data met the criteria for parametric analysis.

Table 4. *Testing of Specific Hypothesis 1.*

Paired Sample Correlations

		N	Correlation	Sig.
Pair 1	Customer service via WhatsApp before and after improvements	12	.852	.000

Source: Prepared by the authors.

Results showed a significance level of .001; therefore, H_0 is rejected and H_1 is accepted. Improvements in customer service via WhatsApp have reduced complaints and increased in customer satisfaction, as demonstrated by the NPS result.

Normality Testing: Specific Hypothesis 2

H_0: Transportation service before and after improvements follow a normal distribution.

H_1: Customer service via WhatsApp before and after improvements do not follow a normal distribution.

α: 0.05

Testing results are shown in Table 5.

Table 5. *Normality Testing for Specific Hypothesis 2*

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Transportation service before improvements	.223	12	.103	.897	12	.144
Transportation service after improvements	.168	12	.200*	.907	12	.195

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction.

Source: Prepared by the authors.

The values obtained were all greater than 0.05, indicating that data followed a normal distribution, which supports the use of a parametric test.

Testing of Specific Hypothesis 2.

H_0: Improvements in the transport service do not increase customer satisfaction in an after-sales service.

H_1: Transportation service improvements increase customer satisfaction in an after-sales service.

α: 0.05

A Student's *t*-test was used because the data met the criteria for parametric analysis. The test results are detailed in Table 6.

Table 6. *Testing of Specific Hypothesis 2.*

Paired Sample Correlations

		N	Correlation	Sig.
Pair 1	Transportation service before and after improvements	12	.858	.000

Source: Prepared by the authors.

In this case, the alternative hypothesis (H_1) is accepted, as a significance level of .000 was obtained. Therefore, H_0 is rejected and H_1 is accepted.

DISCUSSION

This quantitative and descriptive research study focused on the After-Sales Department of a technology company. It provided insights into two variables: NPS and customer satisfaction.

The first variable, Net Promoter Score, has an emotional component and was divided into two dimensions: service perception and customer loyalty. These dimensions pertain to the customer's emotional response upon receiving the after-sales service. The second variable, customer satisfaction, was also subdivided into two dimensions: customer service via WhatsApp and transportation service, and are quantitatively measured. According to Santos (2022), the NPS helps gauge the likelihood of customers recommending a service. If immediate solutions are not provided for reported issues, customer frustration increases, resulting in unmet expectations.

In 2021, Alava studied customer complaints and claims following the pandemic, starting with an assessment of the level of customer satisfaction regarding the products and services provided by the company using the NPS. The analysis revealed that most customers were detractors. The study aimed to identify the underlying causes of dissatisfaction and develop an action plan to enhance customer loyalty. This contrasts with our study, as it focused on analyzing detractors to identify the root cause of dissatisfaction and implement process improvements to enhance the overall customer experience.

In a comparative analysis with the research conducted by Trejo et. al (2023), it is evident that consumers have new expectations, and organizations are willing to adapt to maintain their position in the market. Therefore, understanding customer perceptions based on the interactions with customer service channels is crucial. The NPS is a widely used method to assess satisfaction levels, and Trejo et al. emphasize the importance of tailoring action plans based on the number of users and the number of surveys answered. This aligns with this research, as the company under study also utilizes the NPS as an indicator of customer loyalty, implementing strategies to enhance warranty services.

CONCLUSIONS

The analysis concluded that the Net Promoter Score (NPS) and customer satisfaction variables are associated and that a direct relationship exists between them following the implementation of new strategies to improve operations. The NPS increased from an average of 29 to 38 after the implementation of the after-sales service improvements. Although this score remains below the market average for customer satisfaction, it is essential to continue pursuing continuous improvement.

Similarly, there is a direct correlation between customer service via WhatsApp and customer satisfaction in after-sales service, as the average response time via WhatsApp decreased from 6 days to 2 days.

Furthermore, a direct correlation was observed between the transportation service and customer satisfaction in after-sales service, as complaints regarding this service decreased from an average of 8 to 4.

Given the significance of customer satisfaction today, it is essential to maintain ongoing analysis of detractors based on feedback and recommendations from customers collected in satisfaction surveys. This will provide a solid starting point for necessary improvements, accompanied by the operational metrics of each organization.

Finally, it is vital to provide training to employees to empower them and equip them with the right tools for decision-making. This should be part of a strategic plan that fosters a sense of importance and belonging within the company, motivating employees to serve customers effectively. This is particularly important considering that customer service representatives are the face of the company, especially in after-sales interactions.

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Authors' contribution

Lijia Elena Mendoza León: Investigation, formal analysis, and writing (review & editing).

Jorge Nicolás A. Papanicolau Denegri: Investigation, methodology, and writing (original draft).