



Customer Satisfaction Concerning Travancore Ti- Tanium Products Limited

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Customer satisfaction, Travancore Titanium, Balanced Scorecard Business Management Innovation Industry Infrastructure

ABSTRACT:

Purpose: The objective is to study and analyze customer satisfaction with Travancore Titanium Products Limited.

Theoretical framework: It is a gauge of how well a company's goods and services meet or exceed the expectations of its clients.

Design/methodology/approach: Customer appiness is considered customer satisfaction level was nvestigated by a questionnaire survey.

Findings: Appropriate statistical techniques, such as nova and Garrett Ranking Techniques, were utilized to analyze the collected data.

Research, Practical & Social implications: Customer Satisfaction Index (CSI) is calculated based on the data obtained through the survey.

Originality/value: The value of the study involves the parameter Price, Quality, Payment Terms, Customer Care Service, Technical support, Prompt and reliable delivery, Brand Image, and Availability.

1. Introduction

A common phrase in marketing, customer satisfaction describes how well a business meets or surpasses the expectations of its customers with regard to its products and services. Customer fulfillment is defined as "the proportion of total customers, or the number of customers, whose reported experience (ratings) with a firm, its products, or its services exceeds specified satisfaction goals." It is considered a critical performance metric in the business world and is often included in a balanced scorecard. In a market where companies fight for customers, customer satisfaction is viewed as a crucial differentiator and has grown in importance as a component of business strategy. Scores on customer satisfaction have a big effect on companies. They instill in employees the importance of fulfilling client expectations. Additionally, a drop in these ratings suggests possible problems that could affect revenue and earnings. These measures quantify a crucial dynamic. Brands with devoted followers benefit from positive word-of-mouth advertising, which is totally free and very powerful. As such, handling customer satisfaction effectively is crucial for businesses. To do this, businesses need reliable and representative measures of employee satisfaction.

When conducting satisfaction research, businesses usually ask customers if their product or service has met or exceeded their expectations. Expectations are therefore a significant factor in satisfaction. If customers had high expectations and reality fell short of their expectations, they will be dissatisfied and likely rate their experience as "less than satisfactory".

Industry Profile

Industries are essential to the expansion and advancement of an economy. The rise in employment, national income, and population are all results of industrial development. This also applies to the titanium dioxide market. The chemical industry, of which Travancore Titanium Products Ltd. is a part, is made up primarily of intricate procedures, businesses, and associations that produce chemicals and their byproducts. Almost every aspect of our lives is impacted by the vast array of products produced by the chemical industry. While the consumer purchases a large number of products from the industry, such as detergents, soaps, and perfumes, others are used as components to create other goods. For instance, in Europe, products made by other industries, including those within the chemical industry itself, utilise 70% of the



chemicals produced. A vast variety of raw materials are used by industry, including oil, minerals, and air. As global competition heats up, innovation is still essential to the industry's ability to satisfy its increasingly affluent, picky, and environmentally conscious clientele.

Company Profile

Travancore Titanium Products Ltd. was founded on December 18, 1946, to exploit ilmenite, which is easily found as placer deposits on beaches near Kollam, 65 km north of Thiruvananthapuram, the state capital of Kerala, India, to produce pigment-grade titanium dioxide. The unit (now known as Tioxide Group Limited) was promoted in conjunction with the then-princely state of Travancore and the British Titan Products (BTP) Company Limited, U.K. Indian Titan Products Company, the company's managing agency, held administrative control.

2. Literature Review

The work is based on a case study of a South African manufacturing company located in Johannesburg. The study examined the application of the Quality Management System (QMS) at a business in Johannesburg's northern region, and the results were reported in the paper. In addition to discussing implementation challenges, successes, and failures, the paper offers suggestions for enhancing QMS implementation and preserving a sustainable management system. N. G. Boolaky and Ali (2015). Three methods were used: structured questionnaires, unstructured interviews, and observations. For twenty percent of the respondents, triangulation was completed through unstructured interviews. 114 respondents were given questionnaires; they were split into three categories: employees, Top Management, and customers. According to Cadotte, E. R. (2000), 62% of the responses were returned correctly completed. The study's findings showed that the study's participants' preferred companies to do business with were those that had implemented a QMS. Management's responses indicated that they place a high value on the implementation of QMSs and see them as a means of empowering their staff. Baptiste Homburga, Christian (1999).

One of the markets where fierce competition exists is the boiler water and cooling tower water treatment chemical industry. In 2016, Mokwalo Monareng, A. F.-B. Consequently, it is very difficult to increase market share, even by a very small percentage. Furthermore, because the buyer has significant negotiating power in this market, it can be challenging to keep the current

clientele. S. B. Spreng, Richard A. (1997). Consequently, the operational expense that the supplier must bear in order to keep their clients is high. Determining the variables that impact customer satisfaction in this sector is crucial because it will help determine the best course of action for allocating resources to improve customer satisfaction and grow market share. In 1997, Vavra, T. G.

Understanding the relationship between customer satisfaction and service quality in the aforementioned sector is the aim of this study. P. N. Vayana Pantherine (2019). Fifty customers who contribute to the company's revenue were asked about their experiences using a standard questionnaire. Lee Yu-Cheng (2016) W.-C.-F.-H.-B. Y.-C. The SERVQUAL model was used to calculate the service quality. Data gathering and statistical analysis revealed a strong positive relationship between the caliber of services provided and customer satisfaction. There exists an independent relationship between customer satisfaction and the five service quality dimensions (Chemical industry in India, n.d.). extracted from IBEF.

According to a study on the correlation between customer satisfaction and technical support, both customer satisfaction and technical support through co-creation of value in automotive paint processes were significant factors.

The aim of this research was to examine the connection, as stated by Florian Budde, P. D. (2020), between customer satisfaction with technical support in the automotive paint industry and value-in-use. A quantitative questionnaire survey was used to collect data from 169 respondents who were a convenience sample. The SERVPERF tool with embedded value-in-use characteristics was impacted by the questionnaire design. Multiple regression analysis (MRA) and exploratory factor analysis (EFA) were the two statistical techniques used to analyze the data in SPSS 21. High-quality relationships (trust), knowledge that helps to maximize product benefits, knowledge sharing, and a variety of products and services that meet the needs of the customer were found to be the most significant value-in-use attributes. The primary determinant of customer satisfaction was trust. The results also showed that the biggest positive influence on customer satisfaction came from the assurance of the service quality dimension.

3. Research Methodology

Now Methodology is used to explain the steps involved in conducting research. This covers the



overall study design as well as the techniques for data collection, survey administration, and data analysis. The purpose of this study is to better understand how satisfied customers are with Travancore Titanium Products Limited (TTPL). The quality of the products offered, customer care service, technical support and advice, prompt and dependable order delivery, brand image, and availability are the six parameters that make up the study. To determine customer satisfaction with TTPL, these six parameters are thoroughly examined. The expected contribution margin and profit generated are positively correlated with the depth of the company's understanding of customer needs and satisfaction. Therefore, learning is crucial. Additionally, Travancore Titanium Products Limited will benefit from this study's analysis of the variables influencing their customer satisfaction index and level of customer satisfaction. The experience and expectations of the current clientele are also clarified by this study. The research encompasses all of Travancore Titanium Products Limited's clientele and will provide insights into their inclinations, requirements, and contentment with the enterprise. Finding out if customers are happy with their product quality, customer service, technical assistance and guidance, prompt and dependable delivery, brand image, and availability is also helpful. to evaluate the following six criteria: brand image, availability for customer satisfaction, technical support and guidance, prompt and dependable delivery, quality, and customer care service. In order to assess the degree of customer satisfaction, Travancore Titanium Products Ltd. computes its Customer Satisfaction Index (CSI). A thorough and well-structured questionnaire was developed and used to survey fifty TTPL clients. Primary and secondary research was the methodology employed. Customers' satisfaction levels and general opinions about TTPL were intended to be gathered through the questionnaire. A sample is an exemplary subset of the population. In sampling technique, data is only gathered from a subset of the universe that is representative of the entire universe, and conclusions are made based on this data. For this research project, data from the respondents was gathered using a convenience sampling technique. Convenience sampling is a non-probability sampling technique. This design is the least dependable, but it is typically the simplest and least expensive to implement. Convenience comes from the fact that the researcher can select whoever they want to use in this method. Sample size is a measure of how many items were chosen

for the research. 53 respondents were randomly chosen for the current study. Each of the 53 responders was a TTPL customer. Due to the COVID-19 pandemic-related restrictions, the sample size was limited to 53.

Method of data collection

The method of a questionnaire was used to find out the response. Its purpose is to serve as a primary research tool. Respondents received questionnaires and were asked to complete them by phone interview with the questions on the questionnaire. Because it is a crucial technique for gathering data, the questionnaires were employed as an instrumentation technique. The effectiveness of the questionnaire approach in gathering data is primarily dependent on its drafting. Thus, the study's questions were logically ordered and connected. The structured questionnaire is going to lessen the prejudice of the interviewers and interpreters. To get findings, recommendations, and ultimately a topical conclusion, additional coding and analysis was performed for each question's response.

Method of Data collection

Primary data: Unique in nature and gathered with a specific goal in mind, primary data are those that the investigator personally gathers for the first time. To gather the primary data, TTPL's chosen sample of customers was given a well-structured questionnaire. Secondary data: Secondary data are those that have previously been gathered and published for their intended purpose by another person. Finished goods are often the format of secondary data. In order to get the project work ready, two kinds of secondary data were gathered:

- Company manuals, annual reports, and brochures were the source of internal data. However, the sources of the external data were websites, research books, and magazines.

Type of research

The goal of the current study, which is based on analytical research, is to evaluate the various factors that affect TTPL customers' levels of satisfaction before determining the Customer Satisfaction Index.

Limitations of the study

Even though the study was conducted with great enthusiasm and meticulous planning, it was hindered by a number of issues. Firstly, there were time constraints. The project had a shorter time frame than expected, so there's a possibility that



some information was overlooked, but every effort was made to include all pertinent information. 2. Sample size: there was only a small sample size because of time constraints; if I had gathered data from more respondents, the sample size would have been more representative. 3. Accuracy: It can be challenging to determine whether every respondent provided accurate information because some have a tendency to provide false information. 4. COVID-19: The study is limited to a sample size of 53 respondents because the pandemic imposed numerous restrictions during the data collection stage.

Data Analysis and Interpretation

The Customer Satisfaction Level of Travancore Titanium Products Limited is calculated based on the analysis of six parameters: 1. Quality of the Products offered, 2. Customer Care Service, 3. Technical Support and advice 4. Prompt and reliable delivery of the order, 5. Brand Image, 6. Availability. Extensive examination of these six factors reveals that over 50% of the participants express extreme satisfaction with the caliber of the goods provided by Travancore Titanium Products Limited. Out of the total respondents in the survey,

customer satisfaction measured in terms of the parameter of customer care service has revealed that 36% of them were not satisfied with this parameter of TTPL which means that if this parameter is focused on and proper measures taken to ensure customer service can enhance the satisfaction level of the customer thereby driving sales and profit for Travancore Titanium Products Ltd for Customer Care Service. customers are very happy and satisfied towards the Technical Support & Advice given by TTPL to its customer base. The frequent labor disputes, strikes, and environmental pollution problems that TTPL experiences are among the main causes of this, as they endanger the consistent delivery of goods to clients.

The parameter of Brand Image is extremely favoring TTPL in terms of its customer satisfaction since this is well known brand producing Titanium Dioxide in Kerala and India as a whole. The parameter Availability of the products is a measure of customer satisfaction of Travancore Titanium Products Ltd. is rated as excellent. The satisfaction level from 2007 till 2020 was already available in company records and that of 2020-21 is calculated using this study done as in Table 1.

Table 1 – Showing the scores of each parameter towards customer satisfaction

Parameters	Excellent	Very Good	Satisfactory	Poor
Quality	25	20	15	0
Customer care service	20	15	10	0
Technical support & advice	15	10	7	0
Prompt & reliable delivery	15	12	9	0
Brand image	15	12	9	0
Availability	10	5	4	0

The customer satisfaction index has seen constant growth over the years from 2007 till 2021. There was a decrease in the index observed during the period of 2017- 18 and 2019-20. Except that all the years showed an increase in the Customer Satisfaction Index as shown in Figure 1.

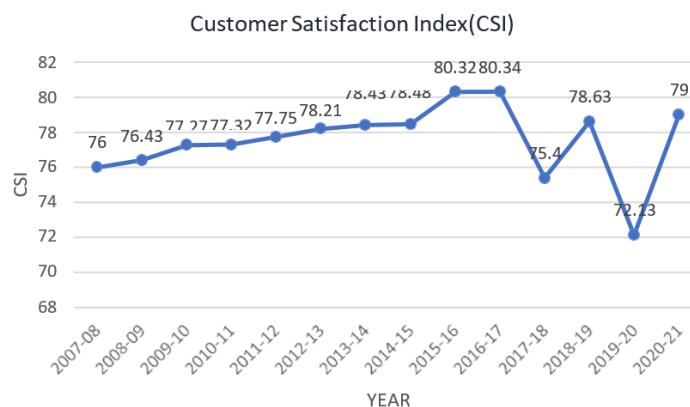


Figure 1 – Showing the customer satisfaction index from 2007 till 2021



Anatase grade titanium dioxide is also sold in larger quantities by TTPL. The null hypothesis of the analysis of variance is accepted, and it is thus possible to draw the conclusion that there is no discernible variation in the degree of customer satisfaction among TTPL clients according to industry. The customer satisfaction index for Travancore Titanium Products Limited is measured based on the following parameters: Quality,

Consistency, Price and Material Availability. So, to analyze the preference among the variables, the Garrett Ranking Technique is used. The result obtained is as shown below:

Percentile scores for the percentile positions are derived from Garrett's table. Table 2 illustrates how the following table is created using these percentile scores as X and the number of respondents who assigned ranks 1, 2, 3, etc. as frequencies (f).

Table 2. Showing the ranking of the parameters

Rank	1	2	3	4		
Score(X)	73	57	44	27	Total	Rank
Quality(F1)	17	11	12	13		
XF1	1241	627	528	351	2747	3
Consistency (F2)	13	20	7	13		
XF2	949	1140	308	351	2748	2
Price (F3)	15	12	18	8		
XF3	1095	684	792	216	2787	1
Material Availability(F4)	10	10	15	18		
XF4	730	570	660	486	2446	4

According to the data, customers prioritize price (Rank 1) above all else, with consistency (Rank 2), quality (Rank 3), and material availability (Rank 4). Thus, the analysis leads to the conclusion that the majority of respondents value price the most, followed by consistency, quality, and material availability.

4. Findings, Results And Discussion

Over 50% of the participants express great satisfaction with the caliber of the product provided by Travancore Titanium Products Limited. This attests to TTPL's quality certifications, which include ISO 9001:2015 and BIS certification. Out of the total respondents in the survey, customer satisfaction measured in terms of the parameter of customer care service has revealed that 36 percent of them were not satisfied with this parameter. More than 30percent of the respondents have rated the parameter which is prompt and reliable delivery as poor for TTPL which is a serious factor that needs to be considered. The parameter of Brand Image is extremely favoring TTPL in terms of its customer satisfaction since this is well known brand producing Titanium Dioxide in Kerala and India as a whole. In Indian titanium dioxide industry, one of the key players is Travancore Titanium Products Limited. The customer satisfaction index of Travancore Titanium Products Limited has seen constant growth over the years from 2007 till 2021. There was decrease in the index observed during the period of 2017-18 and 2019-20. Except that all the

years showed an increase in the Customer Satisfaction Index. The customer satisfaction index of Travancore Titanium Products Limited has seen a constant increase over the years in the study. The major customer base of TTPL belongs to the Paint, Rubber, Plastic, Paper, Ink, and welding industries. The titanium dioxide supplied by TTPL is used across multiple industries with its maximum usage in paint industry where titanium dioxide is a major ingredient which provides whiteness and opacity to paints. 53 percent of the titanium dioxide sold is anatase grade and 13percent is of rutile grade and 34percent both grades. It shows that the higher quantity titanium dioxide sold by TTPL is of anatase grade. Regarding industry, produced grades of titanium dioxide, and the industry's future, it was found that there are no appreciable differences in the satisfaction levels of TTPL's customers. It was discovered that the degree of customer satisfaction at TTPL differs significantly from supplier base to customer base. It is found based on the analysis that the customers have the foremost preference for Price (Rank 1), followed by Consistency (Rank 2), Quality (Rank 3), Material availability (Rank 4). So, it can be concluded from the analysis that most of the respondents prefer price followed by consistency, quality, and material availability.

The customer base of TTPL is highly satisfied with the quality of the products offered to them. Hence, TTPL must focus on maintaining the product quality as it is a significant factor influencing the customer satisfaction level. The



customers of TTPL are very much dissatisfied with the parameter of customer care service being offered to them. Thus, it can be recommended that proper measures should be taken to ensure customer service, which can enhance the satisfaction level of the customer thereby driving sales and profit for Travancore Titanium Products Ltd. It is evident that the parameter prompt and reliable delivery is a serious factor that TTPL needs to consider as it is a measure of customer satisfaction. One of the main causes of this is the regular labor disputes, strikes, and environmental contamination that TTPL experiences. These problems endanger the consistent delivery of goods to clients.

Hence it can be recommended that TTPL should focus on addressing the issues mentioned above that pose a threat to prompt and reliable delivery. More than half of the titanium dioxide sold by TTPL is of the anatase grade and only a small amount of rutile grade of titanium dioxide is sold. So, measures can be taken to increase the sale of the rutile grade by increasing awareness to its customers regarding the features and benefits of rutile grade of titanium dioxide.

5. Conclusion

With an annual sales turnover of roughly 170 crores, Travancore Titanium Products Ltd. is a reputable and profitable Indian company. Since its primary product, titanium dioxide, is a necessary component of practically everything we use on a daily basis, the company is a blessing to India. Additionally, all of the departments work together harmoniously to increase the organization's profitability. Profit maximization has been achieved by TTP Ltd.'s management, who are blessed with a wealth of experience and qualifications. In the current competitive market, companies are always trying to find new customers while also trying to satisfy their existing ones. Customer satisfaction measures the extent to which clients are happy with the products and services that a business provides. To determine the degree of customer satisfaction, survey techniques and questionnaires can be employed. Firms must take into account every aspect of their offerings, such as market dynamics and the caliber of their goods and services, in order to satisfy clients and maintain their competitive edge. A company's ability to maintain high customer satisfaction levels is critical because contented customers are more likely to be loyal, make repeat purchases, and utilize a range of the products the company offers. Therefore, assessing Travancore Titanium Products Limited's customer satisfaction level aids in determining and analyzing the variables that affect

customer satisfaction and in taking appropriate action to raise those metrics.

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