

Enhancing Customer Satisfaction and Service Quality in the Solar Energy Sector: A Case Study of Alishan Solar Pvt Ltd.

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Abstract

This study explores the critical factors influencing customer satisfaction and service quality in the solar energy industry, focusing on Alishan Solar Pvt Ltd. Through a mixed-methods approach involving quantitative surveys and qualitative interviews, the research identifies key determinants, including product quality, service delivery, and customer support. The study utilizes the SERVQUAL model to assess service quality dimensions and proposes actionable recommendations for enhancing customer experiences and fostering long-term loyalty.

1. Introduction

The solar energy sector has emerged as a crucial component of the global shift towards sustainable energy solutions. For companies operating within this competitive landscape, customer satisfaction and service quality play pivotal roles in maintaining market share and building lasting customer relationships. This study investigates these constructs within the context of Alishan Solar Pvt Ltd, a key player in the Indian solar market, with the objective of identifying key influencers and proposing strategic recommendations for improvement.

2. Literature Review

Customer satisfaction is often conceptualized as the degree to which a product or service meets or exceeds customer expectations. Prior studies highlight its multifaceted nature, encompassing product quality, service delivery, and customer support (Oliver, 1980; Zeithaml et al., 1988). Service quality, measured through dimensions such as reliability, assurance, tangibles, empathy, and responsiveness, significantly affects customer perceptions and loyalty (Parasuraman et al., 1988).

Within the renewable energy sector, product performance and reliability are paramount (Grönroos, 1984), as solar installations require substantial investments and long-term operational efficiency. Moreover, service interactions—from initial consultations to after-sales support—shape the customer experience and influence repeat business (Berry et al., 1996).

3. Research Objectives

1. To evaluate overall customer satisfaction with Alishan Solar Pvt Ltd's products and services.
2. To identify key factors influencing customer satisfaction, including product quality, installation efficiency, and customer support.
3. To assess the impact of service quality dimensions on customer satisfaction using the SERVQUAL model.
4. To develop strategic recommendations for enhancing customer satisfaction and service quality.

4. Conceptual Framework and Hypotheses

The study's conceptual framework integrates determinants of customer satisfaction and dimensions of service quality. Hypotheses include:

- H1: Higher product quality positively influences overall customer satisfaction.
- H2: Efficient installation services positively impact customer satisfaction.
- H3: Responsive customer support enhances satisfaction.
- H4: Perceived value for money is positively related to satisfaction.
- H5: Service quality dimensions (reliability, assurance, tangibles, empathy, responsiveness) are positively associated with customer satisfaction.

5. Research Methodology

5.1 Research Design

A mixed-methods approach was employed, combining quantitative surveys with qualitative interviews to gain comprehensive insights.

5.2 Data Collection

Structured questionnaires assessed satisfaction with product quality, installation processes, customer support, value for money, and service quality dimensions. Semi-structured interviews provided nuanced insights into customer experiences and expectations.

5.3 Sampling

A stratified random sample of 200 customers ensured representation across residential, commercial, and industrial segments.

5.4 Data Analysis

- Quantitative: Descriptive statistics, regression analysis, and factor analysis were conducted using SPSS.
- Qualitative: Thematic analysis was used to identify key patterns and insights from interview data.

6. Results and Discussion

6.1 Customer Satisfaction Levels

Overall satisfaction with Alishan Solar Pvt Ltd was moderate, with key areas such as product reliability and service responsiveness highlighted as critical influencers. Variability in customer experiences was noted, particularly concerning expectations versus delivered solutions.

6.2 Key Determinants

Regression analysis identified that installation team professionalism and flexible financing solutions significantly impacted customer satisfaction. Service quality dimensions, especially reliability and assurance, emerged as critical drivers.

6.3 Service Quality Assessment

The SERVQUAL analysis revealed that responsiveness and empathy required focused improvement to enhance the overall customer experience.

7. Recommendations

- **Product Quality:** Invest in advanced technologies and rigorous quality control to enhance solar panel performance and reliability.
- **Professional Training:** Implement continuous training programs for installation teams to ensure consistent service excellence.
- **Customer Support:** Strengthen CRM systems to provide timely and effective responses to customer queries.
- **Transparent Communication:** Enhance clarity in product information and service agreements to align customer expectations.
- **Flexible Financing:** Offer customized payment solutions to cater to diverse customer needs.

8. Conclusion

This study underscores the importance of product quality, service delivery, and customer support in shaping customer satisfaction in the solar energy sector. By adopting the recommendations, Alishan Solar Pvt Ltd can strengthen its competitive advantage, foster long-term customer loyalty, and contribute to the growth of sustainable energy solutions.

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