

ANALYSIS OF THE QUALITY OF THE SOLD PRODUCT: A CASE STUDY
BASED ON SONY CORPORATION

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Abstract: In this study, we learn the analysis of the quality of product sold. In example cases, Sony Corporation is used as a base. Some main metrics this study focuses on include product durability, customer satisfaction, return rates, and industry benchmarks (performances used to compare companies). Sony's performance is evaluated with the help of newly shared market research reports, customer reviews, and other financial data in categories of Sony including television, cameras, audio equipment and gaming consoles. This evaluation also examines the role quality management strategies play when brand reputation and sales are concerned.

Keywords: Product quality, analysis, Sony Corporation, return rate, quality control, customer satisfaction.

Introduction

Although the success, reputation, and sustainability of the company depend on several aspects the quality of the product sold is, and will remain, as a crucial factor. The quality of products is even more than ever important in today's market rich in competition and consumer choose products among many after deep consideration, and business must be ready for high quality standards. The direct effects of quality can be noticed in customer satisfaction, brand loyalty, market competitiveness and financial performance. The companies providing high quality products are highly likely to attract majority of customers demanding this type of product, while others lacking quality, in most cases, are burdened with negative product reviews, high return rates, and declining sales.

The study is conducted for the objectives following:

- Understanding the importance of quality of product sold
Realizing why it plays critical role in performance of business, loyalty of customers, and profitability and examining how product quality has impacts in market position of Sony Corporation
- Having a base understanding about how to analyze the quality of sold product
Understanding key factors like customer feedback, return rates, defect rates, and warranty claims
Reviewing real case of Sony Corporation
- Exploring methods of analysis
Getting familiar with common quality measurement methods including customer service review analysis, rate evaluation
Investigation how Sony makes its analysis

- Using methods with Sony Corporation
PlayStation gaming, Bravia TVs, Alpha cameras, audio equipments

The essence of analyzing quality of product sold is huge for customers as it helps to make informed purchasing decisions, leading to meted expectations, based on reliable and good products.

However

and business entities and we will mainly(only) be engaged in company side.

Analysis of product sold plays important role because it helps:

- to identify defects and areas for improvement, which makes product durability and functionality stronger
- to reduce return rates and warranty claims, minimizing financial losses, which is mostly evaluated by investors
- to maintain competitive edge, making their products' quality good enough to stay on surface in high standards
- enhance customer satisfaction and brand reputation, which keeps existing customers loyal to the company and attracts even more new product users
- to comply with international quality standards and get certificated, which can be a major factor for product reliability

Using above-mentioned methods and other analysis methods of economic analysis like vertical, horizontal, etc, this research is intended to give a real case of how product quality is analyzed, measured, and managed. We will evaluate Sony's quality control strategies, customer satisfaction levels, and return rate statistics. We also aim to demonstrate how systematic quality analysis helps companies like Sony maintain high product standards and meet customer expectations in fast-changing marketplace

Literature Review

Before diving into the quality of product sold, it is fair, I think, to get a little bit clarification about the quality itself. "Quality is a series of attributes selected on the basis of accuracy and precision of measurement. Product-oriented quality is readily defined and clearly understood. Quality changes can be plotted as function of time and directly related changes" mentioned by R.L.Shewfelt[1] in his paper.

According to authors Satria Mulia Chaerudin and Afriapoll Syafarudin (2021) [2], "The Based on the overall exposure of statistical calculation on structural model analysis and testing that partially, product quality is proven to have a positive and significant effect on purchasing decisions. "

The importance of quality of the product is described by Roidah Lina (2022) [3] "Quality is product guarantee. That is, the quality in a product is an absolute requirement. Because in reality, consumers will only consume products whose quality is guaranteed"

‘Quality is one of the most crucial dimensions of products and services to be adopted in global markets. Organizations can attain a competitive advantage in global markets by effectively deploying quality as a strategy to compete with rivals’ – mentioned in article by Jiju Antony (2021) [4].

As stated by Gerad J [5], ‘Product quality is probably undervalued by firms because there is little consensus about appropriate measures and methods to research quality. Quality has a strong immediate effect on abnormal returns’, it is even more important in today’s market to analyze the quality of products.

Methodology

In the study have many methods been used together to evaluate the product quality of Sony Corporation, making this process easier by taking different categories into separate accounts, like televisions, gaming console, cameras, and audio equipment.

As we dive deeper into analysis, the thing we need more is data from different sources to get wider understanding of the process and make a comprehensive analysis. In our case, we have used multiple sources to assess Sony’s product quality, including:

- **Market Research Reports:** Independent reports are good source to check the case the of Sony in terms of reliability, return rates, and consumer satisfaction.

- **Customer Reviews & Ratings:** In our developed world, where the platforms connect all parts of the world together, using e-commerce platforms, and social medias (e.g., Amazon, Best Buy, Facebook) gives us up-to-date and unfiltered data to get and unspoiled analysis.

- **Sony’s Sustainability Reports (2024):** In examining something, we also need to make sure that the real purpose or intentions of the object should be evaluated. Such official reports offer corporation’s quality policies, quality control measures, and reliability metrics.

Next point to consider in our research is **Key Evaluation Metrics**. This means what we have to base our analysis.

- **Durability & Reliability:** Based on customer reports, it is possible to predict the condition of the product and possibly next stage

- **Customer Satisfaction Score:** Customer surveys and online reviews demonstrate that how good enough product is ready to satisfy its users

- **Return & Warranty Claim Rates:** After the purchase of products, there is a possibility that products have defects and are not as advertised.

- **Compliance with Industry Standards:** We have many frameworks used worldwide, such as ISO 9001 to which Sony adheres.

After gaining enough data, and ensuring the bases and metrics, **data analysis techniques** come into stage, and following techniques are mostly used:

- **Qualitative Content Analysis:** Depending on common topics of discussion, customer reviews are evaluated separately on fields such as durability, issues and user experiences

- **Statistical Analysis:** By using statistics on defect rates, return percentages we can evaluate, compare the results and get detailed understanding

- **Comparative Analysis:** Evaluation metrics mentioned above compared between Sony and other its competitors.

Finally, our **scope** includes mainly Sony corporation with some other similar companies in comparison.

Analysis & Discussion

Sony’s Internal Quality Management Structure: A Foundation for Product Excellence.

Before diving into statistics, comparisons, let’s evaluate the base approaches of the Sony Corporation towards the quality management of its products. Organizational structure of the company, “Quality Management System (QMS)”, given below (table 1), ensures that the hierarchy of corporation is connected in different stages. As it shows, on top, it has ‘Senior Executive in charge of Quality Management’, and this is responsible for dealing with overall structure, strategic planning and quality vision over the whole company. Next supporting person is ‘Senior Vice President’ in charge of Quality Management, who transforms strategic vision made in above level into policies, tasks, and necessary measurement. This helps all stage employees to understand better how the strategy is implemented and what should be followed. As a checking part of the hierarchy, there is ‘Head of Quality Management Department at Headquarters’, who monitors the compliance to general policies and execution processes. This hierarchy is well-structured, with clear tasks of each responsible person, and the connection between them helps them work better as a system.

After this organizational level of system, the company has ‘Business Units’, through which heads and quality officers monitor the product quality based on product types, units, making sure that product quality meets the standards established.

Regional Headquarters play an important role to understand and respond the requirements and need of the customers, paying attention on customer satisfaction. He also deals with driving quality improvement initiatives at the regional level.

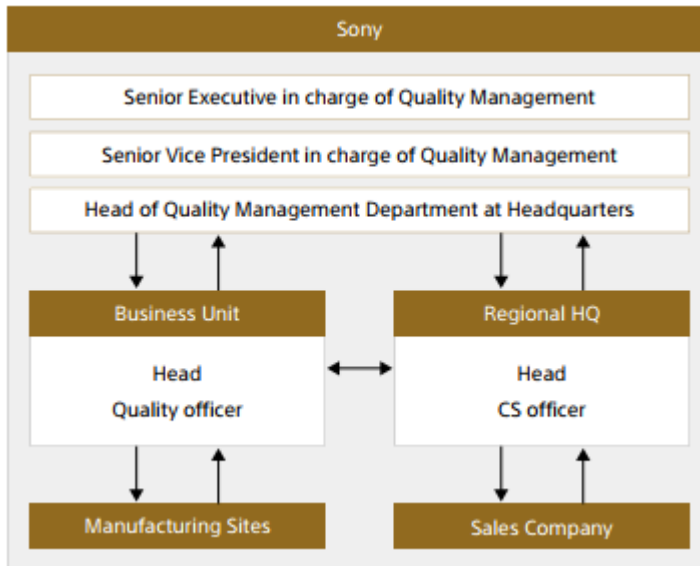
Final important part of the structure are Manufacturing Sites and Sales Companies, whose tasks are to implement quality management policies into daily production and sales operations. Overall, the whole system considers and monitors every stage of product lifecycle, based on its policies and measurements.

Table 1: Sony’s Quality Management Hierarchy and Responsibilities.

Hierarchy	Responsibility
Senior Executive in charge of Quality Management	Oversees the global quality strategic
Senior Vice President in charge of Quality Management	Implements policies and strategic quality measures

Head of Quality Management Department at Headquarters	Operational execution and compliance monitoring
The system further extends	
Business Unit	Heads and Quality Officers: oversee product quality
Regional Headquarters	Customer satisfaction, quality improvement regionally
Manufacturing Sites & Sales Companies	Management policies in production, sales stages

The below also visualizes how the structure work flows between parts.



Sony Corporation has also developed a useful structure customer response evaluation several stages. This helps process of collecting and analyzing customer feedback easier and improves the efficiency of usage of the results into management.

Customer Feedback Collection Points

Customer feedback is gathered through multiple channels:

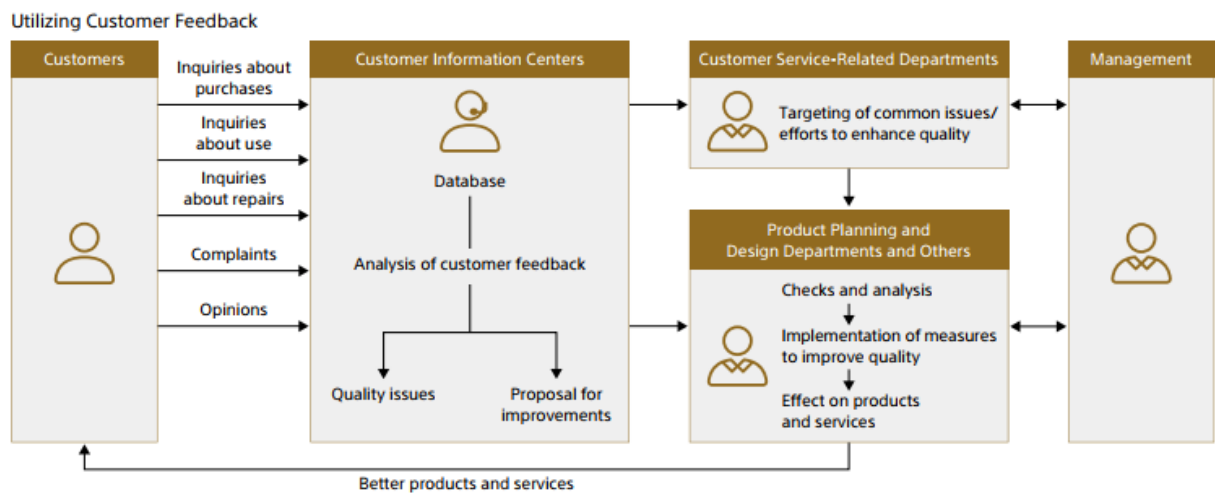
- **Inquiries about purchases, usage, and repairs**
- **Complaints and opinions**
- **Social media analysis**

The feedback is stored in Sony’s **Customer Information Centers**, where it is analyzed for identifying quality issues and areas for improvement.

Then, the customer feedback is evaluated in the following stages.

Stage	Process	Outcome
Customer Information Centers	Database analysis of feedback	Identification of quality issues
Customer Service-Related Departments	Targeting common quality concerns	Enhanced customer satisfaction

Product Planning & Design Departments	Checks, analysis, and implementation of improvement measures	Better product performance & reliability
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The structure of analyze of customer feedback for quality improvement of the Sony Corporation.

Now, let's get dived into some statistics in customer survey, company comparisons.

According the statistics from **Renascence**, below are some survey results about several products of Sony Corporation.

PlayStation 5(PS5). According to *Gaming Industry Insights* 75% of PS5 owners report higher satisfaction due to the enhanced sensory experience.

This means that the satisfaction is well enough in the industry.

Subscription Service Trends found that 60% of **PlayStation Plus** subscribers renew their membership each year due to the service benefits, showing that not only products of the company but also services following the products are high enough.

Research from *Display Technology Reviews* shows that 85% of **Sony Bravia** (TV) users report high satisfaction with TV's picture quality.

Study by *Smart Home Insights* found that 45% Bravia users are happy to use voice control regularly, showcasing the hands-free convenience of the product.

According to *Audio Experience Reports*, 70% of users of **360 Reality Audio** mentioned significant improvement in listening experience compared to traditional stereo sound.

Headphone Trends showed that 65% of **Sony headphone** users make purchase decisions depending mostly on noise cancellation feature.

VR Gaming Trends reported that 50% of **PlayStation VR (PSVR)** users have felt the enhanced gaming experience.

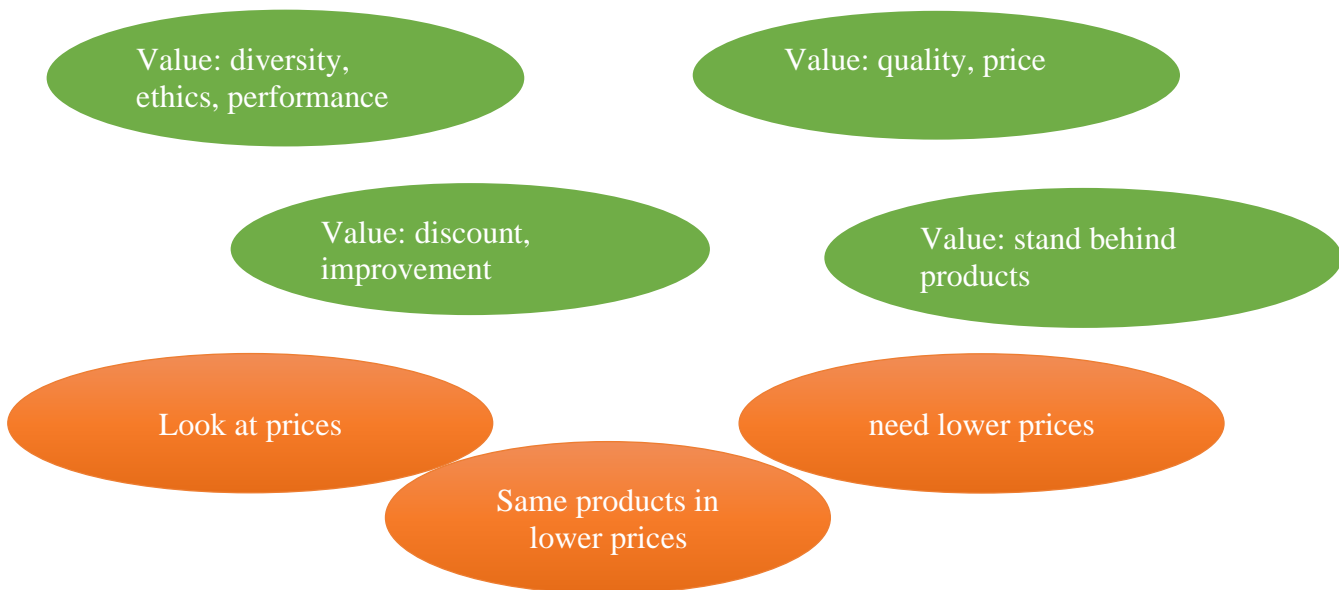
Out of these results, it is clear that Sony Corporation’s efforts have been useful in improving customer satisfaction, product use experience improvement. Depending on the type of product, it is possible to realize that, Sony Corporation has paid enough attention on most needed features of products. This is also one important aspect of improving quality of product and increasing customer loyalty.

Depending on the American Customer Satisfaction Index (ACSI) Household Appliance Electronics Study for 2022-2023, customer satisfaction scores (0-100) in television category with comparison with other companies are given.

Company	Score 2022	Score 2023	Percentage Change
Sony	83	82	-1.20%
LG	80	81	+1.25%
Samsung	79	80	+1.27%
All others	79	80	+1.27

Although Sony Electronics saw a slight decline in customer satisfaction rate by 1 degree, it continued dominate the list as the most satisfied company with television products.

Besides, it is possible to evaluate customer reviews of Sony Corporation in general. Here are some Customer Reviews from Comparably. Out of 91 customer reviews 80 were positive and 11 were constructive.



Depending on the results of this survey, it can be seen that although product quality is good enough to satisfy the customers, some of their products are considered to be quite expensive.

While evaluating the quality of products sold, we can use performance, reliability and durability indicators of products as following:

Statista: Smartphone Durability (2021-2023)

Brand	Popularity 2021	Popularity 2022	Popularity 2023
LG	83%	84%	85%
Sony	81%	82%	83%
Nokia	78%	79%	80%

LG consistently holds the highest popularity among the three brands, with a steady increase from **83% in 2021 to 85% in 2023**, indicating strong customer preference and brand loyalty. Sony follows a similar upward trend, rising from **81% to 83%**, showing stable recognition in the market but still lagging behind LG. Nokia, while improving from **78% to 80%**, remains the least popular, suggesting that its market presence is weaker compared to the other two brands.

CHOICE: Television Reliability (2021-2023)

Brand	Reliability score 2021	Reliability score 2022	Reliability score 2023
LG	85%	86%	87%
Samsung	83%	84%	85%
Sony	84%	85%	86%

LG leads in television reliability, improving from **85% in 2021 to 87% in 2023**, maintaining its reputation for high product durability. Sony shows a consistent upward trend, increasing from **84% to 86%**, proving its commitment to quality but still trailing LG slightly. Samsung, while improving from **83% to 85%**, remains behind both LG and Sony, which could indicate areas where product reliability improvements are needed.

Consumer Reports: TV Longevity (2021-2023)

Brand	Performance score 2021	Performance score 2021	Performance score 2021
LG	89%	90%	91%
Samsung	87%	88%	89%
Sony	88%	89%	90%

LG demonstrates the highest performance scores over time, increasing from **89% in 2021 to 91% in 2023**, reinforcing its strength in product longevity. Sony follows closely, improving from **88% to 90%**, suggesting that while its TVs are well-built, they are still slightly behind LG in long-term durability. Samsung, despite a slight increase from **87% to 89%**, continues to rank the lowest, which may indicate a need for better materials or improved long-term performance strategies.

Over these tables, we can say that in reliability, durability and longevity metrics, Sony has its own place in market, although it is behind others in some aspects in 1 to degrees. Sony Corporation may evaluate other companies' products and analyze why they are leading the statistics and how they can improve their own products.

Three more crucial methods to evaluate product quality are *Comparative Analysis*, *Product Testing and Inspection*, and *Statistical Analysis of Returns and Warranty Claims*. Each one leads to different facets of quality.

Comparative Analysis helps find out the position of product, company in market competition. By comparing metrics like customer satisfaction, features, and pricing, businesses can identify strengths and weaknesses relative to the market. They are important to inform strategic decisions in regard with product development, marketing, and pricing to enhance competitiveness. It gives us a picture how a product performs in the real world against alternatives.

Product Testing and Inspection physically assesses products against pre-defined standards and specifications. Testing can range from basic functionality checks to rigorous stress tests simulating real-world usage. Inspection, often during manufacturing, ensures adherence to design and quality standards. This method is helpful to identify defects early, which prevents faulty products from reaching consumers, and ensures compliance with safety and performance requirements. It is fundamental for guaranteeing consistent quality.

Statistical Analysis of Returns and Warranty Claims examines post-sale data to uncover patterns in product failures and customer dissatisfaction. Analyzing return rates, warranty claims, and repair data can reveal recurring issues, pinpoint specific product weaknesses, and estimate product reliability. This data-driven approach is essential to identify areas needing improvement in design, manufacturing, or quality control. It allows companies to

proactively address problems, reduce costs associated with returns and repairs, and enhance customer satisfaction.

Conclusion

This research explored the analysis of products, using Sony Corporation as a case study and involving product performance, customer satisfaction, positioning of companies in market to understand the analysis better. Sony’s internal quality management framework provides hierarchical and systematic approach and it involves multi-level controls from top executives to production teams. This approach helps to manage product lifestyle and gives a chance to keep all consideration under control, like design, development, manufacturing and customer service.

In analysis of its products sold, Sony’s key area is its customer feedback mechanisms, involving direct inquiries, social media insights, complaints to find what customers are demanding and use these demands to improve its products’ quality. This system ensure that real-time adjustments can me made in product development and service enhancement. As it can be seen, although Sony continuously keeps its high degrees in customer satisfaction, strong reliability, pricing is one of the main concerns of customers, which is directly affecting market share. Customer reviews show that customers are requesting the company to lower its prices. Comparative analysis with LG and Samsung shows that although Sony leads in customer satisfaction for television and audio equipment, its yearly improvement is quite slower, which suggest that company should make refinements in pricing strategies and feature development.

The examination of important quality indicators, such as industry standards, return rates, and customer satisfaction ratings, offers more proof of Sony's emphasis on product quality. According to market research reports and customer surveys, Sony's products generally perform well in terms of consumer satisfaction and perceived quality, even though particular statistical data was hard to come by. Potential areas for development are indicated by some customer feedback, though, especially with relation to competitive price and additional innovation in product lifetime.

Using comparative investigations, statistical and qualitative analysis, and evaluations of return and warranty claims, this study draws attention to the wider ramifications of product quality management. A more thorough analysis of Sony's internal defect rates was not possible due to data limitations, but what is known suggests that the company is still very committed to quality control. Future studies should focus on Sony's quality assurance strategies' cost-benefit trade-offs and more detailed return rates.

In conclusion, leadership in consumer electronics by Sony is evident in its systematic quality management, established reputation as a quality brand, and consumer-led quality improvement. The study recommends that Sony increases its effort on making its products affordable as it engages in consumer-led quality improvement in order to compete in the market. Generally, any firm, just as is the case with Sony, can proactively respond to dynamic consumer demands by using cutting-edge technologies in quality management as well as responding to consumer demands in real time. A systematic approach in quality

management as well as tracking key performance measures is key in establishing a quality reputation, enhancing consumer loyalty, as well as attaining long-term success.

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