

# THE INFLUENCE OF CONVEYOR BELT QUALITY ON CUSTOMER SATISFACTION PT. KARET NGAGEL SURABAYA WIRA JATIM

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## Abstract

Product quality is an important thing that needs to be considered by producers in order to increase customer satisfaction. This study aims to determine the effect of product quality Conveyor Belt on customer satisfaction PT. Ngagel Rubber Surabaya Wira East Java. The dimensions of product quality include product performance, product features, reliability, product specifications, product durability, warranty availability, product aesthetics. This research uses descriptive quantitative research. This research uses a survey by distributing questionnaires to respondents. The analysis technique used in this study is multiple linear regression. The results of this study are product performance and product features have a significant effect on customer satisfaction, while reliability, product specifications, product durability, warranty availability, and product aesthetics have no effect on customer satisfaction. This study also states that the dimensions of product quality have a significant effect together on customer satisfaction.

## Keywords :

Product quality; Consumer satisfaction; Conveyor belt

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## Introduction

Product quality is crucial for consumers and producers, as it reflects a company's success in producing goods that meet consumer needs and desires, generating profits and ensuring satisfaction. It is a reflection of the company's overall success in its production process.

Product quality control is crucial in the production process, aiming to anticipate defects and minimize damage. Marketers must understand consumer needs and preferences to produce goods and services according to market demand. Seven product quality indicators, including performance, features, reliability, specifications, durability, warranty availability, and aesthetics, should be considered in the production process (Sumarwan,

2017:19). There are seven indicators of product quality according to Tjiptono (2016), that need to be considered in the production process, namely product performance, product features, reliability, product specifications, product durability, warranty availability, and product aesthetics. Good product quality prevents loss of company profits and creates customer satisfaction, fostering loyalty. Therefore, companies should assess the impact of product quality on customer satisfaction.

PT Ngagel Rubber Surabaya Wira Jatim, a rubber industry company, produces high quality Conveyor Belts and Rubber Articles under the INABEC brand. Although there are defects in the products that can impact consumer dissatisfaction, the company's sales have not declined due to consumer complaints. The company's high-quality products fulfill market demand, despite the challenges in producing them.

According to Putri et al., (2021) states that the higher the product quality, the higher the customer satisfaction, so the product quality variable has a significant role in increasing customer satisfaction. Quality in products which includes reliability, durability, and also conformity to specifications has a significant effect in fulfilling customer satisfaction. However, Mariansyah & Syarif, (2020) argue differently where product quality does not have a positive and significant effect on customer satisfaction. From the previous description, this study aims to determine the effect of Conveyor Belt quality on customer satisfaction of PT. Ngagel Rubber Surabaya Wira East Java.

## Literature Review

### Consumer Satisfaction

Tjiptono (2014) states that customer satisfaction is a buyer's cognitive situation related to the equivalence (suitability / pleasure) or inequality (displeasure) of the results obtained compared to the sacrifices that have been made. According to Sangadji and Sopiah (2013: 180) in (Setyo, 2017), explains that satisfaction or dissatisfaction is a person's feeling of pleasure or disappointment that comes from a comparison between his impression of real or actual product performance and expected product performance. So it can be concluded that customer satisfaction is the conformity of the expectations of a consumer with his own expectations of a product they are aiming for.

### Product Quality and Consumer Satisfaction

Kotler and Armstrong (2008) state product quality as "the ability of a product to perform its functions. It's includes the product's overall durability, reliability, precision, ease of operation and repair, and other valued attributes". This means that product quality is closely related to the product's ability to perform its functions, including the product's overall durability,

reliability, precision, ease of operation and repair, and other valued attributes. Based on Heizer and Render define quality as the ability of a product or service to meet customer needs. So, it can be concluded that product quality is the ability of a product to maintain or improve its product image to meet consumer needs.

Product quality control is crucial in the production process, aiming to anticipate defects and minimize damage. Marketers must understand consumer needs and preferences to produce goods and services according to market demand. Seven product quality indicators, including performance, features, reliability, specifications, durability, warranty availability, and aesthetics (Tjiptono, 2016), should be considered in the production process. Good product quality prevents loss of company profits and creates customer satisfaction, fostering loyalty. Therefore, companies should assess the impact of product quality on customer satisfaction.

H1: Product performance has a significant positive effect on customer satisfaction.

H2: Product features have a significant positive effect on customer satisfaction.

H3: Reliability has a significant positive effect on customer satisfaction.

H4: Product specifications have a significant positive effect on customer satisfaction.

H5: Product durability has a significant positive effect on customer satisfaction.

H6: Warranty has a significant positive effect on customer satisfaction

H7: Product aesthetics has a significant positive effect on customer satisfaction.

### **Research methods**

This research uses a quantitative approach. This research took samples from customers of PT Ngagel Rubber Surabaya Wira Jatim. The type of sample used by researchers is Simple Random Sampling, where sample members are taken randomly without regard to the strata in the population Ningtyas, (2018). For data collection techniques in this study, researchers used questionnaires distributed via G-Form as primary data. In this study, the authors used 35 people as a research sample who had criteria, namely customers of PT Ngagel Rubber Surabaya Wira Jatim and had used the conveyor belt for at least 2 years. The distributed questionnaire uses a Likert Scale score of 1 to score 5 as a measurement of respondents' answers ranging from strongly disagree (score 1) to strongly agree (score 5). The data obtained will be processed using multiple liner regression to determine the effect of product quality on customer satisfaction at PT Ngagel Rubber Surabaya Wira Jatim.

### Data Analysis and Results

The characteristics of the respondents that dominate this research are those aged more than 40 years and male. The profession of the respondents in this research is the manager of each company that is a customer of PT. Karet Ngagel Surabaya Wira East Java. This research uses multiple linear regression. In multiple linear regression, it is necessary to fulfill classical assumption tests such as the normality test, linearity test, heteroscedasticity test and multicollinearity test. Based on the results of the classical assumption test, it is known that everything meets the normality test where the Asymp. Sig. (2-tailed) obtained is 0.200 ( $>0.05$ ), meaning the data is normally distributed, because the significance value obtained is greater than 0.05. For the Heteroscedasticity test, it is known that the Product Performance Variable (X1) has a significance value of 0.169, the Product Feature Variable (X2) has a significance value of 0.102, the Reliability Variable (X3) has a significance value of 0.536, the Product Specification Variable (X4) has a significance value of 0.571, The Product Durability Variable (X5) has a significance value of 0.078, the Warranty Availability Variable (X6) has a significance value of 0.491 and the Product Aesthetics Variable (X7) has a significance value of 0.984. For the Multicollinearity Test (Tolerance & VIF), all independent variables have a Tolerance Value of more than ( $>0.100$ ) and a VIF of less than ( $<10.00$ ), so it can be concluded that the Multicollinearity Assumption has been met or that there are no symptoms of Multicollinearity. Based on the results of the feasibility test of the research model, it is known that the Adjusted R Square value is 0.396, which means that the variables Product Performance, Product Features, Reliability, Product Specifications, Product Durability, Availability of Warranty, and Product Aesthetics contribute a joint influence of 39.6% of consumer satisfaction and the remaining 60.4% is influenced by other variables outside the research.

**Figure 1.**  
Coefficient of determination test

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,721 <sup>a</sup>	,520	,396	,34461

a. Predictors: (Constant), Estetika Produk (X7), Ketersediaan Garansi (X6), Kinerja Produk (X1), Reliabilitas (X3), Spesifikasi Produk (X4), Daya Tahan Produk (X5), Fitur Produk (X2)

**Figure 2.**  
Partial Test

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,912	,834		2,294	,030
	Kinerja Produk (X1)	,262	,116	,332	2,253	,033
	Fitur Produk (X2)	,447	,160	,506	2,788	,010
	Reliabilitas (X3)	,109	,094	,179	1,156	,258
	Spesifikasi Produk (X4)	-,222	,124	-,281	-1,787	,085
	Daya Tahan Produk (X5)	,032	,139	,036	,228	,821
	Ketersediaan Garansi (X6)	,138	,113	,174	1,215	,235
	Estetika Produk (X7)	-,145	,180	-,164	-,805	,428

a. Dependent Variable: Kepuasan Konsumen (Y)

1. The Product Performance Variable (X1) has a significance value of 0.033 (<0.05), so it can be concluded that the Product Performance Variable has a significant effect on the Consumer Satisfaction Variable (H1 Accepted). The Product Performance variable is significant to Consumer Satisfaction because the conveyor belt product has a function that meets consumer expectations. According to Wibowo (2018), research shows that there is a significant influence of performance on customer satisfaction.
2. The Product Feature Variable (X2) has a significance value of 0.010 (<0.05), so it can be concluded that the Product Feature Variable has a significant effect on the Consumer Satisfaction Variable (H2 Accepted). The influence of product features on consumer satisfaction is because the product has special characteristics that are able to exceed the expectations that consumers give to conveyor belts. According to research by Pranantha, EY (2021), service quality, which is an indicator of product features, has a significant effect on customer satisfaction.
3. The Reliability Variable (X3) has a significance value of 0.258 (>0.05), so it can be concluded that the Reliability Variable does not have a significant effect on the Consumer Satisfaction Variable (H3 Rejected). This variable does not have a significant effect on consumer satisfaction due to the possibility of damage or failure which is considered quite frequent in the conveyor belts used by consumers. According to research by Paisal (2013), the Reliability variable partially has no influence on consumer satisfaction.

4. The Product Specifications Variable (X4) has a significance value of 0.85 ( $>0.05$ ), so it can be concluded that the Product Specifications Variable does not have a significant effect on the Consumer Satisfaction Variable (H4 Rejected). This variable has no effect on consumer satisfaction because consumer needs have not been fully met.
5. The Product Durability Variable (X5) has a significance value of 0.821 ( $>0.05$ ), so it can be concluded that the Product Durability Variable does not have a significant effect on the Consumer Satisfaction Variable (H5 Rejected). This variable does not have a significant effect on consumer satisfaction because there are high consumer expectations regarding the durability of the product purchased for the conveyor belt. According to research by Sartika & Basriani (2018), research results show that the Endurance variable partially does not have a significant effect on satisfaction.
6. The Warranty Availability Variable (X6) has a significance value of 0.235 ( $>0.05$ ), so it can be concluded that the Warranty Availability Variable does not have a significant effect on the Consumer Satisfaction Variable (H6 Rejected). This variable has no effect on consumer satisfaction because the company's after-sales service is considered less than optimal in meeting consumer needs.
7. The Product Aesthetic Variable (X7) has a significance value of 0.428 ( $>0.05$ ), so it can be concluded that the Product Aesthetic Variable does not have a significant effect on the Consumer Satisfaction variable (H7 Rejected). This variable does not have a significant effect on consumer satisfaction due to the lack of aesthetic value in conveyor belt products so that they appear monotonous.

Several variables that do not have a significant influence on consumer satisfaction, such as reliability variables, product specifications, product durability, warranty availability, and product aesthetics, are also due to the lack of respondents in this study.

### **Conclusion**

Based on the data obtained and the results of tests that have been carried out on PT Ngagel Rubber Surabaya Wira Jatim, the conclusion in obtained this study is that the variables of product performance and product features have an effect on customer satisfaction of PT Ngagel Rubber Surabaya East Java Hero. Meanwhile, the variables of product specifications,



product durability, warranty availability, product aesthetics, have no effect on customer satisfaction. And product quality contributes 39.6% in shaping customer satisfaction.

## Reference

### (Book)

Sumarwan, U. (2017). *Consumer Behavior* (R. Sikumbang (ed.); second). Ghalia Indonesia.

### (Journal Article)

Ibrahim, M., & Thawil, SM (2019). The Influence of Product Quality and Service Quality on Consumer Satisfaction. *Journal of Management and Business Research (JRMB) UNIAT Faculty of Economics*, 4(1), 175–182. <https://doi.org/10.36226/jrmb.v4i1.251>

Mariansyah, A., & Syarif, A. (2020). The Influence of Product Quality, Service Quality and Price on Consumer Satisfaction at Cafe Kabalu. *ECOMABIS: Journal of Business Management Economics*, 1(01), 1–14.

Ningtyas, M. (2018). Chapter III - Research Methods Research Methods in the manufacturing industry. *Research Methods*, 32–41.

Paisal. (2013). THE INFLUENCE OF SERVICE QUALITY ON CUSTOMER SATISFACTION Paisal 1. *Sriwijaya Journal of Management and Business*, 11(4).

Pranatha, E.Y. (2021). The Influence of Service Quality and BSI Mobile Product Features on Bank Syariah Indonesia Customer Satisfaction in Sleman Regency. *Dspace.Uii.Ac.Id*, 130.

Putri, NDPD, Novitasari, D., Yuwono, T., & Asbari, M. (2021). The Influence of Product Quality and Service Quality on Customer Satisfaction. *Journal Of Communication Education*, 15(1), 1267–1283. <https://doi.org/10.58217/joce-ip.v15i1.226>

Sartika, D., & Basriani, A. (2018). The influence of product quality on customer satisfaction for pineapple chips in Kualu Nenas village, Mining sub-district, Kampar district, Riau province. *Innovation*, 14(2), 84. <https://doi.org/10.29264/jinv.v14i2.3910>

Setyo, PE (2017). The Influence of Product Quality and Price on Consumer Satisfaction "Best Autoworks." *PERFORMANCE: Journal of Business Management and Start-Ups*, 1(6), 755–764.

Sugiyono. (2016). Types of Descriptive Quantitative Research in Research Methods. *Construction and Property needed by the construction services industry in the implementation sector in DIY*, 64–76.

Wibowo. (2018). *Factors that Influence Perceptions of Customer Satisfaction with M-Banking Services (Case Study at Mandiri Kcp Cibinong City Center)*. Thesis.