A Study of Product Innovation as a Catalyst for Customer Satisfaction and Trust

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Abstract. This study aims to understand the effect of product innovation on customer satisfaction and trust, focusing on customers in the electronics sector. Product innovation is considered a strategic element capable of increasing customer utility, creating competitive advantage, and strengthening the relationship between companies and customers. Using a quantitative approach, data was collected through a survey to explore customer perceptions related to innovation, satisfaction, and trust. The results show that product innovation significantly affects customer satisfaction, especially through the relevance of the features offered, product quality, and adequate after-sales service. Customer trust in the company is also influenced by the success of product innovation to create real added value. This trust is formed through consistency in product quality and transparency in communication. This research implies that companies need to make innovation a strategic priority that is oriented towards customer needs. A deep understanding of customer preferences and expectations through market research and direct feedback is essential to support the innovation process. Effective communication to explain the benefits of innovation to customers should be part of the marketing strategy. With this approach, product innovation can be an instrument that increases customer satisfaction and trust, and creates long-term beneficial relationships.

Keywords: Product innovation, Customer satisfaction, Customer trust, Loyalty, Business strategy

1. INTRODUCTION

Efforts to maximize utility for customers have become one of the relevant topics in the era of globalization, especially with increasing business competition in various sectors. Customer utility refers to the value perceived by customers from products. With increasing competition, companies are required to meet the basic needs of customers, and create better and more valuable experiences (Khasanah et al., 2010). This includes various dimensions of utility, such as functional, emotional, and social utility, all of which contribute to customer satisfaction, trust and loyalty. Therefore, an effective marketing strategy must be designed to understand and anticipate customer expectations, and to provide added value that differentiates the product or service from competitors (Wahab et al., 2017).

One way to increase customer utility is through product innovation. Companies are faced with a huge challenge to stay relevant by creating innovations that attract customer attention but are also able to provide significant added value. However, not all innovations are well received by customers (Fritsch & Meschede, 2001). There are times when innovation actually causes dissatisfaction due to a mismatch between the new features offered and customer needs (Hidayat et al., 2015). However, product innovation is a

strategic element that helps companies compete and maintain their position in the market. However, the impact of product innovation on customer satisfaction and trust is not fully understood, especially in relation to how customers respond to changes made by the company.

Customer satisfaction and trust as a key issue are considered the most important parameters that affect the life cycle of an organization, as all organizations, manufacturing companies, and service companies strive to achieve customer satisfaction, trust, and loyalty (Siadat et al., 2014; Charterina et al., 2017). In this case, customer satisfaction is the main goal of almost all business strategies, because only customers who are satisfied with the product will provide loyalty to the company (Gul, 2014). However, efforts to achieve customer satisfaction do not always run smoothly, especially when product innovations do not match customer expectations or needs.

Customer satisfaction is one of the basic requirements for manufacturing companies in developing countries (Daragahi, 2017). This suggests that product innovation is a must for companies that want to compete globally and as a foundation for creating long-term relationships with customers. In practice, companies in developing countries often face limited resources to design and implement relevant product innovations, which can ultimately affect customer satisfaction levels (Henard & Dacin, 2010).

Customer trust in the company is also a challenge regarding product innovation. Customer trust is often established through consistency in product quality. When product innovation is not managed well or does not meet customer expectations, it can damage the trust that has been built. Therefore, understanding how product innovation affects customer trust is important for maintaining long-term relationships between companies and their customers.

The importance of product innovation as a key factor for creating customer satisfaction and trust cannot be ignored. However, the success of innovation largely depends on how companies are able to manage the process effectively, from the planning stage to product launch. Daragahi (2017) shows that innovation in product presentation has a positive effect on customer satisfaction. Research findings from Marei et al. (2022) show that innovation has a positive impact on customer satisfaction. Customer trust is also formed from the role of innovation variables (Siadat et al., 2014). Thus, further research is needed to explore the relationship between product innovation, customer satisfaction, and customer trust in various fields of business and industry. Based on this thinking, this study

aims to determine the role of product innovation variables on customer satisfaction and trust.

2. LITERATURE REVIEW

According to Mardikaningsih et al. (2015), product innovation can be interpreted as development and changes in the products offered by the company so that they are able to provide added value and advantages over similar products on the market. Product innovation is a key element in an effective marketing strategy, as described by Darmawan (2024) who emphasizes the importance of adaptation to changing consumer needs. Kiley et al. (2015) added that innovation focuses on developing new products, and includes improving the features and quality of existing products. Ernawati et al. (2022) point out that new ideas on development and marketing can accelerate the innovation process, while Darmawan et al. (2023) highlighted the role of technology to create more efficient innovative solutions. Mardikaningsih and Wardoyo (2024) emphasized that innovation arises from the ideas and purposeful work behavior of workers. Irfan and Hariani (2022) emphasized that the success of product innovation is highly dependent on the company's ability to understand and meet customer expectations. Thus, well-integrated product innovation can improve competitiveness and business sustainability in dynamic market.

Customer satisfaction is the main focus in the product innovation process, where improving product quality can significantly improve customer experience, as stated by Fared et al. (2021). Successful innovation must be able to meet customer expectations and provide real added value, as stated by Darmawan (2019a). Sigita and Al Hakim (2022) showed that customer involvement in the innovation process strengthens the sense of ownership, and increases loyalty, which contributes to higher satisfaction. Hariani et al. (2021) emphasized the importance of customer feedback in directing relevant innovations so that the resulting products truly fit their needs. Darmawan et al. (2022) state that innovative and high-quality products will meet customer expectations, create strong trust, and further increase satisfaction. Khayru and Issalillah (2022) assert that high customer satisfaction will drive positive recommendations, creating a favorable cycle for customer growth. Therefore, a commitment to quality and continuous innovation is essential to achieve an optimal level of customer satisfaction.

Darmawan (2019b) explains that customer trust is built through previous positive experiences, product quality, and brand reputation. Issalillah et al. (2022) added that transparency in communication and clear information about products also plays an

important role in shaping customer trust. Darmawan (2022) points out that consistency in the delivery of value and product quality can strengthen the trust that has been built. Halizah et al. (2022) emphasized that customer trust impacts purchasing decisions, and contributes to long-term loyalty and positive recommendations to others. Thus, building customer trust is a complex process and requires attention to the various factors that influence their perceptions and experiences.

METHOD

This research uses a quantitative approach to ensure the accuracy of the results through measurable and systematic data analysis. Data was collected through a survey using a structured questionnaire designed based on key indicators of the variables of product innovation, customer satisfaction, and customer trust. Respondents were selected using the accidental sampling method to ensure that they had direct experience with the products and services that were the focus of the study. Respondents came from consumers who use electronic products in Surabaya City, which were determined to be 100 respondents.

The research population includes customers of electronic products in Surabaya who are exposed to product innovation in their purchasing experience. The questionnaire was developed based on an eight-point Likert scale to measure respondents' level of agreement with statements relating to product innovation, satisfaction, and customer trust.

Product innovation can be measured through various indicators that reflect the technical, market, novelty, and performance impact dimensions of new products. Technology and market dimensions are one of the main approaches to evaluate the technical and market relevance of product innovation, as described by Hollenstein (1996). Innovation inputs and outputs such as R&D expenditure, patent applications, and total expenditure on innovation are important assessments as outlined by Kleinknecht et al. (2002). The dimensions of novelty, relevance, and implementability are also considered essential to assess the quality and potential success of innovative products, as per Ivanov (2021).

Meanwhile, the degree of radicality and product differentiation helps evaluate the extent to which innovations make a significant impact in a particular sector, as described by Coombs et al. (1996). Finally, the correlation between product innovation and new product performance is an important factor to measure the commercial and market success of innovative products, as suggested by Szymanski et al. (2007).

Customer satisfaction can be measured through several key indicators covering various aspects of the customer experience. Product quality is one important factor, referring to the extent to which the product meets or even exceeds customer expectations. Service quality also plays a significant role, covering aspects of speed, friendliness, and effectiveness to provide services to customers. The price factor, which reflects the value perceived by customers compared to the costs they incur, is also an indicator that affects satisfaction. The overall experience of the customer, including their interaction with the company and the products or services offered, is another benchmark. Customer loyalty is also an important indicator, reflected in their willingness to make repeat purchases and provide recommendations to others. All of these indicators are interrelated and provide a comprehensive picture of customer satisfaction, as explained in a study by Hallencreutz and Parmler (2019), which describes the importance of focusing on product quality, image, and service to drive customer satisfaction.

The main indicators of customer trust are competence, integrity and benevolence. Competence refers to the company's ability to fulfill promises to customers. Integrity involves consistency, honesty and trustworthy actions. Benevolence indicates genuine concern for the customer's interests over the company's personal interests. The primary source covering all these indicators is Chen and Dhillon (2003) in their research on consumer trust in e-commerce, who validated the dimensions theoretically and empirically (Chen & Dhillon, 2003).

The collected data were analyzed using inferential statistical methods with the help of data analysis software, such as SPSS. Analysis techniques include validity and reliability tests to ensure the quality of the instrument, as well as simple linear regression analysis to evaluate the effect of product innovation on customer satisfaction and trust.

This research aims to provide empirical insights into how product innovation affects customer satisfaction and trust. By identifying these relationships, this research is expected to help companies to design more effective product innovation strategies to increase customer loyalty and business sustainability.

3. METHOD

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4. RESULTS AND DISCUSSION

In an era of increasing business competition, understanding how product innovation affects customer satisfaction and trust is very important, especially in the electronics industry. Descriptive analysis plays a role in describing customer perceptions of this research variable. Through a survey involving 100 electronic product customer respondents in Surabaya City and using a Likert scale of 1-8, data was collected to gain insight into customer perceptions, experiences and expectations of electronic products. The results of this analysis are expected to provide a clearer view of the relationship between innovation, satisfaction, and customer trust.

The results of the analysis show that the average product innovation score is 6.5, indicating that most respondents rate the electronic products they use as innovative, especially in terms of technological features such as IoT-based connectivity and energy efficiency. A total of 75% of respondents gave a score above 6, indicating a very favorable acceptance of such innovations. Meanwhile, only 8% of respondents gave a score below 4, citing innovative features as less relevant to their needs.

The customer satisfaction variable recorded an average score of 6.2, reflecting a fairly high level of satisfaction. Respondents appreciated the quality of the product and the reliability of the after-sales service, with 68% of respondents giving a score above 6. However, there were 12% of respondents who gave a score below 4, mainly complaining about the mismatch between the price and the benefits they perceived.

On the customer trust variable, the average score obtained is 5.8. This indicates a moderate level of trust in the consistency of product and service quality of the electronics manufacturer. 60% of respondents gave a score above 6, but 18% gave a score below 4 because they felt that information related to warranty or customer service policies was not clear or transparent.

The results of this analysis show that product innovation had the highest score, followed by customer satisfaction, while customer trust recorded a slightly lower score. From these findings, to increase customer trust, manufacturers are advised to increase transparency in services and ensure better communication with customers regarding their product policies.

In this study, validity and reliability tests were conducted to ensure that the instruments used are reliable to measure the constructs under study, namely product innovation, customer satisfaction, and customer trust.

The validity test uses the Corrected Item-Total Correlation method. The analysis results show that all items in each variable have a corrected item-total correlation value above 0.30, which is the minimum limit to declare an item valid. With these values, it can be concluded that all questionnaire items are able to measure the intended construct appropriately and relevantly.

Furthermore, the reliability test was conducted to measure the consistency of the instrument using the Cronbach's Alpha value. The reliability test results show that for the product innovation variable, Cronbach's Alpha is 0.812, indicating a very good level of reliability. For the customer satisfaction variable, Cronbach's Alpha is 0.834, which also reflects a very high level of reliability. For the customer trust variable, Cronbach's Alpha was recorded at 0.856, indicating excellent reliability.

With these results, it can be concluded that this research instrument has sufficient validity and reliability. This ensures that the data obtained from respondents can be used with confidence for further analysis to evaluate the relationship between product innovation, customer satisfaction, and customer trust.

The results of the SPSS analysis show that product innovation has a positive and significant influence on customer satisfaction. From the Model Summary table, the correlation (R) value of 0.623 indicates a strong relationship between product innovation and customer satisfaction. The R Square value of 0.388 indicates that 38.8% of the variance in customer satisfaction can be explained by product innovation, while the remaining 61.2% is explained by other factors outside the model. The Adjusted R Square value of 0.382 indicates the stability of the model used.

Tabel. 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.623[a]	.388	.382	8.964

In the Coefficients table, the regression coefficient value of 0.624 indicates that every one unit increase in product innovation will increase customer satisfaction by 0.624 units. With a t-value of 7.887 and a p-value of 0.000, this effect is statistically significant at the 99% confidence level. This means that product innovation can significantly increase customer satisfaction.

Tabel. 2 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.969	7.350		4.486	.000
	X	.624	.079	.623	7.887	.000

a. Dependent Variable: satisfaction

Analysis was also conducted to see the effect of product innovation on customer trust. Based on the Model Summary, the correlation (R) value of 0.561 indicates a fairly strong relationship between the two variables. The R Square of 0.314 indicates that 31.4% of the variance in customer trust can be explained by product innovation. Adjusted R Square of 0.307 supports the stability of this model.

Tabel. 3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.561[a]	.314	.307	10.793

Based on the Coefficients table, the regression coefficient value of 0.639 indicates that every one unit increase in product innovation will increase customer trust by 0.639 units. With a t-value of 6.703 and a p-value of 0.000, this result is also statistically significant.

Tabel. 4 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	55.129	8.849		6.230	.000

	X	.639	.095	.561	6.703	.000

a. Dependent Variable: trust

Overall, product innovation is proven to have a positive and significant influence on customer satisfaction and trust. This shows that the higher the innovation by the company, the greater the level of customer satisfaction and trust. However, with an R Square of 38.8% for customer satisfaction and 31.4% for customer trust, it can be concluded that there are other factors beyond product innovation that also affect both variables. Therefore, companies are advised to stay focused on product innovation and consider other relevant factors to increase complete customer satisfaction and trust.

The findings of this study state that product innovation determines customer satisfaction. This is in line with Henard and Dacin (2010) who found a similar thing where customers will be happier and more satisfied if previously consumed products have been innovated. Daragahi (2017) and Marei et al. (2022) also found that innovation innovation has a positive impact on customer satisfaction. That means the product is not monotonous and can meet customer expectations. This must be accompanied by prioritized product quality so that product innovation performance can increase.

The relationship between product innovation and customer satisfaction is very close, where effective innovation can significantly improve customer experience. Panigrahi et al. (2021) point out that innovative products meet the basic needs of customers, and create added value that increases satisfaction. Zghoul and Al-Haddad (2021) emphasize that the success of product innovation depends on understanding customer preferences and expectations so that innovations are relevant and targeted. Lee et al. (2021) added that continuous innovation can create customer loyalty, because customers feel valued and cared for. Ruiz-Alba et al. (2022) also noted that customer satisfaction increases when new products offer better features and a more satisfying experience compared to previous products.

The finding that product innovation affects customer satisfaction confirms the need for companies to make innovation the core of business strategy. Customer-oriented innovation requires an understanding of their needs and preferences through market research, data analysis and direct feedback. This innovation process must be supported by a commitment to quality, ensuring each innovative product is new, and of high quality and reliability.

Clear and informative communication is essential to introduce the benefits of the innovation to customers, increasing their understanding of how the product can better meet

needs. Effective marketing campaigns can reinforce this message and encourage product adoption. Investment in employee training is also an important factor, ensuring they have the relevant skills to support the innovation process (Putra & Mardikaningsih, 2022). Companies need to adopt gradual innovation consistently, focusing on big changes, and continuous small improvements, to maintain relevance in the market. With this approach, product innovation can be a tool to significantly improve customer satisfaction, strengthen long-term relationships, and create a sustainable competitive advantage.

Other study findings mention that product innovation affects customer trust. Charterina et al. (2017) mentioned that the two variables have a relationship with each other. Meanwhile, according to Siadat et al. (2014), customer trust is also formed from the role of innovation variables. Product innovation is proof that the product is superior to its competitors. A superior product means that there are real benefits and more value according to what customers want and need. Desires and needs that are met will lead to trust. Customers before consuming a product certainly have many considerations because this is the basis for the formation of trust.

The finding that product innovation affects customer trust confirms the importance of innovation as a key strategy for building long-term relationships with customers. Companies need to ensure that every product innovation provides tangible benefits that match customers' needs and expectations, as relevant and valuable products will strengthen their trust.

Innovation should be focused on competitive advantages that meet and exceed customer expectations. This requires in-depth market research to understand customer preferences and translate them into superior product features. Transparency to communicate the benefits of innovation is also important to reduce uncertainty and increase trust.

Companies should support innovation with reliable after-sales service and consistent interactions, ensuring that the overall customer experience reflects a commitment to quality. With this approach, innovation becomes a differentiation tool, and the foundation for strengthening customer trust and driving loyalty.

5. CONCLUSION

The findings of this study show that product innovation has a significant influence on customer satisfaction and trust. Innovations designed by considering customer needs and expectations increase satisfaction through the added value provided, and strengthen

customer trust in the company. Consistent product innovation is the key to creating mutually beneficial long-term relationships between companies and customers.

Companies should make product innovation a strategic priority by adopting a customer-oriented approach. Effective market research and regular feedback collection should be conducted to accurately understand customer needs. Companies must maintain the quality of the products produced to ensure that the innovations implemented actually meet customer expectations. These efforts also need to be supported by effective communication to explain the benefits of innovation to customers. Employee training in innovative product development is also important to ensure a smooth innovation process. With this approach, companies can sustainably increase customer satisfaction and trust.

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