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APPLICATION OF QUALITY FUNCTION DEPLOYMENT IN IMPROVING SERVICE QUALITY AT PT. YAMAHA INDONESIA MOTOR MANUFACTURING

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Abstract:
The study addresses the question, "How does the application of QFD help YIMM enhance the service quality of its motorcycle products in Indonesia?" A mixed-methods approach was employed, using surveys and interviews to collect data from YIMM customers and management. Data were analyzed using a Likert scale and statistical software to identify key customer requirements. The findings indicate that the attributes of Service Ability, Conformance, and Perceived Quality are primary factors in customer satisfaction with Yamaha products, while the Aesthetic attribute requires improvement. This study fills a gap in the literature by examining QFD as a quality improvement tool within Indonesia's automotive industry, specifically in the automatic motorcycle segment. The application of QFD at YIMM has effectively enhanced service quality in line with customer expectations. However, improvements in product aesthetics could further strengthen YIMM's competitive position in the market.
Keywords: Quality Function Deployment, service quality, customer satisfaction.

INTRODUCTION

PT Yamaha Indonesia Motor Manufacturing (YIMM) was established on July 6, 1974, as a subsidiary of Yamaha Motor Company based in Iwata, Shizuoka, Japan. Starting as a simple assembly plant in 1969, YIMM gradually developed into a large-scale motorcycle manufacturer capable of meeting the diverse needs of consumers in the dynamic Indonesian market. YIMM's significant growth has been driven by strategic expansion and the adoption of cutting-edge technology. The move of the production base from Pulo Gadung to Karawang was a strategic move to increase production capacity and operational flexibility. By integrating the latest manufacturing technology, YIMM has successfully strengthened its position as a major player in the Indonesian motorcycle industry. YIMM has successfully positioned itself as the market leader of matic motorcycles in Indonesia. Its diverse product portfolio, which includes popular models such as Mio, Soul GT, and NMAX, has contributed significantly to the company's market share. This success is inseparable from YIMM's ongoing commitment to product quality, innovation, and a deep understanding of domestic consumer preferences.

With a vision to be the leader of the motorcycle industry in Indonesia, YIMM always strives to provide high-quality products at competitive prices. In addition, the company also focuses on developing a strong and loyal Yamaha community as one of the pillars of sustainable business growth. The business strategy oriented towards innovation and customer satisfaction has proven effective in the face of increasingly fierce competition.

Despite its many achievements, YIMM still faces a number of strategic challenges. Intensified competition, global supply chain complexity, and changing consumer preferences are some of the factors that need to be considered. In addition, the shift in industry trends towards electric vehicles

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is also a challenge and opportunity for YIMM. To face future challenges, YIMM needs to continue to innovate technology, expand market reach, and adopt sustainable business practices.

PT Yamaha Indonesia Motor Manufacturing (YIMM) faces a number of significant operational challenges in maintaining its competitive position. Key issues include the need for continuous product innovation, which must balance cost and quality. In addition, demand forecasting remains a challenge due to market volatility, which can lead to risks of overproduction or stock shortages. Maintaining consistent product quality is critical but increasingly complex as operations scale up. Finally, optimization of site planning and production layout is critical to reducing costs and improving efficiency. Overcoming these challenges is crucial to YIMM's long-term success.

Operations Management. Operations Management is an activity of converting inputs into outputs by organizing and coordinating all resources owned effectively and efficiently, and then converting them into goods or services. The scope of operations management is related to the operation of operating systems, selection and preparation of operating systems which include ten decisions, namely the design of goods and services, quality management, process and capacity design, location strategy, spatial strategy, human resources and job design, supply chain management, inventory management, scheduling, maintenance (Suhardi, 2020).

Production operations and operating system activities include preparing production and operation plans, planning and controlling inventory and material procurement, maintaining or maintaining machinery and equipment, quality control, and managing labor (Suhardi et al., 2019). There are four reasons we study Operations Management, namely

1. Through Operations Management, we learn how people organize themselves for productive companies,
2. Through Operations Management, we can find out how goods and services are produced,
3. Through Operations Management, we can understand what operations managers do,
4. Operations Management is the most costly part of an organization.

Product Development. Product development is a strategy and process carried out by companies in developing products, improving old products or increasing the usefulness of products to existing market segments with the assumption that customers want new elements about the product. Product development is a process of change made to existing products as well as a process of finding innovations to add value to old goods by converting them into these products. With product development, it means that the company already understands the needs and desires of the market. Every company must have a strategy for product development. It is intended that the products to be developed can be in accordance with the needs of the company, and existing consumers remain interested in the offers provided by the company and attract new consumers (Pranata et al., 2022). There are several types of product development strategies, namely:

1. Improve existing ones. In this case, the company uses existing technology and facilities to make variations and improve existing products. In using this method, the company does not have a big risk, because it will only make comprehensive changes.
2. Expanding the product line. Companies carry out this type of product development by adding items to existing product lines or adding new product lines.
3. Adding to existing products. The company, in this case, adds or provides variations to existing products and also expands the market segment by serving a variety of consumers or buyers who have different tastes.
4. Mimicking competitor strategies. In this way, the company imitates competitors' policies that are considered profitable, such as pricing.

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5. Adding product lines. Usually, companies require large funds to add new products that have nothing to do with the existing product line. Because products that have never been produced before, as well as in terms of using facilities to promote them, require new processes as well.

In conducting product development, the company uses Quality Function Deployment (QFD). Quality Function Deployment (QFD) is a systematic process to motivate a business to focus more on customers. QFD is used to identify and solve problems involved in providing products, processes, services and strategies that will better satisfy customers. It is a process to understand the customer's wishes and the importance of the benefits to be gained.

Quality Management. Quality is something that the customer decides. Quality is the overall characteristics and characteristics of a product or service that can satisfy visible or hidden needs (Suhardi & Kuraesin, 2021). Quality management is all activities of the overall management function that determine quality policies, objectives, and responsibilities, and implement them through tools such as Quality Planning, Quality Control, Quality Assurance, and Quality Improvement (Suhardi, 2023).

Quality is one of the important indicators for companies to be able to exist in the midst of intense competition in the industry. Quality is defined as the totality of the characteristics of a product that support its ability to satisfy specified or specified needs. Good quality, according to the producer, is when the product produced by the company is in accordance with the specifications determined by the company.

Companies in determining product specifications must also pay attention to the wishes of consumers, because without paying attention do that, the products produced by the company will not be able to compete with other companies that pay more attention to consumer needs. Good quality from the consumer's point of view is if the product purchased is as desired, has benefits that match the needs and is equivalent to the sacrifices made by consumers, then they will consider it a good quality product (Suhardi, et al., 2019).

Quality control is an activity carried out to ensure that production and operation activities go according to plan, and if there is a deviation, the deviation can be corrected so that what is expected can be achieved. The definition of quality control is an activity that is oriented towards preventing damage, and does not focus on efforts to detect damage alone. Quality control can be defined as activities carried out to monitor activities and ensure actual performance. The purpose of quality control is so that the goods produced can achieve predetermined quality standards, strive for inspection costs to be as small as possible, strive for product design costs and processes using certain production qualities to be as small as possible, and strive for production costs to be as low as possible (Suhardi & Lestari, 2021).

In general, quality control or control in manufacturing companies is carried out in stages (Suhardi & Marindra, 2020), including:

1. Inspection and control of the quality of raw materials (raw materials, auxiliary raw materials and so on), the quality of materials in the production process, and the quality of finished products. Similarly, the number and composition of standards.
2. Inspection of products as a result of the production process. This applies to finished goods and unfinished goods. The inspection carried out illustrates whether the production process is running as specified or not.
3. Checking the way of packaging and shipping goods to consumers. Analyze the facts to find out possible deviations.

Quality Function Deployment (QFD). There is no single or unique definition for Quality Function Deployment (QFD), but the general basic concept of this method is as follows: "QFD is a

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system with the objective of translating and planning the 'voice of the customer" into quality characteristics of products, processes, and services to achieve customer satisfaction". QFD is not only a quality tool, but also an important planning tool. QFD enables consideration of the "voice of the customer" along the service development path to market entry.

Three aspects that are very important for the development of the company's competitiveness are quality, cost, and opportunity. Low process costs make it possible to achieve price competitiveness. This can actually lead to an increase in market share in the short term, but it is usually not profitable in the long term. Secondly, clients are more concerned about the quality and differentiation of the services offered. When a company loses a client due to inadequate service quality, that client may not return. In the worst-case scenario, the client may even tell his friends about his poor service experience, creating a previously unimaginable potential customer loss. Third, opportunity is directly related to "time to market". A mature process for new service development can lead to a shorter development time.

A shorter time can mean a more agile response to the market and can improve a company's competitiveness. Improvements in service design can affect 100 times more than improvements in the production process. This is due to improvements being part of the service (Putri et al., 2017). The process of changing service quality requires things that help in the process, such as customer surveys and even feedback on the services provided. Further improvement of service quality can be done by prioritizing technical responses from service attributes using the Quality Function Deployment (QFD) method. The QFD structure requires a house-shaped matrix, or what is commonly called the House of Quality (HOQ), to interpret and summarize client needs. HOQ is an important element in the QFD process because it captures the voice of the customer and builds a path to direct further efforts (Deviyani et al., 2023).

METHODS

This research uses a mixed approach, combining quantitative and qualitative methods to gain a comprehensive understanding of PT Yamaha Indonesia Motor Manufacturing's (YIMM) operational strategy. Quantitative data was collected through surveys distributed to consumers and employees, while qualitative data was obtained through in-depth interviews with management and direct observation at the production site. This approach was chosen to ensure that the research does not only focus on numbers and statistics, but also considers human perspectives and experiences in the field.

The data in this study were collected through several structured stages. First, a survey was distributed to 100 respondents, consisting of consumers and YIMM employees, to measure satisfaction, product quality, and operational process effectiveness. The survey used a Likert scale to facilitate statistical analysis. Second, interviews were conducted with operational and technical managers to dig deeper into the challenges faced in product development, demand forecasting, and quality management. Finally, observations were made at some of YIMM's production facilities to observe the layout and workflow processes implemented directly.

The collected data was analyzed using a combination of quantitative and qualitative approaches. Quantitative data from the survey were processed using statistical software to calculate averages, distributions, and correlations between variables. Meanwhile, qualitative data from interviews and observations were thematically analyzed to identify patterns relevant to the research objectives. With this approach, the research not only relies on numerical data but also uncovers nuances and context that are important in understanding YIMM's operational strategy.

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RESULT AND DISCUSSION

This research was conducted to analyze how PT Yamaha Indonesia Motor Manufacturing (YIMM) develops its motorcycle products, especially in the matic motorcycle segment. This research involved 100 respondents from Yamaha matic motorcycle users in Bandung. The sampling technique used was non-probability sampling, where respondents were randomly selected from the relevant population.

Data obtained from respondents were processed using a Likert scale to measure their attitudes, opinions, and perceptions regarding Yamaha product quality. This scale provides four answer options that reflect the level of importance of product attributes: Very Unimportant, Unimportant, Important, and Very Important. Analysis was conducted using SPSS software to validate eight key indicators identified as customer requirements, namely Service Ability, Conformance, Perceived Quality, Feature, Reliability, Durability, Performance, and Aesthetic.

The results of the analysis show that the Service Ability attribute has the highest score with a value of 1271, followed by Conformance (1178), Perceived Quality (1171), and Feature (1171). Reliability, Durability, Performance, and Aesthetic attributes have lower scores, but are still significant in determining customer satisfaction with Yamaha products. In addition, interviews with Yamaha dealer branch heads in Bandung were conducted to determine the seven most important technical attributes (Technical Response) in Yamaha product design. These attributes include Injection Technology, Safety Features, Body Kit, Auto Sensor, Reliable for All Road Terrain, Good Acceleration, and Product Appreciation. The correlation between each of these attributes is analyzed to understand how they influence each other in the product development process.

This study is in line with the study conducted by Deviyani et al. regarding the analysis of service quality using QFD, which states that the service quality possessed by Edutor Balikpapan still has a negative gap in each quality attribute, which indicates the need for improvement (Deviyani et al., 2023). Meanwhile, Putri et al.'s research on the QFD method as a proposal for improving service quality at PT. KAI stated that the level of service quality of the West Cross Local Economy Train, according to passenger perceptions, has not met the desired quality expectations and has not been able to satisfy customers. The readiness of officers in directing the assistance ladder from the platform to the train door and the responsiveness aspect in providing services to passengers are the things with the highest level of satisfaction (Putri et al., 2017).

The study also compared Yamaha's product performance with its main competitors, Honda and Suzuki. Results show that Yamaha excels in some aspects, such as Injection Technology and Auto Sensors, but some areas require improvement, such as Aesthetics and Product Appreciation, compared to its competitors.

CONCLUSION

Based on the results of the research conducted, it can be concluded that PT Yamaha Indonesia Motor Manufacturing (YIMM) has implemented an effective product development strategy to maintain its position as a leader in the matic motorcycle market in Indonesia. This research shows that Service Ability, Conformance, and Perceived Quality attributes are the main factors that influence customer satisfaction with Yamaha products. With a strong focus on technical innovations, such as the implementation of Injection Technology and Auto Sensors, YIMM has successfully met the growing needs of the market.

However, this study also reveals that some areas still require further attention, especially in terms of Aesthetics and brand recognition through product awards. Although YIMM has shown advantages over competitors such as Honda and Suzuki in some aspects, improvements in these

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factors would further strengthen the company's competitive position. To remain competitive and meet consumer expectations, YIMM needs to continue to innovate in product development while improving the quality and aesthetic appeal of its products. With the right strategy, YIMM can strengthen its position in the market and ensure sustainable growth in the future.

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REFERENCES

Deviyani, F.R., Rizalmi, S.R., Pratikno, F.A. (2023). Analisis Kualitas Pelayanan Terhadap Kepuasan Pelanggan Pada Edutor Balikpapan Dengan Service Quality Dan Quality Function Deployment (QFD). *G-Tech : Jurnal Teknologi Terapan*, 7(4), 1213-1222.

Pranata, A., Falah, Yukio D.A., Bunyamin, Z.A., Suhardi, A.R. (2022). Analisis Kajian Operasional PT. Unilever, TBK. *Jurnal Bisnis Manajemen & Ekonomi*, 20(2), 667-679.

Putri, S.I., Sumartini, Sofia, A. (2017). Metode Service Quality (Servqual) dan Quality Function Deployment (QFD) sebagai Usulan Perbaikan Kualitas Pelayanan di PT. Kereta Api Indonesia (Persero) (Survei pada Penumpang Kereta Ekonomi Lokal Lintas Barat Tahun 2017). *Jurnal Ilmu Manajemen & Bisnis*, 8(1), 11-16.

Suhardi, A.R. & Kuraesin, P. W. (2021). Quality Control to Reduce Defects in Amlodipine and Salbutamol Pharmaceutical Products: A Geography Case Study on the Indonesian Pharmaceutical Industry. *Review Of International Geographical Education*, 11(3), 150- 162. Doi: 10.33403/rigeo. 800479.

Suhardi, A.R. & Lestari, Puji. (2021). Application Of Process Control Statistics On Aircraft Rib Products. Review Of International Geographical Education, 11(6), 575- 581. Doi: 10.48047/rigeo. 11.06.71.

Suhardi, A.R. (2020). Analisis Permintaan Persediaan LPG Menggunakan Metode Penghalusan Eksponensial Pada PT. Adimas Wijaya Mukti Surakarta. *Jurnal Bisnis Manajemen & Ekonomi*, 18(2), 251-259.

Suhardi, A.R. (2023). Analisis Service Quality Konsumen Bibli.Com. *Prosiding Seminar Nasional & Call of Paper 2023*, 112-129, Program Studi S1 Manajemen Fakultas Ekonomika dan Bisnis, Universitas Negeri Surabaya.

Suhardi, A.R., & Marindra, V.S. (2020). Implementation Of Statistic Process Control In Flat Shoes And High Heels Production Process. *International Journal of Psychosocial Rehabilitation*, 24(07), 5804-5808.

Suhardi, A.R., Amalia, S., Oktafien, S., Adiyanti, S.A., Komariah, S., Rohendra, T. (2019). Time Series Analysis for Predicting the Demand Of Roasted Coffee Production. *International Journal of Financial Research*, 10(5), Special Issue, 26-31.

Suhardi, A.R., Ichsani, S., Sarumpaet, T.L. (2019). Pengendalian Kualitas Dalam Proses Produksi Percetakan Sablon Pada Kaos Oblong Di Fload SP. Jurnal Ilmiah Bisnis, Pasar Modal, dan UMKM, 2(1), 1-8.