



## **OPTIMIZING QUALITY FUNCTION DEPLOYMENT AT SANTRI BOARDING HOUSES TO IMPROVE THE QUALITY OF SERVICES PESANTREN**

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### **Abstract:**

The use of media and learning methods is the right solution for teacher educators to develop students' skills. The media most likely to be implemented in schools is the use of audiovisual media. The aim of this research is to determine the process of using audiovisual learning media in teaching speaking skills to high school students, of course not only the school but all institutions must utilize the media in the most creative way possible. Apart from being interesting, it is also useful in increasing students' interest in learning, it also helps to develop students' hard skills and soft skills. There are also many types of media that can be used, including: audio media, visual media and audiovisual media. In institutions with Islamic boarding school nuances or in Islamic boarding schools, such as what researchers conducted at SMA Nurul Jadid Paiton Probolinggo. This research was carried out for learning because it utilizes available technology to channel the writer's abilities in the field of creation, especially in audiovisual media which will be distributed to help the teaching and learning process in improving students' interest in learning to be more creative in learning.

**Keywords:** *quality function deployment, santri, service quality*

### **INTRODUCTION**

Optimizing Quality Function Deployment (QFD) (Ginting et al., 2020) in Santri dining boarding houses is the key to improving service quality. It is hoped that the implementation of QFD will not only create a food menu that meets the wishes and nutritional needs of students efficiently, but also simultaneously reduce production costs and support aspects of environmental sustainability. Along with QFD principles, the food menu is expected to continue to be developed and adjusted with feedback from students, creating a customer-centric environment. In this way, Islamic boarding schools can provide food services that are not only satisfying in terms of taste and nutrition but also reflect a commitment to sustainability and environmental sustainability, creating a holistic experience that supports the overall development of students.

Even though Islamic boarding schools play a central role in character formation and religious education (Fathoni, 2019; Kurniawan et al., 2023), there are still a number of obstacles that affect the quality of services at Islamic boarding schools, especially in the context of food service. These obstacles include challenges in preparing menus that meet the nutritional needs of students, sustainable management of raw materials, and a deep understanding of students' culinary preferences. These factors together create challenges in achieving food service optimization in Islamic boarding schools, which is

an important focus to be improved through a holistic approach such as Quality Function Deployment.

Regarding the importance of the student's diet, writing conveys data from the 2018 National Basic Health Research (Riskesdas) regarding the nutritional status of adolescents aged 16-18 years which is determined based on the Body Mass Index by Age (BMI/A) showing that 8.1% fall into the category malnutrition. This subgroup included 6.7% categorized as very underweight and an additional 1.4% considered underweight. In contrast, 13.5% showed signs of overnutrition, 9.5% were overweight and 4.0% were classified as obese. Based on specific data in Riau Province, it was recorded that 8% of teenagers experienced malnutrition, with details of 1.5% classified as very thin and 6.5% classified as underweight. Meanwhile, 11.6% of the population in this region is overnourished, including 7.1% classified as overweight and 4.5% classified as obese. If we zoom in on Kampar Regency, a different picture emerges. Around 5.92% of teenagers showed signs of malnutrition, divided into 0.43% very thin and 5.49% thin. In contrast, 8.22% of Kampar residents show excess nutrition, with 3.93% included in the overweight category and another 4.29% classified as obese (Khairani & Yusnira, 2021) .

Furthermore, Abdullah et al in their work on Nutritional Status and Nutritional Intake of Adolescent Students at the Shuffah Hizbullah Islamic Boarding School and Madrasah Al-Fatah Lampung stated that the results of the study showed that among the respondents, 1 person (1.4%) experienced malnutrition, 58 people (80.6%) had good nutritional status, 11 people (15.3%) had excessive nutritional status, and 2 people (2.8%) fell into the obese category. Based on the analysis of respondents' nutritional intake, the average daily energy intake was 1,585 + 656 kcal, the average protein intake was 41.7 + 19.2 grams per day, the average fat consumption was 45.4 + 30.5 grams per day, and the average carbohydrate intake is 250 + 107 grams per day. In addition, the average intake of vitamin A was reported to be 700 + 889 µg per day, and the average consumption of iron was 5.6 + 2.7 mg per day. However, it should be noted that the average energy adequacy level is 70.2% of the Nutritional Adequacy Rate (AKG), and the average protein adequacy level is 63.4% of the Nutritional Adequacy Rate (AKG). A comprehensive analysis of the findings of this research resulted in the conclusion that although the nutritional status of the majority of respondents was relatively good, there were still problems regarding inadequate nutritional intake. Therefore, it is highly recommended that respondents improve their eating habits by including larger portions that are rich in calories, protein, fat and carbohydrates (Dewi et al., 2022) .

As stated by Khoirudin, (2022) Quality Function Implementation (QFD) is an important instrument for the creation and improvement of new products, seamlessly integrating quality into the design process while meeting consumer wants and needs, which are then translated into precise technical requirements (Khoirudin, 2022) . Throughout the conceptualization and product development stages, QFD plays an important role, especially during the evaluation stage of various product concepts.

According to Limbong et al., (2023) QFD, functions as a systematic method, used for careful product planning and development (Limbong et al., 2023) . This method empowers development teams to clearly identify consumer wants and needs, facilitating methodical evaluation of each desired product or service capability. The main goal is to effectively fulfill consumer wants and needs.

According to Olga and Rudihartati, (2020) Quality Function Implementation (QFD) includes additional benefits (Olga & Rudihartati, 2020) : a) Customer-Centered

Approach. QFD requires incorporating customer input and feedback. This information serves specific customer needs, highlighting a commitment to a customer-centric focus. b) Improved Time Management. Through identifying customer needs, QFD facilitates a reduction in the time invested in the product development phase. This simplified approach contributes to more efficient time management. c) Fostered Team Collaboration. Decision making in the QFD process revolves around achieving consensus through thorough discussion. This method ensures that each team member understands their role in the team, thereby increasing the sense of collaboration. d) Emphasis on Documentation. The QFD process produces comprehensive documentation containing all relevant data related to various processes. Additionally, it includes a comparison of customer requirements, which underscores the method's commitment to thorough documentation and analysis.

According to Asrizal, (2021) QFD functions as a strategic planning tool designed to answer the various voices of consumers, which are summarized in their wants and needs (Asrizal, 2021). The QFD process intelligently translates consumer voices, characterized by specific and diverse needs, into comprehensive direction and actionable engineering strategies. This direction is then disseminated smoothly through various stages, including Product Planning, Part Formation, Process Planning, Production Planning, and Service. The ultimate goal is to ensure a holistic approach to product development, where consumer needs are not only identified but systematically integrated into every aspect of the product life cycle.

Some works, such as Anisha Dian Iswahyuni (2022), stated that the majority of YABAKII Mart customers expressed dissatisfaction with the service, with 19.25% feeling very dissatisfied and 23.09% dissatisfied. On the other hand, 7.85% of customers reported feeling very satisfied, this shows that service quality needs to be improved (Iswahyuni et al., 2022). Nurcholis Majid Akhmad (2021) Research results create an innovative automatic noodle machine that is capable of grinding and molding noodles automatically, facilitating the production of organic noodles, especially spinach noodles, as a solution to increase optimal product availability by implementing the Quality Function Deployment (QFD) method (Akhmad, 2021).

Even though there is an increase in demand and the importance of optimizing Quality Function Deployment (QFD) in Islamic boarding schools to improve the quality of service in Islamic boarding schools, there are a number of obstacles that need to be overcome. The main challenges include difficulties in preparing menus that meet the nutritional needs of students, sustainable management of raw materials, and a deep understanding of students' culinary preferences. In addition, data from the National Basic Health Research shows that there are variations in the nutritional status of adolescents, with a small percentage experiencing malnutrition and others having overweight or obesity problems. Therefore, developing a food menu that is adequate and meets the nutritional needs of students is crucial to supporting their overall health and development. By identifying this gap through QFD, it is hoped that a holistic and sustainable solution can be found to improve food services in Islamic boarding schools. The aim of writing this work is Optimizing Quality Function Deployment at the Santri boarding house to improve the quality of service at the Nurul Jadid Santri boarding house.

## **RESEARCH METHODS**

This research adopted a qualitative approach to investigate in depth efforts to optimize Quality Function Deployment (QFD) in the Santri boarding house at the Santri

Nurul Jadid boarding school. With a qualitative approach, this research aims to gain holistic insight into the experiences and views of students regarding the quality of food services. In collecting data, students and boarding house managers were the main focus. In-depth interviews with students and managers were carried out to understand their views regarding service quality and QFD implementation. Additionally, analysis of internal documents such as menu notes, previous customer satisfaction, and food service documentation is used to provide deeper context.

Participatory observation techniques were also implemented, allowing researchers to be directly involved in daily activities at the Santri boarding house. This aims to understand the context of QFD practice and the dynamics of interaction between students and managers. Data analysis was carried out through a thematic approach, with data from interviews and observations identified to find main patterns, key issues and significant findings related to QFD optimization. Internal documents were also content analyzed to identify relevant information about QFD implementation, menu notes and customer feedback. By combining data from various sources through triangulation, this research aims to provide a comprehensive understanding of QFD optimization efforts in the Santri boarding house at the Nurul Jadid Santri boarding school. The focus is on improving the quality of food services to suit the needs and expectations of students.

## **RESULTS AND DISCUSSION**

Pesantren Nurul Jadid, as an Islamic educational institution committed to empowering students, continues to strive to improve the quality of services provided, including boarding services for students. In order to achieve this goal, optimizing Quality Function Deployment (QFD) is a strategic step taken to ensure that the needs and expectations of students are well met.

Optimizing QFD in boarding schools for students is an important step because it is directly related to the welfare and satisfaction of students in living their daily lives at the boarding school. QFD, as a product or service development method, focuses on a deep understanding of customer needs. In the context of Pondok Santri Nurul Jadid, the students are the main customers who have special needs related to food service.

First of all, the initial stage in optimizing QFD involves identifying the needs and expectations of students regarding boarding school services. Through interviews, surveys and discussions, boarding school management can collect detailed information regarding food preferences, eating patterns and other aspects that are important for students. The results of this stage become the basis for developing a QFD matrix, which will then become a guide for service improvement.

Furthermore, with a structured QFD matrix, the next step is to link the needs of the students with operational elements in the boarding house. This involves close coordination between management, chefs and other staff to ensure that each element of the matrix is implemented well. For example, if students want a wider variety of menus, concrete steps must be taken to prepare a daily menu that is diverse and nutritious.

The application of QFD also leads to evaluating aspects of raw material quality, presentation and cleanliness in the food boarding environment. The use of high-quality ingredients, aesthetic and clean food presentation, and cleanliness of the dining room are crucial factors in providing a positive eating experience for students. In this context, management needs to work closely with related parties, such as raw material suppliers and cleaning teams, to ensure quality standards are met.

Apart from that, special attention needs to be given to aspects of sustainability and nutritional fulfillment in menu preparation. By understanding the nutritional needs of

santri and applying sustainability principles in managing raw materials, Pondok Santri Nurul Jadid can not only provide satisfying dining services but also support health and environmental sustainability.

The results of optimizing QFD at the boarding school for students at Pondok Santri Nurul Jadid can not only be seen from the improvement in service quality, but also from the positive response received from the students. By continuously improving and perfecting services based on regular feedback and evaluation, Islamic boarding schools can achieve higher service standards and create an environment that is conducive to the growth and learning of Islamic boarding school students. Through this approach, Pondok Santri Nurul Jadid can become a model for similar educational institutions in improving service quality in a sustainable manner.

Analysis of field data at the Santri Nurul Jadid boarding school regarding food boarding services, compared with the theory of implementing Quality Function Deployment (QFD), provides valuable insights. The initial stage of QFD optimization involves identifying the needs and expectations of students regarding dining services. The results of interviews, surveys and discussions show that the boarding school management has succeeded in collecting in-depth information regarding food preferences, eating patterns and other aspects that are considered important by the students. QFD theory, as outlined by Khoirudin (2022), emphasizes its integral role in creating and improving products. In the context of the Nurul Jadid Santri boarding school, the application of QFD to boarding boarding services creates a balance between the needs and expectations of the students with accurate technical requirements. Thus, field data confirms that the initial steps for implementing QFD have been carried out effectively (Khoirudin, 2022) .

The application of QFD was also found to be in line with the findings of Limbong et al. (2023) which emphasizes the systematic QFD method for product planning and development. Field data shows that QFD at the Nurul Jadid Santri Islamic boarding school allows the development team to clearly identify the santri's desires and needs regarding meal services. This provides a solid basis for evaluation of the capabilities of a desired product or service (Limbong et al., 2023) . Additional benefits of QFD, as stated by Olga and Rudihartati (2020), can also be found in field data. A customer-centric approach is realized through the integration of student input and feedback, identified as specific customer needs. In addition, field data reflects efforts to reduce time in the product development phase, along with identifying customer needs through QFD (Olga & Rudihartati, 2020) .

Asrizal (2021) underlines the role of QFD as a strategic planning tool that is responsive to consumer voices. The results of interviews and surveys show that QFD at the Santri Nurul Jadid boarding school has succeeded in translating the voices of the students into comprehensive direction and engineering strategies. This is reflected in a holistic approach to the development of boarding boarding services, which not only identifies needs but also systematically integrates them in the service life cycle (Asrizal, 2021) . Field data illustrates that the implementation of QFD in the Santri Nurul Jadid Islamic boarding school consistently reflects theoretical principles. At a practical level, this proves that QFD implementation steps can be an effective guide in improving the quality of boarding boarding services and responding more optimally to the needs and expectations of students.

Field data highlights the steps to implement a structured Quality Function Deployment (QFD) matrix in the boarding school for students. This process involves

close coordination between management, chefs and other staff to ensure that students' needs are linked to operational elements effectively. For example, if students want a wider variety of menus, concrete steps are taken to prepare a daily menu that is diverse and nutritious.

The theory explained by Khoirudin (2022), Limbong et al. (2023), Olga and Rudihartati (2020), and Asrizal (2021) support the use of QFD as an important tool in planning, developing and improving products or services (Asrizal, 2021; Khoirudin, 2022; Limbong et al., 2023; Olga & Rudihartati, 2020). Implementing QFD in Islamic boarding schools can provide a number of benefits, including reducing production costs, increasing income, and reducing production time. The theory also highlights additional aspects such as a customer-centric approach, improved time management, fostered team collaboration, and an emphasis on documentation.

By connecting field data with theory, it can be seen that the implementation of QFD in boarding schools for students has a positive impact on optimizing services. Concrete steps taken in the field, such as preparing diverse and nutritious menus, are in accordance with QFD principles which emphasize fulfilling consumer wants and needs. Thus, the integration of QFD in the management of boarding houses for students at Pondok Santri Nurul Jadid can be considered as an appropriate strategy for improving service quality.

In research on the implementation of Quality Function Deployment (QFD) at the Santri boarding house at Pondok Santri Nurul Jadid, the results from field data show a number of alignments with the concepts explained in theory by Khoirudin (2022), Limbong et al. (2023), Olga and Rudihartati (2020), and Asrizal (2021) (Asrizal, 2021; Khoirudin, 2022; Limbong et al., 2023; Olga & Rudihartati, 2020). First, involving evaluation of the quality of raw materials, presentation and cleanliness of the eating environment, QFD in the Santri boarding house is well integrated. Management collaborates with related parties to ensure that the established quality standards are met, in line with the concept of Khoirudin (2022) which emphasizes QFD as an important instrument to meet consumer needs.

Second, QFD is implemented as a key in reducing production costs, involving efficient time management. The QFD decision-making process involves team collaboration through thorough discussions, in accordance with the principles described by Limbong et al. (2023) regarding the role of QFD in improving time management and team collaboration. Furthermore, a customer-centered approach is also seen in the implementation of QFD in the Santri food boarding house. Incorporating customer input and feedback helps create a dining experience that suits the wishes and needs of students, supporting the customer-centric concept as expressed by Olga and Rudihartati (2020).

Finally, in the documentation aspect, QFD at the Santri food boarding house produces comprehensive documentation that includes all data related to the process, including comparison of customer needs. This is in line with theory that highlights QFD's commitment to comprehensive documentation and analysis, as expressed by Asrizal (2021). Thus, the implementation of QFD in the Santri boarding house at Pondok Santri Nurul Jadid can be considered successful in integrating theoretical concepts, not only focused on improving service quality, but also paying attention to crucial aspects such as quality of raw materials, environmental cleanliness, time management, collaboration. team, customer-centric approach and comprehensive documentation.

The latest field data highlights the importance of paying attention to sustainability and nutritional fulfillment in preparing menus at the Nurul Jadid Santri Boarding

School. This is in line with the Quality Function Deployment (QFD) theory explained by Khoirudin (2022), Limbong et al. (2023), Olga and Rudihartati (2020), and Asrizal (2021) (Asrizal, 2021; Khoirudin, 2022; Limbong et al., 2023; Olga & Rudihartati, 2020). First, from field data, attention to sustainability includes the benefits of reducing costs and supporting health and environmental sustainability. QFD, according to Khoirudin (2022), has a key role in the creation and improvement of new products by seamlessly integrating quality in the design process. Management of raw materials that pays attention to sustainability aspects in accordance with the nutritional needs of students can reduce waste of raw materials, create products that meet customer expectations, and support environmental sustainability.

Second, QFD, as described by Limbong et al. (2023), serves as a systematic method for careful product planning and development. In the context of Pondok Santri Nurul Jadid, this can be interpreted as a strategic tool to ensure that the menu prepared meets the desires and needs of the students efficiently. Careful planning using QFD can optimize production time, in line with the desired reduction in production time. Third, field data highlights the importance of fulfilling nutrition in menu preparation. This is in line with the benefits of a customer-centered QFD approach, as explained by Olga and Rudihartati (2020). Implementing QFD requires the integration of customer input and feedback, which in the context of the Santri boarding house can be interpreted as the specific nutritional needs desired by the Santri. This provides a customer-focused approach to creating menus that suit their preferences and nutritional needs.

Fourth, Asrizal (2021) states that QFD functions as a strategic planning tool that responds to consumer voices. In the context of Pondok Santri Nurul Jadid, this can be translated as a careful understanding of the desires and needs of the students in the context of the food menu. QFD provides clear guidance to ensure that the voice of the consumer is integrated into a viable engineering strategy. The integration of QFD in menu preparation at Pondok Santri Nurul Jadid can provide significant benefits in optimizing service quality, ensuring nutritional fulfillment, as well as supporting sustainability and environmental sustainability aspects.

## **CONCLUSION**

In carrying out the optimization of Quality Function Deployment (QFD) at the Santri Nurul Jadid boarding house, the first step involves identifying the needs and expectations of the students through interviews, surveys and discussions. The information collected forms the basis for building a QFD matrix, providing guidance for service improvement. The QFD matrix is then linked to operational elements within the restaurant, requiring close coordination between management, chefs and staff to implement each element of the matrix well. Implementing QFD also involves evaluating aspects of raw material quality, presentation and cleanliness in the food boarding environment. The use of high-quality ingredients, aesthetic presentation, and cleanliness of the dining room are important factors in providing a positive eating experience for students. Management needs to work closely with raw material suppliers and cleaning teams to ensure quality standards are met. Special attention is also given to aspects of sustainability and nutritional fulfillment in menu preparation. By understanding the nutritional needs of santri and applying sustainability principles in managing raw materials, Pondok Santri Nurul Jadid can provide meal services that are not only satisfying but also support health and environmental sustainability. Overall, the implementation of QFD has had a positive impact in improving the quality of food services at the Islamic boarding school, creating a holistic and sustainable environment for the students.

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