

Service Quality Enhancement for Young Automotive Entrepreneurs: A SERVQUAL-IPA Perspective

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Abstract

Purpose: This study evaluates the service quality of the 2024 Entrepreneurial Skills Education Program in Motorcycle Automotive Engineering using the integrated Service Quality (SERVQUAL) and Importance-Performance Analysis (IPA) approaches.

Research Methodology: A quantitative descriptive approach was employed involving 40 young automotive entrepreneurs in Riau Province. Data were collected using a SERVQUAL-based questionnaire and analyzed through SERVQUAL gap analysis and IPA.

Results: The SERVQUAL analysis showed negative gap scores across all service quality dimensions, indicating that participants' expectations exceeded perceived performance. Responsiveness recorded the largest gap (-3.400), followed by empathy (-1.675) and assurance (-1.175). The IPA results identified workshop cleanliness, workshop equipment, and service equipment reliability as priority areas for improvement, while clear communication and fair service should be maintained.

Conclusions: The integration of SERVQUAL and IPA effectively identifies service quality gaps and improvement priorities, providing practical guidance for enhancing entrepreneurial training quality in the automotive sector.

Limitations: The study was limited to 40 participants from a single training program in Riau Province, which may limit the generalizability of the findings.

Contributions: This study extends the application of the SERVQUAL-IPA framework to vocational entrepreneurship training and provides practical recommendations for training institutions and policymakers to improve service quality.

Keywords: *Automotive Training, Importance-Performance Analysis (IPA), Service Quality, SERVQUAL, Vocational Entrepreneurship*

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1. Introduction

Heightened competition in the business environment requires firms to prioritize customer satisfaction, with service quality serving as a key mechanism to achieve this objective ([Pawar-Hole, Hole, & Wagh, 2020](#)). The study of service quality has improved over the past few decades ([El & Abukari, 2020](#)). Quality measurement practices emerged prominently in the early 1980s following the extensive implementation of Total Quality Management (TQM) ([Dahlgard, Reyes, Chen, & Dahlgard-Park, 2019](#)). In parallel, the measurement of service quality in the service industry has developed rapidly in recent years, emphasizing the necessity for reliable and precise measurement frameworks to evaluate and manage service quality ([Abusalma, Al-Daoud, Mohammad, & Vasudevan, 2024](#); [Chandra, Hafni, Chandra, Purwati, & Chandra, 2019](#); [Prabhu, 2023](#)).

The rising intensity of competition and the increasing complexity of the service sector require firms to adopt continuous service quality improvement strategies ([Silva-Tobar, Chacón-Paredes, & Guevara, 2022](#)). In the automotive industry, superior service quality is essential to enhance customer satisfaction and to achieve long-term competitive advantages reflected in market share growth and profitability ([Chandra et al., 2019](#)).

[Balinado, Prasetyo, Young, Persada, Miraja, and Perwira \(2021\)](#) and emphasize that service quality has become a central focus in after-sales services, particularly in the automotive industry. Automotive dealers are required to deliver superior service quality to meet customer expectations and enhance customer satisfaction ([Fathurohman, Purba, & Trimarjoko, 2021](#)). Higher levels of customer satisfaction contribute to the development of customer trust, which subsequently supports customer retention and loyalty ([Alqasa, & Afaneh, 2022](#); [Nainggolan, Nurwati, & Triana, 2022](#)). These outcomes enable companies to improve profitability and strengthen their competitive advantage.

While service excellence has been widely implemented across service organizations, empirical evidence suggests that its implementation has not always met customer or patient satisfaction standards ([Yeboah & Amponsah, 2025](#)). Inadequate staff competencies, unprofessional appearance, limited communication, and insufficient empathy remain major barriers to delivering excellent service in healthcare organizations. These findings indicate that service excellence requires not only technical competence but also customer-oriented behavior ([Aslam, Farhat, Arif, & Goi, 2022](#)). Excellent service consists of attitudes, appearance, attention, action, and accountability that must be consistently demonstrated by service providers, including healthcare professionals ([De, Barchielli, Vainieri, & Bellé, 2021](#)).

The dimensions to measure the quality of service in the motor vehicle maintenance and repair industry used by are Reliability, tangibles, responsiveness, empathy and assurance ([Natip, Trakansiriwanicha, Inthajaka, & Duangsaeng, 2020](#)). In addition to these five dimensions, the dimensions of service quality, fairness and perceived service comfort also have an impact on service satisfaction ([Famiyeh, Kwarteng, & Asante-Darko, 2018](#)). By improving service quality, fairness and service convenience, companies can improve customer satisfaction ([Jain, Singh, & Kaushik, 2020](#)).

[Naufal \(2024\)](#) emphasizes the need for automotive entrepreneurs to enhance competitiveness through systematic benchmarking, employee skill development, and the adoption of integrated technology and management systems. Additionally, regular customer satisfaction measurement, service diversification, strategic use of social media and promotions, collaboration with suppliers and distributors, and continuous performance monitoring are crucial to achieving higher alignment with customer expectations ([Ferrentino & Boniello, 2020](#)).

Despite the growing body of literature on service quality in the automotive industry, previous studies have predominantly focused on evaluating service quality in commercial automotive workshops, dealerships, and after-sales services from the customers' perspective ([Balinado et al., 2021](#); [Jain et al., 2020](#)). Limited attention has been given to the evaluation of entrepreneurial training programs

designed to improve service competencies among young automotive entrepreneurs. Moreover, existing studies generally employ Service Quality (SERVQUAL) solely to measure service quality gaps without integrating Importance–Performance Analysis (IPA) to determine improvement priorities for training outcomes ([Hebles, Llanos-Contreras, & Yániz-Álvarez-De-Eulate, 2019](#); [Rodrigues, & Conceição, 2025](#); [Yoganandan, 2022](#)). Consequently, there remains a lack of empirical evidence regarding the application of the integrated SERVQUAL–IPA approach in assessing the effectiveness of vocational entrepreneurship training programs within the automotive sector.

From a theoretical perspective, SERVQUAL provides a comprehensive framework for measuring the gap between participants' expectations and perceptions across the dimensions of tangibles, reliability, responsiveness, assurance, and empathy ([Amenta & Lucadamo, 2019](#)), while Importance–Performance Analysis (IPA) complements this assessment by identifying critical service attributes that require immediate managerial attention ([Park & Yi, 2022](#)). The integration of SERVQUAL and IPA therefore offers a more comprehensive evaluation framework by not only measuring service quality but also prioritizing improvement strategies based on participants' evaluations ([Chen, 2020](#); [Chen, Chen, & Su, 2018](#)). This integrated approach is particularly relevant for entrepreneurial training programs, where continuous service quality improvement is essential to enhance participants' competencies and their ability to deliver customer-oriented services in highly competitive automotive markets ([Xiao & Zhong, 2025](#)).

Based on the phenomenon described above, improving service quality has become an essential strategy for meeting customer expectations, enhancing customer satisfaction, and strengthening customer loyalty, which are critical factors for sustaining competitiveness in the automotive service industry. Therefore, entrepreneurial training programs should not only focus on improving technical competencies but also emphasize the development of service-oriented capabilities that enable young entrepreneurs to provide excellent customer experiences.

In response to this need, the Directorate of Courses and Training of the Directorate General of Vocational Education, Ministry of Education and Culture of the Republic of Indonesia, in collaboration with the Riau Cipta Mécanique Engineering Education and Training Institute and the Pelita Indonesia Institute of Business and Technology, organized the Platinum Category Entrepreneurial Skills Education Program or locally Program *Pendidikan Kecakapan Wirausaha* (PKW) for Motorcycle Automotive Engineering in Riau Province. This study contributes to the existing literature by applying the integrated SERVQUAL–IPA approach to evaluate the quality of entrepreneurial training services and to identify priority areas for continuous improvement, thereby providing practical recommendations for enhancing the effectiveness of vocational entrepreneurship programs in the automotive sector.

2. Research Methodology

This study employed a quantitative descriptive research design to evaluate the quality of service delivered in the 2024 Entrepreneurial Skills Education Program (PKW) for Motorcycle Automotive Engineering organized by the Riau Cipta Mécanique Engineering Education and Training Institute in collaboration with the Pelita Indonesia Institute of Business and Technology. The study aimed to assess participants' perceptions and expectations regarding the quality of training services using the integrated SERVQUAL and Importance–Performance Analysis (IPA) approaches.

The participants consisted of 40 young entrepreneurs engaged in the automotive and motorcycle service sector in Riau Province who attended the training program. Because the total number of participants was relatively small, a census sampling technique was employed in which all participants were included as research respondents.

Data were collected using a structured questionnaire developed based on the five SERVQUAL dimensions proposed by Parasuraman, namely tangibles, reliability, responsiveness, assurance, and

empathy. The questionnaire consisted of service quality attributes relevant to vocational automotive training services. Respondents were asked to evaluate each attribute based on two perspectives, namely expectation (importance) and perception (performance), using a five-point Likert scale, ranging from 1 (strongly disagree/very low) to 5 (strongly agree/very high).

Before data analysis, the questionnaire was reviewed by experts to ensure its content validity. Furthermore, the internal consistency of the instrument was evaluated using Cronbach Alpha, while the validity of each item was examined using product-moment correlation analysis. The instrument was considered reliable when the Cronbach Alpha coefficient exceeded the commonly accepted threshold, and all questionnaire items satisfied the validity criteria.

The collected data were analyzed descriptively using the SERVQUAL method by calculating the gap score between participants' perception (P) and expectation (E) for each service attribute using the formula $\text{Gap} = P - E$. Positive gap values indicate that perceived service exceeds participants' expectations, whereas negative values indicate that service performance does not fully satisfy participant expectations.

To determine service improvement priorities, Importance–Performance Analysis (IPA) was subsequently applied. The mean scores of importance and performance for each service attribute were plotted into a Cartesian diagram consisting of four quadrants: Quadrant I (Concentrate Here), Quadrant II (Keep up the Good Work), Quadrant III (Low Priority), and Quadrant IV (Possible Overkill). This analysis enabled the identification of service attributes requiring immediate improvement and those that should be maintained as organizational strengths.

In addition to the quantitative evaluation, the implementation of the training program consisted of four sequential stages. The first stage involved planning activities through literature review and preparation of learning materials relevant to customer-oriented service quality in the automotive industry. The second stage consisted of seminar and training sessions covering service excellence concepts, competitive conditions in the motorcycle workshop industry, and practical case studies. The third stage involved interactive analysis, discussion, and question-and-answer sessions that encouraged participants to identify customer needs and formulate appropriate service improvement strategies. Finally, the evaluation stage was conducted to assess participants' understanding of the training materials and to obtain feedback regarding the quality of the training services delivered. This interactive learning process follows the effective instructional approach suggested by [Murtadlo and Widhyahrini \(2019\)](#).

3. Results and Discussion

This activity was part of the Entrepreneurial Skills Education Program (PKW) in Automotive Mechanical Engineering and Motorcycle Technology, implemented by the Riau Cipta Management (RCM) Integrated Education and Training Institute. The program involved 40 young entrepreneurs engaged in the automotive and motorcycle sector in Riau Province. The activity was conducted over a two-month period, from July 15 to September 26, 2024. Funding for the program was provided by the Directorate of Courses and Training under the Directorate General of Vocational Education, Ministry of Education and Culture of the Republic of Indonesia, Phase VI (Platinum Category) in 2024. The Pelita Indonesia Institute of Business and Technology participated as a strategic partner in the implementation of this entrepreneurial skills program.

The activity began with the opening of the activity which was held on July 15, 2024 at the LPPT Building. Riau Cipta Mécanique Jl. Paus Ujung No. 124 JK Kel. Tangkerang Barat Pekanbaru City – Riau. The activity was attended by the Pekanbaru City Education Office, the Head of Bank BRI Unit of the Tuanku Tambusai Branch Whale, the Head of PT. Garuda Cyber Indonesia, Leaders of Harapan Motor Workshops, Leaders of Adi Motor Workshops, Leaders of Motorcycle Clinic Workshops, Leaders of PT. Alfa Scorpi (Yamaha), Leader of PT. Riau Pos Group and resource persons from the

Pelita Indonesia Institute of Business and Technology. Figure 1 show opening of the Entrepreneurial skill education activity, next activity is in the form of delivering material by each resource person in accordance with the capacity and competence of each resource person.



Figure 1. The opening of the Entrepreneurial Skills Education (PKW) activity was attended by the Pekanbaru City Education Office, as well as other resource persons



Figure 2. The atmosphere of excellent service training activities

Figure 2 the excellent service material in the workshop business was delivered on September 5, 2024. The presentation of the material was carried out in a structured manner and began with the equalization of the perception of Excellent Service in the workshop business. Followed by case analysis on a sample of workshop businesses that have received complaints from customers and how to respond to customer complaints wisely and satisfactorily.

Table 1. Dimensions and attributes of workshop services

No	Dimension	Statement
1	Tangible	1. The workshop environment is neat and clean 2. Complete workshop equipment 3. Comfortable waiting room and complete waiting room facilities (available television, newspaper, magazine, soft drink, free hotspot)

No	Dimension	Statement
2	Reliability	1. Standard and affordable service costs and spare parts prices 2. Mechanics have extensive knowledge in their field 3. Mechanics are able to repair damage
3	Responsiveness	1. Meet special requests from customers 2. Employees and mechanical staff work quickly and responsively in serving customers 3. Providing clear information to customers
4	Assurance	1. Equipment used for service and maintenance can be held responsible 2. Secure parking 3. Provide service and spare parts warranty 4. Safe from damage, abrasions, dents and loss during the service process
5	Empathy	1. Employees and mechanical staff give consideration and attention to customers as important people 2. Understand customer needs 3. Friendly and courteous service to customers 4. Fair service regardless of social status

Participants are also equipped with the ability to analyze the improvement of the quality of motorcycle repair shop services using the Servqual method approach as shown in the following Table 1.

3.1 SERVQUAL Analysis

The SERVQUAL method was applied to identify the gap between participants' expectations and their perceptions of the service quality delivered during the training program. Negative gap values indicate that the perceived performance has not fully met participant expectations, suggesting that improvements are required in the corresponding service dimensions.

Table 2. SERVQUAL gap analysis

Dimension	Performance	Expectation	Gap
Tangibles	11,900	11,225	-0,675
Reliability	11,925	11,200	-0,725
Responsiveness	13,875	10,475	-3,400
Assurance	15,850	14,675	-1,175
Empathy	16,225	14,550	-1,675

Table 2 the SERVQUAL analysis indicates that all five dimensions produced negative gap scores, demonstrating that participants' expectations exceeded their perceptions of the services received. This finding suggests that although the training program was

positively received, further improvements are necessary to achieve higher levels of participant satisfaction.

Among the five dimensions, responsiveness recorded the largest negative gap (-3.400), indicating that participants expected faster responses, clearer communication, and more immediate assistance during the training process. This result implies that improving trainer responsiveness and participant interaction should become the primary focus of future service improvements.

The empathy dimension produced the second largest gap (-1.675), suggesting that participants expected greater individual attention and stronger understanding of their learning needs. Meanwhile, the assurance dimension showed a moderate gap (-1.175), indicating that participants still expected improvements regarding confidence in the training process, service guarantees, and professionalism.

The reliability (-0.725) and tangibles (-0.675) dimensions produced the smallest gaps, indicating that the physical facilities, learning environment, equipment, and consistency of service delivery were relatively satisfactory compared with the other dimensions. Nevertheless, these dimensions still require continuous improvement to fully satisfy participant expectations. These findings support previous studies emphasizing that service quality dimensions significantly influence customer satisfaction and organizational competitiveness ([Balinado, Prasetyo, Young, Persada, Miraja, & Perwira, 2021](#); [Jain, Singh, & Kaushik, 2020](#)).

3.2 Importance–Performance Analysis (IPA)

To complement the SERVQUAL analysis, the Importance–Performance Analysis (IPA) method was applied to determine the priority level of each service attribute. IPA classifies service attributes into four managerial quadrants based on their average importance and performance scores ([Bakhtiar, Ningtyas, & Suliantoro, 2024](#)). The average importance score was 4.06, while the average performance score was 3.67, which served as the intersection point of the Cartesian diagram shown in Figure 3.

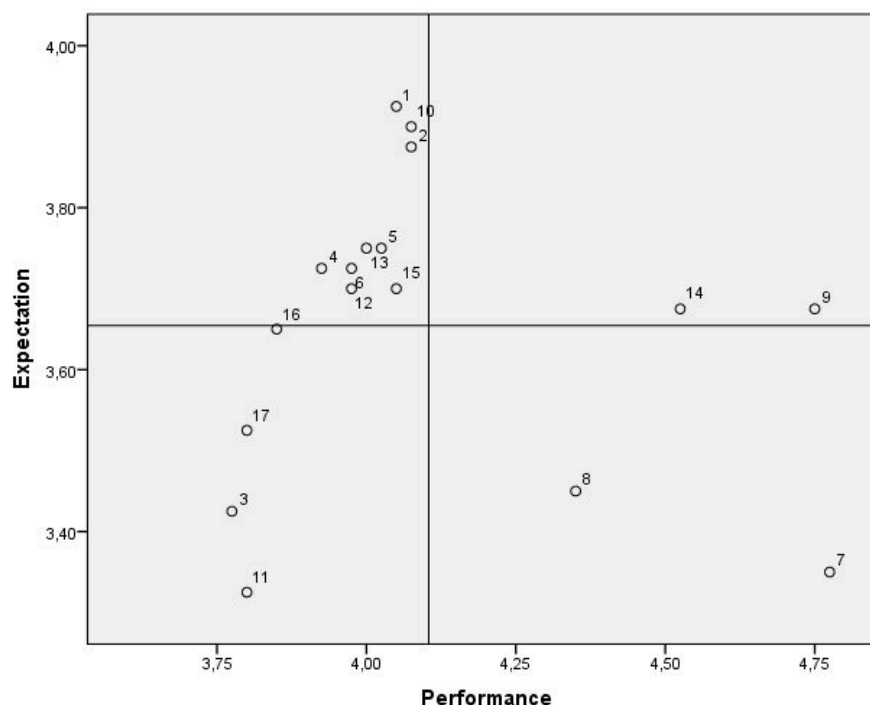


Figure 3. Importance–performance analysis cartesian diagram

Figure 3 Importance–Performance Analysis (IPA) results demonstrate that the seventeen service quality attributes are distributed across four managerial priority quadrants. Quadrant I includes

attributes with high importance but low performance, indicating urgent areas for improvement, particularly workshop cleanliness, equipment completeness, and equipment reliability. Quadrant II represents attributes with high importance and high performance that should be maintained, including providing clear information to customers and delivering fair services regardless of social status. Quadrant III contains attributes with lower importance and performance, such as waiting room facilities, parking security, and friendly service, which require less immediate attention. Meanwhile, Quadrant IV consists of attributes with high performance but relatively lower importance, including responsiveness in handling customer requests and quick service delivery, suggesting that resources may be redirected toward more critical improvement areas. Several attributes, such as service costs, mechanic competence, repair capability, warranty services, and customer understanding, are positioned near the intersection point and should continue to be monitored to maintain service quality.

The integration of SERVQUAL and IPA provides a comprehensive approach to evaluating and improving service quality in vocational entrepreneurship training programs. SERVQUAL identifies service gaps between participant expectations and perceived performance, particularly in responsiveness and empathy dimensions, while IPA translates these gaps into specific managerial priorities. The findings highlight the importance of improving workshop facilities, service reliability, and participant-oriented practices to enhance training quality. Therefore, the combined SERVQUAL–IPA framework offers practical guidance for optimizing vocational training services and strengthening customer-oriented competencies among young automotive entrepreneurs

4. Conclusion

4.1 Conclusion

This study evaluated the quality of services provided in the Entrepreneurial Skills Education Program (PKW) for Motorcycle Automotive Engineering using the integrated SERVQUAL and Importance–Performance Analysis (IPA) approaches. The SERVQUAL analysis revealed that all five service quality dimensions tangibles, reliability, responsiveness, assurance, and empathy produced negative gap scores, indicating that participants' expectations exceeded the performance of the services delivered during the training program. Among these dimensions, responsiveness recorded the largest service quality gap, followed by empathy and assurance, suggesting that these dimensions require the greatest managerial attention.

The IPA results complemented the SERVQUAL findings by identifying specific service attributes that should become priorities for improvement. Attributes related to workshop cleanliness, the completeness of workshop equipment, and the reliability of service facilities were classified as high-priority attributes because they were considered highly important but had not yet achieved satisfactory performance. Conversely, attributes related to clear communication and fair treatment of participants regardless of social status were positioned in the "Keep up the Good Work" quadrant, indicating that these strengths should be maintained.

The integration of SERVQUAL and IPA provides a comprehensive evaluation framework by measuring both the magnitude of service quality gaps and the managerial priorities for improvement. The findings contribute to the literature on vocational entrepreneurship education by demonstrating that service quality evaluation should not only identify performance deficiencies but also establish strategic priorities for continuous improvement in entrepreneurial training programs.

4.2 Research Limitations

This study has several limitations. The sample was limited to 40 participants from a single vocational entrepreneurship training program in Riau Province, which may restrict the generalizability of the findings. In addition, the study employed a descriptive quantitative approach using SERVQUAL and IPA, focusing on service quality evaluation and improvement priorities rather than causal relationships among variables. The evaluation was also conducted immediately after the training program, limiting the assessment of its long-term impact on entrepreneurial performance and business sustainability

4.3 Suggestions and Directions for Future Research

Future research is recommended to involve larger and more diverse samples across different regions and vocational sectors to enhance the validity of findings. Further studies may integrate SERVQUAL and IPA with advanced analytical methods, such as SEM, to examine the relationship between service quality, entrepreneurial competence, customer satisfaction, and business performance. Researchers are also encouraged to explore additional factors, including digital innovation, customer relationship management, technological readiness, and sustainable entrepreneurship, through longitudinal approaches to better understand long-term training outcomes.

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