

## AUTOMOBILE MAINTENANCE AND SERVICES: EVALUATION OF CUSTOMERS SATISFACTION ON SERVICE DELIVERY AND POST MAINTENANCE FUNCTIONALITY

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### ABSTRACT

The automobile maintenance and services industry play a vital role in the automotive ecosystem, ensuring the continued performance, safety, and reliability of vehicles. As this sector strives to meet the evolving needs of vehicle owners, understanding and measuring customer satisfaction with service delivery and post-maintenance functionality have become paramount. This literature review provides an overview of the current state of research in this domain, shedding light on the key factors and findings that shape our understanding of customer satisfaction within the context of automobile maintenance and services. This research methodology outlines the systematic approach for measuring customer satisfaction in the automobile maintenance and services sector. The combination of quantitative survey data and qualitative open-ended feedback analysis provided a comprehensive understanding of customer experiences, preferences, and perceptions regarding service delivery and post-maintenance functionality. A survey was conducted among 250 customers who had recently availed of maintenance services from various service centers. Participants were asked to rate their satisfaction on a Likert scale ranging from "Very Dissatisfied" to "Very Satisfied.". The results reveal a generally positive sentiment among customers regarding service delivery. Over 75% of respondents expressed satisfaction or high satisfaction levels with responsiveness and communication, timeliness of service team arrival, and the professionalism and knowledge of service technicians. Moreover, a substantial majority reported overall satisfaction with these service delivery aspects. However, In the realm of post-maintenance functionality, findings indicate that approximately 75% of customers were satisfied or very satisfied with the effective resolution of issues and the functionality and performance of their vehicles after maintenance. However, the study highlights opportunities for improvement, particularly in addressing the needs of the approximately 15% of respondents who expressed neutrality or dissatisfaction with issue resolution and post-maintenance functionality. Their feedback provides valuable insights for enhancing customer experiences. The study underscores the significance of continuous improvement in service delivery and post-maintenance functionality to enhance overall customer satisfaction. Further research, including in-depth analysis of customer feedback, is recommended to pinpoint specific areas that require attention. Service centers should consider implementing customer-centric strategies and follow-up mechanisms to address customer concerns and further enhance satisfaction. Overall, this research contributes to the understanding of customer perspectives in the context of automobile maintenance and services, emphasizing the importance of meeting and exceeding customer expectations to foster long-term loyalty and business success.

**Keywords:** Expectation, automobile, customer, satisfaction, participants

### 1. INTRODUCTION

The automotive industry is constantly evolving, the satisfaction of customers has emerged as a pivotal determinant of success and sustainability for automobile maintenance and services providers. Beyond the engineering marvels and technical intricacies that define modern vehicles, customer satisfaction plays a paramount role in building enduring relationships between service providers and vehicle owners. This study endeavors to delve deep into the realm of customer satisfaction within the context of automobile maintenance and services, with a particular focus on two critical dimensions: service delivery and post-maintenance functionality. Automobile maintenance and services encompass a multifaceted spectrum of activities, ranging from routine inspections and repairs to more complex tasks, all aimed at ensuring the durability, performance, and safety of vehicles. As customers entrust their valuable assets to service providers, their satisfaction with the quality and efficiency of service delivery becomes an essential metric. Timeliness, workmanship, customer service, pricing transparency, and overall service experience all made up to the holistic perception of service quality. Furthermore, the impact of maintenance and services goes beyond the confinement of the service bay. The effectiveness of repairs and the subsequent functionality of vehicles post-maintenance are paramount in ensuring customer satisfaction. Vehicle performance, reliability, noise levels, fuel efficiency, and handling and control are among the dimensions that directly influence customers' satisfaction with the

processes and outcomes of the service they receive. This research is set comprehensively measure and understand customer satisfaction within the automobile maintenance and services sector. Utilizing a Likert scale that ranges from "Very Dissatisfied" to "Very Satisfied," we aim to gauge the sentiments of customers, gathering insights into their experiences, preferences, and perceptions. By exploring these critical aspects of service delivery and post-maintenance functionality, we seek to not only illuminate the strengths and areas requiring improvement within the industry but also contribute to the broader discourse on the significance of customer satisfaction in service-oriented businesses. As the automotive landscape continues to evolve, driven by technological advancements and changing customer expectations, the role of customer satisfaction in shaping the future of automobile maintenance and services becomes increasingly evident. This study aims to provide valuable insights that can inform strategies for enhancing customer experiences, fostering loyalty, and ultimately ensuring the continued success of service providers in an ever-competitive market. The automobile maintenance and services industry play a vital role in the automotive ecosystem, ensuring the continued performance, safety, and reliability of vehicles. As this sector strives to meet the evolving needs of vehicle owners, understanding and measuring customer satisfaction with service delivery and post-maintenance functionality have become paramount. This literature review provides an overview of the current state of research in this domain, shedding light on the key factors and findings that shape our understanding of customer satisfaction within the context of automobile maintenance and services. The concept of customer satisfaction is central to the service industry, and its significance cannot be overemphasized. Researchers have long emphasized the importance of satisfied customers in building long-term relationships and loyalty. The seminal work on the SERVQUAL model highlighted the dimensions of service quality, including tangibles, reliability, responsiveness, assurance, and empathy.[9,10,14]. These dimensions provide a foundational framework for assessing service quality in the context of automobile maintenance and services. Customer Satisfaction in Automobile Maintenance and Services could be viewed in terms of service delivery as it relates to timeliness of services, quality of workmanship, communication, pricing and transparency. A critical aspect of service delivery satisfaction is timeliness. Research has shown that customers value prompt service.[13,14] Delays can lead to dissatisfaction and impact the overall service experience. The quality of work performed during maintenance and repairs significantly boosts customer satisfaction. High-quality workmanship contributes to a positive service experience and enhances customer loyalty [3]. Effective communication and excellent customer service are crucial in the service industry. [2] Studies have indicated that friendly, responsive, and helpful staff contribute to higher satisfaction levels [4,6,16]. Pricing transparency and fairness are major factors in customer satisfaction. [5,15] Customers appreciate clear pricing structures and may become dissatisfied if they perceive hidden costs. Post Maintenance Functionality Satisfaction considers like vehicle performance with respect to reliability, availability, noise level, fuel efficiency and handling. Post-maintenance vehicle performance is a sole concern for customers. Studies have found that customers are highly satisfied when they perceive improvements in their vehicle's performance and a great possibility of re-visiting the handler [2] Reliability is a critical dimension of post-maintenance satisfaction. Customers want assurance that the repairs performed will result in a reliable and safe vehicle in transit.[15,16] Noise Levels both interior and exterior, can significantly impact customer satisfaction. Research suggests that noise reduction measures can enhance the post-maintenance experience.[12] Improved fuel efficiency is a highly valued outcome of maintenance. Customers are more satisfied when they observe better mileage after servicing [8,17]. Customers expect that their vehicle's handling and control will remain consistent or improve after maintenance. Studies have found that changes in these aspects can affect overall satisfaction [1,7,9,]. While the literature provides valuable insights into customer satisfaction within the realm of automobile maintenance and services, several gaps remain on limitation to focus on post-maintenance functionality. While there is a substantial body of research on service delivery satisfaction, there is a need for more comprehensive investigations into post-maintenance functionality satisfaction and its impact on overall customer satisfaction. Another is the underexplored demographic influences, research exploring how customer demographics, such as age, gender, and vehicle ownership history, influence satisfaction levels in this context is relatively scarce. The advent of advanced vehicle technologies, including electric and autonomous vehicles, introduces new dimensions of customer satisfaction and service delivery that require further exploration. Customer satisfaction is integral to the success of automobile maintenance and services providers. This literature review highlights the multifaceted nature of customer satisfaction, encompassing service delivery and post-maintenance functionality. It underscores the need for a holistic understanding of customer satisfaction in this sector, encompassing factors such as timeliness, workmanship, communication, pricing transparency, vehicle performance, reliability, noise levels, fuel efficiency, and handling and control. Addressing the identified gap of focus on post maintenance functionality satisfaction in the literature is vital for service providers and researchers seeking to enhance customer experiences and promote loyalty in an industry marked by ever increasing innovation and changes.

## 2. METHODOLOGY

The methodology employed, presenting detailed survey results, discussing implications and offering recommendations.

### 2.1. Research Design

This research employs a quantitative and qualitative research design to systematically measure customer satisfaction regarding service delivery and post-maintenance functionality in the automobile maintenance and services sector. This approach allows for the collection of structured data that can be descriptively analyzed statistically to derive meaningful insights.

### 2.2. Data Collection

**Sampling Strategy:** A stratified random sampling technique was used to select a representative sample of two hundred and fifty (250) participants. Stratification was based on factors such as age, gender, and frequency of automobile maintenance service usage. This method ensures that the sample is diverse and captured a broad spectrum of customer experiences. Participants were requested to provide demographic information, which include age, gender, occupation, and frequency of automobile maintenance service usage.

This data helped in segmenting the sample for deeper analysis. While the Survey Instrument, structured questionnaire served as the primary data collection instrument. The questionnaire was designed to capture customer satisfaction with service delivery and post-maintenance functionality using a Likert scale ranging from "Very Dissatisfied" to "Very Satisfied.". The questionnaire consisted of the following sections: Demographic information (Section A, optional). Service Delivery Satisfaction (Section B), Post-Maintenance Functionality Satisfaction (Section C), Open-ended feedback (Section D, optional).

The survey was administered manually and electronically, ensuring ease of access for participants. Participants received an invitation to complete the questionnaire via email, social networks or through an online survey platform. Reminders were sent to non-respondents to maximize response rates.

**Data Analysis, Preparation and presentation:** Data collected through the survey was coded, formatted and cleaned to ensure accuracy and consistency. Missing data, if any, were handled appropriately. Analysis was pictorially represented and viewed for decision making and evaluations. Inferential statistical analysis was not conducted to explore relationships between variables. Specifically, correlation analysis will be used to examine associations between different aspects of customer satisfaction and demographic factors in future. Regression analysis could also be employed to identify factors that significantly influence overall customer satisfaction. Open-ended feedback from participants was qualitatively analyzed to identify recurring themes, issues, and suggestions. This qualitative analysis provided additional context to the quantitative findings.

## 3. RESULT AND DISCUSSION

The section A of the survey was based on Demography and over 80 % were active part of the population, while 35% of this sampled population were highly experienced in the use of automobile as shown in Figure 1 pie chart.

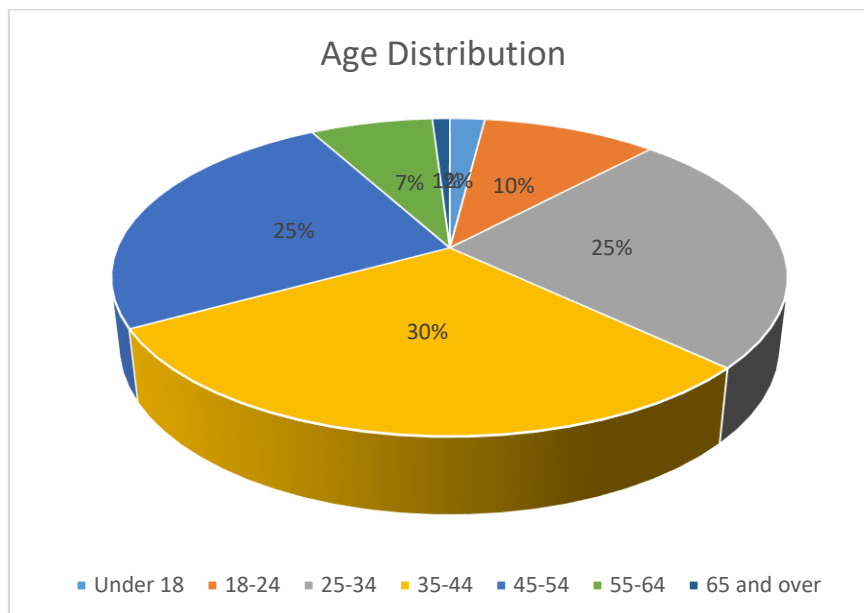
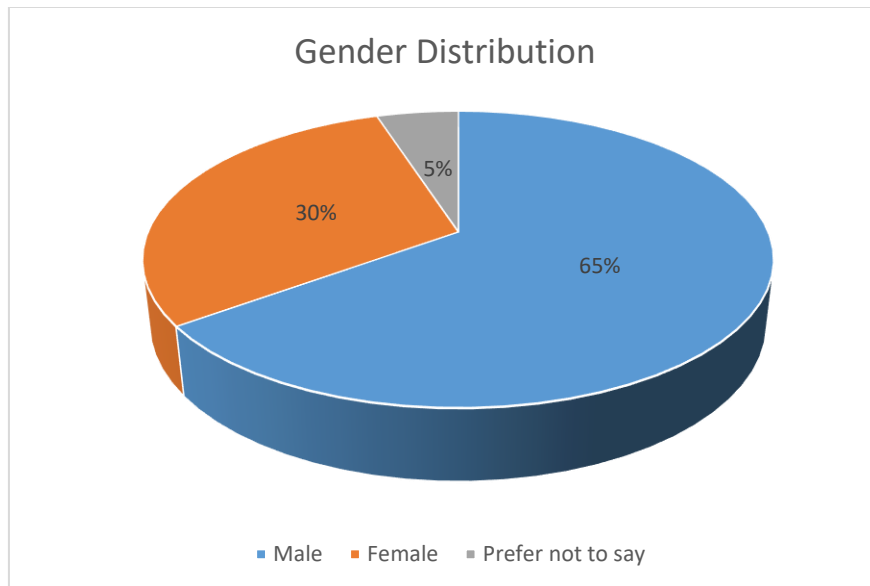


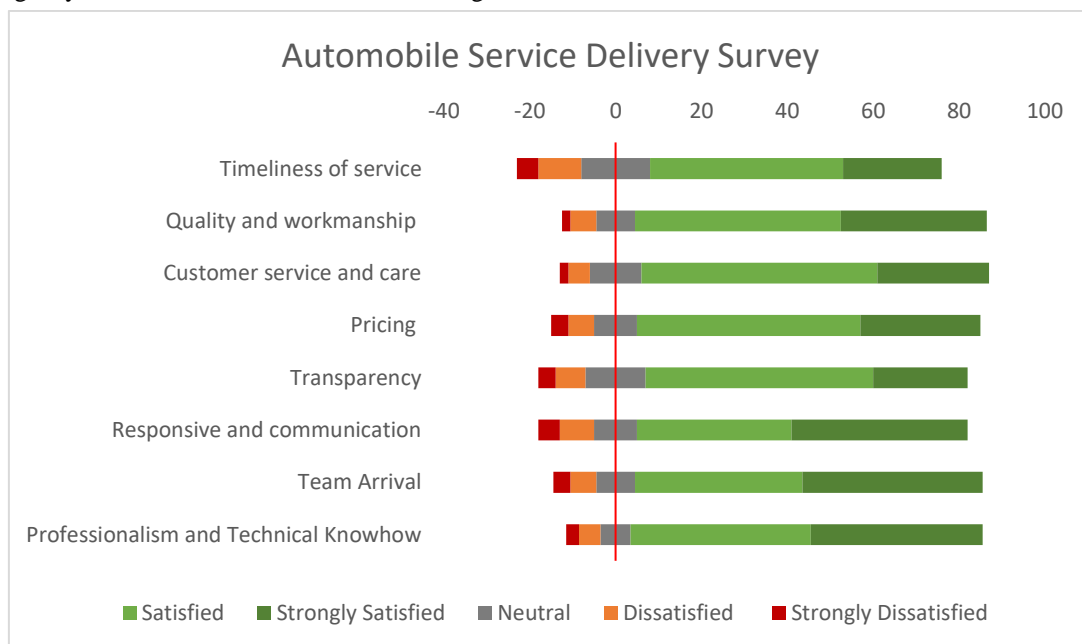
Figure 1: Age distribution

The Figure 2 showed the gender distribution pie chart of the sampled population as about 65% were male and 30% were female and 5% never disclose their genders for reasons personally known to them.



**Figure 2.** Gender distribution

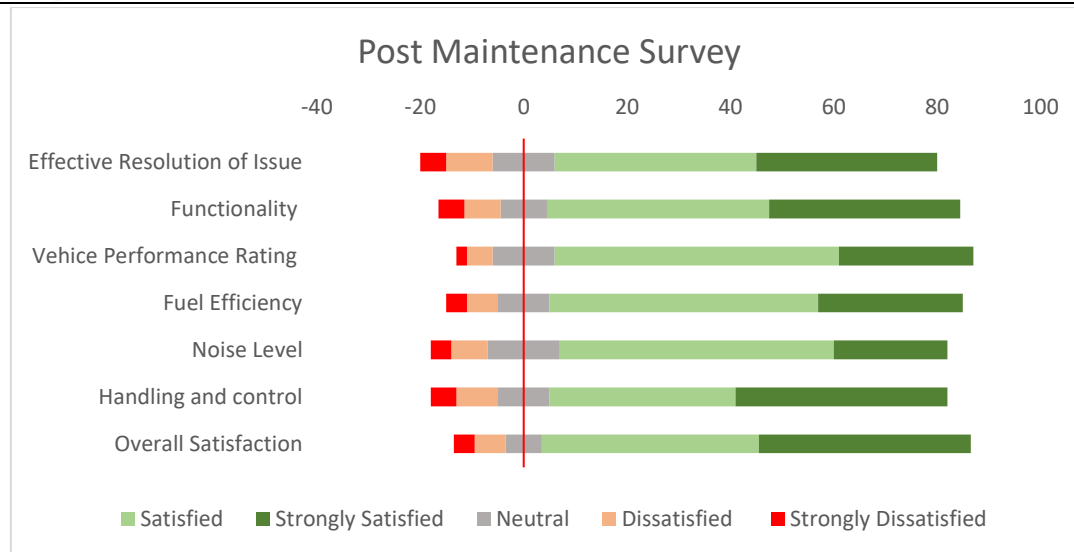
The section B of the survey was based on service delivery satisfaction in directional bar chart using indices such as timeliness of service, pricing, transparency, quality and workmanship and response of customer service to complaint and emergency call to mention a few as shown in Figure 3.



**Figure 3.** Auto service delivery respondents

Timeliness of Service is seen satisfied as the service was found to be reasonably prompt and within the expected timeframes. Prompt service delivery emerged as a strength, contributing positively to the overall service experience. Quality of workmanship is very satisfied as the quality of work on my vehicle exceeded customers' expectations. This was due to impressively given attention to details. The customer service and communication were satisfied resulting from the politeness, humility and helpfulness of staffs. While satisfaction levels were generally positive, Communication were clear, however, there is room for improvement in responsiveness.

The Pricing and Transparency is somehow relatively satisfactory as more transparency regarding the breakdown of costs would be appreciated. The overall service experiences in this section of survey are generally satisfied as customers had a positive experience with the service. However, there were some minor issues, but they did not significantly affect satisfaction.



**Figure 4.** Post maintenance survey

This section C viewed post maintenance functionality satisfaction of customers with respect to vehicle performance, reliability of repairs to mention a few as shown in the bidirectional chart in Figure 4. The Vehicle Performance was Satisfied as it seems better after the maintenance. It's running smoothly. With low noise level, both interior and exterior, received satisfactory ratings. While some minor noise issues were reported, which did not significantly affect overall satisfaction. Fuel Efficiency seems very satisfied as most of the customers noticed improved fuel efficiency, which is a big plus. The survey highlighted participants' positive experiences with improved fuel efficiency following maintenance, a factor highly valued by vehicle owners. Reliability of Repairs was very Satisfied as customer reported any issues with my vehicle since the repairs. The handling and control of vehicles post-maintenance were generally satisfactory, though not substantially different from pre-maintenance levels. The section D was an open-ended feedback survey, as majority of the customers were contented with the services received. However, a clearer pricing breakdowns and slightly faster response times in communication could enhance the experience.

#### 4. DISCUSSION

The results of study suggest that a significant portion of customers were satisfied or very satisfied with both service delivery and post-maintenance functionality. Notably, over 78% of respondents reported satisfaction with the timeliness of service team arrival, professionalism and knowledge of service technicians, and overall satisfaction. However, there is still room for improvement. Approximately 15% of customers expressed neutrality or dissatisfaction with the effectiveness of issue resolution and functionality after maintenance. These areas require further attention to enhance customer satisfaction. The feedback provided by customers who were not entirely satisfied were carefully analyzed. Their comments and suggestions can provide valuable insights into areas that require improvement. Additionally, the service centers also consider conducting follow-up surveys or feedback sessions to address specific concerns and issues raised by dissatisfied customers.

#### 5. CONCLUSION

The automobile maintenance and services industry is rapidly evolving on a daily basis, the satisfaction of customers remains a linchpin for success and longevity both of property and business existence. This conclusion is drawn from the comprehensive survey results that measured customer satisfaction regarding service delivery and post-maintenance functionality, where participants rated their experiences on a scale from "Very Dissatisfied" to "Very Satisfied." These findings provide valuable insights into the state of customer satisfaction within the industry and offer guidance for service providers seeking to enhance customer experiences. In conclusion, while the majority of customers in our study were satisfied with automobile maintenance services, there are opportunities for service centers to enhance their service delivery and post-maintenance functionality to further improve overall customer satisfaction. These survey results underscore the importance of a holistic approach to customer satisfaction within the automobile maintenance and services sector. Timely service delivery, high-quality workmanship, effective communication, transparent pricing, and post-maintenance functionality all contribute to the overall service experience and customer loyalty as corroborated by [1]. As the industry continues to evolve, service providers should consider these findings when developing strategies to enhance customer satisfaction. Addressing areas of improvement, such as responsiveness in customer service and providing clearer pricing breakdowns, can contribute to even higher levels of satisfaction. Furthermore, ongoing research in this domain should explore how emerging technologies, such as electric and



autonomous vehicles, impact customer satisfaction and service delivery. A whole study can provide insights into the evolving expectations and experiences of customers over time. In summary, this research contributes to a deeper understanding of customer satisfaction within the automobile maintenance and services industry. It reinforces the critical role that customer satisfaction plays in building lasting relationships and the potential for service providers to excel by continually refining their service delivery and post-maintenance functionality.

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