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Assessment of Motor Vehicle Repair Shop Service Quality Perception Using the SERVPERF Model and Lean Service

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***Abstract*— The benchmark for the success of a business or product is to measure the satisfaction of customers who have used or felt the goods or services. The customer's expectations of the function and emotional happiness factors that arise from the use of goods or services are entirely the responsibility of the producer. So that manufacturers need to focus on what attributes must be presented in a product or service to increase customer satisfaction. The decrease in customer interest in providing vehicle service at an automotive company in Sidoarjo is the problem studied in this study, to analyze the level of customer satisfaction and attributes that are priority improvements as recommendations for the company.**

Data generated from customers is processed and analyzed using the Service Performance (SERVPERF) and Lean Service methods. Based on the results of data processing, it can be concluded that the level of customer satisfaction with service quality is 82.3%, and three service attributes are classified as a top priority and two types of critical waste.

***Keywords*:Customer Satisfaction; Service Performance (SERVPERF); Lean Service Method.**

I. INTRODUCTION

Since the onset of the COVID-19 virus pandemic in Indonesia, there have been many businesses that require employees to prioritize company performance. How not, even though it had fallen, various business fields in Indonesia have now bounced back with various kinds of innovations and technological advances to improve company performance(Roh et al., 2022). One of the performance-value factors that can increase the company's profit is the customer satisfaction factor. Company performance and customer satisfaction are closely related (Suryadi et al., 2021). Customers are the reason why a business continues(Bandi et al., 2022). Customers are individuals or businesses that buy goods or services from other companies(Prohl-Schwenke & Kleinaltenkamp, 2021). Without customers, we will not know where the product or service will be sold. Service is an inseparable bridge between companies and customers and plays an important role in meeting customer ratings (Ruan & Mezei, 2022). The customer has a very important position in the business. Therefore, every business must try to meet customer satisfaction (Woo et al., 2021). This is to the quality of service, if the quality of service is poor, it will automatically reduce the level of customer satisfaction (Salamah et al., 2022). So the quality of service needs to be included in the company's priorities in increasing company profits (Özden & Celik, 2021). Especially in automotive companies.

Vehicles are included in the group of crucial needs for humans (Sun et al., 2021). Whatever the work or activities carried out by humans, vehicles are considered useful support to facilitate their daily activities (Pudāne et al., 2019). Increasing technology makes the emergence of vehicles with various interesting feature innovations higher. This makes the maintenance needed for vehicles a routine that owners should not abandon (Novák et al., 2020). Various kinds of maintenance are provided according to the type and type of vehicle. However, regardless of the type and type of treatment or service offered, the quality of service is an absolute price that must be obtained by customers beyond the high or low price of the selected vehicle service(Belwal & Amireh, 2018).

One of the service providers in Sidoarjo experienced a decreasing trend of customer interest in servicing vehicles. After initial identification, the cause of the declining trend of customer interest is due to errors in inventory

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factors and repair mechanisms, loss of timing in performing services, waiting times that are too long, repeated processes that cause unnecessary movements, and poor communication. These mistakes become fatal if they result in a decrease in the level of customer interest. This can cause the image or branding built by the company (Sürücü et al., 2019) to become one of the trusted choices in performing vehicle service, to be tarnished resulting in customers fleeing to other competitors because there is no longer a sense of loyalty due to the image that has been formed (Steinhoff & Zondag, 2021).

This problem is the background for the company to analyze this research, to analyze the company's service performance to customers and the level of customer satisfaction, and what attributes are priorities in making improvements as recommendations for companies based on research data that has been generated. The research method used in this study is the Service Performance (SERVPERF) and Lean service methods. The combination of the two methods is the right step that can be taken because it does not only look at the level of performance or satisfaction from customers but also produces what attributes are the guidelines for making improvements to the workshop work system itself. So that both the Service Performance (SERVPERF) method and the Lean service method will be beneficial in conducting research related to service quality and improvements that can be made by the management. The SERVPERF model is commonly used in measuring customer satisfaction which consists of 5 dimensions, namely Tangibles, Reliability, Responsiveness, Assurance, and Empathy (Johnson & Scott, 2022). Most lean methodologies refer to the manufacturing industry, where there is a real product in it. The main purpose of this method is to achieve a model for Lean Services and ensure its applicability to service activities (Rajab et al., 2022).

II. RESEARCH METHODS

This research was conducted at a vehicle service provider company located in the city of Sidoarjo. Research data were collected by conducting observations, interviews, and distributing questionnaires. The data that has been collected is then tested for validity (validity) and quality (reliability) using the SPSS program. After obtaining valid and reliable results, data processing will be continued using the Service Performance (SERVPERF) method. The results of the questionnaire that have been valid and reliable are then continued by calculating the average level of importance and performance. The calculation results are entered into the Impotence Performance Analysis (IPA) and CustomerSatisfaction Index (CSI) matrices(Aghajanzadeh et al., 2022).

In the lean service method, the first step is to make Big Picture Mapping and Process Activity Mapping to get information about waiting times and processing times for each activity accompanied by the location changes experienced by users and grouping activities for each work process(Steckowych & Smith, 2019). The results of the processing activity mapping show that there are non-value-added activities which are further identified into 7 types of waste which are referred to as 7 wastes and consist of Waiting, Duplication, Unnecessary Movement, Unclear Communication, Error, Incorrect Inventory, Lost Opportunity(Klein et al., 2021). Measurement of 7 waste is done by distributing questionnaires where the questionnaire questions relate to the 7 dimensions of waste that have been determined. After obtaining the questionnaire data regarding the 7 wastes, then the weighting is carried out to produce critical waste where the waste is the waste that has the highest weight and the cause of the waste is searched using root cause analysis to trace the causes and impacts of a problem that occurs(Ito et al., 2022). Root Cause Analysis is carried out to find out the causes of the waste that occurs by using 5 whys.

III. RESULT AND DISCUSSION

The data collection stage was carried out by distributing questionnaires based on service quality factors in five dimensions consisting of Tangibles, Reliability, Responsiveness, Assurance, and Empathy(Tadesse & Bakala, 2021). Tangibles (the physical environment embodied by objectsand subjects). Reliability (the service provider’s capability to offer precise and trustworthy services).Responsiveness (a firm’s readiness to help itscustomers bya willingness to offer each customer individual service).

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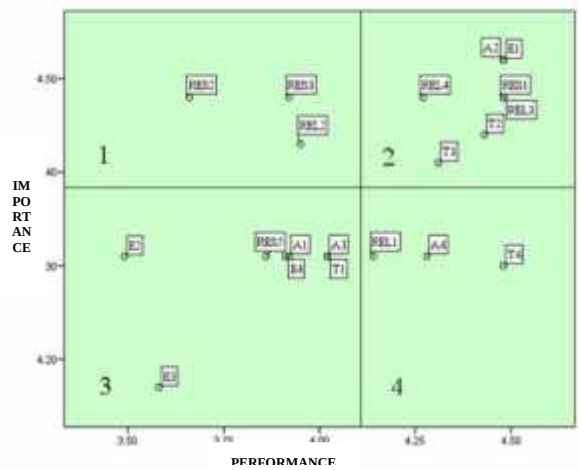

Figure 1. Importance Performance Analysis Based on Mapping SERVPERF processing results

Figure 2. Types of Services and Percentage of Classification

Based on the results of processing the questionnaire data using the Service Performance method, namely data on the level of performance and the level of importance, a calculation is carried out to produce the mean value of the level of performance and level of importance. The next step is to map these values into the interest and performance quadrants, which can be seen in the following figure 1.Based on the quadrant in figure 1, it implies quadrant I (High Interest-High Performance), Quadrant II (High Interest-High Performance), Quadrant III (Low Interest-High Performance), and Quadrant IV (Low Interest-Low Performance). Those belonging to quadrant 1 are the attributes of the employee's ability to explain the damage or problems encountered in the vehicle service repair.The next step is to perform calculations and analyses using the Lean service method related to the 7 wastes. In the Lean Service method in Process Activity Mapping, the activities selected for analysis are Tune-up and Oil Change services. The results of the analysis obtained are the total time required for the Tune-Up service is 93.8 minutes, while the Oil Change is 18.93 minutes. To get the critical waste that has the most influence on the activity under study, it is done by obtaining information through interviews with the workshop experts, then weighting the waste.

Based on the picture, it can be seen that the waste with the largest percentage is Incorrect Inventory, followed by Lost Opportunity. Furthermore, from the 2 critical wastes, the cause is sought by Root Cause Analysis (RCA).Based on the analysis results with theSERVPERF,severalrecommendations can be given which are divided into 5 areas of activity.The first field of activity is improvement in the field of HR development. Providing certified training in the form of workshops or in-house training for mechanics. The second area is HR Recruitment. The recommendation is to

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tighten the selection process accompanied by a certificate of expertise. The third field of activity is the inventory sector.The recommendation isto check the spare part stock regularly &updating the supply data regularly.The last field of activity is the field of storage, and the recommendationis to provideinsight toemployees about the groupingof components according to type.Recommendations for improvement in thelean service process are adjusted to the criticalwaste with the highest value, namely thewaste with the highest value, namely the incorrect inventory waste of 20% with thetype of waste consisting of stock checkingerrors, difficulty in finding spare parts in thestorage section, and the unavailability of thetype of spare part requested by the company.Then the recommendations for improvementthat can be done are the storagearrangement according to the type of spare parts, making code stickers on the storage rack which also contain information about the spare parts, making and updating stock list cards, and making plans for controlling stocks of spare parts.

IV. CONCLUSION

Based on the results, it can be concluded that the percentage level of customer satisfaction with the level of service quality is 82.3% which means that customers are still in the category of satisfied with the services provided by the company but there is critical waste consisting of Incorrect Inventory of 20% and Lost Opportunity by 19% which requires repairs from the company.

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