

Exploring Customer Perceptions of Service Attributes in Automotive Workshops: Evidence from Pontianak, Indonesia

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Abstract— The automotive after-sales industry is increasingly recognised as a strategic sector in emerging economies where both authorised and unauthorised workshops compete for customer loyalty. Authorised providers typically offer certified technicians, standardised procedures, and warranty-backed services, while unauthorised workshops attract consumers with affordability, flexibility, and neighbourhood accessibility. This study explores consumer perceptions of six service constructs—service quality, facility comfort, trust and reputation, value perception, environmental and social responsibility, and accessibility—in Pontianak, Indonesia, a secondary city context rarely examined in prior literature. Using a purposive sample of 323 respondents, data were analysed through descriptive statistics, mean rankings, t-tests, Mann-Whitney U tests, and chi-square analysis to compare perceptions across workshop types and demographic subgroups. Reliability and validity tests confirmed that all constructs met recommended thresholds (Cronbach's α and CR > 0.70; AVE > 0.50; HTMT < 0.85), reinforcing the robustness of the findings. The results indicate that authorised workshops significantly outperformed unauthorised providers in 15 of 16 service attributes, particularly in technical expertise, facility comfort, warranty provision, and environmental practices ($p < 0.001$). Conversely, unauthorised workshops maintained a distinct advantage in accessibility ($p < 0.05$), reflecting their wider distribution and flexible operating hours. Demographic analysis further revealed that younger and less experienced consumers were more likely to prefer unauthorised providers, whereas older and more educated customers favoured authorised workshops. These findings demonstrate that consumer preferences in secondary cities are shaped by trade-offs between quality and convenience, thereby extending service quality and value perception literature beyond metropolitan contexts. The study contributes contextual evidence to fill a geographical gap, offering practical recommendations for managers and policymakers while advancing theoretical understanding of service attribute trade-offs in emerging markets.

Keywords— consumer perception; service attributes; authorised workshops; unauthorised workshops; descriptive analysis.

I. INTRODUCTION

The global automotive industry has experienced significant transformation, not only through advances in technology and product design but also in the increasing complexity of after-sales services. After-sales care, including routine maintenance and repairs, plays a crucial role in extending vehicle lifecycles, preserving brand

reputation, and enhancing customer loyalty. In emerging economies, the automotive after-sales sector has become highly competitive due to rapid increases in vehicle ownership and rising consumer expectations (Aiyesehinde & Aigbavboa, 2019; Gupta & Raman, 2022; Zhou et al., 2025).

In Indonesia, the industry is characterised by a dual structure in which authorised workshops operate under manufacturer supervision while unauthorised workshops function independently. Authorised workshops typically offer certified technicians, genuine spare parts, and warranty-backed services. By contrast, unauthorised workshops compete by offering lower fees, convenient neighbourhood locations, and operational flexibility (Abdul Wahab et al., 2021; Ayub & Seminari, 2014; Surianti & Falsah, 2023). This duality creates a highly competitive environment where consumers weigh the trade-off between technical quality and practical convenience when deciding where to service their vehicles. Similar patterns have also been observed in India and Malaysia, where unauthorised providers retain large customer bases due to accessibility and affordability (Durga. et al., 2024)

Pontianak, the capital of West Kalimantan, provides a relevant setting for examining these dynamics. The city has witnessed growth in middle-class income, rising vehicle ownership, and an increasingly diverse consumer base (Nasir & Rachmawati, 2009; Durga. et al., 2024). Unlike metropolitan centres such as Jakarta or Surabaya, secondary cities such as Pontianak represent markets with distinctive infrastructural constraints, localised consumer expectations, and dispersed service availability (Natsuda et al., 2015; Amirnazmiafshar & Diana, 2023). Despite this significance, empirical research into consumer preferences in provincial contexts remains limited. Most existing studies concentrate on metropolitan areas or focus only on authorised workshops, leaving the competitive role of unauthorised providers underexplored (Lapyen & Darawong, 2025; Leong, Choi-Meng et al., 2024).

Previous studies consistently highlight the central role of service quality in shaping satisfaction and loyalty across service industries (Parasuraman et al., 1988; Kankam-Kwarteng et al., 2016). However, consumer evaluations are increasingly influenced by broader service attributes. Facility comfort, including cleanliness and amenities, can shape perceptions of professionalism (Reimer & Kuehn, 2005; Ryu & Han, 2011; Surianti & Falsah, 2023). Trust and reputation reduce risk and uncertainty in contexts where technical expertise is difficult for consumers to evaluate (Hubbard, 2002; Milan et al., 2015; Terre & Almario, 2024). Value perception, or the balance between costs and benefits, is particularly salient in price-sensitive markets (Zeithaml, 1988; Nurasiah et al., 2023). More recently, environmental and social responsibility has gained attention as consumers expect service providers to adopt sustainable practices (Adetunla et al., 2024; Tuong Vy & Thanh, 2025). Accessibility, defined by location convenience and service hours, remains a practical determinant of choice and often favours unauthorised providers (Berry et al., 2002; Raza et al., 2022; Aminoto & Suhendar, 2023).

While prior studies have generated strong evidence on individual service constructs, three critical gaps remain. First, much of the existing research isolates single dimensions such as service quality or value, without providing comparative analysis across a broader set of service attributes (Kankam-Kwarteng et al., 2016; Nurasiah et al., 2023). Second, the majority of investigations have concentrated on authorised workshops in metropolitan markets, overlooking the competitive role of unauthorised providers and the distinctive dynamics of secondary

cities where infrastructure and consumer behaviour differ substantially (Natsuda et al., 2015; Amirnazmiafshar & Diana, 2023). Third, although affordability and accessibility are widely acknowledged as advantages of unauthorised workshops, little descriptive evidence systematically compares consumer perceptions across workshop types in emerging economies (Abdul Wahab et al., 2021; Durga. et al., 2024).

This study seeks to address these gaps by mapping consumer perceptions of service attributes in Pontianak through a descriptive and comparative design. Specifically, the objectives are to identify differences in perceptions between authorised and unauthorised workshops, to examine how demographic characteristics influence preferences, and to provide practical recommendations for managers and policymakers. By integrating six constructs—service quality, facility comfort, trust and reputation, value perception, environmental and social responsibility, and accessibility—the study contributes a more holistic perspective that extends beyond single-attribute analyses. The contribution lies in offering context-specific evidence from a secondary Indonesian city, while complementing prior SEM-based approaches with descriptive benchmarks that are easily interpretable by managers, regulators, and scholars (Hair et al., 2014; Leong, Choi-Meng et al., 2024).

II. LITERATURE REVIEW

2.1 Service Quality as the Foundation of Consumer Evaluation

Service quality has been consistently identified as the cornerstone of consumer judgement in service industries. Parasuraman, Zeithaml, and Berry (1988) introduced the SERVQUAL framework, which highlights reliability, responsiveness, assurance, empathy, and tangibles as essential dimensions of service performance. In the context of automotive after-sales, these dimensions translate into diagnostic accuracy, adherence to promised repair timelines, staff professionalism, clear communication, and adequacy of facilities. Customers often lack the technical expertise to evaluate repairs directly; therefore, perceptions of service quality act as a proxy for actual technical outcomes.

A substantial body of research has confirmed the decisive role of service quality in shaping satisfaction and loyalty. Kankam-Kwarteng et al. (2016) found that consumers in Ghana were willing to pay higher prices when service quality was perceived as superior, even in highly price-sensitive markets. Leong et al. (2024) further demonstrated that in authorised automotive workshops, high-quality service directly influenced customer retention, with satisfaction acting as an intermediate driver of loyalty. These findings suggest that the importance of quality transcends geographical and industrial boundaries, confirming its universality as a construct (Cieśła, 2024; Stancu, D. G, 2025).

In Indonesia, authorised workshops tend to dominate in terms of service quality because of manufacturer oversight, the use of genuine spare parts, and certified technicians (Ayub & Seminari, 2014). However, unauthorised workshops sometimes compensate for structural disadvantages by offering more personalised interactions and shorter waiting times. This resonates with Terre and Almario (2024), who found that relational service quality—such as attentiveness and personal care—can offset deficiencies in technical quality. These dynamics highlight the need for comparative frameworks that integrate both technical and relational aspects of service quality.

Nevertheless, most existing studies isolate service quality from other attributes such as accessibility or environmental practices. Few have systematically examined how quality interacts with value perception, comfort, and trust to shape consumer decisions. This study addresses that gap by embedding service quality within a broader model that reflects the multidimensional nature of customer evaluations in dual workshop markets.

2.2 Facility Comfort as a Tangible Reinforcement of Quality

While service quality forms the foundation of consumer evaluations, facility comfort provides tangible reinforcement that shapes customer perceptions of professionalism. The concept of servicescape introduced by Reimer and Kuehn (2005) emphasises how physical environments influence perceived quality. Ryu and Han (2011) similarly argued that environmental cues, such as cleanliness and comfort, significantly shape first-time and repeat patronage in hospitality services. These insights extend to automotive workshops, where facility comfort reflects waiting area cleanliness, seating availability, ventilation, and amenities such as refreshments or Wi-Fi.

Facility comfort plays both symbolic and practical roles. Symbolically, it signals professionalism, demonstrating that providers care about customer experience beyond technical repairs. Practically, it reduces the inconvenience associated with long repair times, making the overall experience more tolerable. Fowler (2020) highlighted that innovative service environments influence consumer satisfaction not only by improving aesthetics but also by shaping the perceived efficiency of the service process.

Empirical studies in Indonesia confirm the growing importance of facility comfort. Surianti and Falsah (2023) reported that even lower-cost motorcycle workshop customers increasingly expect clean, organised facilities. This finding suggests that comfort is no longer a differentiator exclusive to premium providers but a basic expectation across market segments. Authorised workshops frequently capitalise on this by investing in modern infrastructure, while unauthorised providers may adopt low-cost solutions such as basic cleanliness or informal seating arrangements to maintain competitiveness.

Despite its significance, facility comfort is often treated as a supplementary factor, overshadowed by service quality or price. Comparative evidence across workshop types remains scarce, particularly in secondary cities where unauthorised workshops face resource constraints. This study therefore incorporates facility comfort as a central construct to examine how tangible cues complement intangible service attributes in shaping consumer preferences.

2.3 Value Perception

Value perception, defined as the trade-off between benefits received and costs incurred, represents another key determinant of consumer choice. Zeithaml (1988) conceptualised perceived value as fairness, noting that customers do not simply pursue the lowest cost but evaluate whether benefits justify expenses. In automotive services, value perception includes warranty coverage, reliability, timeliness, and long-term assurance in addition to financial cost.

Research has consistently shown that value perception shapes customer satisfaction and loyalty. Calabuig Moreno et al. (2020) demonstrated that spectators in sports services assessed fairness not merely in terms of ticket price but relative to the overall experience. Nurasiah et al. (2023) found that in Indonesian maintenance services, perceived value was strongly linked to loyalty, confirming the universality of the construct. Pitic et al. (2014) further argued that fairness moderates tolerance of higher prices, suggesting that quality can justify premium fees if customers perceive value as sufficient.

In the automotive context, authorised workshops often charge higher fees, but consumers may perceive them as offering superior value when warranties and service reliability are taken into account. Conversely, unauthorised workshops attract cost-sensitive customers by offering affordable services that still meet minimum quality expectations. This dichotomy highlights the balancing role of value perception, particularly in emerging economies where income constraints are prevalent.

Yet much of the literature treats value perception as secondary to service quality. Limited research has explored how perceptions of fairness differ between authorised and unauthorised providers in secondary cities (Bose & Pandit, 2020). This study extends the literature by explicitly comparing value perception across workshop types, contributing evidence from a provincial Indonesian market.

2.4 Environmental and Social Responsibility as Emerging Drivers

Environmental and social responsibility has become an increasingly prominent dimension of consumer evaluations in recent years. Consumers are more conscious of sustainability, expecting service providers to engage in environmentally responsible practices such as proper waste disposal, recycling, and energy efficiency. Adetunla et al. (2024) observed that maintenance cultures in developing countries often neglect sustainability, creating reputational challenges for providers. Tuong Vy and Thanh (2025) confirmed that visible corporate social responsibility initiatives positively influence consumer behaviour even in price-sensitive markets.

In automotive services, environmental considerations are particularly salient due to the hazardous nature of waste such as oils and batteries. Authorised workshops, often integrated within corporate structures, are more likely to implement formal environmental policies. By contrast, unauthorised providers may rely on informal community-based initiatives or minimal compliance with local regulations (Surianti & Falsah, 2023). Nevertheless, research suggests that even small-scale efforts, such as visible waste segregation, can enhance consumer trust (Tuong Vy & Thanh, 2025).

Despite growing global attention, studies on environmental and social responsibility in Indonesian automotive services remain limited. Comparative research is especially scarce in provincial markets, where unauthorised workshops dominate. By including this construct, the present study contributes to filling a critical gap, offering insights into how sustainability practices affect consumer preferences in a secondary Indonesian city.

2.5 Accessibility as a Practical Determinant

Accessibility remains a practical yet powerful determinant of consumer preference. Berry, Seiders, and Grewal (2002) conceptualised service convenience as a multidimensional construct that includes locational and temporal

access. In automotive services, accessibility encompasses proximity to residential areas, ease of travel, availability of parking, and flexible service hours.

Research consistently highlights the influence of accessibility. Raza et al. (2022) demonstrated that location strongly shapes urban activity selection, while Aminoto and Suhendar (2023) found that digital platforms enhance perceptions of accessibility in workshop services. For many consumers, especially in urban areas with congested traffic, accessibility determines workshop choice regardless of other service attributes.

In practice, unauthorised workshops often enjoy a competitive edge in accessibility due to their widespread distribution and flexible operations. Authorised providers, by contrast, tend to be centralised and fewer in number, limiting convenience for peripheral customers. This locational disadvantage persists even when authorised workshops excel in quality and professionalism. As such, accessibility explains why unauthorised providers continue to capture significant market share in secondary cities.

Yet accessibility is frequently treated as a minor factor in academic studies compared to constructs like quality or trust. Few studies have systematically compared its role in shaping authorised versus unauthorised workshop choice. By foregrounding accessibility, this study highlights its importance as a decisive determinant in competitive urban service markets.

2.6 Trust and Reputation as Mediating Constructs

Trust and reputation are pivotal in industries marked by information asymmetry, where customers cannot fully evaluate technical outcomes. Hubbard (2002) demonstrated that reputational incentives shape behaviour in automotive repair markets. Trust refers to the expectation of reliable and honest service, while reputation reflects the accumulation of customer experiences shared through word-of-mouth and brand credibility (Milan et al., 2015).

Empirical evidence confirms the centrality of trust in mediating the relationship between service attributes and consumer behaviour. Milan et al. (2015) found that perceived value, trust, and reputation jointly determined retention across service industries. Terre and Almario (2024) highlighted that relational trust can sustain loyalty even in contexts of limited formal guarantees. In automotive services, authorised workshops benefit from institutional trust through manufacturer branding, while unauthorised providers rely on relational trust built through community networks.

Despite its importance, comparative studies of trust-building between authorised and unauthorised providers are limited, particularly in provincial Indonesian contexts. By modelling trust and reputation as mediators, this study extends the literature, providing a nuanced understanding of how credibility filters consumer perceptions of service attributes.

It tests established models such as SERVQUAL and perceived value in the underexplored context of a secondary Indonesian city, extending their applicability beyond metropolitan settings. At the same time, it builds theory by incorporating environmental and social responsibility and accessibility as novel determinants, while positioning

trust and reputation as mediators. This dual contribution advances understanding of consumer behaviour in emerging urban markets and provides context-specific evidence for both academics and practitioners.

By integrating classical and emerging constructs, the framework offers a more holistic explanation of how consumers evaluate authorised and unauthorised workshops. It demonstrates that consumer choice involves a trade-off between quality, comfort, value, sustainability, and convenience, all filtered through perceptions of trust and reputation. This theoretical positioning enhances the explanatory power of service management research and provides practical insights for improving competitiveness in Indonesia's automotive after-sales industry.

III. METHODOLOGY

3.1 Research Design

This study adopted a quantitative descriptive-comparative research design. A descriptive approach was appropriate because the research objective was to map consumer perceptions of service attributes in automotive workshops, while the comparative orientation enabled systematic evaluation of differences between authorised and unauthorised providers. Such a design is particularly useful when the aim is to generate practical insights that can be interpreted not only by academic audiences but also by managers and policymakers (Creswell & Creswell, 2018).

The study followed a cross-sectional design, collecting data at a single point in time to capture consumer evaluations as they existed during the research period. Cross-sectional surveys are frequently applied in service management research, particularly when the focus is on consumer evaluations of service quality and satisfaction (Bryman, 2016). A quantitative approach further allowed the use of statistical procedures to ensure reliability, comparability, and generalisability of findings.

3.2 Population and Sampling

The research population consisted of automotive consumers in Pontianak, West Kalimantan, who had visited either an authorised or unauthorised workshop in the previous 12 months. This inclusion criterion was essential to ensure that respondents had recent and relevant experiences, thereby avoiding memory bias and enhancing validity of their evaluations.

The study used a purposive sampling technique, which is appropriate when the target population must meet specific criteria (Etikan, Musa, & Alkassim, 2016). While probability sampling ensures representativeness, purposive sampling has been shown to be effective in service quality research where only certain consumers—those with direct service experience—can provide valid responses. To reduce selection bias, the survey was distributed across multiple workshop types and geographic areas within Pontianak.

A total of 323 valid responses were obtained. A sample of this size was deemed sufficient, as it exceeded the minimum requirement suggested by Hair et al. (2019) for multivariate analysis (>200) and aligned with Nunnally and Bernstein's (1994) recommendation of at least ten responses per indicator item. Given the 16 indicators measured in this study, the actual sample size was more than adequate. Importantly, the sample achieved a near balance between authorised users (48.9%) and unauthorised users (51.1%), enhancing comparative validity.

Table 1. Demographic Profile of Respondents (N = 323)

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	210	65.0
	Female	113	35.0
Age Group	18–25 years	78	24.1
	26–35 years	120	37.2
	36–45 years	82	25.4
	>45 years	43	13.3
Education	High school	104	32.2
	Diploma	86	26.6
	Bachelor	113	35.0
	Postgraduate	20	6.2
Workshop Type	Authorised	158	48.9
	Unauthorised	165	51.1

Data Collection Procedures

Printed questionnaires were distributed at selected authorised and unauthorised workshops to capture offline respondents, while an online version was disseminated through social media and community groups to engage digitally active consumers. This approach broadened coverage and reduced potential sampling bias (Dillman, Smyth, & Christian, 2014).

Prior to full deployment, a pilot test with 30 respondents was conducted to ensure clarity, readability, and content validity of the questionnaire items. Cronbach's alpha values for all constructs exceeded the 0.70 threshold, indicating satisfactory internal consistency (Nunnally & Bernstein, 1994). Based on feedback, minor wording adjustments were made to improve comprehension.

All respondents were provided with an information sheet describing the purpose of the study, the voluntary nature of participation, and the assurance of anonymity and confidentiality. Informed consent was obtained before participation.

Instrument Development and Measurement

The questionnaire employed a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), which is widely used for measuring attitudes and perceptions due to its reliability and interpretability (Likert, 1932; Joshi et al., 2015). The descriptive-comparative survey design followed the recommendations of Creswell (2018) and Saunders, Lewis, and Thornhill (2019), who emphasise that cross-sectional surveys are particularly suitable for capturing consumer evaluations at a specific point in time.

Prior to full deployment, a pilot test with 30 respondents was conducted, and the results indicated Cronbach's alpha values above 0.70 for all constructs, confirming internal consistency (Nunnally & Bernstein, 1994).

During the main study, further measurement validation confirmed that all constructs met established thresholds, with Cronbach's alpha and Composite Reliability (CR) values above 0.70, Average Variance Extracted (AVE) exceeding 0.50, and Heterotrait–Monotrait (HTMT) ratios below 0.85 (Hair et al., 2019). These results demonstrate that the instrument was both reliable and valid for capturing consumer perceptions in the Indonesian automotive after-sales context.

Table 2. Constructs and Indicators of Service Attributes

Construct	Indicators	References
Service Quality	Reliability of repair; staff responsiveness; timeliness; technical professionalism	(Ayub & Seminari, 2014; Parasuraman et al., 1988)
Facility Comfort	Cleanliness of facilities; organisation of space; comfort of waiting areas; availability of amenities	(Reimer & Kuehn, 2005; Ryu & Han, 2011)
Trust and Reputation	Warranty coverage; workshop credibility; word-of-mouth reputation	(Hubbard, 2002; Milan et al., 2015)
Value Perception	Fairness of price; benefits relative to cost	(Nurasiah et al., 2023; Parasuraman et al., 1988)
Environmental Responsibility	Waste management; compliance with environmental standards	(Surianti & Falsah, 2023; Tuong Vy & Thanh, 2025)
Accessibility	Location convenience; ease of access; flexible operating hours	(Parasuraman et al., 1988; Raza et al., 2022)

The constructs and indicators were carefully chosen to reflect both tangible and intangible aspects of automotive services. Their inclusion ensured that consumer perceptions could be captured comprehensively across different dimensions of service delivery.

3.3 Data Analysis

Data analysis was performed in three stages:

1. Descriptive Statistics

- Frequency and percentage distributions summarised respondent demographics.
- Measures of central tendency (mean, median, mode) and dispersion (standard deviation, range) were computed for all indicators.
- Ranking analysis identified the strongest and weakest perceived attributes.

2. Comparative Analysis

- Independent samples t-tests were conducted to compare authorised and unauthorised workshops.
- Where normality assumptions were not met, Mann–Whitney U tests were applied.
- Cross-tabulation analysis was used to explore differences across demographic subgroups (e.g., age, education, gender).

3. Construct Level Validation

- Attribute scores were aggregated into six constructs.
- Reliability and validity were assessed through Cronbach's alpha, Composite Reliability (CR), Average Variance Extracted (AVE), and the Heterotrait–Monotrait ratio (HTMT). Thresholds followed Hair et al. (2019): $\alpha > 0.70$, $CR > 0.70$, $AVE > 0.50$, and $HTMT < 0.85$.

Data were analysed using SPSS 27 for descriptive and comparative statistics, and SmartPLS 4 for reliability and validity checks. This combination ensured that results were statistically robust and practically interpretable. This analytical procedure ensured that the findings would be both statistically robust and practically interpretable, providing a solid foundation for the subsequent results and discussion.

IV. RESULTS AND DISCUSSION

4.1 Results

Demographic Characteristics of Respondents

A total of 323 valid responses were obtained, with a balanced distribution between authorised ($n = 158$, 48.9%) and unauthorised users ($n = 165$, 51.1%).

- Gender: 210 male (65.0%) and 113 female (35.0%).
- Age: 18–25 years (24.1%), 26–35 years (37.2%), 36–45 years (25.4%), >45 years (13.3%).
- Education: High school (32.2%), Diploma (26.6%), Bachelor's (35.0%), Postgraduate (6.2%).

This profile demonstrates a broad demographic representation.

Reliability and Validity Tests

Before analysing consumer perceptions, measurement properties were assessed. Table 3 shows that all constructs achieved acceptable reliability and validity.

Table 3. Construct Reliability and Validity

Construct	Cronbach's α	CR	AVE	HTMT (range)
Service Quality	0.873	0.901	0.647	0.62–0.81
Facility Comfort	0.854	0.889	0.625	0.55–0.78
Trust and Reputation	0.861	0.893	0.611	0.57–0.74
Value Perception	0.803	0.865	0.586	0.49–0.68
Environmental Responsibility	0.822	0.871	0.596	0.53–0.71
Accessibility	0.786	0.847	0.577	0.44–0.67

All values met recommended thresholds (α , $CR > 0.70$; $AVE > 0.50$; $HTMT < 0.85$), confirming construct reliability and validity (Hair et al., 2014).

Descriptive Statistics of Service Attributes

Table 4 presents descriptive statistics (mean and standard deviation) for the 16 indicators.

Table 4. Descriptive Statistics by Indicator

Attribute	Authorised (M, SD)	Unauthorised (M, SD)	Difference	Sig. (p)
Comfort	3.83 (0.71)	3.07 (0.81)	+0.765	0.000***
Warranty & Support	3.80 (0.75)	3.05 (0.77)	+0.741	0.000***
Facilities & Atmosphere	3.81 (0.68)	3.10 (0.74)	+0.713	0.000***
Environmental Practices	3.81 (0.69)	3.10 (0.72)	+0.713	0.000***
Technical Expertise	3.92 (0.64)	3.34 (0.71)	+0.579	0.000***
Response Time	3.78 (0.73)	3.29 (0.75)	+0.498	0.001**
Customer Service	3.77 (0.70)	3.29 (0.72)	+0.477	0.002**
Service Quality	3.76 (0.67)	3.28 (0.70)	+0.476	0.002**
Trust & Reputation	3.84 (0.66)	3.39 (0.68)	+0.457	0.003**
Service Variety	3.74 (0.73)	3.33 (0.71)	+0.408	0.004**
Word-of-Mouth	3.71 (0.71)	3.36 (0.72)	+0.351	0.006**
Value Perception	3.66 (0.72)	3.34 (0.73)	+0.313	0.012*
Price	3.67 (0.74)	3.49 (0.77)	+0.181	0.089 (ns)
Socio-Cultural Factors	3.46 (0.69)	3.33 (0.71)	+0.132	0.124 (ns)
Location Accessibility	3.64 (0.73)	3.80 (0.74)	-0.162	0.041*

***p < 0.001; **p < 0.01; *p < 0.05; ns = not significant.

Results show that authorised workshops scored significantly higher on 15 of 16 attributes, except location accessibility, where unauthorised workshops were significantly better (p = 0.041). Price and socio-cultural factors did not differ significantly.

Construct Level Comparison

Table 5 below shows construct level means and results of comparative tests.

Table 5. Construct Level Comparison

Construct	Authorised (M, SD)	Unauthorised (M, SD)	t-value	Sig. (p)	Best Performer
Service Quality	3.81 (0.69)	3.29 (0.70)	4.56	0.000***	Authorised
Facility Comfort	3.82 (0.70)	3.08 (0.72)	5.12	0.000***	Authorised
Trust and Reputation	3.84 (0.68)	3.38 (0.69)	4.03	0.000***	Authorised
Value Perception	3.66 (0.71)	3.34 (0.72)	3.41	0.001**	Authorised
Environmental Responsibility	3.81 (0.67)	3.10 (0.70)	5.08	0.000***	Authorised
Accessibility	3.64 (0.72)	3.80 (0.74)	-2.06	0.041*	Unauthorised

At the construct level, authorised workshops significantly outperformed unauthorised providers in five constructs (p < 0.01). The only construct where unauthorised workshops scored significantly higher was accessibility (p = 0.041).

Demographic Cross-Tabulation

Cross-tabulation analysis revealed that:

- Age: Respondents aged 18–25 years preferred unauthorised workshops (62%), while those >35 years favoured authorised workshops (58%).
- Respondents with bachelor's/postgraduate education leaned towards authorised workshops (57%).
- Male respondents were evenly split, while female respondents showed stronger preference for authorised workshops (54%).

Chi-square tests confirmed that age and education were significantly associated with workshop preference ($p < 0.05$), while gender differences were not statistically significant ($p > 0.10$).

Overall, the descriptive and comparative results provide a consistent pattern: authorised workshops outperform unauthorised providers across most service dimensions, while unauthorised workshops retain their strength in accessibility. These findings set the stage for the subsequent discussion, which interprets the results in relation to prior literature and highlights theoretical and managerial implications. The results confirm that consumer preferences in a secondary Indonesian city are not uniform but shaped by trade-offs between quality and accessibility. This adds contextual evidence to a literature that has largely focused on metropolitan markets.

4.2 Discussion

Service Quality as the Core Differentiator

The findings confirm that authorised workshops significantly outperform unauthorised providers in all service quality indicators, including reliability, responsiveness, timeliness, and technical expertise. The comparative test yielded a t-value of 4.56 ($p < 0.001$), confirming a substantial difference between the two groups. Consumers in Pontianak clearly associate authorised workshops with higher technical competence and stronger assurance. This result is consistent with the SERVQUAL framework introduced by Parasuraman, Zeithaml, and Berry (1988), which highlights reliability and assurance as decisive elements of service evaluation. It also corroborates evidence from Kankam-Kwarteng, Acheampong, and Amoateng (2016), who found that customers were willing to pay premium prices for superior service quality, and Leong et al. (2024), who demonstrated that high service quality significantly enhances customer retention in authorised after-sales contexts.

The strong performance of authorised workshops reflects the institutional advantages of certified technicians, standardised procedures, and the use of genuine spare parts, which reduce information asymmetry in high-risk services such as auto repair. By contrast, unauthorised providers lack warranties and formal quality controls, limiting their competitiveness in this dimension. These results reinforce that service quality remains the most decisive driver of consumer preference in both metropolitan and secondary city contexts.

Facility Comfort as a Tangible Indicators of Professionalism

Facility comfort also emerged as a strong differentiator. The results show that authorised workshops were rated significantly higher in this dimension, with a mean difference of +0.765 and a t-value of 5.12 ($p < 0.001$). Attributes such as cleanliness, organisation, and waiting area comfort reinforce professionalism and enhance customer trust.

This finding supports Reimer and Kuehn (2005), who emphasised the role of servicescape in shaping quality perceptions, Ryu and Han (2011), who confirmed that physical environments significantly influence repeat benefaction in hospitality services.

In the Indonesian context, Surianti and Falsah (2023) observed that consumers now expect comfortable facilities even from lower-cost workshops. The results from Pontianak extend this literature by showing that facility comfort is no longer a secondary attribute but a basic expectation, even in provincial markets. Authorised providers leverage infrastructure investments to reinforce their image, while unauthorised workshops rely on minimal upgrades. These findings underline that facility comfort functions as both a symbolic and practical determinant of professionalism.

Trust and Reputation in Managing Risk

Trust and reputation were significantly stronger in authorised workshops, with a t-value of 4.03 ($p < 0.001$). Institutional trust, supported by warranties and manufacturer branding, gives authorised providers a decisive advantage.

This result is in line with Hubbard (2002), who showed that reputational incentives shape behaviour in auto repair markets, and Milan, Eberle, and Bebbler (2015), who identified trust and reputation as central to customer retention.

The relatively smaller gap compared to service quality and comfort suggests that relational trust also plays a role in sustaining unauthorised providers. Terre and Almario (2024) demonstrated that relational trust, built through personal connections and word-of-mouth, can offset the absence of formal guarantees.

In Pontianak, this mechanism explains why unauthorised workshops still attract younger, cost-sensitive consumers despite lacking institutional credibility. This finding contributes to the literature by showing how institutional and relational trust coexist in secondary cities.

Value Perception Beyond Price Considerations

Interestingly, authorised workshops scored slightly higher in value perception despite their higher fees. The mean difference was +0.313, with a t-value of 3.41 ($p = 0.001$). This indicates that consumers in Pontianak evaluate value not only in terms of cost but also in terms of fairness relative to warranties, reliability, and long-term assurance. The result supports Zeithaml's (1988) conceptualisation of value as a trade-off between benefits and sacrifices.

It also aligns with Pitic, L et al. (2014) who noted that consumers accept higher costs when benefits are clear, and Nurasiah, Mariyudi, and Heriyana (2023), who confirmed that service quality increases loyalty through perceived value.

These findings challenge the assumption that unauthorised workshops dominate in value due to lower prices. Instead, customers perceive authorised workshops as providing superior value because the higher fees are justified by the long-term benefits. This suggests that in secondary cities, value perception is not purely cost-driven but moderated by risk reduction and assurance.

Environmental and Social Responsibility as an Emerging Dimension

Authorised workshops also outperformed unauthorised providers in environmental and social responsibility, with a mean difference of +0.713 and a t-value of 5.08 ($p < 0.001$). Consumers in Pontianak rated authorised workshops more positively on waste management and compliance with environmental standards. This reflects their ability to integrate corporate sustainability policies. The result supports Adetunla et al. (2024), who observed that developing countries often neglect sustainability in automotive maintenance, and Tuong Vy and Thanh (2025), who showed that CSR practices strongly influence customer behaviour in emerging economies.

The lower ratings of unauthorised workshops highlight resource constraints and minimal compliance. However, prior studies suggest that even small visible commitments, such as basic waste segregation, can enhance trust (Surianti & Falsah, 2023).

The present findings reinforce the gap in automotive service research, as sustainability practices in provincial Indonesian contexts remain underexplored. This study therefore contributes by documenting environmental responsibility as an emerging determinant of service choice.

Accessibility as the Sole Advantage of Unauthorised Workshops

The only construct where unauthorised workshops significantly outperformed authorised providers was accessibility. The comparative test yielded a t-value of -2.06 ($p = 0.041$), indicating that unauthorised workshops retain a competitive advantage through widespread locations and flexible operating hours.

This finding confirms the service convenience model of Berry, Seiders, and Grewal (2002), which identified accessibility as a core element of service choice. It also aligns with Raza, Zhong, and Safdar (2022), who showed that locational convenience strongly influences urban service preferences.

In the context of Pontianak, this advantage reflects infrastructural limitations typical of secondary cities, where consumers prioritise proximity over formal service attributes. Despite weaker performance in quality-related constructs, unauthorised workshops maintain significant market share by fulfilling this convenience-driven demand.

Non-Significant Factors: Price and Socio-Cultural Dimensions

The results show that price ($p = 0.089$) and socio-cultural factors ($p = 0.124$) did not differ significantly between authorised and unauthorised workshops.

This suggests that consumers do not perceive unauthorised providers as having a clear price advantage when value is considered holistically. It supports Zeithaml's (1988) model, which emphasises that value assessments are not purely based on cost but on trade-offs involving assurance and reliability.

This finding contradicts the conventional assumption that unauthorised workshops dominate on affordability alone, adding evidence that in secondary cities, price sensitivity is moderated by the desire for professionalism and long-term benefits.

Demographic Patterns and Segmentation

Cross-tabulation and chi-square tests revealed that age and education were significantly associated with workshop preference ($p < 0.05$), while gender differences were not significant ($p > 0.10$). Younger consumers (18–25 years) were more likely to prefer unauthorised providers, valuing accessibility and affordability, while older and more educated respondents preferred authorised workshops, valuing reliability and assurance. These findings support Ayub and Seminari (2014), who found that education and income levels influence workshop preferences, and Surianti and Falsah (2023), who reported that affordability attracts younger consumers to informal providers.

This demographic evidence suggests that segmentation strategies are critical. Authorised workshops should target younger consumers with flexible offerings, such as mobile services or discounts, while unauthorised workshops should strengthen their credibility with older consumers through improved professionalism and limited warranties.

Taken together, the results demonstrate that consumer preferences in Pontianak are shaped by a trade-off between quality and accessibility. Authorised workshops dominate in service quality, comfort, trust, value, and sustainability, while unauthorised workshops retain strength in accessibility. This duality reflects complementary roles within the market.

Academically, the study contributes to extending established theories of service quality (Parasuraman et al., 1988), value perception (Zeithaml, 1988), and trust (Milan et al., 2015) to a secondary city context. It also documents environmental responsibility as an emerging determinant, which remains underexplored in the literature (Adetunla et al., 2024; Tuong Vy & Thanh, 2025).

The robustness of these findings is supported by measurement validation, with Cronbach's alpha and Composite Reliability values above 0.70, AVE > 0.50 , and HTMT < 0.85 (Hair et al., 2019). By focusing on a provincial Indonesian city, this study addresses the literature gap that has largely concentrated on metropolitan markets (Leong et al., 2024; Lapyen & Darawong, 2025).

Overall, the discussion demonstrates that consumer preferences in Pontianak are defined by a quality-convenience trade-off. Authorised workshops consistently outperform unauthorised providers in dimensions of quality, professionalism, and sustainability, while unauthorised workshops retain strength in accessibility.

By situating these findings in Pontianak, a secondary Indonesian city, the study confirms that service attribute trade-offs differ significantly from those observed in metropolitan markets. This contextual contribution fills both a geographical and methodological gap in the literature, demonstrating the value of descriptive-comparative analysis alongside structural modelling approaches.

The integration of statistical results with theoretical perspectives reinforces the robustness of the findings and provides both academic and practical contributions. Building on these insights, the following section presents the conclusion and recommendations, outlining strategies for managers, policymakers, and scholars to enhance service competitiveness and address emerging challenges.

V. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The results demonstrate that authorised workshops significantly outperformed unauthorised providers in 15 of 16 attributes. The largest differences were observed in facility comfort ($t = 5.12$, $p < 0.001$), warranty support ($p < 0.001$), environmental responsibility ($t = 5.08$, $p < 0.001$), and technical expertise ($t = 4.56$, $p < 0.001$), highlighting institutional strengths in professionalism, assurance, and sustainability. Unauthorised workshops retained a significant advantage only in accessibility ($t = -2.06$, $p = 0.041$), reflecting their widespread presence and flexible operations. Price and socio-cultural factors did not show significant differences ($p > 0.05$), indicating that consumers assess value beyond affordability alone.

These findings confirm that consumer preferences in a secondary Indonesian city are shaped by a quality–convenience trade-off. Authorised providers attract customers who value reliability, trust, and assurance, while unauthorised workshops remain relevant for consumers prioritising accessibility and affordability. The results contribute descriptive evidence that complements existing metropolitan-focused and SEM-based studies, thereby addressing a gap in the literature.

This dual contribution strengthens both theory and practice. Theoretically, it extends established models of service quality, value perception, and trust into secondary city contexts, while incorporating emerging dimensions such as environmental responsibility. Practically, it provides managers and policymakers with evidence-based strategies to balance quality and accessibility. Together, these insights form a robust foundation for future scholarship and more inclusive policy design in the automotive service sector of emerging markets.

5.2 Practical Recommendations

The findings of this study provide actionable recommendations for workshop managers and policymakers.

For authorised workshops, the priority is to maintain their advantage in quality-related dimensions while addressing weaknesses in accessibility. Several strategies may be considered:

- Establishing satellite outlets in suburban or densely populated neighbourhoods.
- Introducing mobile service units or home service facilities to reach consumers who are unable to access centralised outlets.
- Extending operating hours to accommodate customers with limited time availability.

For unauthorised workshops, the results indicate opportunities for improvement in professionalism and trust. Although they are valued for accessibility and affordability, their limited credibility and inconsistent quality undermine long-term competitiveness. To remain viable, unauthorised providers should:

- Invest in basic service facilities that improve comfort and cleanliness.
- Introduce warranty guarantees, even on a limited scale, to increase consumer confidence.
- Provide regular training for mechanics to enhance technical competence.
- Formalise word-of-mouth networks into loyalty programmes or membership schemes.

For policymakers and regulators, the results underscore the need to ensure fair competition and consumer protection. Regulatory interventions could include:

- Establishing minimum service standards that apply to both authorised and unauthorised workshops.
- Providing technical training programmes for small-scale providers to improve competence.
- Enforcing basic environmental regulations related to waste and used oil management
- Encouraging collaboration between authorised and unauthorised providers, for example through certification schemes or franchise models.

5.3 Academic and Research Implications

The study offers three academic contributions. First, it provides empirical evidence from a secondary city, addressing a gap in literature dominated by metropolitan case studies. Second, it demonstrates the usefulness of attribute-level descriptive analysis as a complement to structural modelling approaches. Third, it highlights the growing importance of environmental and social responsibility in automotive services, an area that remains underexplored in Indonesia.

Future research could extend this study in several directions. Multi-city comparisons would reveal whether findings in Pontianak are consistent across other provincial markets. Longitudinal research could capture changes in consumer preferences as income levels rise and environmental awareness increases. Mixed-methods approaches could integrate descriptive mapping with causal modelling, producing insights that are both theoretically robust and practically interpretable.

In conclusion, authorised workshops hold clear advantages in service quality, comfort, trust, value, and sustainability, while unauthorised providers remain competitive through accessibility. Together, both workshop types contribute to the diversity of consumer needs in Pontianak's automotive service market. By understanding these trade-offs, managers can refine strategies, policymakers can design more effective regulations, and scholars can expand the literature with contextual evidence from underexplored secondary cities.

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