

Service Quality of Public Utility Vehicle Modernization Program (PUVMP) And Passengers' Satisfaction

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Abstract— This study assessed the service quality and passengers' satisfaction of modernized jeepneys under the Public Utility Vehicle Modernization Program (PUVMP) in Bulan, Sorsogon. Specifically, the study aimed to: (1) determine the service quality of modernized jeepneys across SERVQUAL dimensions, (2) assess the level of passengers' satisfaction, (3) explore how modern jeepney operators ensure service quality, (4) identify the challenges encountered by passengers, and (5) formulate a program that enhances both service delivery and passenger experience. A sequential explanatory mixed-method research design was employed. The quantitative phase involved sixty (60) purposively selected passengers from various sectors, including persons with disabilities (PWD), students, regular commuters, vendors and farmers, employees, and tourists. They responded to a structured survey questionnaire based on the SERVQUAL model's five dimensions: tangibility, responsiveness, reliability, assurance, and empathy. The qualitative phase followed through interviews with four (4) key informants from the Bulan Transport Cooperative, including top officials responsible for managing modernized jeepney services. Quantitative data were analyzed using weighted mean, while qualitative responses underwent thematic analysis to support and enrich the numerical findings. Results showed that overall service quality was "Evident," with empathy and assurance rated highest. Passenger satisfaction was "Satisfied," especially in route efficiency and driver behavior. Challenges such as overcrowding was serious, while cleanliness issues, long waits, and limited routes were moderately serious. Qualitative data highlighted proactive maintenance, cooperative operations, training, and feedback systems as service enablers. The SMART-JEEP Program was proposed to address all SERVQUAL dimensions through structured interventions in cleanliness, scheduling, conduct, routing, affordability, feedback, and employee support.

Keywords— Passenger Satisfaction, Public Utility Vehicle Modernization Program (PUVMP), Service Quality.

INTRODUCTION

Public transportation is essential for the sustainable development of communities, acting as an instrument for economic activities, social interactions, and environmental conservation. Sigua et al. (2023), said that the Philippines, like many nations, has launched a transformative initiative by implementing the Public Utility Vehicle Modernization Program (PUVMP) in response to the evolving global transportation condition. This initiative aims to modernize the public transportation system, elevate service quality, and enhance passengers' satisfaction, enabling a more efficient and passenger-centric transit experience.

As urbanization accelerates and populations expand, the demand for accessible, reliable, and environmentally friendly public transportation becomes important. A healthy public transportation system is not merely a network of vehicles; it is the lifeline that connects communities, facilitates economic activity, and addresses the environmental problems of our time. The importance of efficient public transportation systems extends beyond national borders, identifying as a global concern. Cities worldwide face difficulties such as

traffic congestion, environmental pollution, and the need for sustainable transportation solutions (Sirisha, 2023). Pursuing innovation and modernization in public transportation has become a common goal beyond boundaries between countries.

As cities grow in population, the growing trend of global urbanization significantly challenges public transportation systems. This population shift contributes to increased traffic congestion, requiring a significant change in urban transportation (Rodrigue, 2024). Consequently, as populations concentrate in urban areas, the demand for efficient and sustainable public transportation solutions becomes necessary to ease traffic congestion and minimize environmental impact. Another concern directly connected to the growing global urbanization trend is the demand for environmentally friendly practices growing in response to climate change.

The transportation sector, particularly public transit, contributes considerably to carbon emissions (Asian Development Bank, 2015). Therefore, as cities deal with congestion caused by urbanization, they must also

address the environmental impact of transportation. Public transportation, with its potential to reduce individual carbon emissions, emerges as a critical component in the global effort to take on climate change and promote sustainability. Hence, pursuing global public transportation solutions is becoming increasingly attributed to the need for environmentally conscious practices, making adopting sustainable and efficient alternatives to transportation necessary.

The global perspective on public transportation is increasingly connected with concerns about public health, air pollution, and the issues of old and poorly maintained vehicles. The harmful effects of vehicular emissions and their impact on air quality have prompted cities worldwide to reevaluate the environmental influence of their transportation systems (Ping Wong et al., 2019). Public health considerations are becoming integral to discussions about the design and operation of public transport, emphasizing the need for cleaner, healthier alternatives. Concurrently, in many developing countries, old and poorly maintained vehicles dominate public utility transport, compromising their ability to offer reliable, safe, and efficient transportation services. The need to address these concerns on a global scale highlights the connection of challenges faced by urban transportation systems and the importance of creating sustainable, accessible, and technologically advanced public transit networks.

In the Philippines, jeepneys constitute the primary mode of motorized land transportation, especially for Filipino commuters such as employees and students. These vehicles provide an affordable and essential mode of transportation, supporting the livelihoods of numerous independent operators. Jeepneys are the primary mode of transport in urban and rural areas, contributing to a significant portion of the country's total passengers (Mateo-Babiano et al., 2020). However, their continued use has raised environmental and safety concerns due to high emissions and outdated designs, prompting the need for a modernized and sustainable approach to public transportation.

Mariano (2024) noted that even though jeepneys are essential to the nation's mobility, the Philippines is experiencing an unusual surge in vehicle ownership, marking one of the fastest growth rates in the ASEAN region. This surge in vehicle ownership, as highlighted in the 2014 ASEAN Automotive Federation sales report, positions the Philippines as the fastest-growing

automobile market in the region, surpassing other nations like Vietnam, Singapore, Malaysia, and Indonesia. However, this rapid increase in vehicle ownership occurs without corresponding investments in sustainable urban transport infrastructure or adequate road space. Thus, the trend toward car-dominated cities and an outdated and low-quality public transport system poses a substantial risk to the country's overall social and economic development.

Mateo-Babiano et al. (2020) highlighted that the continuous operation of Public Utility Jeepneys (PUJs) significantly contributes to the automobile vehicle rate. Most 179,000 jeepneys nationwide are already 15 years old and above as of 2018. The safety of the commuting public is compromised due to the questionable roadworthiness of a substantial number of these PUJs. The lack of a mandatory age limit for PUJs allows these old vehicles to remain in service, presenting a challenge for the nation's transportation systems.

In the urban areas of the Philippines, one in five commuters depend on jeepneys for everyday transportation, especially in Metro Manila. However, while jeepneys offer affordability, accessibility, convenience, and versatility, concerns about their contribution to air pollution, traffic congestion and safety violations have led to strict regulations and restrictions, especially regarding traditional jeepney models. Overloading and emissions violations constitute risks to public health, encouraging discussions about the necessity for modernization to address these environmental and safety issues (Pante, 2016; Cudis, 2019).

In response to the challenges affecting the public utility transport system in the country, particularly in urban areas where problems like traffic congestion, air pollution, and reduced road capacity, the Public Utility Vehicle Modernization Program (PUVMP) was introduced in 2017 in the Philippines. Spearheaded by the Department of Transportation (DOTr), the program cooperated with the Office of Transportation Cooperatives (OTC) and the Land Transportation Franchising and Regulatory Board (LTFRB) to address the various challenges confronting Public Utility Vehicles (PUVs).

With a primary focus on enhancing the most widely used road-based public utility vehicle, the jeepney, which has transformed into a "problem," the PUVMP represents a

comprehensive reform initiative in the public transportation industry. This strategic response was prompted by the growing challenges of the country's public transportation system, including old vehicles, safety concerns, and worsening environmental problems. The PUVMP, launched in recognition of these challenges, aims to modernize and elevate the state of public utility vehicles. Through this initiative, the Philippine government anticipates the preservation of stable and dignified livelihoods for drivers and operators. Simultaneously, commuters are anticipated to benefit from a more efficient, safer, and comfortable journey, marking a transformative move towards a modernized public transportation experience (Local Transportation Office, 2023).

Despite the potential of the Public Utility Vehicle Modernization Program to address challenges such as traffic congestion, air pollution, and reduced road capacity, the program's implementation is opposed by various transportation stakeholders, particularly drivers and operators. As noted by Moya (2023), the modernization initiative faces opposition from transport groups, primarily driven by fears that its implementation could lead to the displacement of workers within the sector.

As a result, in March 2023, the opposition manifested in a transport strike organized by numerous jeepney operators and drivers protesting the planned phaseout of traditional jeepneys. Notably, Mody Floranda, the national president of Pagkakaisa ng mga Samahan ng Tsuper at Operator Nationwide (PISTON), emphasized the need for the modernization program to reassess what he labeled "unfair policies." Floranda expressed concerns that these policies could worsen the challenges faced by small jeepney drivers and operators, highlighting the complexities surrounding the program's implementation and its impact on the livelihoods of those in the transport sector.

In response to the challenges faced by the public utility transport system in Bulan, Sorsogon, where the Public Utility Vehicle Modernization Program (PUVMP) is actively implemented, this study evaluated the service quality of modernized jeepneys using the SERVQUAL Model dimensions—tangibility, responsiveness, reliability, assurance, and empathy. It also determined passengers' satisfaction in utilizing modernized jeepneys and explore how operators ensure service quality from an operational standpoint. Furthermore, the

study identified the challenges passengers encounter that affect service delivery and satisfaction.

Finally, this study aimed to formulate a comprehensive program to enhance the service quality and passengers' satisfaction with modernized jeepneys in Bulan, Sorsogon. The proposed program is grounded in the findings of the study's quantitative and qualitative phases and is designed to address identified gaps in service delivery. It focuses on elevating the public transportation experience by improving operational practices, strengthening commuter relations, and aligning with the strategic objectives of the Public Utility Vehicle Modernization Program (PUVMP). By systematically examining the five SERVQUAL dimensions and the level of passengers' satisfaction, the study generates valuable understandings that inform the development of evidence-based, commuter-centered, and sustainable interventions to improve the modern public utility transport system in Bulan.

OBJECTIVES

This study aimed to determine the service quality of the Public Utility Vehicle Modernization Program (PUVMP) and the level of passengers' satisfaction in Bulan, Sorsogon. Specifically:

1. The service quality of modernized jeepneys across key dimensions outlined by the SERVQUAL Model:
 - 1.1 Tangibility
 - 1.2 Responsiveness
 - 1.3 Reliability
 - 1.4 Assurance
 - 1.5 Empathy
2. The level of passengers' satisfaction in the utilization of modernized jeepneys.
3. How do modern jeepney operators ensure service quality to the passengers.
4. The challenges encountered by passengers in utilizing the modernized jeepneys.
5. What innovative program could be formulated to enhance the service quality of the modern jeepney operators and passenger satisfaction?

METHODOLOGY

This study employed a sequential explanatory mixed-method research design to investigate the Public Utility Vehicle Modernization Program (PUVMP) service quality and passengers' satisfaction in Bulan, Sorsogon. the respondents comprised sixty (60) purposively

selected passengers who regularly utilize modernized jeepneys in Bulan. The statistical tools employed in this study included weighted mean, which was utilized to describe and interpret the quantitative data gathered from the passenger respondents. These tools were aligned with the study's objectives and were essential in evaluating perceptions of service quality and satisfaction levels.

RESULTS AND DISCUSSION

To complement and enrich the quantitative findings, qualitative responses were obtained through interviews with key informants actively engaged in delivering public transport services.

Service Quality of Modernized Jeepneys in Bulan, Sorsogon

Table 1.1 presents passenger-respondents' responses regarding the tangibility of modernized jeepneys in Bulan, Sorsogon. The tangibility dimension evaluates the physical facilities, personnel appearance, cleanliness, ergonomic design, and overall visual impression of the vehicle. Among the indicators, the highest-rated statement is "The modernized jeepney is modern looking," with a weighted mean of 4.12,

interpreted as Evident. This suggests that passengers perceive the design and physical appearance of the modernized jeepneys as visually appealing and up to date. This is closely followed by "The appearance of the driver/conductor is neat and clean," with a weighted mean of 3.90, and "I can see the signboard of the modernized jeepney clearly," with a weighted mean of 3.88, highlighting the importance of cleanliness and signage clarity in enhancing the passenger experience.

Other indicators rated as Evident include: "The seats are clean" with a weighted mean of 4.00, "The temperature inside the modernized jeepney is satisfactory (not too hot and not too cold)" with a weighted mean of 3.83, "The seats are comfortable" with a weighted mean of 3.73, "The modernized jeepney is ergonomically friendly" with a weighted mean of 3.70, "The floor of the modernized jeepney is clean" with a weighted mean of 3.67, "Ventilation inside the modernized jeepney is satisfactory" with a weighted mean of 3.68, and "There are no disturbing noises from the engine" with a weighted mean of 3.62. These findings suggest that the jeepneys' physical environment meets passenger expectations regarding cleanliness, comfort, and basic functionality.

Table 1.1 Service Quality of Modernized Jeepney in Terms of Tangibility

No.	Statement	Weighted Mean	Interpretation
1	There is enough space inside the modernized jeepney.	3.35	Moderately Evident
2	There are ample legroom and foot space inside the modernized jeepney.	3.25	Moderately Evident
3	The seats are clean.	4.00	Evident
4	The seats are comfortable.	3.73	Evident
5	The modernized jeepney is ergonomically friendly.	3.70	Evident
6	The floor of the modernized jeepney is clean.	3.67	Evident
7	Ventilation inside the modernized jeepney is satisfactory.	3.68	Evident
8	The temperature inside the modernized jeepney is satisfactory (not too hot and not too cold).	3.83	Evident
9	There is no bad smell inside the modernized jeepney.	3.13	Moderately Evident
10	There are no disturbing vibrations inside the modernized jeepney.	3.37	Moderately Evident
11	There are no disturbing noises from the engine.	3.62	Evident
12	I can see the signboard of the modernized jeepney clearly.	3.88	Evident
13	The appearance of the driver/conductor is neat and clean.	3.90	Evident
14	The modernized jeepney is modern looking.	4.12	Evident
Average Mean		3.66	Evident

Note: 4.50-5.00 = Very Evident; 3.50-4.49 = Evident; 2.50-3.49 = Moderately Evident; 1.50- 2.49 = Less Evident; 1.00-1.49 = Least Evident

Other items that were rated as Evident include cleanliness of seats with a weighted mean of 4.00, comfortable seating with a weighted mean of 3.73, cleanliness of the floor with a weighted mean of 3.67, and satisfactory temperature with a weighted mean of 3.83, indicating that passengers generally find the physical environment inside the modernized jeepneys to be favorable. On the other hand, the lowest mean ratings were recorded in the following areas: "There is no bad smell inside the modernized jeepney" with a weighted mean of 3.13, "There are ample legroom and foot space inside the modernized jeepney" with a weighted mean of 3.25, and "There is enough space inside the modernized jeepney" with a weighted mean of 3.35 and "There are no disturbing vibrations inside the modernized jeepney" with a weighted mean of 3.37. These items were

interpreted as Moderately Evident, pointing to potential concerns regarding space and odor that may need to be addressed by operators and implementers of the PUV modernization program.

The overall average mean is 3.66, with an interpretation of Evident indicating that passengers generally observe the tangibility of service quality in modernized jeepneys. However, the response variation also highlights specific areas for improvement, particularly interior space and ventilation.

The results on the tangibility of modernized jeepneys in Bulan, Sorsogon, align with international and local studies that emphasize the importance of physical service attributes in shaping commuter perceptions.

Table 1.2 Service Quality of Modernized Jeepney in Terms of Responsiveness

No.	Statement	Weighted Mean	Interpretation
1	Modernized jeepney are easily accessible in my area.	3.67	Evident
2	I don't have to wait to be able to ride a modernized jeepney.	3.08	Moderately Evident
3	I can easily ride a modernized jeepney even in rush hours.	3.23	Moderately Evident
4	I always arrive at my destination on time when riding a modernized jeepney.	3.48	Moderately Evident
5	My travel time when riding modernized jeepney is satisfactory.	3.58	Evident
6	The passengers are always informed by the driver/conductor when it's okay to exit the modernized jeepney.	3.68	Evident
7	The driver/conductor is very responsive and ready to stop at the desired location of the passenger.	3.88	Evident
Average Mean		3.51	Evident

Note: 4.50-5.00 = Very Evident; 3.50-4.49 = Evident; 2.50-3.49 = Moderately Evident; 1.50- 2.49 = Less Evident; 1.00-1.49 = Least Evident

Table 1.2 presents the assessment of the responsiveness of modernized jeepneys in Bulan, Sorsogon, as evaluated by the passenger respondents. The highest-rated indicator is "The driver/conductor is very responsive and ready to stop at the desired location of the passenger," with a weighted mean of 3.88, interpreted as Evident. This reflects that drivers are attentive and accommodating to passenger requests, which is important in creating a personalized and efficient commuting experience. This is followed closely by "The passengers are always informed by the driver/conductor when it's okay to exit the modernized jeepney" with a weighted mean of 3.68 and "Modernized jeepneys are easily accessible in my area" with a weighted mean of 3.67, which suggests that accessibility and communication are key strengths in the

current implementation of the PUV Modernization Program.

"My travel time when riding modernized jeepneys is satisfactory" also received a favorable a weighted mean of 3.58 (Evident), indicating that passengers consider the duration of trips acceptable. Meanwhile, "I always arrive at my destination on time when riding a modernized jeepney" received a weighted mean of 3.48, interpreted as Moderately Evident, suggesting that while travel time is satisfactory, punctuality may still be inconsistent.

Lower ratings were given to "I can easily ride a modernized jeepney even in rush hours" with a weighted mean of 3.23 and "I don't have to wait to be able to ride

a modernized jeepney” with a weighted mean of 3.08, both of which were interpreted as Moderately Evident. These findings highlight ongoing challenges related to ride availability during peak hours and long wait times in certain areas, which can impact commuter satisfaction if not addressed. The overall average mean of 3.51, interpreted as Evident, suggests that service providers’ responsiveness is generally observable and satisfactory to most passengers. However, service coverage, frequency, and timeliness improvements could enhance responsiveness, especially during rush hours.

These findings imply that while communication and attentiveness from drivers are strengths of modernized jeepney services, there is a clear need to improve operational efficiency, particularly in addressing wait times and rush hour accessibility. Transport cooperatives and local government units may consider optimizing route assignments and increasing the number of active units during peak times. Additionally,

continued training for drivers on proactive and courteous communication will help maintain and improve responsiveness. Ensuring promptness and accessibility will further increase commuter trust and satisfaction in the program.

Table 1.3 presents the passenger-respondents’ assessment of the reliability of modernized jeepneys in Bulan, Sorsogon. The highest-rated indicator is “The price fee for the ride is affordable,” with a weighted mean of 4.00, interpreted as Evident. This reflects intense passenger satisfaction with the fare structure, suggesting that affordability is one of the key strengths of modernized jeepney services. Following this is the statement, “The driver/conductor always returns the correct change to the passengers,” which obtained a weighted mean of 3.78, also interpreted as Evident. This highlights that passengers generally trust the conductors’ handling of fares and change, reinforcing transparency and fairness in the fare collection process.

Table 1.3 Service Quality of Modernized Jeepney in Terms of Reliability

No.	Statement	Weighted Mean	Interpretation
1	It is easy to find the loading and unloading areas of modernized jeepney.	3.48	Moderately Evident
2	There are loading and unloading areas near my home.	2.98	Moderately Evident
3	There are available benches and shelter at loading and unloading areas.	2.83	Moderately Evident
4	Modernized jeepney never breaks down or experienced mechanical failure on the road.	3.48	Moderately Evident
5	The price fee for the ride is affordable.	4.00	Evident
6	The driver/conductor always returns the correct change to the passengers.	3.78	Evident
Average Mean		3.43	Moderately Evident

Note: 4.50-5.00 = Very Evident; 3.50-4.49 = Evident; 2.50-3.49 = Moderately Evident; 1.50- 2.49 = Less Evident; 1.00-1.49 = Least Evident

“It is easy to find the loading and unloading areas of modernized jeepney” and “Modernized jeepney never breaks down or experienced mechanical failure on the road” both received a weighted mean of 3.48, with an interpretation of Moderately Evident. These responses suggest that passengers find the service operationally dependable in terms of transit and mechanical condition. On the other hand, two indicators were also rated Moderately Evident: “There are loading and unloading areas near my home” with a weighted mean of 2.98, and “There are available benches and shelter at loading and unloading areas” with a weighted mean of 2.83. These lower ratings reveal a perceived lack of convenient access and supportive passenger infrastructure, which may cause discomfort or inconvenience, especially for elderly or physically challenged passengers.

The average mean for this dimension is 3.43, interpreted as Moderately Evident, indicating that while reliability in terms of fare handling, vehicle condition, and overall accessibility is generally perceived positively, infrastructure-related gaps still affect the overall service experience.

Table 1.4 shows the evaluation of modernized jeepney services in Bulan, Sorsogon, regarding assurance. Among the 11 indicators, the highest-rated item was “The driver follows the road signs and signals,” with a weighted mean of 4.03, interpreted as Evident, indicating high compliance with traffic rules. This was closely followed by “The driver knows the route very well and avoids traffic jams” with a weighted mean of 4.02 and “The driver has good driving skills” with a

weighted mean of 3.95, both of which affirm that passengers perceive drivers as competent and knowledgeable. Similarly, “The driver makes sure that the passenger has safely entered/exited the vehicle before moving” with a weighted mean of 3.92 and “The

driver unloads and loads the passengers in the appropriate area” with a weighted mean of 3.82 were rated Evident, suggesting strong safety practices during boarding and alighting.

Table 1.4 Service Quality of Modernized Jeepney in Terms of Assurance

No.	Statement	Weighted Mean	Interpretation
1	The driver unloads and loads the passengers in the appropriate area.	3.82	Evident
2	The driver adheres to a careful driving style.	3.67	Evident
3	The driver drives smoothly (no sudden breaks).	3.30	Moderately Evident
4	The driver drives at an appropriate speed.	3.62	Evident
5	The driver follows the road signs and signals.	4.03	Evident
6	The driver knows the route very well and avoids traffic jams.	4.02	Evident
7	The driver makes sure that the passenger has safely entered/exited the vehicle before moving.	3.92	Evident
8	The driver has good driving skills.	3.95	Evident
9	I feel secure against crimes inside the modernized jeepney.	3.58	Evident
10	I feel secure against crimes while waiting at the loading and unloading area.	3.42	Moderately Evident
11	I feel safe riding modernized jeepney.	3.80	Evident
Average Mean		3.74	Evident

Note: 4.50-5.00 = Very Evident; 3.50-4.49 = Evident; 2.50-3.49 = Moderately Evident; 1.50- 2.49 = Less Evident; 1.00-1.49 = Least Evident

Passengers also expressed a strong sense of safety and control with statements like “I feel safe riding modernized jeepney” with a weighted mean of 3.80 and “The driver adheres to a careful driving style” with a weighted mean of 3.67, which received good ratings. Additionally, “The driver drives at an appropriate speed” was rated Evident with a weighted mean of 3.62, supporting that passengers recognize appropriate driving behavior. For security-related concerns, “I feel secure against crimes inside the modernized jeepney” received a weighted mean of 3.58, interpreted as Evident, indicating a general sense of safety during the ride.

However, two statements were rated as Moderately Evident. These were “The driver drives smoothly (no sudden breaks),” with a weighted mean of 3.30, suggesting some concerns over abrupt vehicle movement, and “I feel secure against crimes while waiting at the loading and unloading area” with a weighted mean of 3.42, pointing to perceived risks in terminal zones. These ratings imply that while onboard safety is commendable, there may be a need to improve ride comfort and external safety measures. Overall, the

average mean of 3.74 was interpreted as Evident, indicating that passengers generally feel assured and confident in modernized jeepney drivers' safety, professionalism, and competence. The findings highlight the success of the modernization program in improving service assurance while also identifying areas, particularly in ride smoothness and terminal security, that require further enhancement to elevate the commuter experience.

The present study's findings on the assurance dimension of modernized jeepney services in Bulan, Sorsogon, are consistent with studies emphasizing trust, professionalism, and perceived safety.

The findings suggest that modernized jeepney drivers are perceived as skilled, rule-abiding, and careful, which builds passenger confidence and trust. However, the moderate rating on driving smoothness and terminal area safety suggests that transport operators and local officials must improve driver training focused on ride comfort and security measures in pick-up/drop-off zones. Enhancing these areas can further increase public trust in modernized transport systems.

Table 1.5 Service Quality of Modernized Jeepney in Terms of Empathy

No.	Statement	Weighted Mean	Interpretation
1	The driver/conductor is polite and friendly when communicating with passengers.	3.88	Evident
2	The driver/conductor assist disabled passengers and senior citizens.	3.90	Evident
3	The driver never fails to stop for passengers who want to ride.	3.70	Evident
4	Modernized jeepney routes are designed perfectly (no additional routes needed).	3.68	Evident
Average Mean		3.79	Evident

Note: 4.50-5.00 = Very Evident; 3.50-4.49 = Evident; 2.50-3.49 = Moderately Evident; 1.50- 2.49 = Less Evident; 1.00-1.49 = Least Evident

Table 1.5 presents the assessment of the empathy dimension of service quality among modernized jeepney drivers in Bulan, Sorsogon. All four indicators under empathy were interpreted as **Evident**, suggesting that passengers generally recognize and appreciate the courteous, attentive, and inclusive behavior demonstrated by modernized jeepney drivers and conductors. The highest-rated statement was “The driver/conductor assist disabled passengers and senior citizens,” with a weighted mean of 3.90. This indicates that transport personnel observe vulnerable passenger needs and practice inclusivity in service delivery. The following statement was closely followed: “The driver/conductor is polite and friendly when communicating with passengers” with a weighted mean of 3.88, showing that respectful and courteous interactions remain a cornerstone of commuter satisfaction. Additionally, “The driver never fails to stop for passengers who want to ride” was rated with a weighted mean of 3.70. This confirms that drivers are attentive to passenger signals and willing to accommodate even during potentially busy schedules.

Lastly, the statement “Modernized jeepney routes are designed perfectly (no additional routes needed)” received a weighted mean of 3.68, which suggests that passengers are generally satisfied with the route planning and accessibility of stops. While this item still falls under the domain of empathy due to its focus on

passenger convenience, it also indicates the success of transport planning in minimizing the need for additional route extensions. With an overall average mean of 3.79, interpreted as **Evident**, the findings show that Bulan's modernized jeepney transport system effectively demonstrates empathy toward passengers. From drivers' attentiveness to polite communication and inclusive practices, the results suggest that the service goes beyond mechanical delivery and is grounded in human interaction. This level of responsiveness and respect helps establish a service environment in which passengers can trust and feel comfortable.

The results of this study revealed that passengers perceive a high level of empathy in the delivery of modernized jeepney services in Bulan, Sorsogon. Indicators such as drivers' politeness, attentiveness to the needs of disabled and elderly passengers, responsiveness to those wanting to ride, and satisfaction with route design were all evaluated positively.

The findings imply that empathetic behavior among jeepney drivers, such as courteous communication and attentiveness to passenger needs, enhances commuter satisfaction. This highlights the importance of driver training focused on compassion and inclusivity, supporting a commuter-centered approach that strengthens public trust and promotes long-term acceptance of the modernization program.

Table 1.6 Summary Table of Service Quality of Modernized Jeepney

SERVQUAL Dimension	Weighted Mean	Interpretation
Tangibility	3.66	Evident
Responsiveness	3.51	Evident
Reliability	3.43	Moderately Evident
Assurance	3.74	Evident
Empathy	3.79	Evident
Average Mean	3.63	Evident

Note: 4.50-5.00 = Very Evident; 3.50-4.49 = Evident; 2.50-3.49 = Moderately Evident; 1.50- 2.49 = Less Evident; 1.00-1.49 = Least Evident

Table 1.6 summarizes the five SERVQUAL dimensions used to assess the service quality of modernized jeepneys in Bulan, Sorsogon. The overall average weighted mean across all dimensions is 3.63, which falls under the interpretation of “Evident.” This indicates that, in general, passengers perceive the service quality of modernized jeepneys as favorable and acceptable across key performance dimensions.

Among the five service quality dimensions, Empathy ranked first with a weighted mean of 3.79 with an interpretation of “Evident”. This result suggests that passengers recognize and appreciate the efforts of drivers and conductors in providing courteous, respectful, and personalized service. Passengers perceive driver-conductors as attentive to individual needs, especially toward vulnerable groups such as senior citizens and persons with disabilities. The high ranking of Empathy also reflects the importance of human interaction in the commuter experience, supporting the idea that emotional intelligence and relational sensitivity among transport workers contribute significantly to perceived service quality.

Assurance followed with a weighted mean of 3.74, ranking second which falls under the interpretation of “Evident”. This demonstrates that passengers have confidence in the modernized jeepney operators' competence, driving skills, and safety-conscious behavior. Passengers feel secure during the ride and believe that the drivers can deliver them safely and efficiently to their destinations. This strong rating for assurance indicates that implementing driver standards and training under the PUV modernization framework positively reflects commuter experiences. Tangibility, which pertains to the physical attributes of the modernized jeepneys, ranked third with a weighted mean of 3.66 with an interpretation of “Evident”. This finding shows that the modernized units' design, cleanliness, ergonomics, and general appearance meet passenger expectations. While still evaluated as “Evident,” the ranking suggests that continued upgrades and regular maintenance of physical facilities can further improve user satisfaction, especially for long or frequent travel.

Responsiveness ranked fourth with a weighted mean of 3.51, slightly meeting the “Evident” interpretation. This reflects that passengers find the drivers relatively prompt in addressing their needs, such as stopping at requested locations and responding to ride signals.

However, the low rank among dimensions suggests that responsiveness remains an area for enhancement, particularly during peak hours or when traffic congestion affects boarding efficiency and travel time. Reliability ranked lowest among the five dimensions, with a weighted mean of 3.43, placing it in the “Moderately Evident” category. This result indicates that while the service generally functions well, certain aspects such as punctuality, availability of nearby loading and unloading zones, and infrastructure support (e.g., benches and shelters) may not consistently meet commuter expectations. The relatively lower reliability rating implies improved route planning, coordination with local traffic enforcement, and enhanced terminal infrastructure to ensure more dependable service.

These results highlight the importance of a balanced service delivery approach that combines infrastructure enhancements, personnel development, and vehicle maintenance. The relatively high ratings in Empathy and Assurance confirm that passengers value respectful treatment, safe travel, and driver professionalism. However, the comparatively lower scores in Reliability and Responsiveness highlight the continuing need for improvements, particularly in operational consistency and traffic coordination.

In summary, the service quality of modernized jeepneys in Bulan, Sorsogon, is perceived as Evident, with passengers expressing the highest satisfaction levels in areas involving empathy and assurance. The findings suggest that while the elements of service delivery are well-regarded, functional aspects such as timeliness, consistency, and infrastructure still require attention. These findings can inform future improvements in implementing the Public Utility Vehicle Modernization Program (PUVMP), ensuring that both the technical and human aspects of service are balanced to meet the needs of commuters.

Level of Passenger Satisfaction in Utilizing Modernized Jeepneys

This section analyzes passenger satisfaction with modernized jeepneys in Bulan, Sorsogon, focusing on how well services meet commuter expectations and needs.

Table 2 presents the level of satisfaction among passenger respondents in their use of modernized jeepneys in Bulan, Sorsogon. The table describes eight indicators, each reflecting specific aspects of the

commuting experience. Overall, the findings indicate that passengers are generally Satisfied, with an average weighted mean of 3.66. Among the indicators, the highest-rated statement was “I am satisfied with the efficiency of the route taken by the modernized

jeepney,” with a weighted mean of 3.93. This was followed closely by “I am satisfied with the effectiveness of information materials in modernized jeepney,” which earned a weighted mean of 3.90.

Table 2 Level of Passenger Satisfaction in Utilizing Modernized Jeepneys

No.	Statement	Weighted Mean	Interpretation
1	I am satisfied with the overall service of the modernized jeepney.	3.75	Satisfied
2	The service quality of modernized jeepney exceeded my expectations	3.43	Moderately Satisfied
3	I am satisfied with the cleanliness and comfort in the modernized jeepney.	3.55	Satisfied
4	I am satisfied with the overall ambiance inside the modernized jeepney.	3.53	Satisfied
5	I am satisfied with the overall safety of using modernized jeepney as a mode of transportation.	3.67	Satisfied
6	I am satisfied with the modernized jeepney driver's behavior.	3.55	Satisfied
7	I am satisfied with the efficiency of the route taken by the modernized jeepney.	3.93	Satisfied
8	I am satisfied with the effectiveness of information materials in modernized jeepney.	3.90	Satisfied
Average Mean		3.66	Satisfied

Note: 4.50-5.00 = Very Satisfied; 3.50-4.49 = Satisfied; 2.50-3.49 = Moderately Satisfied; 1.50- 2.49 = Dissatisfied; 1.00-1.49 = Very Dissatisfied

These results suggest that passengers appreciate both the practicality of the route network and the clarity of informational support, such as signboards, route displays, and fare information.

Other indicators receiving high satisfaction ratings include "I am satisfied with the overall service" with a weighted mean of 3.75, "the overall safety of using modernized jeepneys" with a weighted mean of 3.67, and "the cleanliness and comfort" of the vehicles with a weighted mean of 3.55, all of which affirm the positive impression of both the physical and operational aspects of the service. Notably, "I am satisfied with the modernized jeepney driver's behavior" and "overall ambiance inside the modernized jeepney" also received consistent ratings of 3.55 and 3.53, respectively, indicating favorable experiences about human interaction and the riding environment.

However, the lowest-rated item was “The service quality of modernized jeepney exceeded my expectations,” which earned a weighted mean of 3.43, interpreted as “Moderately Satisfied.” This finding implies that while passengers are generally satisfied, the service has not yet surpassed their expectations. This presents an opportunity for continuous improvement, particularly in areas where innovation and added value

can upgrade the service from acceptable to exceptional. Overall, the average satisfaction rating of 3.66 which suggests that modernized jeepney services meet passengers' basic and expected needs, particularly in route efficiency, safety, cleanliness, and communication. These results highlight the modernization program's effectiveness while pointing to areas where service quality can be enhanced to deliver a more remarkable and impactful passenger experience.

The present study revealed that passengers are generally satisfied with modernized jeepney services in Bulan, Sorsogon, particularly in route efficiency, safety, cleanliness, and driver behavior. These results align with global and local studies examining service quality dimensions and their influence on commuter satisfaction.

The findings suggest that passengers are generally satisfied with modernized jeepney services in Bulan, Sorsogon, particularly in route efficiency, driver behavior, and safety. These results imply that the current Public Utility Vehicle Modernization Program (PUVMP) implementation meets key commuter expectations. The high satisfaction in route efficiency and driver conduct indicates that route planning and personnel training are effective. However, the slightly

lower satisfaction in service quality exceeding expectations suggests a need for continuous innovation and improvement in value-added services. Commuter satisfaction will require consistent attention to comfort, communication materials, and a commuter-focused service approach.

Qualitative Responses from Key Informants on Service Quality

The qualitative responses from four operator-informants of modernized jeepneys under Bulan Transport Cooperative revealed an organized and systematic approach to delivering quality transport service. Through thematic analysis of their narratives, eight key themes emerged: Service Quality Assurance, Modernization Benefits, Employee Performance Monitoring, Training and Professional Development, Employee Benefits and Incentives, Maintenance and Safety Measures, Passenger Safety and Satisfaction, and Complaint and Issue Resolution, each demonstrating specific management practices and strategies that ensure safety, passenger satisfaction, and employee welfare in the implementation of the Public Utility Vehicle Modernization Program (PUVMP).

Service Quality Assurance

Service quality in modernized jeepney operations is strongly anchored on vehicle preventive maintenance and a commitment to cleanliness standards. Ensuring that each jeepney is roadworthy before operation is a non-negotiable aspect of the cooperative's quality control measures. Across all interviews, participants consistently emphasized the importance of daily technical checks, a foundational routine that prevents mechanical failures and builds commuter trust in the system.

Participant 1 outlined a detailed process by which drivers and conductors must inspect and maintain their units daily: "May house rules po ang cooperative na kailangan po ang driver pag umaga magche-check siya ng unit, gulong, fluid, langis, lahat yan. Pati ano...mag maintain siya, mag-washing siya para ganoon din ang mga katulong niya ang mga conductor, dapat mamaintain nila yung ano... Kaya pag biyahe na checked na ang langis, ang tubig." (The cooperative has house rules requiring the driver to check the unit in the morning including the tires, fluids, oil, everything. They also need to maintain and wash the unit, and the conductors helping them are also expected to maintain it. That's why before the trip, the oil and water are

already checked.) This quote highlights that ensuring service quality is a shared responsibility and a systematic routine. It is not limited to mechanical inspection alone but also extends to physical appearance and passenger perception. By institutionalizing these practices, the cooperative promotes a culture of discipline and readiness that supports operational efficiency.

Adding to this, Participant 3 supported the same commitment to safety and maintenance, pointing out: "Una-una po bago namin pinapaalis yung mga jeep, chinecheck namin yung oil, tapos yung mga gulong para po iwas anomalya sa daan. Tapos yung ano, mas prefer namin yung gumagamit ng beep or yung ginagamit namin ngayon yung Infinix for inspection." (First of all, before we allow the jeepneys to leave, we check the oil and the tires to avoid any issues on the road. Also, we prefer using the beep system or what we're currently using now, which is Infinix, for inspection purposes.) Inspection technologies like Infinix further highlight the professionalization of service operations in the modernized system. Incorporating digital tools represents a step forward in ensuring compliance, documentation, and operational transparency. Beyond these technical protocols, cleanliness appeared as an essential aspect of service quality, particularly with the introduction of air-conditioned and closed jeepney units. In contrast to traditional jeepneys that were open and susceptible to dust and pollution, the new units offer a more enclosed and hygienic environment.

Participant 4 shortly captured this expectation: "Cleanliness. Kailangan malinis." (It must be clean.) This was reflected by Participant 3, who emphasized its practical impact on the commuter experience: "Oo. Yung malinis na. Iwas na sa mga pollution yung mga pasahero. Kasi naka-close na yung mga window. Kasi naka-aircon na siya kumbaga parang komportable na ngayon yung mga commuters natin." (Yes, it has to be clean. This also helps protect passengers from pollution since the windows are now closed. Because the units are already air-conditioned, our commuters are now more comfortable.) These responses demonstrated that cleanliness is not simply an aesthetic concern, it is viewed as a core element of commuter welfare and a distinguishing feature of the modernized transport system. It contributed to passenger satisfaction, public health, and environmental quality, especially in high-traffic areas.

The operators' responses demonstrated that service quality assurance is operational and practical. It is anchored on a structured approach involving mechanical readiness, personal accountability, and commuter-centric enhancements. Before any passenger boards the vehicle, a set of safety, cleanliness, and compliance practices must already be fulfilled, signaling that in modernized jeepney services, quality truly begins before the journey even starts.

Modernization Benefits

The shift from traditional jeepney operations to a cooperative-based modernized transport system brought about significant improvements in the physical condition of transport units and, more importantly, in the organizational, financial, and welfare structures managing public utility services. The participants highlighted the transformational impact of modernization on both service delivery standards and internal management efficiency. Unlike the fragmented, operator-driven model of the past, where each unit functioned independently, the modernized system under cooperative management ensures centralized control, uniform practices, and joint accountability. This fundamental structural shift empowers transport service providers to implement innovations, ensure employee support, and deliver a commuter-focused experience.

Participant 2 clearly expressed the visible difference between the traditional and modernized models: "Kasi ma'am sa traditional di ba po individual po yun, tapos ang kita po sa mga operators mismo. Tapos ang mga pasahero, parang di ba ma'am pag-maulan sa traditional nag aano ang uran. Tapos bawal po ang standing pag sa traditional, pero ngayon po sa modernized, komportable ang pasahero, tapos, ano siya ma'am, ang income ng modernized sa cooperative po talaga tapos ang magpapasahod din sa empleyado is the cooperative kumpara sa traditional. Kasi ang traditional, ang operator kanya kanya, ang nagbibigay na lang sa mga operator siya. Tapos, mahina ang income ng sa traditional kaysa sa modernized." (Ma'am, in traditional jeepneys, everything is individually owned and the income goes directly to the operators. Also, passengers would often get wet when it rains because the units were open. Standing is also not allowed in traditional units. But now, with modernized jeepneys, passengers are more comfortable. The income goes to the cooperative, and it is the cooperative that provides the salaries for the employees, unlike in the traditional setup where each operator manages their own earnings and pays workers

directly. Compared to traditional jeepneys, the income in the modernized system is stronger.)

This narrative highlighted two major benefits of modernization: financial systematization and passenger comfort. By transitioning to a cooperative, the income generated is shared and redistributed based on fixed salaries, removing the commission-based schemes. This stabilizes earnings for workers and increases operational sustainability, especially during off-peak hours or low-demand seasons. More importantly, passenger comfort has significantly improved. Traditional jeepneys, often open-sided and prone to exposure to rain and pollution, are now replaced by air-conditioned, enclosed units. This upgrade protects passengers from external elements and enhances the overall transport experience, contributing to higher commuter satisfaction and system credibility.

Participant 3 elaborated on this transformation from the passenger's perspective: "Tapos yung advantage ng modernization ngayon, nagiging comfortable na ngayon ang mga commuters namin. Like, yung naka-aircon na. Opo, naka-aircon na. Tapos yung, kumbaga, ano na, yung... Yung malinis na. Iwas na sa mga pollution yung mga pasahero. Kasi naka-close na yung mga window. Kasi naka-aircon na siya kumbaga parang komportable na ngayon yung mga commuters natin." (One of the advantages of modernization is that our commuters are now more comfortable. For example, the units are now air-conditioned—yes, they're air-conditioned. Also, they're clean, so passengers are protected from pollution. Since the windows are closed and the air conditioning is on, our commuters now enjoy a more comfortable ride.) This shift from a decentralized to a cooperative model not only upgraded facilities but also introduced shared accountability, allowing operators to reinvest in better services and improved employee welfare.

The narratives reflected a shift not only in technical specifications but also in cultural expectations of public transport. Where discomfort was once accepted as a norm, the modernization program has redefined the commuting standard, incorporating hygiene, temperature control, and environmental protection into the daily transport experience. This transformation has also restructured accountability. Under the traditional model, individual operators are responsible for vehicle maintenance and staff behavior, often without consistent guidelines. In contrast, the cooperative framework

promotes shared responsibilities, compliance monitoring, and unified decision-making, creating an environment conducive to long-term planning and reinvestment in service quality.

The participants' responses indicated that modernization is not merely a vehicle design or fare system change but a complete institutional reorientation. Operators and passengers benefit from improved infrastructure, organizational consistency, and enhanced public perception of transport services through this reform.

Employee Performance Monitoring

Employee conduct is important in determining overall service quality in a service-oriented system such as public transportation. For the Bulan Transport Cooperative, this means implementing well-defined mechanisms for daily supervision, behavior evaluation, and responsive discipline to ensure that drivers and conductors maintain safety standards and customer satisfaction. Across the narratives, it became evident that the cooperative adopts a proactive perspective in monitoring performance, starting from recruitment and continuing through daily operations.

A key element in this monitoring system is the daily briefing protocol, which supports service standards, communicates updates, and guides new staff. Participant 4 emphasized this daily routine and described the trial period for new drivers: "Araw-araw naman po yung briefing namin. Pag bagong driver, inaano namin yan. Kumbaga tinitingnan namin, isang lingo kung qualified siya o hindi. Kung qualified siya, medyo smooth na mag-drive. Medyo ano, yun kinukuha namin." (We conduct daily briefings. When there's a new driver, we monitor them closely. We usually observe them for about a week to determine if they're qualified or not. If the driver is qualified and drives smoothly, then that's the one we hire.) This indicated a structured apprenticeship or trial system that prioritizes competence over urgency in filling positions. It reflected the cooperative's commitment to hiring based on driver behavior, skill, and service attitude, rather than merely availability. This proactive approach to recruitment facilitated screen out unfit drivers early and sets the tone for performance expectations moving forward.

However, beyond onboarding, the cooperative also maintains a system of real-time accountability through complaint tracking and feedback analysis. Each unit has a hotline that passengers can use to submit complaints,

which are formally documented and escalated to leadership. Participant 1, who serves as general manager, explained the complaint-handling workflow in detail: "Bilang general manager, ako ang incharge sa operation. May nakalagay naman na hotline sa lahat ng unit namin. May logbook. Ako bilang general manager nila lahat po ng reklamo diyan ng mga pasahero nila-logbook ko po yan. Ngayon, pag na-iano ko na yan, ginagawan ko po yan ng report sa maghapon tapos ipapasa ko po yan sa Board of Directors, inaaral nila, pinapatawag ang empleyado para ang mga ganyang problema ay maiayos po. Yan po ang aming kalakaran dito. Nagbabase po tayo sa CDA (Cooperative Development Authority) sa mga house rules para maging satisfied ang mga pasahero." (As the general manager, I am in charge of operations. Each of our units has a posted hotline number. We also keep a logbook. As their general manager, I record all passenger complaints in the logbook. At the end of the day, I compile a report and submit it to the Board of Directors. They review the report, summon the employee involved, and address the issue to resolve such problems. That's how we operate here. We follow the house rules based on the Cooperative Development Authority (CDA) guidelines to ensure passenger satisfaction.)

This level of formal complaint documentation and institutional response is a strong indicator of professionalization. Rather than leaving disciplinary actions to individual discretion, the process involves documentation, review by leadership, and actions based on cooperative policies, ensuring fairness, transparency, and alignment with CDA standards.

Participant 3 verified this system, adding that feedback is received and acted upon. Specific complaints, such as reckless driving, are traced through the unit number, investigated, and followed by verbal warnings or suspension if repeated: "Opo, binibigyan naman po namin yun ng kasagutan at saka ina-aksyonan naman po namin. Like for example yung, alam mo may nagreklamo sa amin yung, oh itong driver niyo, mabilis mag-drive, ganyan. So, inalam namin anong bus number. So, if may, Kasi yung nagreklamo, inano nila yung bus number. Tapos, inalam namin kung sino yung driver. Pinagsasabihan po namin yun. Tapos, wina-warningan po namin. Pag sunod po na nakadalawa na siya na warning, sinuspendi po namin three days. Kaya po, para matuto." (Yes, we do respond to and take action on complaints. For example, if someone complains and says, "Your driver is driving too fast," we first identify

the bus number from the complaint. Since the complainant usually includes the bus number, we use that to find out who the driver is. Then, we talk to the driver and give a warning. If the same driver receives a second warning, we suspend them for three days. This is done to ensure they learn and improve their behavior.) The principle of corrective discipline is clearly at work. Rather than immediately penalizing violations with harsh consequences, the cooperative opts for a progressive discipline model, starting with reminders, escalating to suspensions, and culminating in termination if the behavior persists.

Participant 4 supported this disciplinary progression, emphasizing that repeated violations are met with finality: “Pag hindi. Sinususpendi namin pag tatlo na termination na, terminated na siya, naka logbook yun.” (If the behavior continues, we suspend them. After three warnings, the driver is terminated. Everything is recorded in the logbook.) This formal structure prevents poor conduct and protects the cooperative from liability, as all complaints and actions are recorded. Moreover, it creates a culture where employees know that their performance is consistently observed, not just through passenger feedback, but also by the cooperative's internal supervisors.

These narratives illustrated a responsive monitoring system where briefings, mentorship, feedback loops, and written policies intersect to guide driver behavior and service quality. The cooperative's ability to balance support with accountability ensures that employees are empowered and held responsible for upholding service standards.

Training and Professional Development

Training and professional development are important in sustaining high service quality, prioritizing safety, discipline, and passenger satisfaction. Although the Bulan Transport Cooperative does not regularly conduct formal training sessions due to operational constraints, there is strong recognition of their importance. Instead, the cooperative supplements these through government-facilitated sessions and internal reinforcement during daily operations, ensuring that staff remain equipped with the knowledge and values needed for quality service delivery.

Participant 1 described how the cooperative collaborated with external agencies to facilitate training sessions, particularly for regulatory knowledge and

safety compliance: “Ang gobyerno po naki tie-up po sa cooperative - Bulan Transport Cooperative. Sila po ang nag-schedule ng mga training sa mga drivers, conductors. May mga training po na inaano ang gobyerno para sa mga drivers. Iko-comply na lang yan ng cooperative. Halimbawa sa mga driver, nag-attend sila ng mga ano sa LTO (Land Transportation Office) para maano ng mga signage, bawal dito - ganyan.” (The government is tied up with the cooperative—Bulan Transport Cooperative. They are the ones who schedule the training sessions for drivers and conductors. The government provides training programs for the drivers, and the cooperative simply complies with them. For example, drivers attend sessions at the LTO (Land Transportation Office) to learn about traffic signs, no-entry zones, and related regulations.)

This response showed the cooperative's adaptive training model, wherein instead of relying solely on in-house or scheduled workshops, they utilize training programs offered by government institutions. Programs like those facilitated by the Land Transportation Office (LTO) must educate drivers on legal mandates, road safety, and responsible driving behavior. It also reflected regulatory alignment, where the cooperative ensures its workforce adheres to national traffic standards and public safety expectations.

However, logistical and operational limitations remain challenging despite the cooperative's intent to engage in continuous training. Participant 2 noted the practical barriers the cooperative faces in delivering frequent training sessions: “Dati ma'am kasi nag-attend po sila ng Drivers Academy Training sa Sorsogon, kaso lang ngayon po ma'am hindi pa kami nakapag-conduct ng training kasi busy busy pa. Kasi hindi naman po kasi pwede na lahat ng driver mag-attend ng seminar, maano ang unit po. So pag may mga training nag-offer yung ibang government, nag-join din po kami.” (Before, ma'am, the drivers attended the Drivers Academy Training in Sorsogon. However, we haven't been able to conduct training recently because we've been very busy. It's not possible for all drivers to attend seminars at the same time since the units would be affected. But whenever there are training sessions offered by other government agencies, we also join those.)

This statement illustrated the balance between service continuity and capacity development. Given the demand for consistent transport operations, pulling drivers out of service for training often disrupts daily schedules and

affects cooperative revenue. Hence, while the intent to train is present, the availability of units and drivers remains a constraint. The cooperative responded by selectively participating in external training when possible, especially if an agency like LTO offers sessions. While the cooperative faces challenges in delivering frequent formal training due to staffing and operational demands, it actively utilizes government-offered programs, promotes regulatory compliance, and reinforces learning through daily briefings. These strategies reflected a resourceful and responsive approach to training, allowing drivers and conductors to stay informed, improve performance, and adapt to modern service expectations despite the constraints.

Employee Benefits and Incentives

The modernized cooperative system's provision of employee benefits and incentives is a defining feature that distinguishes it from the traditional jeepney setup. Previously, drivers and conductors often relied on unstable, commission-based income with minimal access to formal employment benefits. However, the cooperative model now ensures that employees receive government-mandated protections, supplemental allowances, and performance-based recognition. These provisions strengthen financial security and well-being and promote employee loyalty, morale, and motivation, contributing to consistent and improved service delivery.

Participant 1 confirmed the cooperative's compliance with statutory employee welfare programs, emphasizing that the benefits required by the government cover all members: "Dito po sa Bulan Transport Cooperative, lahat po ng in-cocomply ang benepisyo ng gobyerno, SSS (Social Security System), PhilHealth (Philippine Health Insurance Corporation), Pag-Ibig (Home Development Mutual Fund) inaano po yan para maibigay sa mga empleyado." (Here at Bulan Transport Cooperative, we fully comply with all government-mandated benefits such as SSS (Social Security System), PhilHealth (Philippine Health Insurance Corporation), and Pag-IBIG (Home Development Mutual Fund). These benefits are provided to all our employees.) This statement reflected the cooperative's institutional legitimacy. By ensuring that social protection systems are in place, employees are no longer seen as informal or contractual laborers but as part of a formal workforce entitled to benefits such as health coverage and retirement security.

Participant 2 added further details, highlighting the provision of statutory benefits and the implementation of additional incentives to increase employee morale. Specifically, he shared that the cooperative provides quarterly rice allowances and holds recognition programs for outstanding employees: "SSS (Social Security System), Philhealth (Philippine Health Insurance Corporation) yun po. May pabigas pa. Quarterly po yun... Pag ano ma'am, pag may outstanding employee, may mga award pampa-enganyo." (We provide SSS (Social Security System) and PhilHealth (Philippine Health Insurance Corporation) benefits. We also give rice allowances quarterly. Additionally, when there are outstanding employees, we give awards as an incentive to encourage them further.) This compensation approach demonstrated a practical employee care strategy combining a fixed salary and performance-based rewards. The rice allowance reflected an understanding of local economic realities and provided practical assistance in daily life. Meanwhile, the award system signals a merit-based recognition culture, which encouraged excellence and accountability among staff.

Participant 4 supported these responses by reiterating core benefits and highlighting additional forms of support, such as the 13th-month pay, a mandatory bonus in the Philippines for formal employees: "Lalo na may mga benefits din sila sa amin, SSS (Social Security System) may Philhealth (Philippine Health Insurance Corporation)... May 13th month pay" (Especially since they also receive benefits from us, such as Social Security System and Philippine Health Insurance Corporation)... They also receive a 13th month pay.) The inclusion of the 13th-month pay signifies the cooperative's commitment to compliance with labor standards and further differentiates it from traditional jeepney operations, where such bonuses were rarely, if ever, observed. It symbolizes the transition from an informal earnings-based structure to a stable and predictable income model, essential for long-term worker retention and satisfaction.

Providing benefits such as SSS, PhilHealth, Pag-IBIG, rice allowances, awards, and 13th-month pay reflects the cooperative's human resource maturity. This benefits structure enhances employee welfare and retention, service quality, and customer satisfaction, proving that investment in people is a strategic pillar of sustainable public transport modernization.

Maintenance and Safety Measures

Vehicle maintenance and safety assurance are foundational pillars of service quality. The Bulan Transport Cooperative demonstrated a proactive and systematized approach to vehicle maintenance, ensuring that modernized units are not only compliant with technical standards but also operated in a manner that prioritizes commuter safety and operational reliability. Unlike traditional jeepney practices, where maintenance often depended on the discretion of individual operators, the cooperative structure allows for standardized maintenance protocols and centralized monitoring.

Participant 4 elaborated on the institutional mechanisms in place to implement regular and preventive maintenance: “May motor pool kami sa Sorsogon Integrated Terminal Exchange. May safety officer kami. May guidelines naman kami. Example, yung makina, kailangan pag 10,000 kilometers na ang takbo ma-change oil na kami. Tapos pina-check-up lagi. Bini-briefing namin yung driver na dapat check-apin nila mga gulong, bago mag takbo sila.” (We have a motor pool at the Sorsogon Integrated Terminal Exchange. We also have a safety officer and established guidelines. For example, once the engine reaches 10,000 kilometers, we conduct an oil change. Regular check-ups are also done. We brief the drivers to make sure they check the tires before they go on the road.) This statement revealed a dual-layered approach to maintenance: one, a scheduled maintenance cycle based on usage metrics like mileage (e.g., oil change after 10,000 km), and two, continuous reinforcement through driver briefings. The presence of a safety officer and a motor pool facility indicated the cooperative’s commitment to creating institutional infrastructure that supports safety and reliability.

While structured maintenance ensured long-term vehicle health, the cooperative also enforced strict daily inspections, a practice that focused on identifying immediate risks before each trip. These include checks on oil levels, brake fluids, and tire conditions, which are essential even for new or recently serviced units. Participant 1 emphasized this preventive discipline: “Kahit ma’am nasa good condition pa siya, meron naman kaming tinatawag na daily check-up na bago siya bumiyahe, yan po yung sinasabi ko kailangan mo icheck-up ang langis mo, ang brake fluid mo, ang gulong mo kasi kahit bago yan, pag naging pabaya kayo sa ano, pwedeng maging dahilan ng pagka-aksidente, so kailangan everyday check-up.” (Even if the unit is still in good condition, we have what’s called a daily check-

up before every trip. As I mentioned, you need to check the oil, brake fluid, and tires because even if the vehicle is new, negligence can still lead to accidents. That’s why a daily check-up is necessary.)

This response revealed an important mindset shift within the cooperative. Safety is no longer reactive or occasional, but institutionalized as a daily responsibility. This emphasis on human attention and operational discipline reflects the cooperative’s understanding that safety is as much about management practices as it is about machine condition.

Participant 2 supported the same culture of responsibility, emphasizing that drivers themselves are expected to perform basic checks as part of their operating routine: “Pinapacheck namin sa mga drivers, about sa oil, sa brakes, ganun po.” (We ask the drivers to check things like the oil and the brakes before they operate the unit.) While brief, this statement supported the idea that driver accountability is embedded in the cooperative’s operational flow. Each operator becomes active in maintaining service quality, with daily tasks reflecting their shared accountability for commuter welfare. Maintenance and safety measures within the cooperative are not treated as one-time interventions or emergency responses, but as part of a culture of consistency and institutional care. This proactive approach ensures that the modernization of public utility vehicles is supported not just by new equipment but by new systems and mindsets prioritizing safety and quality at every stage of operation.

Passenger Safety and Satisfaction

Passenger safety and satisfaction are at the core of the modernized transport system anticipated under the Public Utility Vehicle Modernization Program (PUVMP). For the Bulan Transport Cooperative, these goals are achieved not only through physical upgrades to the vehicles but also through disciplined operational systems, predictable schedules, and a deep responsiveness to the daily routines of their commuters. The cooperative’s commitment to time discipline is especially noteworthy. Strict scheduling and a point-to-point model ensure timely passenger pick-up and drop-off without delays or route diversions.

Participant 4 clearly illustrated the importance of punctuality in the cooperative’s operations: “Ganito, ang advantage niya sa amin sa Bulan Transport Cooperative. Kasi point to point kami. Pag umalis sa

SITEX (Sorsogon Integrated Terminal Exchange), dire-diretso yan. Walang ano yan. Hindi katulad ng iba, na-istambay sila doon. Kami, hindi. Oras na kasi ang hinahabol namin, kung ang mga commuter namin may sadya sa Sorsogon, lalo na ang mga teacher kailangan humabol sa oras kailangang dumating ka doon ng mga maximum 1 hour and 15 minutes ganyan... Ganito ang timing namin, 30 minutes ang paalis naming, 30 minutes pero pag maraming pasahero in 15 minutes takbo na, 15 minutes sunod sunod na yan, wala na yan oras dahil hindi na nahintay yung 30 minutes.” (Here’s the advantage of Bulan Transport Cooperative—we operate on a point-to-point system. Once we leave SITEX (Sorsogon Integrated Terminal Exchange), the trip goes straight through with no unnecessary stops. Unlike others who tend to idle or wait around, we don’t. We strictly follow a schedule because our commuters, especially teachers and other professionals, need to arrive on time. They usually have important appointments in Sorsogon, so we make sure they get there in about 1 hour and 15 minutes at most. Our dispatch timing is set every 30 minutes, but when there are many passengers, we depart every 15 minutes. Once that happens, trips follow one after another without waiting for the full 30 minutes.)

This statement revealed a well-managed transport system that values operational flow and commuter punctuality, an essential component of service satisfaction. By eliminating unnecessary waiting times and idle periods, the cooperative ensures that passengers arrive on time and that their daily schedules are respected. Reliability, often lacking in traditional jeepneys, stands as a key strength of modernized operations.

Further emphasizing this culture of punctuality and responsiveness, Participant 3 shared how operations continue regardless of passenger volume, showing a clear commitment to consistency: “Alam nila kung may hinahabol na oras. Halimbawa kung may mga 6 o’clock, may pasahero o wala, takbo yan. Kasi may mga commuter kami, nakaantay sa daan, yung mga nagtatrabaho po sa banko sa Sorsogon.” (They understand when there’s a time to catch. For example, if it’s a 6 o’clock schedule, the unit will depart whether there are passengers or not. That’s because we have regular commuters waiting along the way—like those working in banks in Sorsogon.)

This level of schedule integrity reinforces the cooperative’s professionalism and commuter-oriented mindset. Even if the number of passengers is minimal at departure, the commitment to honor departure times boosts passenger trust and demonstrated respect for their time and needs. Passenger safety and satisfaction in the Bulan Transport Cooperative are safeguarded not only by upgraded vehicles and cleaner interiors but also by an operational philosophy embedded in time discipline, respect for passenger routines, and consistent service reliability. These practices have transformed the commuting experience from uncertainty to trust, punctuality, and professionalism.

Complaint and Issue Resolution

The presence of consistent driver monitoring and performance feedback systems is a major contributor to the perceived reliability and professionalism of modernized jeepney services in Bulan, Sorsogon. All four key informants emphasized that daily supervision, complaint tracking, and disciplinary measures are not only practiced but institutionalized within their cooperatives.

Participant 3 detailed the procedural flow followed when a passenger files a complaint, particularly regarding driver behavior: “At saka araw-araw naman po, bini-briefing namin yung mga. Pag may mga nagreklamo na mga pasahero na medyo matulin itong driver na ito, nagbibigay kami ng warning para matuto sa next na pagpasada niya, iwasan na niya yung ganyan. Kasi inaaano naman po namin yung mga nagreklamo...Like for example yung, alam mo may nagreklamo sa amin yung, oh itong driver niyo, mabilis mag-drive, ganyan. So, inalam namin anong bus number. So, if may, Kasi yung nagreklamo, inano nila yung bus number. Tapos, inalam namin kung sino yung driver. Pinagsasabihan po namin yun. Tapos, wina-warningan po namin. Pag sunod po na nakadalawa na siya na warning, sinuspendi po namin three days. Kaya po, para matuto” (And also, every day we conduct briefings. When there are complaints from passengers—for example, if a passenger says the driver was going too fast—we give a warning to the driver so that next time, they avoid doing that. We really take those complaints seriously. Like for example, if someone complains, saying, ‘Your driver is driving too fast,’ we ask for the bus number. If the complainant provides it, we find out who the driver is. We talk to them and issue a warning. If they receive a second warning, we suspend them for three days—so they’ll learn from it). This highlights that

complaints are addressed by identifying the vehicle and driver, issuing formal warnings after verification, with disciplinary actions serving as corrective learning opportunities.

Participant 4 supported this process by clarifying that a three-strike rule is in place: “Pag hindi. Sinususpendi namin pag tatlo na termination na, terminated na siya, naka logbook yun” (If the behavior continues, we suspend them. After three warnings, the driver is terminated. Everything is recorded in the logbook). This statement indicates that documentation and recordkeeping play an important role in ensuring fair and transparent disciplinary action, following a structured escalation procedure.

Moreover, Participant 1 described a structured process for addressing complaints: “May nakalagay naman na hotline sa lahat ng unit namin. May logbook. Ako bilang general manager nila lahat po ng reklamo diyan ng mga pasahero nila-logbook ko po yan. Ngayon, pag na-iano ko na yan, ginagawan ko po yan ng report sa maghapon tapos ipapasa ko po yan sa Board of Directors, inaaral nila, pinapatawag ang empleyado para ang mga ganyang problema ay maiayos po. Yan po ang aming kalakaran dito. Nagbabase po tayo sa CDA (Cooperative Development Authority) sa mga house rules para maging satisfied ang mga pasahero”. (Each of our units has a posted hotline number. We also keep a logbook. As the general manager, I am in charge of operations. Each of our units has a posted hotline number. We also keep a logbook. As their general manager, I record all passenger complaints in the logbook. At the end of the day, I compile a report and submit it to the Board of Directors. They review the report, summon the employee involved, and address the issue to resolve such problems. That’s how we operate here. We follow the house rules based on the Cooperative Development Authority (CDA) guidelines to ensure passenger satisfaction). This statement highlights the cooperative’s

adherence to CDA house rules, ensuring passenger feedback is handled properly through a layered process from logbook recording to board review, reflecting a strong internal control system.

Participant 2 added that warning slips are issued for poor conduct: “Pag may mga complaints, dinidiretso na po namin yun kan general manager. Tapos si general manager na din po ang nag - tinatawag ang mga driver o conductor kung may mga reklamo, kinakausap po ng general manager po namin para paalalahanan na ganito – ‘may reklamo sa inyo, ganyan ganyan’. Si general manager na po yan. Minsan po, binibigyan din namin sila ng notice of warning pag may mga di maganda sa pagdadrive nila po” (When there are complaints, we forward them directly to the general manager. Then the general manager is the one who calls the attention of the drivers or conductors involved. If there are complaints, the general manager talks to them and reminds them—like, ‘There’s a complaint against you, this and that.’ It’s the general manager who handles it. Sometimes, we also issue a notice of warning if there’s something wrong with their driving behavior).

The effectiveness of these monitoring and disciplinary systems is evident in the high survey ratings under the reliability and empathy dimensions. The cooperative’s consistent delivery of services and timely responses to service issues strengthen reliability. Empathy is demonstrated by the fact that passenger complaints are not only accepted but also seriously considered, documented, and used as the basis for corrective actions.

Challenges Encountered by Passenger-Respondents in Utilizing Modernized Jeepneys

This section presents passenger-respondents’ challenges in utilizing modernized jeepneys in Bulan, Sorsogon. It aims to identify service-related issues that may affect commuters’ perceived quality and overall satisfaction.

Table 3 Challenges Encountered by Passenger-Respondents in Utilizing Modernized Jeepneys

No.	Statement	Weighted Mean	Interpretation
1	The waiting time to board a modernized jeepney is often too long.	3.32	Moderately Serious
2	The modernized jeepneys are sometimes overcrowded, affecting comfort.	3.80	Serious
3	The fare for modernized jeepneys is too high for daily commuters.	3.05	Moderately Serious
4	The routes of modernized jeepneys are not always convenient for all destinations.	2.95	Moderately Serious

5	The modernized jeepneys sometimes have irregular schedules, leading to delays.	2.83	Moderately Serious
6	The driver's behavior can sometimes be unprofessional or rude.	2.87	Moderately Serious
7	The cleanliness of modernized jeepneys is inconsistent, leading to dissatisfaction.	3.08	Moderately Serious
8	The modernized jeepneys occasionally experience technical issues or breakdowns during trips.	2.67	Moderately Serious
Average Mean		3.07	Moderately Serious

Note: 4.50-5.00 = Very Serious; 3.50-4.49 = Serious; 2.50-3.49 = Moderately Serious; 1.50- 2.49 = Less Serious; 1.00-1.49 = Least Serious

Table 3 presents passengers' challenges while utilizing modernized jeepneys in Bulan, Sorsogon. The results reflect issues that influence the perceived service quality and the overall satisfaction of the commuting public. The findings in Table 3 revealed that passengers utilizing modernized jeepneys in Bulan, Sorsogon, encountered several service-related challenges, with an average mean of 3.07, interpreted as moderately serious. The most pressing concern, as reported by respondents, is the issue of overcrowding, which received a weighted mean of 3.80 and was interpreted as serious. This suggests that despite the upgraded units and improved transport framework under the PUVMP, the congestion problem within vehicles persists, particularly during peak travel hours. Overcrowding directly affects commuter comfort and perceived safety, reducing overall satisfaction with the service.

Other concerns deemed moderately serious include the lengthy waiting time to board modernized jeepneys, with a weighted mean of 3.32, inconsistent cleanliness, with a weighted mean of 3.08, and fares perceived as too high for daily commuters, with a weighted mean of 3.05. These findings reflect operational issues related to unit availability, scheduling efficiency, and maintenance routines. Inconsistent cleanliness indicates a potential lack of standardized sanitation protocols, which could negatively affect comfort and health perceptions. Moreover, although modernized jeepneys are equipped with enhanced features, commuting may still burden working-class passengers, highlighting the need to evaluate fare pricing relative to daily affordability.

Additional challenges identified include limited route convenience, with a weighted mean of 2.95, irregular schedules that cause delays, with a weighted mean of 2.83, and driver behavior that is sometimes unprofessional or rude, with a weighted mean of 2.87.

These moderately serious issues emphasize the importance of proper route planning and timetable consistency to meet the needs of a wider commuter population. The finding on driver behavior also points to a gap in soft-skill training and professionalism that can damage the benefits of physical modernization. Lastly, occasional technical issues or unit breakdowns, with a weighted mean of 2.67 were also noted, indicating that while modernized units are expected to enhance reliability, mechanical issues can still disrupt operations and commuter trust.

Overall, the moderately serious average score indicates that while most challenges are manageable, they remain necessary to address for the long-term success of the Public Utility Vehicle Modernization Program (PUVMP). Addressing operational concerns such as overcrowding, cleanliness, wait times, and route accessibility is important in ensuring a sustainable and commuter-centered public transportation system. Continuous monitoring, driver development, and system-wide evaluations are areas to improve service quality and passenger satisfaction further.

The current study found that overcrowding, long waiting times, cleanliness issues, high fares, and inconvenient routes were the most common challenges passengers encounter in modernized jeepneys. De Oña, Estévez, and De Oña (2021) conducted a study comparing public transport and private vehicle users in Madrid, Spain. They revealed that punctuality, comfort, and route directness strongly influence commuter satisfaction. Public transport users were particularly dissatisfied with route efficiency and overcrowding, issues that reflect the concerns raised by passengers in Bulan. The study emphasized that poorly designed or inefficient routes can discourage the use of public transport and lead to negative perceptions of the entire system. These

findings support the current study's findings that route inconvenience remains a moderately serious issue affecting daily jeepney commuters in Bulan.

The findings reveal that despite infrastructure and policy improvements under the Public Utility Vehicle Modernization Program (PUVMP), modernized jeepney passengers in Bulan, Sorsogon continue to face moderate challenges related to overcrowding, long wait times, cleanliness, fare affordability, and route accessibility. These challenges imply the need for enhanced operational management strategies, including improved fleet scheduling to reduce overcrowding and long queues during peak hours.

CONCLUSION AND RECOMMENDATION

In conclusion, modernized jeepneys in Bulan are generally regarded to deliver quality service, especially in comfort and driver behavior, though issues in responsiveness and reliability highlight the need for improved scheduling and route management. Passengers are generally satisfied with modernized jeepney services, the system is more successful in meeting basic expectations than exceeding them. Modern jeepney operators in Bulan demonstrate a structured, proactive, and safety-focused approach to service delivery by adhering to cooperative management standards and routine maintenance protocols that ensure service quality that is embedded into daily operations.

The challenges encountered by passengers in utilizing modernized jeepney persist despite the modernization program, as passengers still experience service inefficiencies, particularly in vehicle availability, overcrowding, hygiene, and route suitability. The SMART-JEEP program provides a structured and contextual solution to enhance the effectiveness of modernized jeepney services in Bulan, Sorsogon.

Grounded on the study's findings and conclusions, the following recommendations are offered to enhance the service quality and passenger satisfaction of modernized jeepneys in Bulan, Sorsogon. (1) Service Quality Monitoring Program be institutionalized through cooperative-based evaluation and commuter feedback mechanisms. (2) Periodic satisfaction surveys and commuter forums be administered to strengthen commuter engagement. (3) Service quality practices be formalized into a Comprehensive Service Quality Framework, incorporating written standard operating procedures (SOPs), routine audits, and strengthened

collaboration with local government units (LGUs) to ensure consistent implementation and alignment with the goals of the Public Utility Vehicle Modernization Program. (4) Route planning and scheduling be reviewed by Bulan Transport Cooperative and optimized through continuous data gathering on passenger demand, peak-hour travel patterns, and underserved areas. (5) The SMART-JEEP Program be adopted as a pilot implementation by the Bulan Transport Cooperative in partnership with the Local Government Unit.

REFERENCES

- [1] Anikin, N., Terentyev, V., Andreev, K., Shemyakin, A., & Martynushkin, A. (2020). Qualitative assessment of passenger service. *Journal of physics. Conference series*, 1614(1), 012094-012094. <https://doi.org/10.1088/1742-6596/1614/1/012094>
- Asian Development Bank (2015). *South Asia and The Economics of Global Climate Stabilization*. Asian Development Bank, 1-191. <https://openaccess.adb.org>.
- [2] Cerna. (2023). [ANALYSIS] Rethink PUV modernization, focus on commuters. *Rappler*. Retrieved April 10, 2024, from <https://www.rappler.com/voices/ispeak/analysis-rethink-public-utility-vehicles-transportation-modernization-focus-commuters/>
- [3] Cruz, R C D. (2019). Modernization to continue despite changes to PUV phase out. <https://web.archive.org/web/20200801013452/https://www.pna.gov.ph/articles/1086670>
- [4] Cudis, C. (2019). Commuters await PUV modernization. Retrieved from <https://www.pna.gov.ph/articles/1081862>
- [5] De Oña, J., Estévez, E., & de Oña, R. (2021). Public transport users versus private vehicle users: Differences about quality of service, satisfaction and attitudes toward public transport in Madrid (Spain). *arXiv preprint arXiv:2103.14762*. <https://arxiv.org/abs/2103.14762>
- [6] Dela Peña. (2024). PUV modernization: Understanding defiance of operators, drivers. *Inquirer.net*. Retrieved April 10, 2024, from <https://newsinfo.inquirer.net/1883938/puv-modernization-understanding-defiance-of-operators-drivers>
- [7] Dzikuc, M., Misko, R., & Szufa, S. (2021). Modernization of the public transport bus fleet in the context of low-carbon development in Poland.

- Energies, 14(11).
<https://doi.org/10.3390/en14113295>
- [8] Eboli, L., & Mazzulla, G. (2007). Service quality attributes affecting customer satisfaction for bus transit. *Journal of Public Transportation*, 10(3), 21–34. <https://doi.org/10.5038/2375-0901.10.3.2>
- [9] Espinosa, M., Monroy, Á I C., & Behrentz, E. (2019). Challenges in greenhouse gas mitigation in developing countries: A case study of the Colombian transport sector. *Energy Policy*, 124, 111-122. <https://doi.org/10.1016/j.enpol.2018.09.039>
- [10] Fida, B. A., Ahmed, U., Al-Balushi, Y., & Singh, D. (2020). Impact of Service Quality on Customer Loyalty and Customer Satisfaction in Islamic Banks in the Sultanate of Oman. *SAGE Open*, 10(2). <https://doi.org/10.1177/2158244020919517>
- [11] Foell, S., Kortuem, G., Rawassizadeh, R., Handte, M., Iqbal, U., & Marron, P. (2014). Micro-navigation for urban bus passengers: Using the Internet of Things to improve the public transport experience. *arXiv preprint arXiv:1412.6605*. <https://arxiv.org/abs/1412.6605>
- [12] Francisco. (2017). EXPLAINER: What's the reason for the 2-day transport strike? *Rappler*. Retrieved April 9, 2024, from <https://www.rappler.com/newsbreak/iq/185435-explainer-philippines-transport-strike-october-2017/>
- [13] Furtado, V., Caminha, C., Furtado, E., Lopes, A., Dantas, V., Ponte, C., & Cavalcante, S. (2017). Increasing the likelihood of finding public transport riders that face problems through a data-driven approach. *arXiv preprint arXiv:1705.03504*. <https://arxiv.org/abs/1705.03504>
- [14] Galvez, L. M. C., Katon, P. K. R., & Valdez, K. G. P. (2025). Exploring the factors influencing commuters' satisfaction and the use of public utility buses in Quezon City, Philippines. *International Review of Social Sciences Research*, 5(1), 1–15. <https://iiari.org/wp-content/uploads/irssr.v5.1.2572.pdf>
- [15] Gatarin, G. R. (2023). Modernising the 'king of the road': Pathways for just transitions for the Filipino jeepney. *Urban Governance*, November. <https://doi.org/10.1016/j.ugj.2023.11.002>
- [16] Gordon, J. (2021). Business to Business (B2B) - Explained. <https://thebusinessprofessor.com/sales/business-to-business-definition>
- [17] Goyal, L. (2020). Stakeholder theory: Revisiting the origins. <https://doi.org/10.1002/pa.2559>
- [18] Henmaidi., Jonrinaldi., & Yenny, H. (2020). Evaluation of Service Quality of Public Transportation (Study Case of Trans Padang). *IOP Conference Series: Materials Science and Engineering*, 1003(1), 012030-012030. <https://doi.org/10.1088/1757-899x/1003/1/012030>
- [19] Hoo, W C., Waheeda, A., & Reesha, A. (2023). Factors Influencing the Passenger Satisfaction at Public Transport in Kuala Lumpur, Malaysia. , 3(1), 77-94. <https://doi.org/https://doi.org/10.22452/jpmp.vol3no1.4>
- [20] Ismail, I. F., & Shah, M. Z. (2024). An Overview of Service Quality of Public Transport Studies Using Bibliometric an Overview of Service Quality of Public Transport Studies Using Bibliometric Analysis.
- [21] Istrate, M., Nicolae, V., & Vilcan, A. (2019). The reduction of the fuel consumption and of the pollution through the city public transport. *IOP Conference Series: Material Science and Engineering*, 564(1). <https://doi.org/10.1088/1757-899X/564/1/012122>
- [22] Jaeger, J., Walls, G., Clarke, E H., Altamirano, J C., Harsono, A., Mountford, H., Burrow, S., Smith, S., & Tate, A. (2021). The Green Jobs Advantage: How Climate-Friendly Investments Are Better Job Creators. <https://doi.org/10.46830/wriwp.20.00142>
- [23] Lacbao, L., Diane Lacbao, L. P., Rey Ludyawan, I. A., & Jr Yap, R. P. (2021). Passengers' Satisfaction toward Public Transportation. November, 0–22.
- [24] Lanori, T., & Supriyanto, B H. (2023). Problems of the Impact of Modernization of Indonesia's Public Transportation Equipment System. , 2(5), 2163-2176. <https://doi.org/https://doi.org/10.53625/ijss.v2i5.4929>
- [25] Lau, F. (2017). Chapter 12 Methods for Correlational Studies. <https://www.ncbi.nlm.nih.gov/books/NBK481614/>
- [26] Li, D. (2016). Access for All—Transportation Provisions for the Handicapped in Hong Kong. <https://doi.org/10.1061/9780784479810.012>
- [27] Li, Q., Liu, R., Zhao, J., & Liu, H. (2021). Passenger satisfaction evaluation of public transport using alternative queuing method under hesitant linguistic

- environment. Journal of intelligent transportation systems, 26(3), 330-342. <https://doi.org/10.1080/15472450.2020.1859375>
- [28] Lierop, D V., Badami, M G., & El-Geneidy, A. (2017). What influences satisfaction and loyalty in public transport? A review of the literature. <https://doi.org/10.1080/01441647.2017.1298683>
- [29] Local Transportation Office. (2023). PUVMP: Public Utility Vehicle Modernization Program Philippines - LTO Portal PH. LTO Portal PH. <https://ltoportal.ph/puvmp-public-utility-vehicle-modernization-program/>
- [30] Lubis, Y A., Nasution, A D., & Marissa, A. (2020). The study of public perceptions on the quality service of Trans Mebidang Bus. <https://doi.org/10.1088/1755-1315/452/1/012143>
- [31] Lunke, E B. (2020). Commuters' satisfaction with public transport. Elsevier BV, 16, 100842-100842. <https://doi.org/https://doi.org/10.1016/j.jth.2020.100842>
- [32] Mateo-Babiano, I., Recio, R. B., Ashmore, D. P., Guillen, M. D., & Gaspay, S. M. (2020). Formalising the jeepney industry in the Philippines – A confirmatory thematic analysis of key transitional issues. Research in Transportation Economics, 83(October 2019). <https://doi.org/10.1016/j.retrec.2020.100839>
- [33] Mateo-Babiano, Iderlina. (2015). "Indigeneity of Transport in Developing Cities." International Planning Studies 21 (2): 132– 47. <https://doi.org/10.1080/13563475.2015.1114453>
- [34] Monzon, J., Bayanin, L., Villagarcia, E., Selga, M., (2023). "Public Utility Vehicle Modernization Program: Trends and Implications for the Philippines" International Journal of Multidisciplinary Research and Publications (IJMRAP), Volume 1, Issue 1, pp. xx-xx, 2023.
- [35] Moya, P. N. B. R. N. (2023). Jeepney modernization program: Drivers have a steep price to pay. Philstar.com. <https://www.philstar.com/headlines/2023/09/03/2293549/jeepney-modernization-program-drivers-have-steep-price-pa>
- [36] Nicolas. (2018). A push to safer and modernized public transport. BusinessWorld. Retrieved April 10, 2024, from <https://www.bworldonline.com/features/2018/10/12/192772/a-push-to-safer-and-modernized-public-transport/>
- [37] Ong, A K S., German, J D., Dangaran, P C., Paz, J J B., & Macatangay, R R G. (2024). Service quality and customer satisfaction analysis among motorcycle taxi transportation in the Philippines through SERVQUAL dimensions and social exchange theory. Elsevier BV, 15, 101139-101139. <https://doi.org/https://doi.org/10.1016/j.cstp.2023.101139>
- [38] Pante, Michael. (2016). "The History of Mobility in the Philippines: Defining a Discursive Space." Mobility in History 7 (2016): 90–97. <https://doi.org/10.3167/mih.2016.070110>
- [39] Parrucho, A. R., & Padullo, C. A. C. (2023). Determining factors affecting passenger satisfaction of "jeepney" in the Philippine urban areas: The role of service quality in sustainable urban transportation system. Sustainability, 15(2), 1223. <https://www.mdpi.com/2071-1050/15/2/1223>
- [40] Philstar. (2017). Why some transport groups oppose PUV modernization. Retrieved April 10, 2024, from <https://www.philstar.com/headlines/2017/09/26/1742854/why-some-transport-groups-oppose-puv-modernization>
- [41] Ping Wong, L., Alias, H., Aghamohammadi, N., Meriam Nik Sulaiman, N., Lin, H., & Zhao, J. (2019). Commuting on Public Transport: Health Risks and Responses. Air Pollution - Monitoring, Quantification and Removal of Gases and Particles. <https://doi.org/10.5772/intechopen.79694s>
- [42] Prakash, G. (2019). Understanding service quality: insights from the literature. Journal of advances in management research, 16(1), 64-90. <https://doi.org/10.1108/jamr-01-2018-0008>
- [43] Puri. (2022). What is Route Optimization? Definitive Guide to Route Optimization. FarEye. Retrieved March 14, 2024, from <https://fareye.com/what-is-route-optimization>
- [44] Purwasih, H. D., Sidabutar, Y. F., Suciati, H., & Fauzan, F. (2023). Modernization of "Transport" As Public Transportation to Reduce Personal Vehicle Ownership in the City of Tanjungpinang. JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan), 8(1), 153–163. <https://doi.org/10.31851/jmksp.v8i1.10932>
- [45] Ramu, N B., & Gurtoo, A. (2019). Transport service quality and perceived service value: an international comparative survey in European and Indian context. <https://doi.org/10.1504/ijcm.2019.100127>

- [46] Reshetnikova, I., Smerichevskiy, S., Vovk, O., & Astakhov, K. (2021). Assessment of Effectiveness of Modernization of Transport Enterprises in the Context of Analysis of Innovation Determinant. *Marketing and Management of Innovations*, 4, 237-252. <http://doi.org/10.21272/mmi.2021.4-19>
- [47] Rivas. (2023). IN NUMBERS: Why jeepney phaseout is anti-poor, will do little for environment. *Rappler*. Retrieved April 10, 2024, from <https://www.rappler.com/business/numbers-why-government-phaseout-jeepneys-anti-poor-do-little-environment>
- [48] Rizvi, A F., & Sabir, A. (2018). The Relationship between Customer Satisfaction and Service Quality with Special Reference to the Hypermarkets in Saudi Arabia. <https://doi.org/10.22158/rem.v3n3p160>
- [49] Rodrigue, J., (2024). 8.4 – Urban Transport Challenges. *The Geography of Transport Systems the Spatial Organization of Transportation and Mobility*. Retrieved February 26, 2024, from <https://transportgeography.org/contents/chapter8/urban-transport-challenges/>
- [50] Rouf, K B A., Hossain, D M., & Hossain, M. (2019). Female passengers' perception on the service quality of public bus services: an exploratory study on Dhaka City, Bangladesh. <https://doi.org/10.1504/ijgsds.2019.102149>
- [51] Rowley, J. (2002), "Information marketing in a digital world", *Library Hi Tech*, Vol. 20 No. 3, pp. 352-358. <https://doi.org/10.1108/07378830210444540>
- [52] Saflor, C. S., & Mariñas, K. A. (2023). Determining factors affecting perceived customer satisfaction on public utility bus system in Occidental Mindoro, Philippines: A case study on service quality assessment during major disruptions. *Sustainability*, 15(4), 2996. <https://doi.org/10.3390/su15042996>
- [53] Saha, P K., & Akhter, S. (2019). Greening the Urban Transport System towards Achieving Sustainability. <https://doi.org/10.22158/se.v4n1p27>
- [54] Service Quality and Customer Satisfaction on Islamic Banking by Using SERVQUAL Model. <https://doi.org/10.5430/rwe.v10n2p79>
- [55] Sasso, M D. (2018). Quantitative Research Methods: Regression and Correlation. <https://guides.library.duq.edu/c.php?g=844215&p=6035786>
- [56] Sigua, R., Briones, A., Macamus, J., Pongos, P. A., Tumaliuan, E. A., & Mariellina, V. (2023). Public Transportation Energy Estimation of Scenarios based on the PUV Modernization Plan. *Philippine Transportation Journal*, 6(1).
- [57] Simon, B. (2016). What Is Stakeholder Theory? <https://www.smartsheet.com/what-stakeholder-theory-and-how-does-it-impact-organization>
- [58] Singh, A., & Gurtu, A. (2020). Selection of sustainable transport system: a case study. <https://www.emerald.com/insight/content/doi/10.1108/MEQ-03-2020-0059/full/html>
- [59] Singh, S. (2016). Assessment of passenger satisfaction with public bus transport services: A case study of Lucknow City (India). *Studies in Business and Economics*, 11(3), 106–128. <https://sciendo.com/pdf/10.1515/sbe-2016-00>
- [60] Sirisha (2023). Urbanization and Mobility: Building a Sustainable Future for CityTransport. *Scale Climate Action*. <https://scaleclimateaction.org/transportation/urbanization-and-mobility-building-a-sustainable-future-for-city-transport/>
- [61] Sukheswala, B., & Sharma, R. (2024). Synthesizing insights: A meta-analysis of global public transport service quality research. *ResearchGate*. <https://www.researchgate.net/publication/381096611>
- [62] Suryani, F. M., Mutiawati, C., & Faisal, R. (2023). the Influence of Service Performance and Passenger Satisfaction on Public Transport Loyalty in a Small City in a Developing Country. *Journal of Applied Engineering Science*, 21(2), 644–655. <https://doi.org/10.5937/jaes0-41716>
- [63] Sze, N., & Christensen, K M. (2017). Access to urban transportation system for individuals with disabilities. <https://www.sciencedirect.com/science/article/pii/S0386111217300444>
- [64] Tablon, G. F., Albarico, B. J., Tamayo, E. J., & Tampan, I. (2020). Passengers Satisfaction on the Services of Nasipit International Seaport. *SMCC Higher Education Research Journal*, 1(1), 33–41. <https://doi.org/10.18868/hrm.01.060120.04>
- [65] Tacderas, M. Y., Clarice, A., Ng, L., Jon, N., Tolentino, Y., Tiglaio, N. C., & Herrera, C. E. (2021). Examining the Implementation of the Public Utility Vehicle Modernization Program (PUVMP) in General Santos City, Philippines: An Industry

- Perspective. Philippine Transportation Journal, 4(1), 54. <https://safetravel.ph>
- [66] Talabong. (2017). DOTr launches modernization program for jeepneys, buses. Rappler. Retrieved April 9, 2024, from <https://www.rappler.com/nation/173390-dotr-launches-public-utility-vehicle-modernization-program/>
- [67] Tiglao, N. C., et al. (2020). Service quality of paratransit users in Metro Manila: A study on public utility jeepneys. Journal of Transport & Health, 16, 100825. <https://doi.org/10.1016/j.jth.2020.100825>
- [68] Tiglao, N., Santos, E., & Rivera, J. (2020). The perception of service quality among paratransit users in Metro Manila. Transport Policy, 99, 1–8. <https://www.sciencedirect.com/science/article/abs/pii/S0967070X20301708>
- [69] Tuan, V. A., Van Truong, N., Tetsuo, S., & An, N. N. (2022). Public transport service quality: Policy prioritization strategy in the importance-performance analysis and the three-factor theory frameworks. Transportation Research Part A: Policy and Practice, 166(October 2021), 118–134. <https://doi.org/10.1016/j.tra.2022.10.006>
- [70] Turney. (2022). Pearson Correlation Coefficient (r) | Guide & Examples. Scribbr. Retrieved April 18, 2024, from <https://www.scribbr.com/statistics/pearson-correlation-coefficient/>
- [71] Villegas, E. C., Ledres, N. C. B., & Estember, R. D. (2021). Physical assessment and perceived quality of e-jeepney in Metro Manila. Proceedings of the International Conference on Industrial Engineering and Operations Management, 1199–1208. <https://www.ieomsociety.org/singapore2021/papers/1199.pdf>
- [72] Wang, J., Li, K., & Lu, X. (2014). Effect of Human Factors on Driver Behavior. <https://doi.org/10.1016/b978-0-12-397199-9.00005-7>
- [73] Zygiaris, S., Hameed, Z., Ayidh Alsubaie, M., & Ur Rehman, S. (2022). Service Quality and Customer Satisfaction in the Post Pandemic World: A Study of Saudi Auto Care Industry. Frontiers in Psychology, 13(March), 1–9. <https://doi.org/10.3389/fpsyg.2022.842141>
- [74] Zhou, Ming. (2023). Significance of Assessment in Learning: The Role of Educational Assessment Tools. Science Insights Education Frontiers. 18, 2881–2883. 10.15354/sief.23.co215. What is ‘Catch-Up Fridays’? (n.d.). Manila Bulletin. https://mb.com.ph/2024/1/13/what-is-catch-up-fridays#google_vignette