

## Secure Customer Index (SCI) for Loyalty: Comparing Public and Private Urban Transport Operators in Batna City

Chakeur BELAKHDAR

University of Batna 1, Laboratory: Management-Transportation-Logistics,

[chakeur.belakhdar@univ-batna.dz](mailto:chakeur.belakhdar@univ-batna.dz)

Date of receipt: 01/02/2025

Date of acceptance: 06/04/2025

### Abstract:

This study evaluates customer loyalty in Batna City's urban transport sector using the Secure Customer Index (SCI), comparing public and private transport operators. Through a survey of 450 respondents, the study assesses customer satisfaction, continued usage intentions, and recommendation likelihood. Results reveal significant disparities, with public operators achieving higher satisfaction (43.32%) and secure customer rates (34.78%) compared to private operators (4.38% and 1.12%, respectively). Younger users (26–35 years) and males exhibited higher loyalty, while females and postgraduate respondents reported lower satisfaction. The findings highlight critical service gaps, particularly for private operators, and underscore the need for targeted improvements in reliability, comfort, and safety. This study contributes to the understanding of customer loyalty dynamics in urban transport and provides actionable insights for policymakers and operators to enhance service quality and foster sustainable growth in Batna City's transport system.

**Keywords:** Customer Loyalty; Secure Customer Index; Urban Transport; Batna City.

**JEL Classification Codes:** L92, R41, M31.

## **1. INTRODUCTION**

Customer loyalty plays a crucial role in the success of service-oriented industries, including urban transportation (Lierop & El-Geneidy, *Enjoying loyalty: The relationship between service quality, customer satisfaction, and behavioral intentions in public transit*, 2016, p. 53). In cities like Batna, where transportation plays an essential role in daily life, fostering loyalty is pivotal for enhancing service quality and operational (Suryani, Mutiawati, & Faisal, 2023, p. 648). Batna City, a major urban hub in Algeria, faces challenges such as congestion, service inconsistency, and competition between public and private operators. Addressing these issues requires a deeper exploration of customer loyalty to promote sustainable growth and user satisfaction.

The concept of customer loyalty has evolved into a multidimensional construct, encompassing behavioural, attitudinal, and emotional components (Saini & Singh, 2020, p. 212). In transportation, loyalty is shaped by factors such as service quality, customer satisfaction, perceived value, and system reputation. A review by Dea van, Madhav, and Ahmed highlights that factors such as cleanliness, comfort, safety, punctuality, and frequency have a considerable effect on satisfaction, which subsequently fosters loyalty (Lierop, G. Badami, & El-Geneidy, *What influences satisfaction and loyalty in public transport? A review of the literature*, 2018, p. 67). Additionally, courteous operator behaviour and a positive transit image encourage continued use and recommendations.

The Secure Customer Index (SCI) offers a robust framework for measuring loyalty by focusing on customers who are highly satisfied, intend to remain users, and are likely to recommend the service (Morpace International Inc. & Cambridge Systematics Inc., 1999, p. 136). Silveira, Romano, and Gadda affirm that attitudinal and behavioural factors are crucial in understanding loyalty in public transportation, with service quality and satisfaction playing key roles (Silveira, Romano, & Gadda, 2022, p. 369).

In Batna City, where public and private operators provide distinct services, evaluating loyalty using the SCI can identify performance gaps and areas for improvement. Comparative analysis between operators can offer

actionable insights into enhancing service quality and rider retention. Ultimately, applying the SCI in this context supports policymaking, improves service delivery, and boosts the efficiency of urban transit systems.

### **1.1 Problem Statement**

Urban transport systems in Batna City face persistent challenges related to service reliability, user satisfaction, and competition between public and private operators. Despite efforts to improve public transportation, many passengers experience inconsistent service quality, leading to fluctuating levels of customer retention. Private operators, while offering flexibility, often lack standardized regulations, affecting overall user experience. Measuring loyalty remains complex, as traditional metrics fail to capture the full scope of customer commitment. The Secure Customer Index (SCI) provides a structured approach to assess loyalty in this competitive landscape, enabling a deeper understanding of how service quality influences user retention and satisfaction.

### **1.2 Research Objectives**

This study aims to evaluate customer loyalty in Batna City's urban transport sector using the Secure Customer Index (SCI). The specific objectives are:

- Assess the key factors influencing customer loyalty across public and private transport operators.
- Compare SCI scores between public and private operators to identify strengths and weaknesses.
- Examine the connection between service quality, satisfaction, and levels of loyalty.
- Identify areas for service improvement to enhance customer retention.
- Provide data-driven recommendations for policymakers and operators to improve urban transport services.

These objectives will enhance the understanding of customer loyalty dynamics and inform strategic enhancements in public transportation.

## **2. LITERATURE REVIEW**

Customer loyalty in public transportation is shaped by various factors, including service quality, reliability, and overall user experience. Measuring

loyalty requires a structured approach that accounts for both behavioural patterns and attitudinal commitment. Traditional metrics often fail to capture the depth of passenger engagement, highlighting the need for comprehensive frameworks like the Secure Customer Index (SCI). This section explores the SCI's role in evaluating customer loyalty, its methodology, and its applications in transit systems. Understanding these dimensions helps transport operators enhance service delivery, improve user retention, and develop data-driven strategies to increase customer satisfaction and trust.

### **2.1 Understanding Passenger Loyalty in Public Transport**

Customer loyalty in public transportation is a complex and multidimensional concept that goes beyond repeated usage. It encompasses behavioural, attitudinal, and emotional components that influence a passenger's long-term commitment to a transit service (Oliver, 1999, p. 38). Unlike in commercial industries, where loyalty is often driven by brand attachment, public transport loyalty is shaped by service-related factors such as reliability, comfort, affordability, and accessibility (Lierop & El-Geneidy, *Enjoying loyalty: The relationship between service quality, customer satisfaction, and behavioral intentions in public transit*, 2016, p. 53). Ensuring passenger retention in urban mobility systems requires an in-depth understanding of these factors, as loyalty is a key factor in service sustainability and operational efficiency.

Service quality is a major determinant of customer loyalty. Research indicates that transit users who perceive high service quality Tend to keep using the service and suggest it to others (Aniebiet, Joseph, Edim, & Rosemary, 2021, p. 93). Key service features such as punctuality, frequency, cleanliness, safety, and staff behaviour significantly influence satisfaction and, consequently, loyalty (Redman, Friman, Gärling, & Hartig, 2013, p. 122). However, satisfaction alone does not always guarantee loyalty. Some users may be satisfied with a service but still switch to alternative modes if they perceive better options elsewhere (Gkiotsalitis & Cats, 2021, p. 384). This highlights the need to examine loyalty as a broader construct beyond immediate user satisfaction.

The behavioural aspect of loyalty is often reflected in continued usage

patterns. Passengers who rely on public transport for daily commuting exhibit habitual loyalty (Fu & Juan, 2017, p. 1028). However, there is a distinction between forced loyalty, where users have no viable alternatives, and voluntary loyalty, where users actively choose public transit despite having other options (Eboli & Mazzulla, 2011, p. 177). Understanding this difference is crucial for transport providers seeking to foster genuine commitment rather than reliance due to necessity.

Attitudinal loyalty, on the other hand, involves emotional engagement and a willingness to recommend the service (Anable, 2005, p. 75). A positive transit image, built through branding, communication, and consistent service performance, enhances user attachment to a transport system (Susilo & Cats, 2014, p. 371). Trust in service reliability and responsiveness further reinforces loyalty over time (Wei, Wan Hashim, May, Mohamad Kadim, & Shiaw, 2021, p. 16).

Measuring loyalty in public transportation requires robust frameworks that account for both behavioural patterns and psychological commitment. Traditional metrics, such as ridership statistics, provide insights into usage trends but fail to capture passengers' attitudes and future intentions (Silveira, Romano, & Gadda, 2022, p. 372). The Secure Customer Index (SCI) offers an integrated approach by considering customer satisfaction, continued use, and likelihood of recommending the service. A comprehensive assessment of these dimensions helps operators refine strategies to enhance customer retention and service competitiveness.

## **2.2 The Secure Customer Index: Definition and Applications**

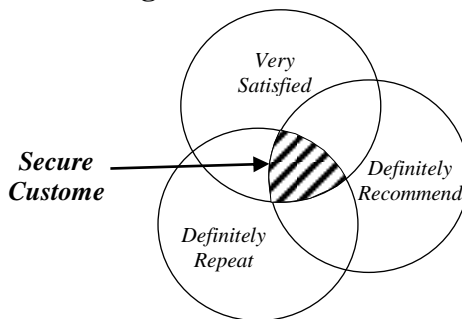
Customer loyalty in public transportation is a multifaceted concept, encompassing behavioural intentions, satisfaction levels, and the likelihood of recommending services to others. To effectively measure this loyalty, the Secure Customer Index (SCI) has been developed as a comprehensive metric. The SCI identifies "secure customers" as individuals who are highly satisfied with the service, plan to keep using it and are inclined to recommend it to others. This approach provides a nuanced understanding of customer commitment beyond traditional satisfaction surveys.

The methodology of the SCI involves assessing various dimensions of the customer experience. According to Poliaková (2015), the SCI evaluates

factors notably aspects like service quality, reliability, and customer perceptions to evaluate the level of overall satisfaction and loyalty levels (Poliaková, 2015, p. 146). This comprehensive assessment enables transit agencies to pinpoint specific areas needing improvement to enhance customer retention.

Implementing the SCI in public transportation systems offers several practical applications. For instance, it allows transit authorities to benchmark their performance against industry standards and identify gaps in service delivery. Morfoulaki et al (2007) emphasize the importance of measuring customer satisfaction to inform service improvements. Applying the SCI allows agencies to systematically assess customer perceptions and implement targeted strategies to address identified weaknesses (Morfoulaki, Tyrinopoulos, & Ayfantopoulou, 2007, p. 68).

**Fig.1.** Secure Customer Index



**Source:** Morfoulaki, Tyrinopoulos, & Ayfantopoulou, 2007, p. 65

Furthermore, the SCI facilitates a deeper insight into the connection between service attributes and customer loyalty. Research indicates that factors such as cleanliness, safety, punctuality, and frequency significantly influence passenger satisfaction and loyalty (Lierop, Badami, & El-Geneidy, 2018, p. 63). Analysing SCI data allows transit operators to identify which service attributes most strongly impact customer loyalty and prioritize enhancements accordingly.

The adaptability of the SCI across different transportation contexts is another notable advantage. For example, in the Slovak Republic, the SCI has been applied to assess customer satisfaction in public transport, demonstrating its versatility in various settings (Poliaková, 2015, p. 147).

This adaptability ensures that the SCI remains a valuable tool for transit agencies worldwide, regardless of specific operational contexts.

Incorporating the SCI into regular assessment protocols also supports continuous improvement initiatives. Regular measurement of the SCI allows transit agencies to monitor trends in customer satisfaction and loyalty over time. This ongoing evaluation facilitates the timely identification of emerging issues and the implementation of proactive measures to maintain high service standards.

Moreover, the SCI's focus on both attitudinal and behavioural aspects of loyalty provides a holistic view of customer commitment. This dual focus ensures that transit agencies consider not only passengers' expressed satisfaction but also their actual usage patterns and willingness to advocate for the service. Such comprehensive insights are crucial for developing strategies that effectively foster long-term customer loyalty.

In conclusion, the Secure Customer Index serves as a robust framework for measuring and enhancing customer loyalty in public transportation. Its comprehensive approach, encompassing various dimensions of the customer experience, allows transit agencies to pinpoint areas for improvement and apply targeted strategies to boost service quality. Leveraging the information offered by the SCI enables public transport operators to foster greater customer satisfaction and loyalty, ultimately contributing to the sustainability and success of urban transit systems.

### **3. METHODOLOGY**

This section outlines the methodological framework employed in the research, outlining the study design, data collection approaches, and analysis methods. The structured approach ensures the reliability and validity of findings, facilitating a comprehensive understanding of customer loyalty in Batna City's urban transport system.

#### **3.1 Research Design**

A quantitative research method was utilized to assess customer loyalty using the Secure Customer Index (SCI). This method allows for an objective evaluation of passenger perceptions, satisfaction levels, and behavioural intentions. A cross-sectional survey was conducted to capture data at a specific moment in time, ensuring a comprehensive overview of user

experiences across both public and private transport operators. The study utilized a structured questionnaire designed to quantify loyalty indicators while maintaining consistency in responses.

### **3.2 Data Collection Methods**

Surveys were conducted among public transportation users in Batna City for data collection. The structured questionnaire incorporated SCI-related questions to gauge customer satisfaction, retention intentions, and the likelihood of recommending services. The survey included three primary dimensions of the SCI framework:

- Customer Satisfaction: Respondents rated overall service quality based on factors such as punctuality, cleanliness, safety, and affordability.
- Continued Usage Intentions: Questions assessed passengers' likelihood of remaining loyal to the service provider despite the availability of alternative transport modes.
- Recommendation Likelihood: Participants indicated their inclination to recommend the service to others, reflecting overall trust and perceived reliability.
- Additional demographic and trip-related questions were included to identify potential variations in loyalty across different passenger segments.

A non-probability sampling method was employed to capture a diverse representation of both public and private transport users. The sample was drawn from key transit hubs across Batna City, including major bus terminals and high-traffic routes. Passengers encountered during the field study were invited to participate in the survey. The target sample size was determined based on statistical guidelines to attain a 95% confidence level with a 5% margin of error, ensuring the reliability of the findings. Data collection spanned three weeks, with trained enumerators conducting face-to-face surveys to enhance response accuracy and data quality.

### **3.3 Data Analysis Techniques**

The gathered data was meticulously examined using both descriptive and inferential statistical techniques. Descriptive analysis involved calculating frequency distributions, means, and standard deviations to

summarize respondents’ demographic profiles and satisfaction levels. The SCI scores were computed to categorize respondents into secure and non-secure customer groups.

Inferential statistical tests, including t-tests and ANOVA, were performed to identify significant variations in loyalty levels between public and private operators. These techniques provided an empirical foundation for comparing transport providers and assessing the effectiveness of service improvements.

#### **4. RESULTS AND DISCUSSION**

The results section presents an analysis of customer satisfaction, SCI scores, and demographic factors, comparing public and private operators in Batna City to pinpoint areas for enhancing service quality and customer loyalty.

##### **4.1 Descriptive Analysis**

A total of 450 respondents participated in the survey, representing a diverse cross-section of public and private transport users in Batna City. Table 1 a summary of the sample's demographic characteristics.

**Table 1.** Respondent Demographic Overview

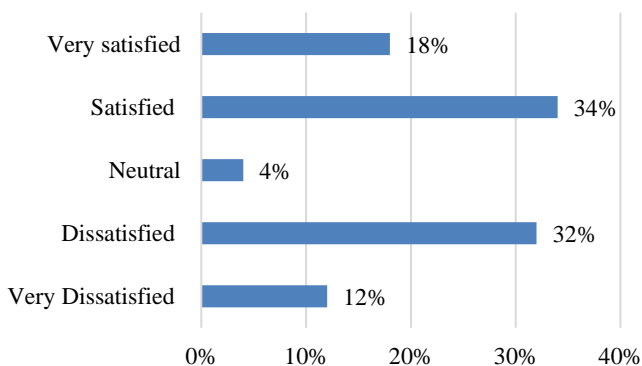
<b>Demographic Variable</b>	<b>Frequency</b>	<b>Percentage</b>	
<b>Gender</b>	Male	260	57.8%
	Female	190	42.2%
<b>Age Group</b>	18–25 years	120	26.7%
	26–35 years	180	40.0%
	36–45 years	100	22.2%
	46 years and above	50	11.1%
<b>Education Level</b>	High School or Below	129	28.66%
	Undergraduate	303	67.33%
	Postgraduate	18	4%
<b>Employment Status</b>	Employed	300	66.7%
	Student	100	22.2%
	Unemployed	50	11.1%
<b>Frequency of Use</b>	Daily	320	71.1%
	3–5 times per week	80	17.8%
	Less than 3 times	50	11.1%

**Source:** Survey data

The sample was slightly skewed toward male respondents (57.8%), reflecting the gender dynamics of public transport usage in Batna City. Young adults aged 26–35 years constituted the largest age group (40.0%), confirming that this demographic represents the primary users of urban transport services. Additionally, the majority of respondents (67.33%) held an undergraduate degree, indicating a relatively educated user base. A significant proportion were employed (66.7%), while students accounted for 22.2% of the sample. Public transport was widely used, with 71.1% of respondents relying on it daily, underscoring its importance for commuting.

To assess overall satisfaction with urban transport services, respondents rated their experience using a 5-point Likert scale (1 = Very Dissatisfied to 5 = Very Satisfied). Figure 2 presents the distribution of satisfaction levels, providing a comparative analysis of public and private operators. This visualization highlights variations in user perceptions, offering insights into service quality across different transport providers.

**Fig.2.** Distribution of General Satisfaction Levels



**Source:** Survey data

Overall, 32% of respondents reported being "Satisfied," yet a substantial proportion (34%) remained "Dissatisfied," indicating room for improvement. Furthermore, only 12% of respondents expressed being "Very Satisfied," emphasizing the need for targeted service enhancements to strengthen customer loyalty. Notably, a combined 52% of respondents were either "Very Dissatisfied" (18%) or "Dissatisfied" (34%), underscoring significant concerns about the current urban transport services.

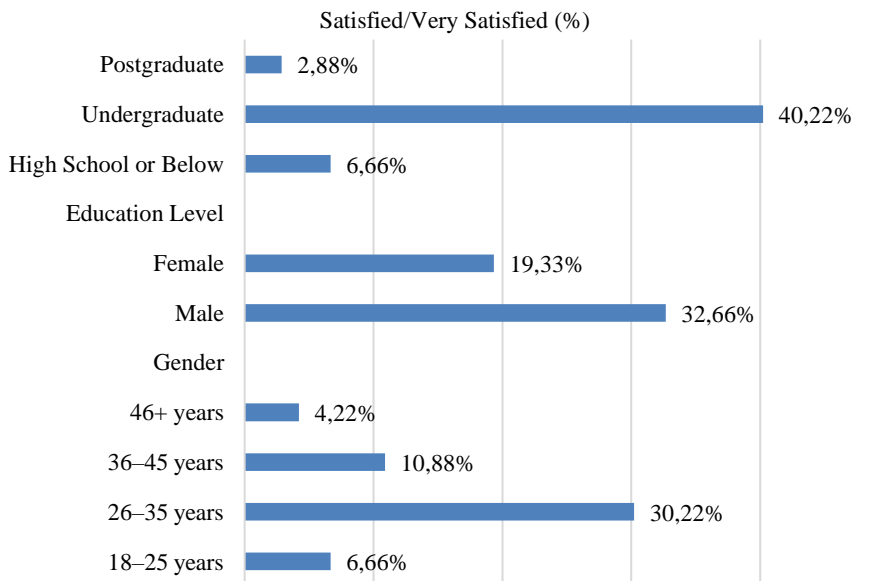
**Table 2.** General Satisfaction Levels by Operator Type

Satisfaction Level	Public Operators	Private Operators
Very Satisfied	16%	2%
Satisfied	29%	5%
Neutral	1%	3%
Dissatisfied	4%	28%
Very Dissatisfied	2%	10%

**Source:** Survey data

A more detailed comparison of satisfaction levels between public and private transport operators is presented in Table 2. Public operators received significantly higher satisfaction ratings, with 45% of respondents reporting they were either "Satisfied" or "Very Satisfied," compared to just 7% for private operators. In contrast, dissatisfaction was far more pronounced among private transport users, with 38% indicating they were either "Dissatisfied" or "Very Dissatisfied," highlighting critical service deficiencies. The presence of neutral responses across both operator types suggests that, despite differing satisfaction levels, many users still perceive room for improvement in urban transport services.

**Fig.3.** Satisfaction Levels by Demographic Groups



**Source:** Survey data

Examining satisfaction by demographic characteristics reveals additional insights. Respondents aged 26–35 years reported the highest satisfaction levels (30.22%), suggesting greater adaptability to service conditions compared to other age groups. In terms of gender, female respondents (19.33%) were notably less satisfied than males (32.66%), potentially reflecting concerns related to safety, comfort, or service reliability. Regarding education, those with an undergraduate degree expressed the highest satisfaction (40.22%), whereas postgraduate respondents reported the lowest satisfaction (2.88%), possibly due to higher expectations or differing service needs.

#### **4.2 SCI Results for Public Operators**

The Secure Customer Index (SCI) results for public transport operators in Batna City evaluates customer loyalty based on three dimensions: customer satisfaction, continued usage intentions, and recommendation likelihood. The analysis provides insights into the performance of public operators and identifies areas for improvement to enhance customer loyalty.

The SCI scores were calculated by categorizing respondents into secure customers (those who are highly satisfied, aim to continue using the service and are likely to endorse it) and non-secure customers (those who do not meet all three criteria). Table 3 summarizes the SCI scores for public operators.

**Table 3.** SCI Scores for Public Operators

<b>SCI Dimension</b>	<b>Percentage of Respondents</b>
Customer Satisfaction	43.32%
Continued Usage Intentions	48.81%
Recommendation Likelihood	36.39%
Secure Customers	34.78%

**Source:** Survey data

The findings indicate that 43.32% of respondents were satisfied with public transport services, reflecting moderate levels of customer satisfaction. A slightly higher proportion (48.81%) expressed intentions to continue using public transport, suggesting that some users may rely on the service due to a lack of viable alternatives rather than genuine preference.

Additionally, only 36.39% were likely to recommend the service, emphasizing the need for improvements to enhance customer perception and word-of-mouth advocacy. Overall, 34.78% of respondents were classified as secure customers, highlighting opportunities for public operators to implement targeted strategies aimed at improving service quality and fostering long-term customer loyalty.

To determine significant differences in SCI scores across demographic groups, t-tests and ANOVA were conducted. A summary of the results is shown in Table 4.

**Table 4.** Statistical Analysis of SCI Scores for Public Operators

<b>Comparison</b>	<b>Test</b>	<b>p-value</b>	<b>Significance</b>
<b>Age Group</b>	ANOVA	0.012	Significant
<b>Gender</b>	t-test	0.045	Significant
<b>Education Level</b>	ANOVA	0.003	Significant

**Source:** Survey data

The analysis revealed significant differences in SCI scores across key demographic factors. Age played a crucial role ( $p = 0.012$ ), with younger users (26–35 years) demonstrating higher loyalty levels compared to other age groups. Gender also had a significant impact ( $p = 0.045$ ), as male respondents exhibited greater loyalty than females. Additionally, education level significantly influenced SCI scores ( $p = 0.003$ ), with undergraduate users displaying the highest loyalty, while postgraduate respondents showed lower levels of commitment.

These outcomes offer useful guidance for public transport operators in Batna City. Enhancing service quality by addressing punctuality, cleanliness, and safety can improve both satisfaction and recommendation likelihood. Since younger users (26–35 years) show higher loyalty, operators should focus on retaining this demographic through tailored services. Gender disparities in loyalty suggest the need for improved safety and comfort measures to better serve female passengers. Moreover, while undergraduate users exhibit strong loyalty, postgraduate users may require more targeted efforts to align services with their expectations and needs.

### **4.3 SCI Results for Private Operators**

The Secure Customer Index (SCI) results for private transport operators in Batna City focus on the three dimensions of the SCI (customer satisfaction, continued usage intentions, and recommendation likelihood) to evaluate customer loyalty and identify areas for improvement.

The SCI scores for private operators were calculated by categorizing respondents into secure customers (those who are highly satisfied, intend to continue using the service, and are likely to recommend it) and non-secure customers (those who do not meet all three criteria). Table 5 summarizes the SCI scores for private operators.

**Table 5.** SCI Scores for Private Operators

<b>SCI Dimension</b>	<b>Percentage of Respondents</b>
Customer Satisfaction	4.38%
Continued Usage Intentions	7.62%
Recommendation Likelihood	1.67%
Secure Customers	1.12%

**Source:** Survey data

Customer satisfaction with private transport services was notably low, with only 4.38% of respondents expressing satisfaction, a stark contrast to public operators. Similarly, continued usage intentions remained minimal at 7.62%, suggesting that many users rely on private transport out of necessity rather than preference. The recommendation likelihood was particularly low, with just 1.67% of respondents willing to recommend these services, indicating significant struggles in generating positive word-of-mouth. Overall, only 1.12% of respondents were classified as secure customers, underscoring major challenges in building customer loyalty and highlighting the urgent need for service improvements.

To determine significant differences in SCI scores across demographic groups, t-tests and ANOVA were conducted. Table 6 captures the summary of the results.

**Table 6.** Statistical Analysis of SCI Scores for Private Operators

Comparison	Test	p-value	Significance
Age Group	ANOVA	0.018	Significant
Gender	t-test	0.032	Significant
Education Level	ANOVA	0.007	Significant

**Source:** Survey data

The SCI analysis revealed significant variations in loyalty across different demographic groups. Age was a key factor, with respondents aged 26–35 years demonstrating slightly higher loyalty ( $p = 0.018$ ), suggesting that younger users may be more adaptable to service conditions. Gender differences were also evident, as males exhibited slightly higher loyalty than females ( $p = 0.032$ ), potentially reflecting differences in travel experiences or service expectations. Additionally, education level significantly influenced SCI scores ( $p = 0.007$ ), with undergraduate users showing the highest loyalty, indicating that this group may be more accustomed to or dependent on private transport services.

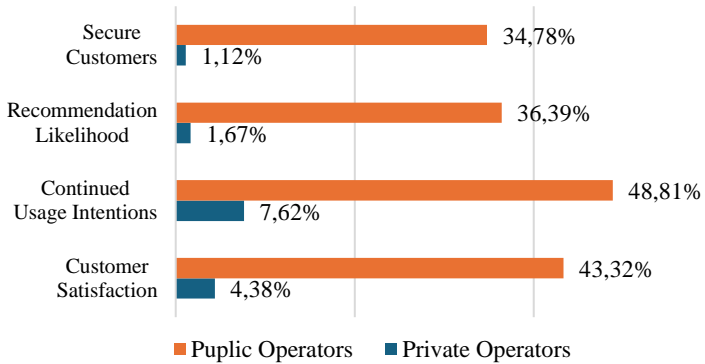
These findings carry important implications for private transport operators in Batna City. To enhance customer retention, service quality must be improved by addressing key factors such as vehicle condition, driver behavior, and fare transparency. Given the relatively higher loyalty among younger users, operators should implement targeted strategies to maintain this demographic, such as introducing loyalty programs or digital payment options. Moreover, gender disparities in loyalty highlight the need for enhanced safety and comfort measures for female passengers. Lastly, while undergraduate users exhibit relatively higher loyalty, postgraduate users require tailored efforts to meet their expectations, which may include premium services or improved reliability.

#### 4.4 Comparative Analysis of Public and Private Operators

The comparative analysis of the Secure Customer Index (SCI) between public and private transport operators in Batna City reveals stark disparities in customer loyalty. Public operators significantly outperform private operators across all SCI dimensions, with 43.32% customer satisfaction compared to just 4.38% for private operators. This indicates that public transport services are better aligned with user expectations, while

private operators face substantial challenges in meeting basic service quality standards. Similarly, 48.81% of public transport users expressed intentions to continue using the service, far exceeding the 7.62% reported by private transport users. This suggests that public transport remains a preferred choice for daily commuting, despite its limitations, while private operators struggle to retain customers.

**Fig.3.** SCI Scores: Public vs. Private Operators



**Source:** Survey data

The gap in recommendation likelihood further underscores the disparity between the two sectors. Public operators scored 36.39%, reflecting stronger trust and advocacy among users, whereas private operators managed only 1.67%. This low score highlights private operators' inability to inspire positive word-of-mouth, which is critical for building long-term loyalty. Additionally, the proportion of secure customers (those who are highly satisfied, intend to continue using the service, and are likely to recommend it) stands at 34.78% for public operators, compared to a mere 1.12% for private operators. This stark contrast emphasizes the challenges private operators face in fostering genuine customer commitment.

These findings have important implications for both sectors. Private operators must address critical service deficiencies, such as reliability, comfort, and affordability, to remain competitive and improve customer loyalty. Public operators, while performing better, should focus on maintaining and enhancing service quality to retain their loyal customer base. Policymakers can leverage these insights to implement targeted

improvements, ensuring equitable service delivery across both sectors and fostering sustainable growth in Batna City's urban transport system.

## **5. CONCLUSION**

This study evaluated customer loyalty in Batna City's urban transport sector using the Secure Customer Index (SCI), comparing public and private transport operators. The findings reveal significant disparities in customer loyalty between the two sectors. Public operators outperformed private operators across all SCI dimensions, with 43.32% customer satisfaction compared to 4.38% for private operators. Similarly, 48.81% of public transport users expressed intentions to continue using the service, far exceeding the 7.62% reported by private transport users. Public operators also achieved a higher recommendation likelihood (36.39%) and a larger proportion of secure customers (34.78%), compared to 1.67% and 1.12%, respectively, for private operators. These results highlight the challenges private operators face in meeting user expectations and fostering loyalty, while public operators, despite their relatively better performance, still have room for improvement.

The study also identified key demographic trends influencing loyalty. Younger users (26–35 years) exhibited higher loyalty levels, while female respondents and postgraduate users reported lower satisfaction and loyalty. These findings underscore the need for targeted strategies to address the unique needs and expectations of different user groups.

While this study provides valuable insights into customer loyalty in Batna City's urban transport system, it is not without constraints. Initially, the study utilized self-reported data, which might be affected by response bias or errors. Additionally, the use of a cross-sectional survey approach hinders the ability to identify cause-and-effect relationships or observe loyalty changes over time. On the other hand, the sample, while diverse, may not fully represent all segments of Batna City's population, particularly those in rural or less accessible areas. Finally, the study focused on a single city, which could restrict the applicability of the findings to other urban settings with distinct transport dynamics.

To build on this study, future research could explore several avenues. First, a long-term study could be carried out to monitor shifts in customer

loyalty over time and assess the impact of service improvements or policy interventions. Second, expanding the scope to include multiple cities or regions would provide a broader understanding of urban transport loyalty dynamics and enhance the generalizability of the findings. Third, adopting qualitative techniques, such as interviews or focus groups, could deliver deeper understanding of the factors influencing customer loyalty and the specific needs of different user groups. Fourth, future studies could examine the impact of emerging trends, such as digitalization, ride-sharing, or sustainable transport initiatives, on customer loyalty. Finally, investigating the role of cultural and regional factors in shaping loyalty could provide valuable context for tailoring transport services to local needs.

In conclusion, this study highlights the essential role of customer loyalty in the effectiveness of urban transport systems and underscores the need for targeted improvements to enhance service quality and user satisfaction. While public operators in Batna City demonstrate relatively stronger performance, both sectors face challenges in meeting user expectations and fostering long-term loyalty. Addressing these challenges and leveraging the insights from this study allow transport operators and policymakers to develop a more efficient, reliable, and user-centric urban transport system that meets residents' needs and supports the sustainable development of Batna City.

## **5. Bibliography List:**

- Anable, J. (2005). 'Complacent Car Addicts' or 'Aspiring Environmentalists'? Identifying travel behavior segments using attitude theory. *Transport Policy*, 12(1), 65-78.
- Aniebiet, E., Joseph, A., Edim, E., & Rosemary, M. (2021). Service Quality and Passengers' Loyalty of Public Transportation Companies. *British Journal of Management and Marketing Studies*, 4(4), 82-98.
- Eboli, L., & Mazzulla, G. (2011). A methodology for evaluating transit service quality based on subjective and objective measures from the passenger's point of view. *Transport Policy*, 18(1), 172-181.
- Fu, X., & Juan, Z. (2017). Understanding public transit use behavior: integration of the theory of planned behavior and the customer satisfaction theory. *Transportation*, Vol. 44, 1021-1042.

- Gkiotsalitis, K., & Cats, O. (2021). Public transport planning adaption under the COVID-19 pandemic crisis: Literature review of research needs and directions. *Transport Reviews*, 41(3), 374-392.
- Lierop, D., & El-Geneidy, A. (2016). Enjoying loyalty: The relationship between service quality, customer satisfaction, and behavioral intentions in public transit. *Research in Transportation Economics*, 59, pp. 50-59.
- Lierop, D., G. Badami, M., & El-Geneidy, A. (2018). What influences satisfaction and loyalty in public transport? A review of the literature. *Transport Reviews*, 38(1), pp. 52-72.
- Morfoulaki, M., Tyrinopoulos, Y., & Ayfantopoulou, G. (2007). Estimation of Satisfied Customers in Public Transport Systems: A New Methodological Approach. *Journal of the Transportation Research Forum*, Vol. 46, No. 1, 63-72.
- Morpace International Inc., & Cambridge Systematics Inc. (1999). *A Handbook for Measuring Customer Satisfaction and Service Quality*. TCRP Report 47. TRB. Washington D.C.: TRB, National Research Council.
- Oliver, R. L. (1999). Whence consumer loyalty? . *Journal of Marketing*, 63(4), 33-44.
- Poliaková, A. (2015). CSI Index of Customer's Satisfaction Applied in the Area of Public Transport. *Research Papers Faculty of Materials Science and Technology Slovak University of Technology*, 23(36), 141-150.
- Redman, L., Friman, M., Gärling, T., & Hartig, T. (2013). Quality attributes of public transport that attract car users: A research review. *Transport Policy*, 25, 119-127.
- Saini, S., & Singh, J. (2020). A Link Between Attitudinal and Behavioral Loyalty of Service Customers. *Business Perspectives and Research*, 8(2), pp. 205-215.
- Silveira, T., Romano, C., & Gadda, T. (2022). Loyalty and public transit: a quantitative systematic review of the literature. *Transport Reviews*, 42(3), pp. 362-383.
- Suryani, F., 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), pp. 644-655.

- Susilo, Y., & Cats, O. (2014). Exploring key determinants of travel satisfaction for multi-modal trips by different traveler groups. *Transportation Research Part A Policy and Practice, Vol 67*, 366-380.
- Wei, C., Wan Hashim, W., May, C., Mohamad Kadim, S., & Shiaw, T. (2021). Determinants of Customer Satisfaction and Loyalty in Public Transport: A PLS-SEM Approach. *Studies of Applied Economics, Vol. 39 No. 8*, 1-23.