User Satisfaction with Public Van Services: A Case Study of Mahidol University Salaya - Suan Sunandha Rajabhat University, Nakhon Pathom Campus

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Abstract

This research investigates the conditions and needs of public van services between Mahidol University Salaya and Suan Sunandha Rajabhat University, Nakhon Pathom Campus, aiming to propose strategies for improving service quality. The study highlights key factors influencing user satisfaction, including demographics, service usage patterns, and waiting times. Financial analyses reveal profitability levels, opportunity costs, and breakeven fares, providing insights into the economic viability of service operations.

The findings indicate that most users are students who prioritize convenience and timely service. Waiting times significantly affect satisfaction levels, with a preference for shorter delays. From the providers' perspective, maintaining profitability while ensuring competitive pricing is essential. Recommendations include optimizing schedules, leveraging technology for service management, and enhancing collaboration between stakeholders.

This study underscores the importance of strategic management in transportation services, offering actionable solutions to improve user satisfaction and operational efficiency.

Keywords: Public van services, user satisfaction, strategic management, transportation efficiency, profitability.

1. Introduction

Transportation is a cornerstone of academic and institutional operations, particularly for students and staff who commute daily between campuses. In this context, public van services have become a vital transportation mode connecting Mahidol University Salaya and Suan Sunandha Rajabhat University, Nakhon Pathom Campus. These services cater primarily to students who lack access to private vehicles, ensuring affordable and convenient travel options. However, challenges such as inconsistent service schedules, extended waiting times, and limited user feedback mechanisms have impacted user satisfaction.

Simultaneously, service providers face the dual challenge of maintaining profitability while adhering to institutional pricing policies. These constraints often limit their ability to innovate

or invest in service enhancements. Addressing these issues is crucial for ensuring a sustainable and effective public van service system that meets the needs of all stakeholders.

The increasing reliance on public van services has revealed critical service gaps that undermine their effectiveness. Key challenges include:

1. Prolonged waiting times, particularly during peak usage hours, leading to dissatisfaction among users.

2. Suboptimal routing and scheduling practices that fail to accommodate user demand variations.

3. Limited use of technology for booking, tracking, and feedback, which restricts operational transparency and efficiency.

4. Challenges in balancing affordable fares with provider profitability, compounded by rising operational costs.

These issues highlight the need for a systematic analysis of user needs and service limitations to develop actionable strategies that improve both user satisfaction and operational sustainability.

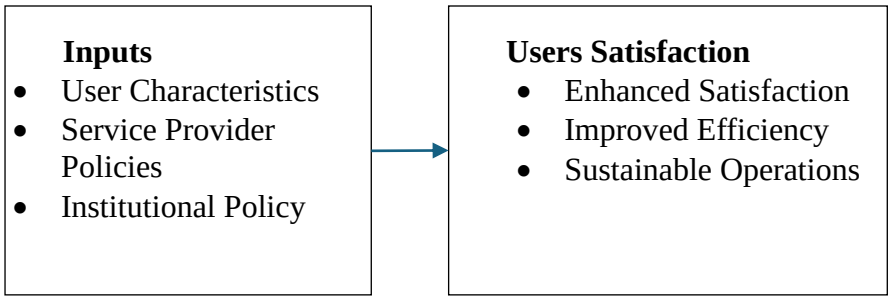
This study offers significant contributions to both theory and practice:

- **For Users:** It identifies critical pain points and proposes strategies to improve convenience, safety, and satisfaction.
- **For Providers:** It provides insights into optimizing resources, managing costs, and enhancing profitability while maintaining user-focused services.
- **For Stakeholders:** It bridges the gap between user expectations and service delivery by emphasizing collaboration, technology integration, and strategic management.

Additionally, the study provides a foundation for further research in transportation systems for academic institutions, particularly in contexts where affordability, accessibility, and sustainability are key priorities. By addressing these dimensions, the research aims to enhance the overall efficiency and reliability of public van services in the studied region.

Research Framework

Figure 1. *Conceptual Framework*



1.1 Objectives

1. Examine the conditions, preferences, and challenges faced by users of public van services.

2. Analyze the financial aspects of service operations, including profitability, cost structures, and breakeven points.

3. Propose strategies for improving service efficiency, user satisfaction, and provider profitability through optimized operations and innovative solutions.

2. Literature reviews

This literature review integrates theoretical foundations, regulatory insights, and operational challenges to highlight the critical components of efficient public van services. It underscores the importance of aligning user needs, provider capabilities, and institutional policies to create a sustainable and user-focused transportation model. The details are outlined as follows:

1. User Satisfaction and Service Quality

- **Maslow's Hierarchy of Needs:** Satisfaction is driven by basic physiological needs, such as safety and convenience, reflecting higher-order expectations in transportation services (Maslow, 1943). Users prioritize reliable, safe, and timely services, aligning with higher levels of Maslow's framework.
- **Components of Service Quality:** Effective service quality includes attributes such as responsiveness, professionalism, and user-centric practices, summarized as Smile, Enthusiasm, Value, Impression, Courtesy, and Endurance (SERVICE) (Scherhorn, 2002). These elements are critical for creating a positive user experience and ensuring satisfaction.

2. Public Van Service Management

- **Regulatory Framework:** Public van services are regulated under the Land Transport Act B.E. 2522, which emphasizes safety, efficiency, and compliance. The act outlines specific requirements for licensing, vehicle maintenance, and operator responsibilities to ensure service reliability (Ministry of Transport, 2003).
- **Operational Challenges:** Common challenges include extended waiting times during peak hours and inadequate route flexibility. These issues stem from resource constraints and insufficient alignment with user demand patterns (Tiyaw, 2007).

3. Cost and Profitability Analysis

- **Opportunity Costs and Breakeven Points:** Opportunity costs, such as fixed operational expenses, directly affect profitability. Breakeven analysis identifies the minimum revenue required to sustain operations while maintaining affordable pricing (Uon, 2005). Providers face the challenge of balancing operational costs and competitive pricing models to ensure financial sustainability.

4. Technological Integration in Transportation

- **Technology as a Catalyst for Efficiency:** Digital tools, such as booking systems and real-time tracking, enhance operational efficiency and user satisfaction. They

improve transparency, reduce waiting times, and foster seamless communication between users and providers (Robins & Coulter, 2002; Setthachotsombut et. al., 2022). Moreover, feedback systems empower providers to make data-driven improvements.

5. Collaboration and Training

- **Inter-Organizational Collaboration:** Universities and service providers must work collaboratively to design services that align with institutional policies and user needs (Khecharanant, 2009). This collaboration helps optimize routes, improve schedules, and address stakeholder concerns.
- **Staff Development:** Training programs for drivers and service personnel enhance professionalism and service quality, leading to better user experiences (Priyakorn, 2001). Professional development initiatives ensure that staff adapt to changing operational and user demands.

6. Gaps in Current Research

- Limited integration of user feedback for service improvement.
- Insufficient exploration of financial models balancing affordability and profitability.
- Underutilization of technological tools to optimize public van operations.

3. Methods

This methodology provides a comprehensive understanding of user satisfaction, operational challenges, and financial sustainability, delivering actionable insights for enhancing public van services. The details are outlined as follows:

1. Population and Sampling

- **Population:**
  The study targets students, staff, and van service providers using or managing public van services between Mahidol University Salaya and Suan Sunandha Rajabhat University, Nakhon Pathom Campus.
- **Sampling Method:**

  Purposive sampling was used to ensure participants directly represent key stakeholders in the van service ecosystem.

2. Research Instruments

- **Questionnaires:**
  Designed to capture user satisfaction, needs, and feedback regarding van services.
- **Interviews:**
  Structured interviews with service providers and institutional staff to understand operational and financial challenges.

3. Data Collection

- **Primary Data:**
  - *Observation and Field Studies:* Observations conducted to analyze operational workflows and service quality.

- *In-depth Interviews:* Engaged with key stakeholders to explore challenges and opportunities for service improvement.

- **Secondary Data:**

  Data from institutional reports, academic papers, and regulatory documents were reviewed to contextualize findings.

4. Data Analysis

- **Quantitative Analysis:**
  - Descriptive statistics (frequencies, averages, percentages) used to evaluate survey data and operational metrics.
  - Financial analysis to assess profitability, opportunity costs, and breakeven points.
- **Qualitative Analysis:**
  - Content analysis of interview responses to identify recurring themes and user-provider perspectives.

4. Results

The study revealed that the primary users of public van services between Mahidol University Salaya and Suan Sunandha Rajabhat University are students, predominantly female, who rely heavily on these services for their daily commute. Peak usage times were identified as 7:00–9:00 AM, when users travel to attend classes, and after 1:00 PM, when they return to their residences. Waiting times emerged as a critical factor influencing user satisfaction; 50% of users reported waiting for 30 minutes, while shorter waiting periods (10–15 minutes) were associated with higher satisfaction levels.

From a financial perspective, service providers were found to generate a daily profit margin of 406 THB, which translates into a monthly income of 18,120 THB after deducting operational costs. Providers need to complete at least five service rounds daily to reach the break-even point, with a calculated break-even fare of 31 THB per trip. This financial analysis highlights the delicate balance providers must maintain between operational costs and fare affordability.

The study also identified several challenges. From the users' perspective, long waiting times during peak hours and the inflexibility of routes and schedules were major concerns. For providers, the primary challenges included managing operational costs while maintaining affordable fares and adapting to fluctuations in user demand, particularly during peak usage periods.

To address these issues, the study recommended several strategies. Optimizing route planning and scheduling to reduce waiting times was highlighted as a priority. The use of technology, such as real-time tracking, booking systems, and feedback mechanisms, was proposed to enhance transparency and improve operational efficiency. Strengthening collaboration between the universities and service providers was also emphasized as a means of aligning service delivery with user needs. Additionally, the study suggested temporarily increasing capacity during peak usage hours to alleviate user congestion and improve

satisfaction. These findings and recommendations aim to create a more efficient and user-focused public van service system.

5. Conclusion

This study examined user satisfaction, operational challenges, and financial sustainability of public van services between Mahidol University Salaya and Suan Sunandha Rajabhat University, Nakhon Pathom Campus. The findings revealed that most users are students, predominantly female, who rely on these services for commuting. Waiting times, especially during peak hours, were identified as a key factor influencing satisfaction. Financially, service providers demonstrated a sustainable profit margin but required strategic adjustments to meet break-even points and optimize service delivery.

Operationally, challenges such as long waiting times, limited route flexibility, and fluctuating user demand emerged as critical issues. Providers also faced the dilemma of balancing fare affordability with rising operational costs. These findings underscore the need for targeted interventions to improve service quality and efficiency while maintaining financial sustainability.

The study highlights the complex interplay between user expectations, provider capabilities, and institutional policies. The high reliance on public van services among students emphasizes the importance of providing a reliable and user-friendly transportation system. Waiting times significantly impacted satisfaction, suggesting that optimizing schedules and routes during peak hours could lead to substantial improvements in user experience.

From a financial perspective, the analysis revealed that service providers maintain profitability but must carefully manage their cost structures and pricing strategies to sustain operations. Achieving the break-even point consistently requires an optimal number of daily service rounds, highlighting the importance of operational efficiency.

The integration of technology, such as real-time tracking and booking systems, offers a promising solution for addressing user concerns and streamlining operations. Additionally, fostering collaboration between universities and service providers can align service delivery with institutional goals and user needs. Temporarily increasing capacity during peak hours is another practical approach to address demand surges and improve satisfaction.

These findings contribute to a deeper understanding of public van service operations and provide actionable recommendations for enhancing service quality, financial sustainability, and user satisfaction. By implementing these strategies, public van services can evolve into a more efficient, reliable, and user-centered transportation solution for academic communities.

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