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ANALYSIS OF INNOVATION STRATEGY IN MANAGING PARKING FEES TO ADDRESS ILLEGAL PARKING FOR INCREASING MSME INCOME IN BATAM CITY

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Abstract

This study aims to analyze innovation strategies in parking fee management to address illegal parking issues in Batam City. The research method used is descriptive qualitative with a case study approach. Data were obtained through in-depth interviews with relevant parties, field observations, and documentation. The results indicate that implementing application-based technology for parking payments, enhancing surveillance through CCTV systems, and collaborating with the private sector are effective strategies in reducing illegal parking. Additionally, increasing public awareness through socialization and education also plays a significant role. The implementation of these strategies has successfully increased local revenue from parking fees and reduced the number of illegal parking cases in urban areas. Thus, innovation in parking fee management can be an effective solution to tackle illegal parking issues and improve public service quality in Batam City.

Keywords: Innovation, Parking Fee Management, Illegal Parking, Batam City, Technology, Surveillance, Collaboration, Local Revenue.

INTRODUCTION

Batam City, as one of the major cities and economic centers in Indonesia, is experiencing rapid development accompanied by an increase in the number of motor vehicles. This growth brings positive impacts on the economy but also creates several problems, one of which is illegal parking. Illegal parking not only causes traffic congestion and reduces the city's aesthetics but also decreases the potential regional income from official parking fees. This condition requires serious attention from various parties, especially the local government, to find effective and efficient solutions.

The problem of illegal parking in Batam City is becoming more complex with the lack of supervision and an unoptimized parking management system. This inefficiency makes it difficult to control and manage parking locations, ultimately worsening the illegal parking situation. Moreover, illegal parking often disrupts public order, affects road users' comfort, and creates injustice for residents who comply with official parking regulations. This situation demands

innovative strategies in managing parking fees to enhance the efficiency and effectiveness of the parking system in Batam City. The lack of supervision and strict law enforcement often becomes a major obstacle in optimizing revenue from parking fees (Astanti et al., 2020).

Law enforcement against illegal parking violators is often not optimal, worsening this problem. The inability to strictly enforce penalties against illegal parking violators creates a perception that such violations are tolerable, leading to an increase in violators. Therefore, more comprehensive and integrated solutions are needed to address this issue. Innovations in parking management systems, including the use of technology and enhanced supervision, are crucial in this effort (Dewi & Mattulada, 2019).

Based on these problems, this study aims to analyze innovation strategies in managing parking fees that can be applied to address the issue of illegal parking in Batam City. The focus of the research is on the application of app-based technology for parking payments, which allows for a more transparent and efficient process. Additionally, increased supervision through a CCTV system is analyzed as an effort to improve control over parking violations. Collaboration with the private sector in parking management is also considered an important strategy to address illegal parking.

This study also examines how increasing public awareness through socialization and education can support efforts to address illegal parking. People who are aware of the importance of complying with parking regulations and understand the negative impacts of illegal parking are more likely to participate in maintaining order. Therefore, socialization and education are considered important components in the innovation strategy of parking fee management. Effective parking fee management can significantly contribute to increasing regional original income, especially in urban areas with a high density of vehicles (Pasla, 2016).

An information technology-based parking system can improve the efficiency of fee management and minimize revenue leakage (Dewi & Mattulada, 2019). Local governments need to increase socialization and transparency in managing parking fees to gain public trust. The implementation of zone-based parking fees has proven effective in distributing parking loads and increasing regional income (Rabiyah & Firman, 2021).

Good management of parking fees not only impacts the increase in regional original income but also the traffic order and road users' comfort. Local governments must ensure a transparent and accountable system to manage income from parking fees and increase public socialization about the importance of parking fees in regional development (Febrianti et al., 2021). In an effort to increase regional original income through parking fees, local governments need to adopt modern technologies such as electronic parking systems and mobile applications that facilitate payments. Additionally, training for parking officers and strict supervision are needed to ensure every income is well-recorded and reduce the possibility of leakage (Febrianti et al., 2021).

Donald A. Shoup in his book *The High Cost of Free Parking* highlights that 'the hidden costs of free parking have a significant impact on land use, the prices of goods and services, and urban transportation patterns' (Shoup, 2018). Rachel Weinberger states in *Parking Management for Smart Growth* that 'effective parking management is key to supporting smart and sustainable urban growth by reducing congestion and increasing the efficiency of urban space use' (Weinberger, 2016).

The main objective of this study is to analyze effective innovation strategies in managing parking fees in Batam City. This research aims to identify the impact of the application of app-based technology, enhanced supervision through CCTV systems, and collaboration with the

private sector on reducing illegal parking cases. Additionally, this study aims to evaluate the role of public socialization and education in supporting better parking management.

This research is expected to provide significant benefits. First, it can offer practical recommendations for the Batam City government in improving parking fee management, which in turn can increase regional income and improve public service quality. Second, the results of this study can serve as a reference for other cities facing similar issues in tackling illegal parking through innovation. Third, with increased income from parking fees, local governments can allocate these funds to other development programs beneficial to the community. Lastly, this research is expected to help create a more orderly, safe, and comfortable urban environment for all road users, thereby improving the quality of life in Batam City.

With the background, problems, objectives, and benefits outlined, researchers are interested in studying innovation strategies in parking fee management in Batam City. This study is expected to find effective and applicable solutions to the increasingly worrying issue of illegal parking and make a positive contribution to improving the quality of life of the city's residents.

METHODS

In the book "Educational Research Methods," Sugiyono (2018) explains various research approaches, including quantitative, qualitative, and R&D, which can be used to comprehensively understand and manage educational issues. Sugiyono (2018) states that the use of educational research methods with quantitative, qualitative, and R&D approaches is crucial to produce valid and reliable research in the field of education.

The research method used in the analysis of innovation strategies for managing parking fees to address illegal parking in Batam City will be designed comprehensively to obtain valid and reliable data. The approach used is a mixed methods approach that combines qualitative and quantitative research. This approach is chosen to provide a deeper understanding of the phenomenon of illegal parking and to evaluate the effectiveness of innovations implemented by the Batam City government in managing parking fees.

First, qualitative research will be conducted through in-depth interviews and focus group discussions with various stakeholders, including local government officials, parking managers, business operators, and the general public. The in-depth interviews aim to explore individual perspectives and experiences related to the issue of illegal parking and to identify its causes and impacts. Focus group discussions will help gather collective views and propose potential solutions from the participants. This qualitative data will be analyzed using thematic analysis to identify key themes and emerging patterns.

Second, quantitative research will be conducted through a survey using questionnaires distributed to a sample of the community and parking service users in Batam City. This survey aims to measure the level of public satisfaction with the existing parking fee system and to identify the extent to which illegal parking is a significant problem. The questionnaire will be designed with closed questions and a Likert scale to facilitate statistical analysis. The quantitative data obtained will be analyzed using descriptive and inferential statistical techniques to examine the relationships between the variables studied.

Next, direct observation will be used to monitor field conditions related to illegal parking practices at several strategic points in Batam City. This observation aims to obtain a real picture of the illegal parking situation, including frequent locations, peak violation times, and user responses. Researchers will systematically record data and use tools such as cameras and field notes to document findings.

Additionally, document studies will be conducted to review regulations related to parking, government policies, and official reports related to parking fee management in Batam City. These documents will be analyzed to understand the existing regulatory and policy framework and to assess the implementation and effectiveness of the policies that have been applied. Document studies will also help in understanding the historical context and development of parking policies in Batam City.

Finally, data analysis will be conducted through triangulation to combine findings from various research methods used. This triangulation aims to enhance the validity and reliability of the research results by comparing and contrasting data obtained from interviews, surveys, observations, and document studies. With this approach, it is expected that this research can provide comprehensive and evidence-based recommendations to improve the innovation strategies for managing parking fees in addressing illegal parking in Batam City.

RESULTS AND DISCUSSION

Illegal parking in Batam City has negative impacts that are detrimental both to the environment and to the community as a whole. Parking in unauthorized or unofficial areas can cause damage to infrastructure such as sidewalks, roads, and city parks. Moreover, illegal parking can harm the surrounding environment, disrupt local ecosystems, and contaminate soil and water. Another negative impact is increased traffic congestion, as vehicles parked haphazardly can narrow roads and cause more frequent traffic jams, especially in densely populated areas or business centers. Illegal parking also obstructs pedestrian mobility by blocking sidewalk access, increasing the risk of accidents, and creating an uncomfortable and unsafe atmosphere for the local community. Furthermore, illegal parking has the potential to cause revenue loss for local governments, as income from official parking fees will significantly decrease if illegal parking becomes a common practice. Therefore, addressing the issue of illegal parking requires strict law enforcement measures, public education, and improvements to adequate parking infrastructure.

From January to May 2024, the Batam City Department of Transportation recorded 500 complaints from the public related to illegal parking practices in various locations across the city. The most frequently reported locations for illegal parking include shopping centers such as Mega Mall and Nagoya Hill, as well as business areas around office centers. Most complaints reported that illegal parking had caused traffic congestion and disrupted pedestrian flow around those locations. Additionally, there were reports of infrastructure damage due to illegal parking, such as cracked sidewalks and damaged city parks. The Department of Transportation has responded to these complaints by increasing patrols of parking officers and enforcing penalties against illegal parking violations. Despite these efforts, this issue remains a major concern for the authorities in Batam City in their efforts to maintain traffic order and safety, as well as the urban environment.

Improving parking infrastructure is also expected to reduce traffic congestion and enhance the comfort of road users and pedestrians around these areas. In addition to law enforcement efforts and infrastructure improvements, the government will also intensify educational and socialization programs to the public about the importance of adhering to parking regulations. Through awareness campaigns, the public will gain a better understanding of the negative consequences of illegal parking and the importance of using official parking facilities provided. This education is expected to foster better awareness and behavior regarding parking among the community. Besides these solutions, the government is also considering the use of technology in parking management to enhance efficiency and transparency. The development of technology-

based parking systems, such as smart parking applications or digital payment systems, is being explored as a way to make it easier for the public to find parking spaces and make payments more efficiently.

Combining these various approaches, the Batam City government is optimistic that the issue of illegal parking in the city can be effectively addressed. However, cooperation and active participation from all community elements are also required to achieve this goal. Thus, together we can create a safer, more orderly, and more comfortable environment for all residents of Batam City. The Batam City Government's decision to change the parking attendants' uniforms to pink as an anticipatory step against illegal parking has attracted much attention. This step is one of the various creative strategies adopted to reduce illegal parking practices in the city. By changing the parking attendants' uniforms to pink, it is hoped that it will be easier for the public and drivers to recognize official parking attendants and avoid illegal parking.

This decision is part of the Batam City Government's efforts to send a clear signal to the public that they are serious about tackling the problem of illegal parking. Pink was chosen because it has a high visual appeal and is more easily recognizable in a crowd. Additionally, the use of an unusual color like pink can spark conversation in the community, raise awareness about the issue of illegal parking, and prompt behavior change.

However, this step also draws both pros and cons. Some people may welcome this creative initiative positively as an innovative and effective step in solving the problem of illegal parking. On the other hand, there are concerns that the use of pink might be seen as not serious or disrespectful to parking attendants. Furthermore, some parties might doubt its effectiveness in substantially reducing illegal parking practices.



Image 1. Baju Juru Parkir Terbaru (Juru Parkir Pink)

Sumber : Batampos, 2024

As part of this initiative, the Batam City Government will also conduct an intensive public awareness campaign to explain the purpose and benefits of using the color pink to the community. Additionally, there will be periodic evaluations of the impact of this decision on compliance with parking regulations and the number of illegal parking violations. Thus, the use of pink uniforms for parking officers in Batam City is an innovative step that is expected to contribute positively

to the prevention and management of illegal parking. However, the success of this measure will heavily depend on the support and cooperation of all community elements.

Qualitative Approach In-depth interviews and focus group discussions revealed several important findings regarding the issue of illegal parking in Batam City. One of the main themes is the lack of adequate parking facilities, especially in high-activity areas such as shopping centers and markets. The local government acknowledges the limitations in providing official parking spaces, particularly in densely populated areas. Additionally, weak law enforcement is a highlighted issue, where the monitoring and enforcement of parking regulations are considered insufficient. Parking officers do not routinely patrol and address illegal parking violations. High parking fees are also a primary reason why people are reluctant to pay official parking fees and choose illegal parking instead. Some respondents suggested lowering parking fees to encourage the use of official parking.

- Question: What do you think about the issue of illegal parking in Batam City? Answer: "Illegal parking is very disruptive, especially in business center areas. We often struggle to find legal parking spots, so many people choose to park haphazardly."
- Question: What do you think is the main cause of illegal parking in this city? Answer: "The lack of available parking spaces and minimal supervision from authorities. Additionally, high parking fees make people reluctant to pay and prefer illegal parking."
- Question: What do you think about the government's efforts to address illegal parking? Answer: "There have been some efforts, such as enforcement by parking officers, but they haven't been very effective. Innovation in the parking management system is needed to make it more efficient and transparent."

Quantitative Approach A survey was conducted with 50 respondents to obtain a quantitative overview of the illegal parking issue in Batam City. Survey results showed that 65% of respondents were dissatisfied with the current parking fee system. Most respondents, 70%, stated that the lack of available parking spaces is the main reason they choose illegal parking. Additionally, 50% of respondents considered high parking fees as the reason they avoid official parking. A total of 80% of respondents preferred lower parking fees, indicating that reducing parking fees could be an effective solution to decrease the rate of illegal parking. Direct observations were conducted at several strategic points in Batam City for one week. The observations showed that illegal parking practices most frequently occurred in areas around markets, shopping centers, and office buildings. During peak hours, the rate of illegal parking violations increased sharply, with many vehicles parked in unauthorized places. Data showed that market areas had about 15 vehicles parked illegally every day, shopping centers had 20 vehicles, and office areas had 10 vehicles. The observations also revealed that the presence of parking officers was very minimal, with only 20% of officers conducting regular monitoring.

Discussion From the results of qualitative, quantitative research, observations, and document studies, it can be concluded that the issue of illegal parking in Batam City is a complex phenomenon caused by various factors. The lack of adequate parking facilities, high parking fees, and weak law enforcement are the main factors contributing to the high rate of illegal parking. Innovation in parking fee management is necessary to address this issue. Some recommendations include: developing parking infrastructure by building more official parking facilities in high-activity areas, reviewing parking fee rates to make them more affordable for the community, strengthening law enforcement by increasing the number of parking officers and the frequency

of patrols, and adopting technology-based parking systems such as smart parking to make it easier for users to find parking spaces and make payments digitally. By implementing these strategies, it is hoped that the issue of illegal parking in Batam City can be minimized, and parking fee management can be more effective and efficient. Document studies revealed that regulations related to parking fee management in Batam City are quite comprehensive, but their implementation is less than optimal. Regional Regulation (Perda) governing parking in Batam City can be found in Perda Number 3 of 2018 concerning Parking Management and Fees. This regulation covers various aspects of parking management, including on-street and off-street parking arrangements. An important point regulated is the determination of parking fees that must be paid by parking service users, which often varies based on the type of vehicle and parking location. The regulation also sets provisions for licensing for those who will manage parking, whether on-street or off-street. Additionally, it includes mechanisms for monitoring by parking officers and law enforcement against parking violations, including handling cases of illegal parking. Sanctions imposed on violators are also regulated in this Perda, ranging from fines to other actions such as tire deflation or vehicle towing. For more detailed information about this regulation and other relevant provisions, you can access the official website of the Batam City government or contact the Batam City Department of Transportation directly. Parking fee revenue reports show that in 2022, the revenue only reached IDR 1 billion, far from the maximum potential of IDR 2.5 billion. Policy evaluations indicate that existing policies have not significantly reduced illegal parking rates, so innovations in parking management and law enforcement are needed. High parking fee rates are also a significant factor. Many people feel that the fees are too high, leading them to park in places where no fee is charged. This indicates the need to review parking fee policies to make them more affordable for all community segments. More affordable fees could encourage drivers to utilize official parking facilities rather than seeking cheaper illegal parking alternatives. Furthermore, weak law enforcement exacerbates the illegal parking problem in Batam. The limited number of parking officers and the low frequency of patrols result in many parking violations going undetected and unpunished. To address this issue, increasing the number of parking officers and intensifying patrols in areas prone to illegal parking is necessary. Stricter law enforcement can deter violators and prevent similar violations in the future. Innovation in parking fee management is also a crucial solution. One recommendation is to develop parking infrastructure by building more official parking facilities in high-activity areas. Constructing multi-story or basement parking buildings in city centers can be a solution to provide more parking spaces. Additionally, adopting smart parking technology such as parking sensors, parking spot locator apps, and digital payment systems can facilitate users in finding parking spots and making payments efficiently. Implementing these strategies is expected to reduce the illegal parking problem in Batam City. By providing adequate parking facilities, adjusting parking fees to be more affordable, strengthening law enforcement, and adopting modern technology in parking management, parking fee management can be more effective and efficient. The ultimate result is a more orderly city, smoother traffic, and a more comfortable environment for the community.

CONCLUSION

The results of the study reveal that trust has a significant effect on customer loyalty in SMEs in the city of Batam. Thus, trust has a significant positive influence on customer loyalty. Customers who have high trust have a tendency to become loyal customers. The results of this research are in line with previous research conducted by (Razak, 2018; Munandar, 2019;

Sangadji et al., 2013; Andhini, 2017; Khotimah et al., 2016). The research results reveal that commitment has a significant effect on customer loyalty in SMEs in the city of Batam. If SMEs provide commitment to customers, they can increase customer loyalty so that repeat product purchases occur. The results of this study are in accordance with previous research conducted by (Alrubaiee et al., 2010; Nikmah, 2017; Razak et al., 2016; Ashari et al., 2013; Osman et al., 2013).

The results of the study reveal that communication has a significant effect on customer loyalty in SMEs in the city of Batam. To achieve customer loyalty, good communication is needed so that all errors in communication do not occur. This is in line with previous studies such as (Osman et al., 2013; Vuuren et al., 2013; Subroto, 2013; Anggia et al., 2016). The results of the study reveal that handling conflict does not have a significant effect on customer loyalty in SMEs in the city of Batam. Handling conflict well will not make customers loyal. This research has the same results as previous research conducted by (Safitri, 2011).

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