



Effectiveness and User Satisfaction of Cash Parking Payments at Rita Supermall Tegal

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Abstract

This study aims to evaluate the effectiveness and efficiency of the cash-based parking payment system at Rita Supermall Tegal, a shopping center in a mid sized city that has yet to fully adopt digital public services. A descriptive qualitative method was employed through observation, semi structured interviews, and questionnaires involving both users and parking managers. The findings indicate that although the cash system is still acceptable to some users, it presents significant limitations such as long queues, lack of transparency, and difficulties in providing small change. Most respondents demonstrated understanding and readiness to shift to digital payment systems, favoring the efficiency and convenience offered by technologies such as QRIS and e-money. The results also emphasize the need for an inclusive approach in transitioning toward a hybrid system, considering not all users have equal access to or readiness for digital technologies. The study recommends a gradual implementation of digital systems, accompanied by user education and infrastructure improvements, to ensure parking management becomes more responsive and adaptable to evolving public needs.

Keywords: *Digitalization, parking effectiveness, technological inclusion, non-cash payment, hybrid system*

1. Introduction

Parking payment systems are a crucial component of transportation management and public services, particularly in modern shopping centers [1]. In Indonesia, digital payment innovations such as prepaid cards, QR codes, and digital wallets have been widely implemented in major cities [2]. However, in some areas, such as Tegal City, cash systems still dominate, as is the case at Rita Supermall Tegal. This situation raises questions about their effectiveness and sustainability in the digital age.

Rita Supermall Tegal, as one of the city's largest shopping centers, still relies on cash parking payments [3]. However, this system is considered vulnerable to problems such as long queues, fraud, and a lack of revenue transparency [4]. Meanwhile, previous research has focused more on digital systems, resulting in limited studies of cash systems in mid-sized cities like Tegal [5]. This necessitates an in-depth evaluation of these systems.

This study aims to analyze the effectiveness and efficiency of the cash parking payment system at Rita Supermall Tegal. It focuses on technical, operational, and managerial aspects, as well as user perceptions.[6] Using a qualitative approach, this study will identify the strengths and weaknesses of the cash system and compare it with the rapidly growing trend of digitalization. Furthermore, this study will explore the challenges faced by managers and users, such as limited access to technology or a preference for conventional transactions. This study is relevant considering that some communities have not yet fully adapted to digital payments, necessitating an inclusive solution.

Visitor perceptions of the cash system are also a key focus.[7] Through surveys and interviews, this study will measure user satisfaction levels and their readiness to transition to a digital system. The results can serve as a reference for managers and local governments in designing appropriate transition policies.

2. Literatur Review

2.1. Parking System in Transportation Management

Parking systems are a crucial component in managing urban traffic and mobility, particularly in shopping centers.[8] According to Morlok (1978), an effective parking system must consider land availability, security, ease of access, and payment efficiency. In the context of public facilities such as malls, parking management impacts perceptions of service and the quality of the user experience.itle of the paper

2.2. Development of Digital Parking Payment Systems

Parking systems are an important component in managing urban traffic and mobility, especially in shopping centers[8]. An effective parking system must consider land availability, security, ease of access, and payment efficiency[9]. In the context of public facilities such as malls, parking management influences the perception of service and the quality of the user experience.

2.3. Sustainability of Cash Parking System in Medium-sized Cities

Despite increasing digitalization, cash parking payment systems are still common in mid-sized cities like Tegal. Factors influencing the sustainability of these systems include technological limitations, community habits, and the perception that cash systems are more practical for older users or informal workers [10]. A study by Tuerah (2023) emphasized the importance of understanding social acceptance in the successful implementation of new technologies [11].

2.4. Perspective of Effectiveness and Inclusiveness of Public Services

Parking system evaluations should not only consider technical aspects such as transaction speed, but also the socio-cultural factors of users[12]. A technologically efficient system will not necessarily be accepted if it does not align with local preferences and habits[13]. Therefore, the transition to digitalization requires a gradual approach that takes into account the readiness of users and managers in a balanced manner[14].

3. Research Mode

This study uses a descriptive qualitative approach to analyze the effectiveness and user satisfaction of the cash parking payment system at Rita Supermall Tegal[15]. This approach was chosen to explore perceptions, experiences, and operational challenges in depth through contextual narratives[16].

3.1. Location and Time

The study was conducted at Rita Supermall Tegal, Central Java, in February-April 2025. The location was selected based on the continued dominance of cash systems, despite the growing trend of digitalization.

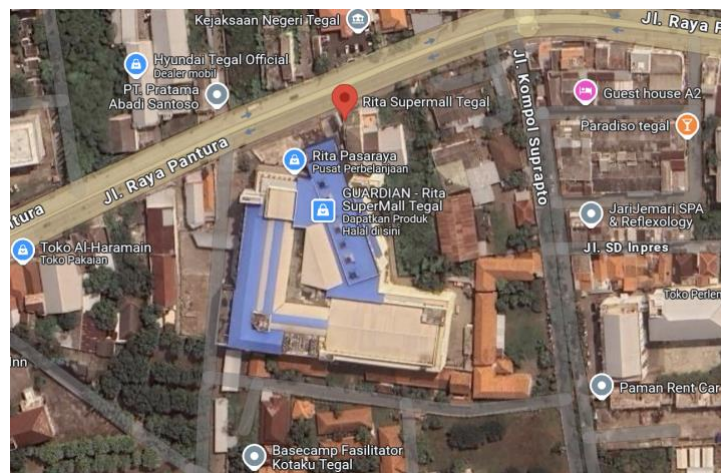


Fig. 1: Research location

3.2. Subjects and Respondents

The subjects in this study consisted of 40 parking service users selected using the accidental sampling method, including both regular and non-regular visitors, as well as 5 parking managers including field officers and management, in order to obtain a comprehensive picture of operational aspects to management policies.

3.3. Data Collection and Analysis

Data collection in this study was conducted through several techniques, namely participatory observation of the payment process, user behavior, and officer interactions both on weekdays and weekends; semi-structured interviews with managers to uncover obstacles and views on system digitalization; and the distribution of a combination questionnaire (Likert scale and open-ended questions) to assess aspects of ease, speed, security, and user readiness in switching to a digital system [17]. The data obtained were analyzed thematically through three stages: data reduction by sorting relevant information from the results of observations, interviews, and questionnaires; presentation of data in the form of narratives and table summaries; and triangulation of sources to validate findings by comparing the three data collection methods to minimize bias [18].

4. Results and Discussion

The parking payment system at Rita Supermall Tegal still uses cash, despite the digitalization trend sweeping public services in various major cities. This system is considered simple and easily accepted by the general public, especially those unfamiliar with digital payment methods.

4.1. Efficiency and Transparency Issues

Cash systems have limitations that impact service quality, such as potential queues, reliance on cash, and difficulty tracking transactions. This necessitates evaluating the system's relevance and effectiveness to meet today's user demands.

4.2. Questionnaire Instrument Results

Graphics are usually black and white, or color.

4.2.1 Respondent Characteristic

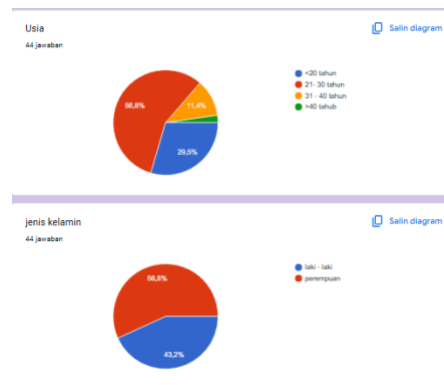


Fig. 2: respondent characteristics

Based on the results of the questionnaire obtained from 44 parking users at Rita Supermall Tegal, it was found that the majority of respondents were women, namely 56.8%, while men numbered 43.2%. In terms of age distribution, the majority of respondents were in the 21-30 age group as much as 56.8%, followed by respondents aged under 20 as much as 29.5%, followed of respondents were in the 31-40 age group as much as 11.4% and respondents age up to 40 as much as 2.3%. This finding reflects that respondents are dominated by the productive age group who tend to be familiar with digital technology and have a good level of digital literacy.

4.2.2 Frequency of Visits and Vehicle Type

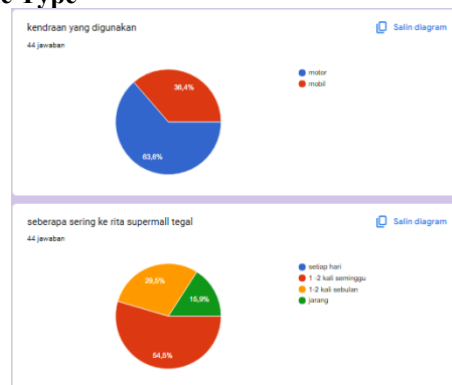


Fig. 3: Frequency of Visits and Vehicle Type

Graphics Based on the questionnaire results, it was found that 54.6% of respondents visited Rita Supermall one to two times a week, while 22.5% percent stated they rarely visited the facility. Regarding vehicle type, the majority of respondents used motorcycles (63.6 percent), while 36.4 percent used cars. These findings indicate that the parking system needs to be designed to efficiently and optimally serve both types of vehicles, whose volumes are relatively balanced.

4.2.3 Awareness and Readiness to Use Non-Cash Systems

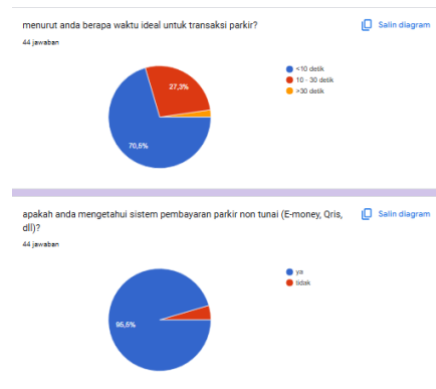


Fig. 4: Knowledge and Readiness to Use Non-Cash Systems

The questionnaire results showed that the majority of respondents, 95.6 percent, were familiar with cashless payment systems, such as e-money, QRIS, and various digital wallets. Furthermore, the ideal parking time was less than 10 seconds. The same percentage also expressed their willingness to use these payment methods. These findings indicate that, in general, parking users at this location are ready, both in terms of understanding and willingness, to switch to digital systems.

4.2.4 Perception of Parking System Efficiency

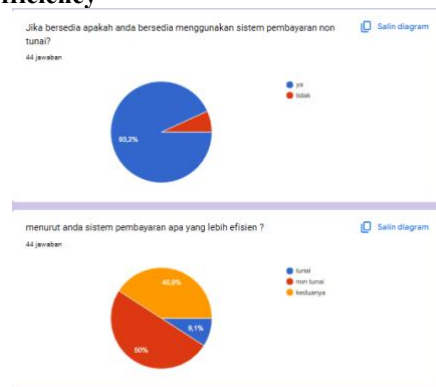


Fig. 5: Perceptions of Parking System Efficiency

The questionnaire results showed that half of respondents considered cashless payment systems to be the most efficient method, while 40.9 percent stated that both were equally efficient, and only 9.1 percent preferred cash. These findings indicate that cash payment systems are perceived as less efficient, particularly in crowded situations or with long queues. On the other hand, the public is more in agreement with paying for parking using non-cash payments, as evidenced by 93.2 percent of the results of the questionnaire given.

4.2.5 Practicality and Problems of Cash Systems

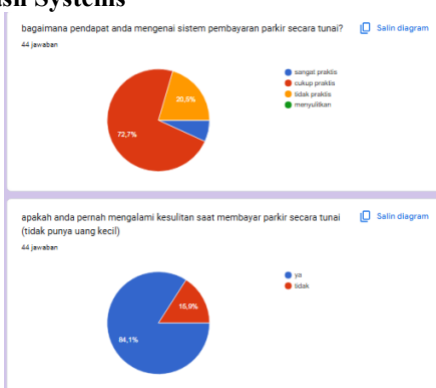


Fig. 6: Practicality and Problems of Cash Systems

The questionnaire results showed that 72.7 percent of respondents considered the cash payment system to be only moderately practical, while 20.5 percent considered it impractical. Furthermore, 84.1 percent of respondents experienced obstacles due to not carrying small denominations. These findings indicate that the cash payment system still has weaknesses in terms of efficiency and user convenience.

4.2.6 Convenience of Parking and Queue System

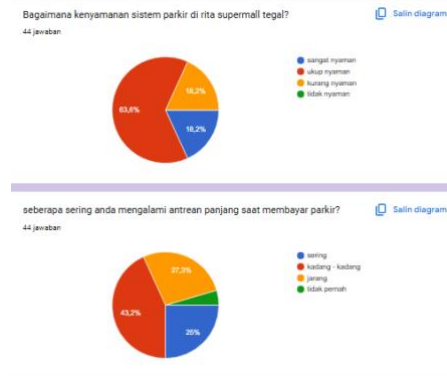


Fig. 7: Convenience of Parking and Queue System

As many as 18.2 percent of respondents admitted to feeling uncomfortable with the current parking system, likely due to the long waiting times. When asked about the frequency of encountering long lines when making payments, 43.2 percent stated they experienced this sometimes, 26 percent frequently, and only 27.3 percent never experienced such queues. This data indicates that queues are a fairly dominant problem and should be a serious concern for parking managers in improving service quality.

4.3. Interview Results

4.3.1 Parking Payment System Used

Interviews with 10 respondents revealed that the most common payment method for parking at Gerbang Rita Mall Tegal is still cash. Most respondents stated that this system has been in place for a long time and has become a habit for visitors. However, seven respondents expressed interest in using non-cash payment systems, such as QRIS and e-money cards. They considered digital methods more practical and could reduce dependence on cash, especially when it comes to providing small denominations. One respondent expressed hope that a digital system would be implemented to make the payment process easier and more efficient.

4.3.2 Level of Satisfaction with Payment System

Most vehicle users reported being quite satisfied with the existing parking payment system, although they still raised a number of complaints. Some of the most common issues include long lines exiting the parking area due to manual payment, limited staff during peak hours, and the lack of digital payment options. Four respondents expressed dissatisfaction, primarily due to the perceived length of the queues and the system's inefficiency. One driver stated that the exit process would be faster if automated payment machines were available, especially during busy shopping centers.

4.3.3 Obstacles or Problems Faced

Some of the challenges cited by respondents included the unavailability of change in the correct denomination, the absence of automated payment machines, and the lack of instructions or information for new visitors regarding parking procedures. This was conveyed, among other things, by visitors from out of town who found the lack of adequate signage difficult. In response, most users suggested that the parking payment system be immediately digitized through the use of QRIS, cards, or an app. They also proposed the addition of automated payment machines to speed up the vehicle entry and exit process, as well as improving the quality of service provided by officers, particularly on weekends and holidays when visitor volumes increase. One frequent user stated that transactions would be easier and faster if they could be conducted via mobile devices.

4.4. Interpretation of Findings and Relevance to the Context of Digitalization

Based on the overall research findings, the cash parking payment system at Rita Supermall Tegal remains operational but exhibits several limitations in terms of efficiency, convenience, and transparency of transactions. Parking users reported imperfections in the experience due to queues, transaction delays, and the lack of change, while management acknowledged that the cash system does not require digital infrastructure and specialized training. Nevertheless, questionnaire and interview results indicated that the majority of users have understood and are willing to switch to digital payment systems such as QRIS and e-money, which they consider faster, more practical, and more suited to current needs.

This situation reflects the gap between public readiness for digital technology and the slow adoption of innovation by managers. In the context of the development of digitalization of public services, maintaining conventional systems without updates has the potential to create a mismatch with increasingly technologically adaptive user expectations. Therefore, digitalizing the parking system, at least through the implementation of a hybrid system, is a relevant and inclusive transition strategy to make service management more efficient, accountable, and responsive to local needs.

4.5. Implications of Findings for Parking Policy and Management

Based on research findings, it appears that the cash parking payment system at Rita Supermall Tegal is still widely used despite its limitations, particularly in terms of operational efficiency, user convenience, and management transparency. Users have a strong desire to switch to faster and more convenient non-cash payment methods, supported by respondents' high levels of digital literacy. Meanwhile,

managers remain concerned about investment costs, human resource readiness, and the social impact of digitalization. This situation demands the development of policies that bridge the gap between community readiness and service provider capacity.

The implication is that parking managers and related parties, such as shopping center management and local governments, need to consider a gradual transition to a hybrid payment system. This can be achieved by providing cashless options such as QRIS or e-money alongside cash methods, which will be maintained for a specified period. Furthermore, staff training, digital infrastructure improvements, and educational campaigns for visitors are needed to encourage comprehensive adoption of the new system. The policies adopted should not only focus on technical efficiency but also consider aspects of social inclusion and community readiness to adapt to developments in modern public service systems.

5. Conclusion

Based on the research results, the cash parking payment system at Rita Supermall Tegal is still acceptable to some users, but has limitations in terms of efficiency, convenience, and transparency, especially when queues and transaction delays occur. The majority of respondents indicated a readiness and desire to switch to a digital system, while managers still face obstacles in terms of costs and technical readiness. Therefore, it is recommended that managers begin implementing a hybrid payment system gradually as a transitional step, accompanied by infrastructure improvements, officer training, and user education to ensure the success of the inclusive and sustainable digitalization of parking services.

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