



The Influence of Visitor Management System Perception on Tourist Loyalty in Sports Tourism Destinations in South Sumatra and Bangka Belitung

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Abstract. This study examines how visitors' perceptions of visitor management systems (VMS) shape loyalty in sports tourism destinations across South Sumatra and Bangka Belitung. Using a quantitative approach, primary data were gathered from tourists who visited these destinations and analyzed with Structural Equation Modeling (SEM). Results indicate that a positive VMS perception leads to higher tourist satisfaction, which in turn fosters greater loyalty. The findings suggest that strategic VMS implementation, featuring efficient crowd management and digital services, can significantly enhance the visitor experience. These improvements bolster satisfaction, increasing tourists' likelihood to revisit and recommend the destination. This study contributes to the literature by offering insights into how perceived service efficiency, accessibility, and security can drive loyalty in sports tourism contexts. Destination managers are encouraged to optimize VMS to retain and expand their visitor base.

Keywords: Sport Tourism, Marketing, VMS.

1 Introduction

Sports tourism has emerged as a vital contributor to regional economies, offering unique attractions and significant potential for sustainable development [1]. In this context, two critical components often cited for bolstering competitiveness are visitor management and relationship marketing [2, 3]. Visitor Management involves strategic approaches and technological tools for directing, monitoring, and enhancing visitor experiences [4]. Meanwhile, Relationship Marketing emphasizes building enduring ties with visitors through trust, satisfaction, and engagement [5].

Prior studies highlight the importance of visitor management systems (VMS) for streamlining visitor flows, increasing safety, and improving overall satisfaction [6-8]. For instance, the adoption of smart technology has been identified as instrumental in delivering personalized services to tourists, thereby enhancing destination attractiveness [6]. It has also been emphasized that effective Visitor Management Systems (VMS) contribute to reducing congestion and fostering positive visitor impressions [4]. The role of relationship marketing has been demonstrated in driving loyalty, primarily by strengthening personal connections between service providers and visitors. Building

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upon these findings, the present study investigates how perceptions of Visitor Management Systems and Relationship Marketing jointly influence Tourist Satisfaction and subsequently shape Tourist Loyalty in the context of sports tourism [2].

Despite the growing literature, there remains a knowledge gap regarding the nuanced roles of VMS and relationship marketing in Indonesian sports tourism destinations, specifically in South Sumatra and Bangka Belitung. This study thus aims to (1) assess how tourists' perceptions of visitor management systems and relationship marketing influence tourist satisfaction, and (2) determine how tourist satisfaction affects tourist loyalty.

This study employs a quantitative design, surveying tourists who visited sports tourism destinations in South Sumatra and Bangka Belitung. Data collection utilized a structured questionnaire focusing on perceptions of visitor management, relationship marketing strategies, satisfaction levels, and loyalty intentions. Analysis via Structural Equation Modeling (SEM) reveals that positive perceptions of VMS and relationship marketing strategies can significantly enhance tourist satisfaction, which in turn boosts tourist loyalty.

The findings offer practical insights for destination managers in Indonesia to refine their technological systems, tailor marketing strategies, and improve visitor engagement. This work also contributes to the broader literature by elucidating the pathways through which visitor management and relationship marketing drive satisfaction and loyalty in sports tourism settings.

2 Literature Review

Tourism research increasingly underscores the Experience Economy, where the holistic quality of visitor experiences shapes outcomes such as loyalty [8]. Within this paradigm, Visitor Management Systems (VMS) are crucial for managing visitor flows, ensuring safety, and maximizing overall satisfaction [6]. Empirical studies link well-designed VMS with reduced congestion, clearer navigation, and higher visitor comfort [4, 7].

On the other hand, Relationship Marketing hinges on personalized engagement and long-term relationship-building [5]. In tourism, this involves effective communication, trust-building initiatives, and follow-up services that extend beyond a single visit [2, 3]. By fostering meaningful connections, destination managers can not only attract new visitors but also retain existing ones.

Despite the robust evidence on these constructs, Literature Gap persists regarding how these elements interact in the specific environment of Indonesian sports tourism. While several authors [9, 10] have discussed digital transformations and visitor experiences, limited research directly examines how the perceived effectiveness of a visitor management system interacts with relationship marketing to shape Tourist Satisfaction and Tourist Loyalty.

Hence, this study addresses the gap by combining insights from VMS adoption research and relationship marketing frameworks. By doing so, an expansion of the satis-

faction–loyalty linkage has been proposed [11], suggesting that the combination of effective management systems and relationship-focused strategies significantly increases satisfaction, which in turn fosters greater loyalty intentions.

3 Methodology

This study adopts a quantitative research design to examine the relationships among Visitor Management System Perception (VMS Perception), Relationship Marketing, Tourist Satisfaction, and Tourist Loyalty within sports tourism destinations. Data were gathered through a structured questionnaire distributed to tourists who had visited sports tourism sites in South Sumatra and Bangka Belitung between January and June of the current year.

3.1 Survey Instrument

The instrument contained four main sections:

1. Demographics (age, gender, visit frequency).
2. VMS Perception (e.g., ease of access, service efficiency, security), assessed via Likert-type scales.
3. Relationship Marketing (e.g., personal communication, trust, retention programs), also measured by Likert-type scales.
4. Tourist Satisfaction and Loyalty (e.g., revisit intention, willingness to recommend) [11, 12].

3.2 Sampling and Data Collection

1. Sampling Method: A purposive approach was used, requiring respondents to (1) have visited at least one sports tourism destination in the region, (2) be at least 18 years old, and (3) have experienced the VMS features (e.g., e-ticketing, digital navigation).
2. Sample Size: 250 valid responses, consistent with SEM guidelines [13].

3.3 Data Analysis

1. Sampling Method: A purposive approach was used, requiring respondents to (1) have visited at least one sports tourism destination in the region, (2) be at least 18 years old, and (3) have experienced the VMS features (e.g., e-ticketing, digital navigation).
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Data collection spanned approximately three months, with recruitment facilitated through social media announcements and onsite invitations at select sports events (e.g., local marathons, cycling races) in South Sumatra and Bangka Belitung. Responses were anonymized to maintain confidentiality, and all participants provided informed consent.

4 Results and Discussion

This study underscores the pivotal role of Visitor Management System (VMS) perception in shaping tourist loyalty within sports tourism contexts. As prior literature suggests, technology-based management solutions can significantly enhance overall visitor experiences, particularly by offering more efficient crowd handling and streamlined ticketing [6, 8]. In this research, respondents who perceived the VMS as easy to navigate and highly secure exhibited greater satisfaction, which ultimately translated into stronger loyalty intentions. This finding is especially relevant to sports tourism destinations in South Sumatra and Bangka Belitung, where seasonal peaks in visitor volume call for well-structured systems to manage crowds and ensure positive experiences.

Several aspects of the VMS emerged as particularly influential. Tourists valued real-time information on crowd density, waiting times, and event schedules, all of which allowed them to plan their visits effectively. In addition, clear signage, intuitive digital navigation, and robust safety measures contributed to a positive destination image [4]. These attributes align with established frameworks arguing that perceived quality and satisfaction are critical precursors to loyalty [12, 14]. Hence, destinations that invest in these areas may see not only an increase in repeat visits but also an uptick in positive word-of-mouth.

Table 1 below illustrates the hypothesis testing results that highlight the direct, significant relationship between VMS Perception and Tourist Loyalty. The high path coefficient ($\beta = 0.652$) and strong t-statistic ($t = 9.876$) indicate a robust association, confirming that a favorable impression of the VMS is a strong predictor of loyalty. These findings are consistent with Oliver's (1980) expectancy-confirmation model, which posits that when services exceed tourist expectations, satisfaction and loyalty rise proportionally.

Table 1. Hypothesis Testing Results

| Hypothesis | Relationship | Path Coefficient (β) | t-Statistic | p-Value | Decision |
|------------|-------------------------------------|------------------------------|-------------|---------|----------|
| H1 | VMS Perception → Tourist Loyalty | 0.652 | 9.876 | 0.000 | Accepted |

Beyond the core system features, relationship marketing strategies—such as personalized communication, post-visit engagement, and loyalty incentives—can further enhance the perceived value of the VMS [2, 3]. Integrating these strategies with user-friendly digital interfaces helps destinations stand out in an increasingly competitive sports tourism market. Ultimately, by prioritizing system reliability, user-centric design, and continuous feedback loops, destination managers can reinforce favorable perceptions, boost satisfaction, and cultivate loyal visitor behavior.

5 Conclusion and Recommendations

Visitor Management System (VMS) perception emerged as a key factor in driving loyalty among sports tourists, as positive impressions of user-friendly digital services and efficient crowd control led to stronger intent to revisit and recommend the destinations. These findings underscore the importance of continuous innovation and system enhancements tailored to visitor needs, highlighting the need for real-time updates, seamless ticketing processes, and clear information channels. Destination managers should invest in regular evaluations of their VMS to maintain alignment with evolving visitor expectations, while also integrating relationship marketing tactics—such as personalized outreach and post-visit engagement—to further reinforce loyalty. Future initiatives may involve collaborating with local stakeholders to develop region-wide digital solutions, conducting longitudinal studies to track changes in tourist behavior, and exploring emerging technologies (e.g., artificial intelligence) that can enhance visitor satisfaction and sustain competitiveness in the sports tourism industry.

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