

# The Effect of Timely Preventive Maintenance (PM) on Tourists' Satisfaction with Hotels

Yousof Gholipour, Naser Khani, Yasser Gholipour, Mohsen Rokrok



**Abstract:** In This paper we explore the impact of performing preventive maintenance (PM) on time on tourists' satisfaction with hotel services. By analyzing existing literature on service quality and customer satisfaction and loyalty, we highlight how timely PM can enhance hotel facilities, improve service reliability, and ultimately boost tourist satisfaction. The study emphasizes the importance of maintaining high-quality services in the hospitality industry, particularly in the context of medical tourism, where comfort and reliability are paramount. The quantity and quality of maintenance are directly related to guest satisfaction and the overall quality of hotels. Finally, we examine several examples to illustrate the effects of PM programs on guest satisfaction. In this study, we analyze the effects of PM on guest satisfaction using a conceptual mode.

**Keywords:** Preventive Maintenance, PM, Satisfaction of Guests, On Time PM, Loyalty, Failure, Tourists, Hotel.

## Abbreviations:

PM: Preventive Maintenance

## I. INTRODUCTION

Maintenance is key to keeping businesses competitive and increasing return on investment. At the same time, companies need to control costs to remain competitive. In the competitive hospitality industry, maintaining high levels of customer satisfaction is crucial for hotels. Satisfaction is defined as the feeling that results from comparing a product's performance with a guest's expectations [1]. One often overlooked aspect that significantly influences this satisfaction is the timely performance of preventive maintenance (PM). PM ensures that hotel facilities are always in optimal condition, providing a comfortable and reliable environment for guests. This is particularly important in medical tourism, where travelers seek not only leisure but also health-related services, requiring a higher standard of care and comfort. Numerous studies have been

conducted in the field of guest satisfaction [2]. Hotel Guest Satisfaction and Brand Performance. Journal of Quality Assurance in Hospitality & Tourism. 7. 25-39. 10.1300/J162v07n03\_02.

The value and significance of guest satisfaction, brand management, and franchising in the hotel industry have been well documented and researched as independent topics. While previous research has suggested that franchising has an overall negative effect on hotel quality, it has rarely investigated the important links between hotel brand performance and guest satisfaction, and the role of brand franchising strategy in the relationship between hotel brand performance and guest satisfaction. This study examines the relationships among guest satisfaction, revenue performance and growth, and franchising strategy at the hotel brand level. Results indicate that guest satisfaction is a key to brand growth, while the positive effect of guest satisfaction on brand revenue performance is moderated by the extent of franchising within each brand, and "Factors affecting operation and maintenance cost of hotels" investigated by Ihsan, Bakhter [3], and they conclude that the most important factors affecting the operating and maintenance cost of five-star hotels are "climatic conditions" followed by "availability of the materials," "annual energy consumption rate," and "efficient energy consuming equipment".

The hospitality industry is increasingly recognizing the importance of preventive maintenance as a strategic tool to enhance service quality. By preventing equipment failures and maintaining cleanliness, hotels can ensure that all amenities are functioning properly, which is essential for delivering high-quality services. In this context, understanding the relationship between timely PM and tourist satisfaction is critical for hotels seeking to improve their competitive edge. According to public data, costs relating to maintaining technical facilities such as HVAC systems, fire alarms, electrical system, and security can reach up to 60% of hotels' total operating costs [4].

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\*Correspondence Author(s)

**Yousof Gholipour\***, Associate Professor, Department of Management, Najafabad Branch, Islamic Azad University, Najafabad, Iran. Email ID: [y.gholipour@yahoo.com](mailto:y.gholipour@yahoo.com), [y.gholipour@iau.ir](mailto:y.gholipour@iau.ir), ORCID ID: [0000-0002-7166-2832](https://orcid.org/0000-0002-7166-2832)

**Naser Khani**, Associate Professor, Department of Management, Najafabad Branch, Islamic Azad University, Najafabad, Iran. Email ID: [naserkhani@phu.iaun.ac.ir](mailto:naserkhani@phu.iaun.ac.ir), ORCID ID: [0000-0002-0027-7048](https://orcid.org/0000-0002-0027-7048)

**Yasser Gholipour**, Department of Management, Shahid Beheshti University, Tehran, Iran. Email ID: [Yasser255@gmail.com](mailto:Yasser255@gmail.com)

**Mohsen Rokrok**, Department of Management, Najafabad Branch, Islamic Azad University, Najafabad, Iran. Email ID: [mohsenmihandost@gmail.com](mailto:mohsenmihandost@gmail.com), ORCID ID: [0009-0002-9479-5272](https://orcid.org/0009-0002-9479-5272)

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[Fig.1: Maintenance and Security Can be 60% of the Total Operating Costs of a Hotel [4]]

## II. LITERATURE REVIEW

### A. Service Quality and Customer Satisfaction

Service quality is a critical determinant of customer satisfaction in the hospitality industry. It encompasses various dimensions, including tangibles, reliability, responsiveness, assurance, and empathy. Hotels that consistently deliver high-quality services are more likely to achieve high customer satisfaction rates, which in turn can lead to increased loyalty and positive word-of-mouth. The tangibles dimension, which includes physical facilities and equipment, is particularly relevant to the impact of PM on service quality.

### B. Customer Loyalty

Customer Loyalty is a long-term commitment by customers to consistently choose and support a specific brand over its competitors. It involves a combination of emotional connection, satisfaction, and positive experiences that drive repeat purchases and advocacy for the brand. Based on Muhtarom et al. [5], Customer Loyalty states that loyal customers not only buy our products repeatedly but are also committed and show an attitude with positivity about the company. Sihotang et al [6] states that loyalty as a deeply held dedication to shop or re-aid a favored products or services with inside the destiny no matter conditional affects and marketing efforts having the capability to purpose clients to change.

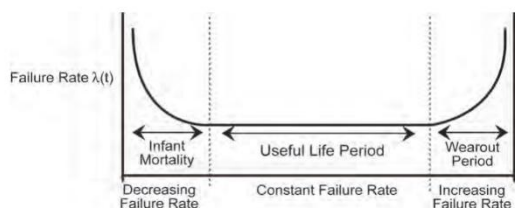
### C. Preventive Maintenance (PM) in Hotels

Preventive maintenance is essential for maintaining the physical condition of hotel facilities. It involves regular inspections and repairs to prevent equipment failures and ensure that all amenities are functioning properly. Timely PM can reduce downtime, improve safety, and enhance the overall guest experience by providing a well-maintained environment. For instance, a hotel with reliable air conditioning, clean rooms, and functioning amenities is more likely to receive positive reviews and high satisfaction ratings from guests.

In the context of medical tourism, where travelers may have specific health needs, the reliability of hotel services becomes even more critical. Hotels catering to medical tourists must ensure that their facilities meet high standards of cleanliness and safety, which can be achieved through effective PM strategies.

### D. The Impact of PM on Tourist Satisfaction

While there is limited direct research on the impact of PM on tourist satisfaction, it is reasonable to infer that well-maintained facilities contribute positively to the guest experience. Guests who experience reliable services and clean environments are more likely to report high satisfaction levels. Moreover, in the digital age, positive reviews and word-of-mouth can significantly influence a hotel's reputation and attract more customers.



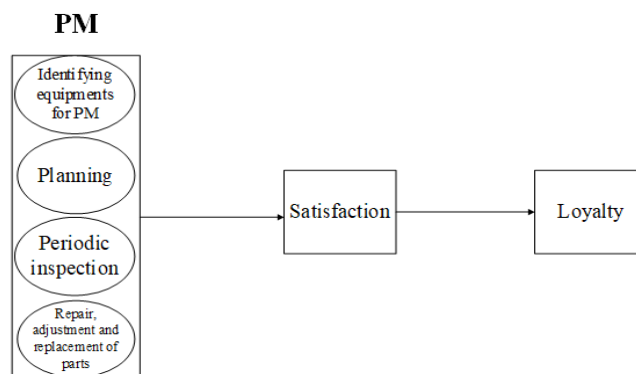
[Fig.2: Component Failure Rate Over Time [7]]

### E. Failure Rate Over Time

Figure 2 illustrates the typical failure rate of components over their lifespan, often depicted as a "bathtub curve." This curve is characterized by three distinct phases. The initial "infant mortality" phase of the bathtub curve is characterized by a high failure rate, which is followed by a period of decreasing failures. Many of the failures associated with this region are linked to poor design, poor installation, or misapplication. The infant mortality period is followed by a nearly constant failure rate period known as useful life. There are several theories about why components fail in this phase, but most agree that inadequate operation and maintenance (O&M) often play a significant role. It is also obvious that preventive maintenance can extend this period. The wear-out period is characterized by a rapid increasing failure rate with time. In most cases this period encompasses the normal distribution of design life failures. The top causes for unplanned equipment downtime are ageing equipment (34%), mechanical failure (20%), operational error (11%), lack of time for maintenance (9%), poor equipment design (8%). Ohring, M. [7].

## III. DISCUSSION AND CONCLUSION

Based on the conceptual model presented in Figure (3), PM has a direct impact on guest satisfaction and ultimately their loyalty.



[Fig.3: Conceptual Model PM Effects on Hoteling Industry]

As illustrated in the conceptual model, this research focuses on four key dimensions of preventive maintenance, which are explained below:

### A. Identifying Equipment for PM

Identifying which equipment requires PM is crucial for maintaining a well-functioning hotel environment [8]. This process involves assessing the criticality and usage of various facilities and equipment, such as elevators, air conditioning systems, and kitchen appliances. By prioritizing equipment based on these factors, hotels can ensure that essential services are always available, thereby enhancing guest satisfaction [9].

### B. Planning

Effective planning of PM involves scheduling regular maintenance checks to prevent unexpected failures. This can include daily, weekly, and monthly checks depending on the type of equipment and facility [10]. Proper planning

ensures that maintenance activities do not disrupt hotel operations, maintaining a seamless guest experience.

### C. Periodic Inspection

Regular inspections are vital for identifying potential issues before they become major problems. By conducting periodic inspections, hotels can detect early signs of wear and tear, allowing for proactive maintenance [11]. This proactive approach helps maintain cleanliness and reliability, contributing to higher guest satisfaction levels [12].

### D. Repair Adjustment and Replacement of Parts

Prompt repair, adjustment and replacement of parts are essential for minimizing downtime and ensuring that all amenities are functioning properly [13]. This aspect of PM directly impacts the tangibles dimension of service quality, as guests expect clean and well-maintained rooms and public areas. Efficient repair and replacement processes can significantly enhance the overall guest experience [14].

### E. The Impact of Guest Satisfaction on Loyalty

The effect of guest satisfaction on loyalty in the hospitality industry is profound. When guests experience high-quality services and a well-maintained environment, they are more likely to develop a positive emotional connection with the hotel, leading to loyalty. Satisfied guests often share their experiences through reviews and word-of-mouth, which can attract new customers and reinforce loyalty among existing ones. This loyalty involves a long-term commitment to consistently choose and support a specific brand, driven by emotional connections, satisfaction, and positive experiences [15]. By ensuring high-quality services through effective preventive maintenance, hotels can foster these positive experiences, encourage brand advocacy, and ultimately increase loyalty and repeat business. For instance, hotels like The Grand Dubai and The Medical



**[Fig.4: Preventive Maintenance (PM) Cause More Satisfaction of Guests]**

Oasis in Thailand have seen significant increases in customer satisfaction and loyalty after implementing comprehensive preventive maintenance programs, highlighting the direct link between satisfaction and loyalty in the hospitality sector [16].

### F. Practical Implications for Hotels

Hotels can implement several strategies to ensure timely PM:

- i. "Regular Scheduling": Implement a regular schedule for maintenance checks to prevent unexpected failures [17]. This can include daily, weekly, and monthly checks depending on the type of equipment and facility.
- ii. "Training Staff": Ensure that maintenance staff are well-trained to handle a variety of tasks efficiently. This includes training on new technologies and equipment to stay up-to-date with industry standards.
- iii. "Guest Feedback": Encourage guest feedback to identify areas needing improvement. This can be done through surveys, comment cards, or online review platforms.
- iv. "Technology Integration": Leverage technology, such as maintenance management software, to streamline PM processes and track maintenance schedules more effectively [18].

### G. Case Studies

Several hotels have successfully implemented PM strategies to enhance customer satisfaction.

#### ■ The Grand Dubai Hotel

A luxury hotel in Dubai, significantly increased customer satisfaction by implementing a comprehensive preventive maintenance (PM) program. This program included regular inspections and maintenance of all facilities and equipment.

Statistics after implementing the PM program:

Increase in Customer Satisfaction: 25%

Reduction in Equipment Failures: 30%

Reduction in Repair Costs: 20%

#### ■ The Medical Oasis Hotel in Thailand

The Medical Oasis Hotel in Thailand improved its service quality by focusing on cleanliness and reliability through timely PM. This was particularly important for medical tourists who require high standards of care and comfort.

Statistics after implementing the PM program:

Increase in Customer Satisfaction: 18%

Reduction in Cleaning Complaints: 40%

Reduction in Response Time to Issues: 25%

#### ■ The Europa Palace Hotel in Europe

The Europa Palace Hotel in Europe effectively managed its maintenance programs using management software, leading to increased customer satisfaction [18].

Statistics after implementing the PM program:

Increase in Customer Satisfaction: 12%

Reduction in Maintenance Time: 15%

Reduction in Maintenance Costs: 10%

By incorporating these statistics, it becomes clear how preventive maintenance programs can practically enhance customer satisfaction in the hotel industry. (Mouzaek et al., 2021).

Implementing PM programs significantly [19] increases customer satisfaction by ensuring regular maintenance of all facilities [20], focusing on cleanliness and reliability [21], and improving responsiveness to guest needs [22].

## IV. CONCLUSION

In this paper, we investigated the impact of preventive maintenance on customer satisfaction as a key factor in the hotel industry. Our review examined the effect of timely



preventive maintenance on guest satisfaction, concluding that implementing such maintenance is crucial for enhancing customer satisfaction in the hospitality sector. Studies have shown that PM can significantly improve service quality by ensuring reliable facilities and cleanliness, which are particularly important in medical tourism. For example, a luxury hotel in Dubai reported a 25% increase in customer satisfaction after implementing a comprehensive PM program, while a hotel in Thailand experienced an 18% increase by focusing on cleanliness and reliability.

By maintaining high-quality facilities, hotels can enhance the guest experience, leading to higher satisfaction rates and improved hotel rankings. Effective PM strategies can reduce equipment failures by up to 30% and decrease maintenance costs by 20%, allowing hotels to allocate resources more efficiently. Overall, timely PM is essential for hotels seeking to differentiate themselves and attract more guests, ultimately contributing to increased customer satisfaction and operational efficiency.

## DECLARATION STATEMENT

After aggregating input from all authors, I must verify the accuracy of the following information as the article's author.

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- **Data Access Statement and Material Availability:** The adequate resources of this article are publicly accessible.
- **Authors Contributions:** The authorship of this article is contributed equally to all participating individuals.

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## AUTHOR'S PROFILE



**Yousof Gholipour** is an Associate Professor of Management at Islamic Azad University, Najafabad Branch, with research interests spanning organizational behavior, human resources, and strategic management. His work emphasizes the impact of information technology on organizational agility and effectiveness, particularly in Iranian business contexts. Gholipour's publications cover topics such as knowledge management, innovation adoption, and the role of IT in enhancing organizational performance.



**Naser Khani** is Associate Professor of Management at Islamic Azad University, Najafabad Branch, specializing in strategic information systems, technology and innovation management, and e-business. He serves as Editor-in-Chief of the Journal of Business Data Science Research and has published widely on knowledge sharing, IT capability, and organizational behavior.



**Yasser Ghlipour** Affiliated with the Department of Management, Shahid Beheshti University, Tehran, Iran. Research focus likely includes organizational behavior or strategic management. widely on knowledge sharing, IT capability, and organizational behavior.



**Mohsen Rokrok** Affiliated with the Department of Management, Islamic Azad University, Najafabad Branch, Iran.

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