

Economic Impact of Maintenance Management and Planning in Tala Bay Resorts in Aqaba-Jordan

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How to cite this paper: Alhalholy, M. M., & Alkhamis, T. M. (2024). Economic Impact of Maintenance Management and Planning in Tala Bay Resorts in Aqaba-Jordan. *American Journal of Industrial and Business Management*, 14, 408-424.

<https://doi.org/10.4236/ajibm.2024.144021>

Received: March 8, 2024

Accepted: April 15, 2024

Published: April 18, 2024

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Abstract

This study was conducted in response to the insufficient understanding and appreciation of the crucial significance of maintenance in resorts and hotels. In order to accomplish the aforementioned goals, the study investigates the economic consequences of maintenance management and planning in hotels and resorts in Jordan. To systematically examine these issues, a quantitative methodology is employed by administering a questionnaire to gather the necessary data from a randomly chosen sample of stakeholders at the Tala Bay Resort in Aqaba-Jordan. The findings suggest that the effectiveness of maintenance management and planning in tourist resorts is influenced by the level of satisfaction among tourists and owners of the resort. Furthermore, the degree of satisfaction among visitors and owners has a statistically significant impact on the overall effectiveness of maintenance in hotels and resorts. The study demonstrated a significant statistical influence of management on the resort's revenue. There is a significant shortage of literature, studies, and information pertaining to the maintenance department at resorts and hotels. The rationale for conducting this study stems from the fundamental requirement that the operational efficiency of any department within an organization is dependent upon the proper functioning of its supportive infrastructure.

Keywords

Tourism, Tourism Resorts, Total Effectiveness, External Effectiveness, Internal Effectiveness, Tourism Resort Maintenance, Jordan, Maintenance Management

1. Introduction

The maintenance and upkeep of tourist resorts is an essential component of

their revenue generation. Hence, the tourist industry is a crucial sector that contributes significantly to the national revenue. Maintenance is a crucial aspect that directly impacts the overall satisfaction of hotel and resort guests and customers.

Tourism is a substantial and swiftly expanding sector of global economic activities and a contributor to foreign currency (Jaafar et al., 2015). It is a significant revenue generator in Jordan, playing a crucial role in the growth of the national economy. As to the data from the Jordanian Ministry of Tourism, as documented on the ministry's official website, the tourism revenue for the year 2009 reached a total of 4.11 billion JD. However, Okpolo proposed that tourism contributes around 7% of the total world capital investment with projected revenues of 1.550 billion dollars by the year 2010 (Enemu et al., 2015).

Hence, the structures seen in tourist resorts and hotels are a mixture of tangible and intangible products and services, wherein guests are expected to experience a superior degree of luxury, comfort, aesthetics, and safety. Ojo et al. (2011) argue that the desire for pleasure, comfort, and privacy is a fundamental aspect of human nature, and tourism offers a means to fulfill these desires and tourism is characterized as individualistic due to its growing popularity.

Although tourist resorts are regarded as costly assets, they require regular maintenance and renovation to ensure the functionality and performance of their numerous components. To ensure alignment with the growth of tourism, tourist resorts must uphold their market value, as well as the standard of luxury and services they offer. The aforementioned actions are intended to maximize the return on investment (Alhalholy, 2020).

To accomplish the aforementioned goals, it was imperative to implement strategic planning and efficient management of maintenance and reconstruction activities. The growth of resorts relies on the assessment of the resort, which is conducted by guests and consumers following their stay at the resort. This review represents the guests and customers' aspiration to accomplish their objectives and specifications. Additionally, it demonstrates the resort's capacity to effectively respond to the fluctuations in supply and demand within the tourism sector. According to Puczko & Ratz (2000), it is unquestionable that effective tourism growth requires responsible and sustainable planning and management.

Maintenance in tourist resorts refers to the preservation of the resort's efficiency and operational capability. It is also associated with preserving buildings from the deterioration and damage caused by their use over time. Additionally, it is associated with preserving the property's real estate value, ensuring the safety of both staff and customers, and minimizing operational expenses. The International Facilities Management Association (IFMA, 2016) defines facilities management as a profession that involves various disciplines to assure the effective operation of the built environment by combining people, place, process, and technology.

Other scholars have defined maintenance as the act of adhering to or conducting a particular definition or set of guidelines. Enzo defined maintenance as a series of procedures performed on an asset to assure its continued functionality

by addressing any problems that may impact its performance. Seeley defines maintenance as the work conducted to maintain, restore, or enhance all aspects of a building, its services, and its surroundings, to meet current standards and preserve the building's utility and value. Lee and Scott define maintenance as a broad concept that encompasses the responsibilities and requirements of maintenance. Maintenance, as described by Lee and Flores-Colen et al., includes a set of operations undertaken to preserve or restore an item to an acceptable condition according to the standards of BS 3811:1984 and ISO 15686-1. Lind and Muyingo have defined maintenance as the process of restoring or retaining an item to a state where it can execute its initially intended purpose and all associated actions (Bivona & Montemaggiore, 2005; Seeley, 1987/2003; Lee & Scott, 2009; Wordsworth, 2001; Ahmad et al., 2014).

The success of maintenance management projects relies on numerous elements. The important success aspects can be classified into five fundamental categories: leadership, culture, structure, roles and responsibilities, and system infrastructure and measurement. The categorization was derived from the organization's objective. Primarily, their objective was found to be satisfaction. This gave rise to the concept of forecasting (Zawawia et al., 2013).

Routine maintenance, which occurs regularly, does not necessitate advanced expertise or training to conduct, and it is also vital to the overall upkeep of the property. The housekeeping department is responsible for conducting these operations, as opposed to the maintenance department. Preventative maintenance refers to maintenance chores that are performed on a regular basis, regardless of the existing condition of the object. Most experts generally believe that preventative maintenance often includes many key elements: inspection, lubrication, minor repairs or modifications, and start of work orders. Essentially, they can be categorized into three components: examination, minor adjustments, and commencement of work orders. The significance of preventive maintenance lies in its role as the foundation of the overall maintenance philosophy. If preventive maintenance fails, all other maintenance efforts will also fail (Knowles, 1998; Stipanuk, 2002; Kumar et al., 2013; Chan et al., 2005; Basri et al., 2017; Lai & Yik, 2012).

As far as the authors are aware, no prior research has investigated the impact of maintenance management on service quality enhancement, which subsequently enhances the economic performance of Jordanian tourist resorts. Therefore, the objective of this study is to find a scientific methodology for enhancing and advancing the processes of planning and maintenance management in resorts. It also aims to highlight the efficiency of the economic performance of the tourist resorts by measuring their performance after customers have occupied them. The findings of this study can be applicable to comparable tourist destinations worldwide.

2. Research Methodology

The approach demonstrates how the entire research was organized in a practical

manner. The data collection methods adhere to prescribed protocols in order to generate valuable data for analysis. This data is used to draw precise conclusions that help investigate the impact of efficient maintenance planning and management on tourist resorts in Jordan.

A questionnaire was designed using a five-point Likert scale ranging from one for very unhappy to five for very satisfied. It was developed following regular stages for questionnaire preparation based on-site visits to resorts in Jordan, particularly in Aqaba. Arbitrators have reviewed the surveys to assess the validity of the tool by examining the relevance of the questions to each other and the consistency of the responses, ensuring they align with the study's objectives. Moreover, the tool's stability was assessed by calculating the reliability coefficient (Cronbach's Alpha) to determine the consistency and internal reliability of the questionnaire responses.

Four surveys were developed and distributed into distinct categories based on the specific role each category plays in the resort. The categories include resort owners, resort guests, department directors, employees, and workers. The questionnaire primarily addresses the maintenance quality in resorts, tourists' satisfaction with resort maintenance, and the key factors that contribute to cost reduction in maintenance work. The data was collected from the responses obtained from the questionnaire issued to the categories stated above. An analysis of these findings and data was conducted utilizing SPSS software for interpretation. The acquired data has also been evaluated by means of quantitative approaches.

The present study investigated the effects of effectively managing and planning the upkeep of Tala Bay Resort/Aqaba on the monetary revenues of the resort as well as the satisfaction levels of both owners and tourists. The targeted population of this study is stratified. Non-random sampling, specifically quota sampling, will involve selecting participants from specific groups such as resort owners, resort guests, department directors, and resort employees and workers. As to the data provided by Tala Bay resort's administration, the resort has a total of 300. It hosts an average of 200 guests daily on a monthly basis. Additionally, the resort employs 20 department directors along with 200 staff and workers. Referring to the equation for determining the sample size, the study population of resorts' guests, owners, department directors, and personnel should consist of 453 people (Cochran, 1977; Mood et al., 1974).

To obtain the targeted sample size for this research, the statistical equation developed by Krejcie and Morgan in 1970 is used (Krejcie & Morgan, 1970):

$$\text{Sample Size} = \frac{z^2 * p(1-p)/e^2}{1 + z^2 * p(1-p)/e^2 * N} \quad (1)$$

where:

z : the z score: 1.96

e : the margin error: 0.05

N : population size

p : population proportion: 0.5

Applying the above equation **Table 1** presents the sample size of each targeted population. The sample size of each population is determined using the aforementioned formula, and the corresponding outcomes are presented in **Table 1**.

Table 2 presents the numbers and ratios of the distributed questionnaires, the retrieved questionnaires, and the questionnaires appropriate for analysis. The number of distributed questionnaires is 625, while the number of retrieved questionnaires is 497. Nevertheless, the cumulative number of acceptable surveys amounts to 453.

The survey has undergone rigorous examination through several tests to confirm the instrument's validity in achieving the study's objectives and the accuracy of the results. The tests were conducted to assess the efficacy and capability of the questionnaire by measuring the variables in this study. In order to ensure the accuracy of the tool, the interconnection of the questions is assessed, as well as the consistency of the answers, to accurately reflect the objectives of this study. To achieve this objective, the survey was presented to arbitrators who possess both scientific and practical expertise. The questionnaire was subsequently revised based on their feedback and suggestions.

Cronbach's alpha measure is employed to evaluate the main criteria for assessing the reliability of questionnaire items. The results are presented in **Table 3** below, which indicate that the reliability value of each construct is satisfactory, as referenced in (Hair et al., 2007), which suggests an appropriate coefficient value of 0.7. The measurements were based on Lickert's scale (1 - 5).

Table 1. Samples' size of each targeted population.

Category	Number	Sample size
Owners	300	169
Guests	200	132
Departments' directors	20	20
Employees and Workers	200	132
Total	720	453

Table 2. The number of the distributed, retrieved and analyzable valid questionnaire with percentages.

Category	Distributed questionnaires		Retrieved questionnaires		Analyzable valid questionnaires	
	No.	Per.%	No.	Per.%	No.	Per.%
Owners	220	100%	174	79%	169	77%
Guests	205	100%	148	72%	132	64%
Directors of the Department	20	100%	20	100%	20	100%
Employees	180	100%	155	86%	132	73%
Total	625	100%	497	80%	453	72%

Table 3. Reliability analysis Cronbach's Alpha.

No	Variable name	N of Items	Cronbach's Alpha
1	Owner	20	0.878
2	Guest	23	0.929
3	Director of the Department	29	0.986
4	Employee	22	0.959

3. Data Analysis Procedure

The statistical results were extracted using statistical methods used in the Statistical Package for Social Science (SPSS) software program. The mean and standard deviation are the primary measures of central tendency to employ for analysis. The second approach involves descriptive statistics, which encompasses the construction of a frequency distribution table and the calculation of corresponding percentages. The third approach involves the utilization of the Cronbach alpha test, which assesses the repeatability of data. A Cronbach alpha value greater than 0.7 is indicative of data reliability.

The study employed a cross-sectional research methodology, utilizing a survey to investigate the economic implications of maintenance management and maintenance planning on the revenue of tourist resorts. Additionally, it aimed to explore the perspectives of maintenance managers in this sector regarding the environmental aspects of maintenance management. The reason for employing this cross-sectional survey approach is its choice since it allows for the evaluation of correlations between research variables and the capacity to draw implications across the units being investigated. The population of the study includes all resort users in of Tala Bay tourist resort in Jordan.

Factor analysis (FA) is a statistical method used to identify underlying factors or dimensions in a set of observed variables. It was employed in this study to identify the hidden factors or groups of items that assess the specific construct (Hair et al., 2007). The Kaiser-Meyer-Olkin (KMO) measure was utilized as a Measure of Sampling Adequacy (MSA) during the investigation. A KMO rating close to 1.0 suggests that factor analysis is highly useful with the given data. If the value is below 0.60, the outcome of factor analysis is deemed unreliable due to the insufficient adequacy of the dataset. The Bartlett's test for Sphericity evaluates whether the correlation matrix is an identity matrix, indicating that the variables are uncorrelated and unsuitable for predicting the structure. The KMO statistic has a range of 0 to 1, with a generally accepted threshold of 0.6 or higher (Trujillo-Ortiz et al., 2006).

Once the three parameters mentioned above have been met, the following step is to extract the research items and categorize them into various variables. The Principal Component Analysis (PCA) test technique was employed in this operation, together with the KMO rotation using the orthogonal Varimax method, to produce a clearer factor structure. The Varimax approach was employed to en-

hance the comprehension of the data (Hadi et al., 2016). The orthogonal Varimax approach maximizes squared loadings, resulting in high loadings for certain constructions and low loadings for others.

4. Results and Discussion

The study employed a cross-sectional research methodology, utilizing a survey to investigate the economic implications of maintenance management and maintenance planning on the revenue of tourist resorts. Additionally, it aimed to explore the perspectives of maintenance managers in this sector regarding the environmental aspects of maintenance management. The reason for employing this cross-sectional survey approach is its choice since it allows for the evaluation of correlations between research variables and the capacity to draw implications across the units being investigated.

4.1. Characteristics of the Study Sample

Following the removal of missing values and anomalies, a descriptive analysis was conducted on the 453 sample. The sample was divided into different categories based on the response rate of 72%, as indicated in **Table 4**. The table presents the demographic data of the respondents, revealing that 37.3% of the total were owners, 29.1% were visitors of the resort, 4.4% were managers in the resorts, and 29.1% were employees working in the Tala Bay resort in Jordan. **Table 4** also indicated the gender distribution of the respondents in this study, with a predominant majority of male respondents. Among the 453 respondents, 294 (65%) were male, while the remaining 159 (35%) were female.

The sample was divided into different age groups based on a response rate of 72%. The distribution of respondents' ages is presented in **Table 5**. The data reveals that 19% of the total sample were 25 years old or younger, 30% were between 26 and 35 years old, 29% were between 36 and 45 years old, and 23% were

Table 4. Distribution of the study sample according to gender.

No	Variable name		Male	Female	Total	% the total study sample
1	Owner	N	103	66	169	37.3%
		%	61%	39%	100%	
2	Guest	N	81	51	132	29.1%
		%	61%	39%	100%	
3	Director of the Department	N	16	4	20	4.4%
		%	80%	20%	100%	
4	Employee	N	94	38	132	29.1%
		%	71%	29%	100%	
	Total	N	294	159	453	100.0%
		%	65%	35%	100%	

Table 5. Distribution of the study sample according to age.

No	Variable name		25 years or less	26 - 35 years	36 - 45 years	46 - 55 years or more	Total
1	Owner	N	24	11	56	78	169
		%	14%	7%	33%	46%	100%
2	Guest	N	29	74	15	14	132
		%	17%	44%	9%	8%	100%
3	Director of the Department	N	0	12	7	1	20
		%	0%	60%	35%	5%	100%
4	Employees	N	31	40	51	10	132
		%	18%	24%	30%	6%	100%
	Total	N	84	137	130	102	453
		%	19%	30%	29%	23%	100%

46 years old or older. **Table 5** also revealed that the participants in the 26 - 35 age range constituted the largest proportion of responses in this study. It can be concluded that the study sample have the necessary capability to complete the questionnaire.

4.2. Descriptive Analysis of the Study Variables

Parida and Kumar classified maintenance effectiveness into two components: exterior effectiveness, which corresponds to the viewpoint of owners and guests, and internal effectiveness, which corresponds to the perspective of workers, employees, and directors (Parida & Kumar, 2006). Additionally, they propose that the overall maintenance effectiveness is determined by multiplying the internal effectiveness with the exterior effectiveness, as depicted in **Figure 1**.

4.3. The External Effectiveness

Table 6 displays the findings of the external effectiveness of the owner and guest groups. The analysis of the owners' responses showed that the owners' average satisfaction level was 3.691, with a standard deviation of 0.44. Conversely, the guest feedback indicates an average satisfaction rating of 3.962, with a standard deviation of 0.93. Thus, both owners and guests exhibit a high level of satisfaction with maintenance. However, there is a little more variety of replies from guests compared to owners.

Figure 2 depicts the mean external effectiveness of both owners and guests. The data indicate that the satisfaction levels of guests in all categories exceed those of the owners. This is evident when comparing the standard deviation of 0.25 for owners' results to the standard deviation of 0.12 for guests.

The main focus of external effectiveness is centered around ensuring customer satisfaction and increasing the hotel's market share. The overall satisfaction of the owners with the resort reached the highest average in the customer satisfaction

Table 6. External effectiveness of owners and guests groups.

Group	Average satisfaction level	Standard deviation
Owners	3.691	0.44
Guests	3.962	0.93

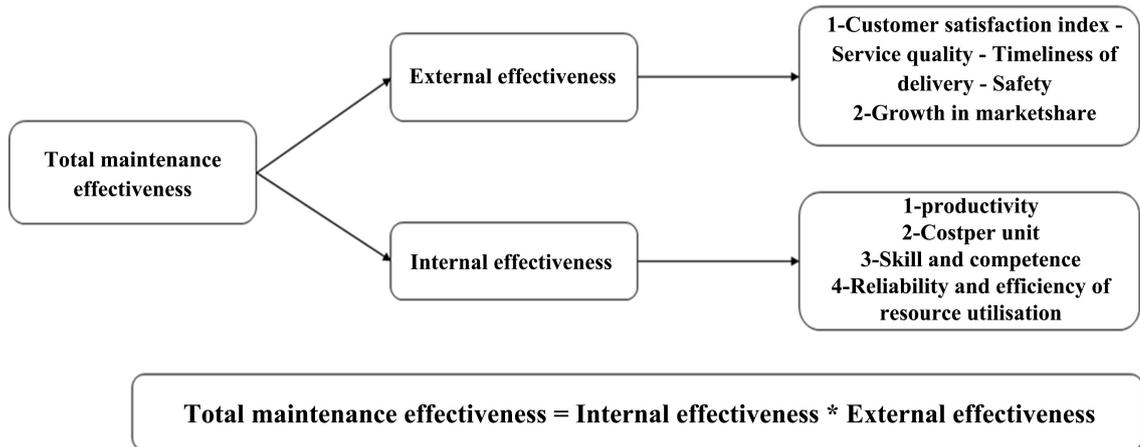


Figure 1. Total maintenance effectiveness (according to reference 25).

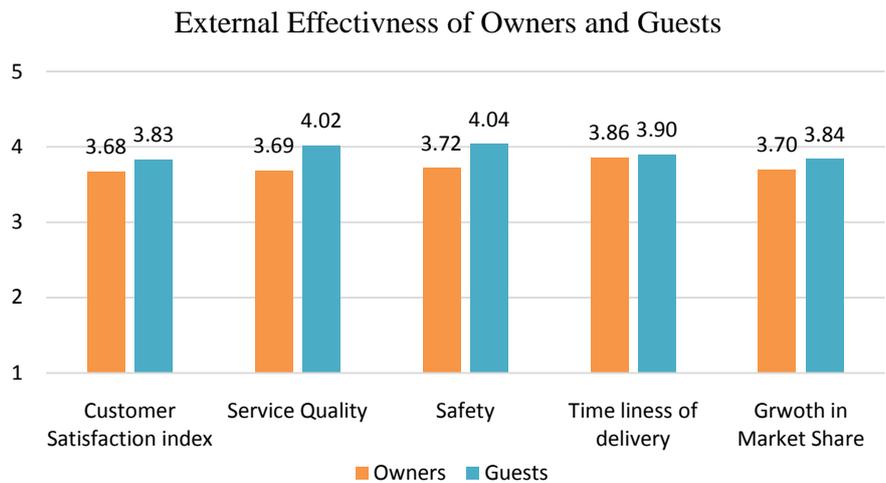


Figure 2. Average external effectiveness of owners and guests.

index. Nevertheless, the resort’s beach quality ranking is exceptionally good in terms of service quality. The security services had the highest average score in safety, while the maintenance service had the highest average score in punctuality.

Figure 3 depicts the average external effectiveness for owners and guests in each researched category, as well as the overall average for each category. The average value of the customer satisfaction index was 3.76, while the average value of service quality was 3.85. The safety mean was 3.88, while the timeliness of delivery mean was also 3.88. Conversely, the average increase in market share was 3.84. Therefore, the average value of external effectiveness was 3.84.

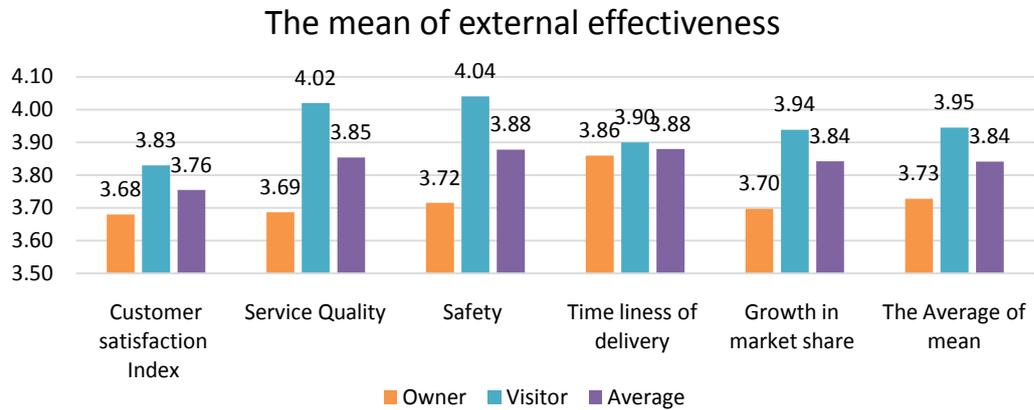


Figure 3. Results of the average external effectiveness ratings as perceived by owners and guests, compared to the average ratings for each category under investigation.

4.4. Internal Effectiveness

Table 7 depicts the findings of the external effectiveness of the managers and employees groups. The analysis of the responses provided by the managers (namely, the Directors of Departments) indicates that the mean satisfaction level among the managers was 3.741, with a standard deviation of 0.903. In contrast, the feedback from the employees reveals an average satisfaction rating of 3.725, accompanied by a standard deviation of 0.833. Both managers and staff demonstrate a significant level of satisfaction with maintenance. Nevertheless, managers tend to provide a greater range of responses in comparison to employees. When comparing the effectiveness of external and internal factors, it is evident that stakeholders in the external categories exhibit higher levels of satisfaction compared to those in the internal categories.

Figure 4 illustrates the average internal efficiency of both managers and employees. The statistics suggest that managers had higher satisfaction levels in the productivity area compared to employees.

Nevertheless, the outcomes of the efficiency of employees in other areas (cost, skills and abilities, and the efficacy of resource usage) exceed those of managers. The variability in managers' outcomes is slightly greater than that of employees. This is apparent when comparing the standard deviation of 0.28 for managers' outcomes with the standard deviation of 0.22 for guests.

Figure 5 depicts the mean internal effectiveness results for managers and employees in each researched category, as well as the overall mean for each category. The average of the productivity category was 3.8, whereas the average cost category was 3.63. The average value for the category of skills and competences was 3.56, whereas the average value for the category of reliability and efficiency of resource utilization was 3.62. Leading to an average internal effectiveness results was 3.65.

4.5. Parida and Kumar's Law of Total Maintenance Effectiveness

Table 8 demonstrates the multiplication of the average external effectiveness,

Table 7. External effectiveness of owners and guests groups.

Group	Average satisfaction level	Standard deviation
Managers (Directors of Departments)	3.741	0.903
Employees	3.725	0.833

Table 8. Total maintenance effectiveness based on Parida and Kumar’s low.

	External Effectiveness	*	Internal Effectiveness
Total Maintenance Effectiveness =	3.84	*	3.65
			14.04
Total Maintenance Effectiveness (%)			56

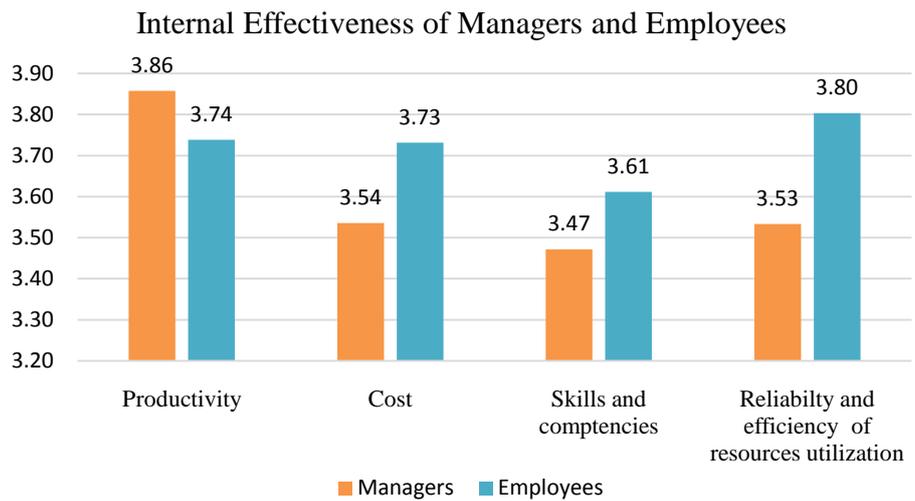


Figure 4. Average internal effectiveness of managers and employees.

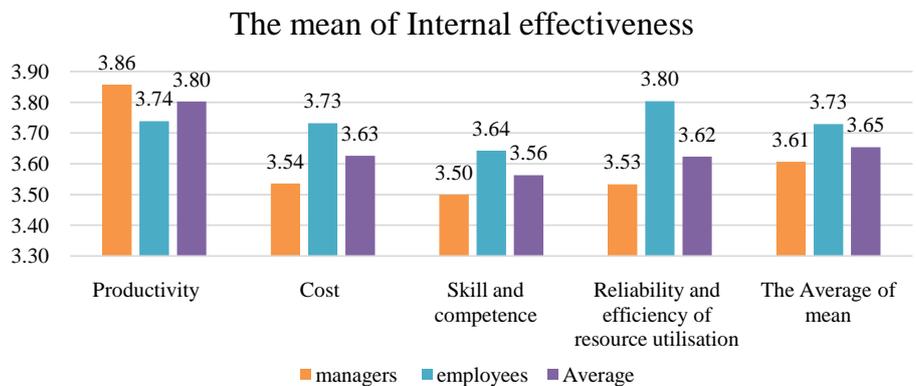


Figure 5. Results of the average internal effectiveness ratings as perceived by managers and employees, compared to the average ratings for each category under investigation.

which is 3.84, by the average internal effectiveness, which is 3.65. The outcome is the overall maintenance efficacy, which amounts to 14.04 out of 25, equivalent to a 56%.

4.6. Analysis of Maintenance Planning and Managing Strategies

By conducting the KMO test, four components have been identified with eigenvalues exceeding 1. The criteria for factor extraction are based on the work of (Hair et al., 2007). Prior to obtaining the final factor, a sequence of item elimination procedures has been executed. Disposal criteria refer to products with loadings below 0.60. Furthermore, the factors that are occupied by only one or two things will also be eliminated (Tabachnick et al., 2007). The items are systematically extracted in sequential steps to optimize their value and shape the overall factor. Kaiser (1974) suggests that a minimal value of 0.6 for the Kaiser-Meyer-Olkin (KMO) statistic is barely acceptable. This test must yield statistically significant results at a significance level of $p < 0.05$ in order to proceed with further investigation (Pallant & Manual, 2010). The provided information suggests that specific questions are utilized to examine various elements such as service delivery, organization of work, maintenance methods, support systems, goal settings, scanning of the process, analysis, and income (feedback).

Table 9 shows the components that exceeded the permissible threshold. According to (Tsang, 2002), the four strategic elements of maintenance management are service delivery options, organization and work structuring, maintenance technique, and support systems. Additionally, three planning dimensions are identified: target setting, scanning, and analysis (Powell, 1992).

Various items have been subjected to principal component analysis to evaluate the dimensionality of the data. The results showed that the Bartlett's Test of Sphericity was statistically significant (P -value < 0.05) for all constructions, with different degrees of freedom for each construct. Hence, it is advisable to ensure that the data is suitable for conducting the factor analysis procedure, as indicated by the high values of the two measures (Kaiser-Meyer-Olkin and Bartlett's Test), which were approximately 1.0 and significance of 0.000. Reliability refers to the extent to which questionnaire items consistently measure the variables being studied. It pertains to the consistency of measurements during the course of an observation, evaluating whether a measurement error would lead to an inaccurate outcome.

The descriptive analysis of each concept often includes the mean and standard deviation, which provide information about the constructions being examined and the extent to which respondents agree with the arguments. Prior to conducting additional analysis, it is essential to provide preliminary information on the study item. **Table 10** included a comprehensive study of both primary and secondary variables. The resort revenue component exhibited the highest mean score of 3.89, accompanied by a standard deviation of 0.925. Conversely, the service delivery element displayed the lowest mean score of 2.78, with a standard deviation of 0.662.

The Standard Error displayed in **Table 11** represents the variability in the sample, which is influenced by the sample size. The standard errors of the independent variables, maintenance management and planning, are 0.044 and 0.090

Table 9. Factor analysis of the variables.

Constructs	Number of components	Component names	Number of item	KMO	Sig.	Cronbach alpha α
maintenance management	4	service- delivery	5	0.57	0.000	0.65
		organization and work structurin	5	0.89	0.000	0.93
		maintenance methodology	5	0.89	0.000	0.90
		support systems	4	0.80	0.000	0.89
Planning	3	goal setting	4	0.84	0.000	0.90
		scanning	3	0.75	0.000	0.90
		analysis	4	0.80	0.000	0.85
Resort income	1	income	5	0.84	0.000	0.90

Table 10. Descriptive analysis of the factors.

Factor name	Mean	Std. Deviation
Service delivery	2.7863	0.66245
Organization and work structuring	3.4618	1.12213
Maintenance methodology	3.4570	1.08098
Support systems	3.4200	1.10012
Goal setting	3.4652	1.11009
Scanning	3.3763	1.16881
Analysis	3.5572	1.02793
Resort income	3.8920	0.92547

Table 11. Coefficients.

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Significance	
	B	Std. Error	Beta			
1	(Constant)	0.687	0.161	4.270	0.000	
	Maintenance management	0.900	0.044	0.737	20.346	0.000
2	(Constant)	0.725	0.159	4.557	0.000	
	Maintenance management	0.571	0.108	0.468	5.282	0.000
	Planning	0.301	0.090	0.294	3.327	0.001

respectively, indicating a 4% and 9% fluctuation in the sampling mean for each variable. Standardized coefficients represent the standardized values obtained when the predictors and result variables were analyzed, allowing for a comparison of the coefficient sizes across variables. The t-values for the independent variables maintenance management and planning are 5.282 and 3.327, respectively.

If the value of t is greater than 2.5 ($t > 2.5$), the null hypothesis will be rejected and the alternate hypothesis will be accepted, in accordance with the guidelines.

The study concluded that implementing different maintenance processes enhances the life span of resorts and tourist accommodations. Nevertheless, it is crucial to differentiate between two distinct categories of default building ages. Firstly, the structural life span refers to the duration from the building's construction until it becomes incapable of functioning due to a defect in one of its structural components. The lifespan of tourist resorts should be extended in light of the substantial investments allocated to their development. This is achieved by adhering to the scheduled maintenance protocols for the structural components. Secondly, the economic age of a structure refers to the duration in which the building generates sufficient returns to cover its costs, until the point

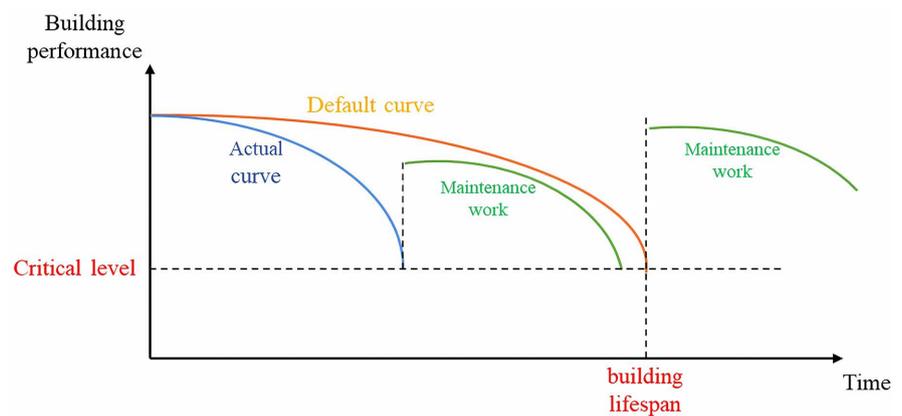


Figure 6. Relationship between the building performance and time according to the default age.

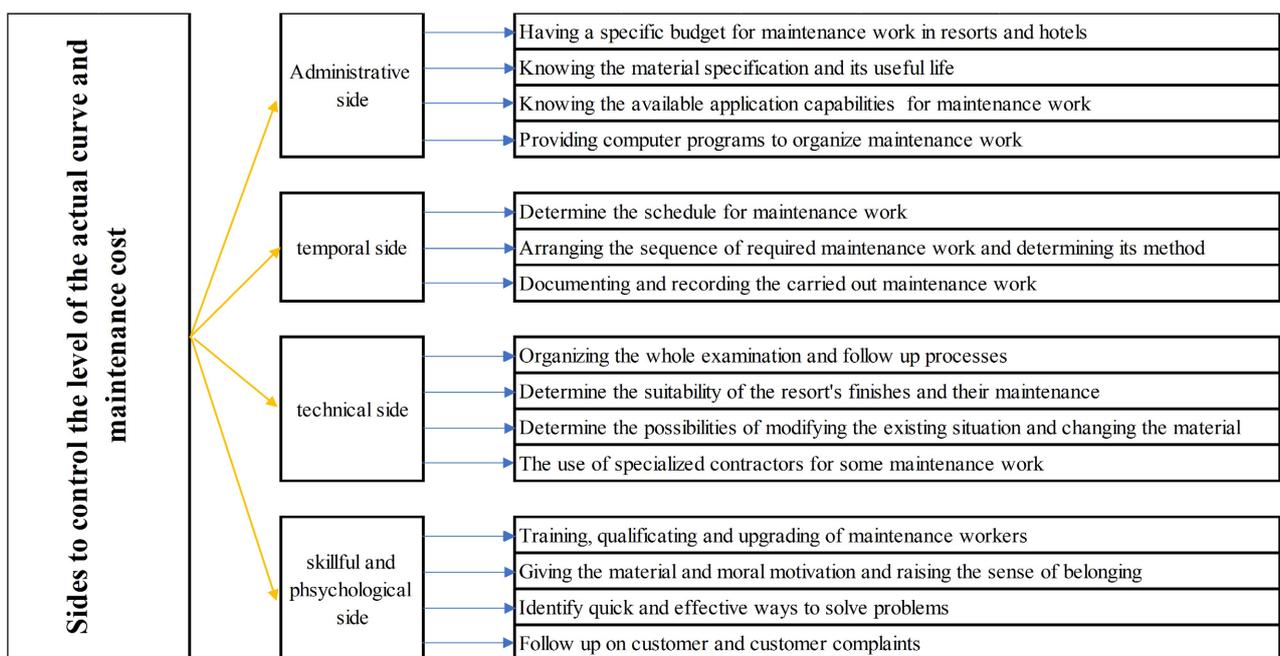


Figure 7. Factors that control the level of the actual curve and maintenance cost.

where it requires replacement or renovation in order to continue generating income. The economic lifespan of tourist buildings is a crucial phase in the maintenance and renovation plans for these structures. Its purpose is to ensure the preservation of hotel visitors by implementing renovations and enhancements, thereby increasing financial returns and achieving the desired economic viability. **Figure 6** depicts the correlation between the performance of the construction and time based on the default age.

Based on the previous, it is feasible to control the level of the actual curve and maintenance costs based on four factors, as explained in **Figure 7**.

5. Conclusion

In conclusion, maintenance management, maintenance planning, and resort income are the primary aspects that influence maintenance. The resort maintenance department is a crucial division in a hotel responsible for ensuring the proper functioning of all surfaces, systems, structures, equipment, grounds, and other important things. The maintenance of a hotel has a direct impact on guests' opinions, and inadequate maintenance can have a negative influence on their impressions.

Malfunctions in the primary components or services of the hotel can greatly annoy guests. The consideration of maintenance as a means to enhance the overall satisfaction of owners and guests is an ongoing process. Hotels emphasize the development of suitable maintenance plans. The hotel's maintenance requirements, including expenses, will increase in proportion to the quality of the product they supply. In order to fulfill the guests' requirement for high-quality services, it is crucial to consistently update and maintain the hotel's facilities.

Maintenance plays a crucial role in determining the energy capacity of the hotel, which directly impacts energy and cost savings. Furthermore, maintenance can be viewed as a strategic investment, as allocating resources now to minimize costs or expenses will yield greater benefits compared to not allocating those resources. Moreover, maintenance plays a crucial part in the hotel, and thus, in the organizational structure as well.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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