Contents lists available at Science-Gate



International Journal of Advanced and Applied Sciences

Journal homepage: http://www.science-gate.com/IJAAS.html

Facility operation and maintenance management model for small and medium-sized hotels in Turkey



CrossMark

Ebru Nalan Ceylan ^{1,}*, Tuğsad Tülbentçi²

¹Endarch Architecture, Marmaris, Muğla, Turkey ²Faculty of Architecture, Near East University, Nicosia, Cyprus

ARTICLE INFO

Article history: Received 21 February 2020 Received in revised form 22 June 2020 Accepted 13 July 2020 Keywords: Hotel facilities management

Maintenance management Maintenance outsourcing Total facilities management

ABSTRACT

Facility management is a complementary approach to create the appropriate environment to support the achievement of the primary objectives of an organization. Outsourcing in facility management is a developing concept all over the world. Total facility management is an evolving issue of outsourcing. The proper application of facilities management techniques will enable hotel organizations to provide the right environment for conducting their core business. In this qualitative study, interviews were conducted with independent hotel managers by asking open-ended questions to see how maintenance was organized in their hotels and the experiences of the hotel technical directors' association in Turkey examined. It is found that the facility management concept is not known enough in the organization of small and medium-sized independent hotels in Turkey. Facilities are managed by non-experts, maintenance is not given due attention, quality of service decreases, and operating costs increase. Studies on this subject related to hotels are very limited. Most of the latest studies at this issue are about managing agents and contractors, usually about maintenance and green applications. The purpose of this study is to form a model regarding the management of small and medium-sized hotels' facility operation and maintenance in Turkey. 'Total facilities management method' will be analyzed, and the main steps of this outsourcing model will be suggested. The weakness of the study is that only the operation phase of a building lifecycle included and the advantages of this outsourcing method could not be investigated by quantitative methods. The strength of the study is that comparison is made about various service delivery methods in facility management, including in-house provision or outsourcing based on the literature studies.

© 2020 The Authors. Published by IASE. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Introduction

The tourism industry is critical for the country's economy. All components of tourism should be considered as a whole. International standards, hotel technology, the safety of life and property, hygiene, living comfort, and healthy environment economic requirements, facility management, sustainable solutions sensitive to the environment, and many other subjects are essential principles that give life to tourism investments. As a result of the economic and environmental problems in the world,

* Corresponding Author.

Email Address: ebru.n.ceylan@gmail.com (E. N. Ceylan) https://doi.org/10.21833/ijaas.2020.12.001

Corresponding author's ORCID profile:

https://orcid.org/0000-0003-4743-5880

2313-626X/© 2020 The Authors. Published by IASE. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/) the economic and ecological crisis is being faced. As in other sectors, it has become a necessity to turn to sustainable practices and solutions in the tourism sector. Facilities management is an integrated approach to operating, maintaining, improving and adapting the buildings and infrastructure of an organization in order to create an environment that strongly supports the primary objectives of that organization (Barrett and Baldry, 2009). It is a tool that allows the maintenance and operation of the buildings more effectively. The proper application of facilities management techniques will enable organizations to provide the right environment for conducting their core business on a cost-effective and value-for-money basis and provides the opportunity to make sustainable improvements in building performance sensitive to the environment. In order to achieve all of this, necessary attention should be paid to the management of the facility operation and maintenance. In today's changing world, a sector with a modern management understanding, open to innovation, and not marketoriented cannot be expected to be successful for a long time.

Even within the same sector, the facility differs management approach between organizations. Facilities management includes facility operation and maintenance management to be the foremost in the list and contains extensive services. The goal of the facility operations and maintenance management is to provide a quality service with optimum operational cost and to protect the property. In the facilities management, the in-house team may be used for service providing, or outsourcing utilization would be preferable. If an organization has decided to outsource, another issue that needs to be decided is how to organize and structure outsourcing. It should be decided whether the contracts will be separate or collective and independent contracts, a total facility management package, or a management contract.

The actual adoption of the outsourcing method in hotels, where the efficient planning, organization and management of the facility operation and maintenance services provided by a separate company, and the execution of this task with qualified experts, to achieve more successful disciplined systems such as ISO 9000 quality management and ISO 14000 environmental management standards, will play a key role in achieving its main objectives of increasing competitiveness and customer satisfaction.

In this article, with the literature research technique, a brief background about facilities management, hotel facilities operation, and maintenance, management's responsibilities, classification of hotel activities, necessity, and types of maintenance in hotels, personnel management in maintenance, approaches to facility management, service delivery methods for the enhancement of the core business, top-level functions within facilities different types of contractual management, arrangements, advantages of outsourcing and matters to be followed are examined.

During the initial phase of this qualitative study, interviews were conducted with independent midsized hotel managers by asking open-ended questions to see how maintenance was handled and organized in their hotels. The experiences of the hotel technical directors' association in Turkey examined. Findings show that the facility management concept is not known enough in the organization of small and medium-sized independent hotels in Turkey. Facilities are managed by non-experts, maintenance is not given due attention, quality of service decreases, and operating costs increase. It is seen that many hotel managers, who are generally the owners at the same time, look warmly to the consultancy firms and technical subcontracting institutions who work in contract, commitments, follow-up in a preventive way, and receive money in return. Considering that international chain hotels already have facility

management expertise, small and medium-sized independent hotels operated by local investors are included in the scope of this study. It is not deemed necessary to determine the scope of the hotels according to their star level or capacity.

The purpose of this study is to form a model regarding the management of small and mediumsized hotels' facilities and maintenance operations in Turkey, during the initial structuring process or which we encounter more often in Turkey, in the restructuring process as a result of the needs of existing facilities, where the necessary attention to operation and maintenance management is not given due time. From facility management techniques 'Total facilities management method' method will be analyzed for facility operations and maintenance and its application in these hotels. Steps will be taken for the establishment of a facility in compliance with national and international standards providing quality service with optimum operating costs, where plant maintenance problems are handled in a planned manner by experts, allowing to catch up with tourism trends such as green hotel Thus, this will allow hotel management. management to concentrate on their prime business. The particular interpretation represented by this model is a hypothetical one utilized from the hotel technical managers association's research and finished case studies. The study ends with results and recommendations.

2. Literature review

It is thought that facility management was first used as a concept in America in 1975. However, most of the developments in facility management occurred in the 1980s. In 1980, 40 professional facility managers, who came together in Michigan, established the National Facility Management Organization (NFMA). Its name was changed to IFMA in 1982 to reflect its international membership (IFMA, 2020). At the same time, educational institutions have started to give lectures on this subject. Cornell University in the USA started giving doctorate courses on strategic facility management in 1983. Discussions have been made as to whether the facility management is a true discipline or not (Bruijn et al., 2001). Managers have always looked at the facilities while providing a product or service. Discussions have been made about what the change is. The following are examples of these changes; the need to pay more attention to energy costs, to focus more on the added value of a process, shortened product life cycles, and increasing regulations. As a result of the above, a group of executives embarked on a search for identity that they could develop professionally. However, although the origin of facility management was in America, it started to develop in Europe, especially in England, in 1986, and in the Netherlands in 1988 (IFMA, 2020).

As a result of the new world order, companies should follow developments closely, make quick decisions, and compete with the world in their works to be excellent in their core business. Companies that have adopted these are considered to have achieved the professionalism. Professional applications related to the concept in Turkey, in the years 1980, started with the initiatives of companies with foreign capital, firstly in five-star hotel partnerships with foreign partners in Istanbul. Later, the modern complexes that started to be built in big cities since the first half of the 90s and their management needs have accelerated the establishment of building and facility management companies. One of the factors in the development of this sector in Turkey is to reduce the management costs of the facilities. It is the conscious commercial companies that want to take more of these services from specialist institutions and spend more time on their core business. Facility management is more common in environments where facilities are part of the organization's nonprime activities. The concept of facility management is often related to the organization's business and physical environment assets. Facility management activities are seen as an effective way to ensure that employees concentrate on their expertise by outsourcing non-prime activities (Dirgeme, 2005; Erentürk and Güven, 2018).

In literature research, it has been observed that the use of facility management concepts within the hospitality industry is very limited. Parry and Collins (1993) tried to outline the biggest advantages of applying facility management techniques within the hospitality industry and to demonstrate potential industry growth areas. Losekoot et al. (2001) have examined the conceptual relationship between facilities and hospitality management in terms of customer satisfaction. They have researched various aspects of facility management through customer complaints in hotels. Bruijn et al. (2001) examined some of the facts in the facility management definition while addressing similar issues in other areas of vocational training, especially in hospitality management. In the research conducted by Jefferies (2000), it was found that the concept of facility management was used very little within the hospitality sector, and hotel general managers or chief engineers were responsible for the above strategic elements. They are often referred to as real estate managers. These individuals have responsibilities both in the front office and in the back services. Jones (2002) conducted a study on the implementation and benefits of facility management in medium-sized hotels in the UK.

In Turkey, a study was made by Sönmezer (1999) about "Management of Hotel Buildings." In the study, it has been shown that the management of the building in hotels started much earlier than the operation of a finished building. The studies and systematic approaches on this subject have been examined, and the requests and requirements of the hotel projects in terms of building management have been explained. Chan et al. (2001) made a case study about the maintenance performance of hospitality engineering systems. Lai and Yik (2012) conducted a case study about the maintenance performance of

engineering facilities, how the hotels' hotel computerized maintenance management system was utilized to facilitate maintenance work organization. A research study made by Ghazi (2016), investigated hotel maintenance management practices and the barriers in implementing these practices from maintenance managers' viewpoint in the Egyptian 5star hotels. The results indicate that the practices of 'maintenance management plan' and 'maintenance management team' play the most significant role in influencing their maintenance efficiency. The results also indicate that 'insufficient fund for maintenance job' and 'lack of skilled personnel in maintenance departments' are the major barriers responsible for implementation of the poor maintenance management.

Building operation and maintenance (BOM) services are important activities for highly competitive businesses. In addition, outsourcing decision factors are key to the effectiveness of BOM. Suweero et al. (2017) researched about 'Outsourcing decision factors of building operation and maintenance services in the commercial sector; to identify and prioritize the decision factors that affect outsourcing decision factors for BOM services, to elicit the different perceptions of each managerial group (shopping centers, hotels, and hospitals). and to categorize the important outsourced BOM decision factors. There have been several studies on outsourcing and why it is essential for BOM. From the perspective of the literature review, before the 1970s, most organizations adopted outsourcing only to reduce costs (McIvor et al., 1997). After that, studies of various aspects of outsourcing were developed, and it was concluded that the application of outsourcing could positively contribute in many ways, such as scales of economy, outsourcer expertise, strategy, cost savings, and quality. The previous studies mostly described only the outsourcing decision factors and classified them into a small number of groups. For example, Kakabadse and Kakabadse (2000) classified the motivations for outsourcing into three groups: Cost, strategy, and politics. Martorell et al. (2009) designated three Strategic, categories: technical, major and economical. Based on the literature review, the most comprehensive factors for outsourcing decisions consist of six groups; strategic, management, technological, economic, quality, and function characteristics (Suweero et al., 2017).

In recent years, environmentally friendly practices, also called green practices, have gained importance in hotel facility operation and maintenance. Many studies have been done closely related to hotel facility management such as the study which was done by Ertas et al. (2018) about the evaluation of environmental sensitivity of hospitality industry within the scope of green star applications in Turkey, based on the environmental sensitivity criteria determined by the Culture and Tourism Ministry and by Sloan et al. (2013), Demir (2014) and Dilek (2018), requirements of green and sustainable practices in hotel facilities. Novacka et al.

(2019)conducted a research study about environmental management practices in the hotel facilities in seven countries, including Turkey. Significant differences in fruitfulness to apply environmental practices are within hotel classification into independent and integrated hotels caused by various financial and organizational terms. Over the next few years, more accommodation facilities will likely be required to obtain energy certificates, showing their energy performance, and ultimately affecting the overall value of the business.

Alhammadi (2019) mentioned the buildings require some special considerations of facility management during the implementation of different phases of the facility which starts from the phases of planning and design until the phases of operation and maintenance, aimed to identify the role and importance of FM during the life-cycle of the building construction and impact of FM in improving the performance of buildings.

In recent years, facility management has gained more importance because it is one of the rapidly growing sector of Turkey's. In order to promote the development of the sector in Turkey and to help people and organizations providing management services in the sector, the 15 leading facility management companies of the sector came together and established the Facility Management Association with the short name TRFMA in 2017. Facility operation and maintenance are one of the competence areas determined by IFMA in building and facility management (IFMA, 2020). The efforts of hotel managers to provide these services more with in house team are due to the fact that they do not have sufficient information about the importance of facility management. Because facility management requires interdisciplinary applications and expertise, it has started to become a separate area by getting rid of concepts such as outsourcing and auxiliary administrative affairs (Evcioglu, 2020). Again, due to the development of the superstructure, it has gained momentum. Professional facility management is developing in Turkey but located in the academic and technical field, the number of the appropriate scientific studies in the literature on domestic conditions originating in Turkey is quite a few. It is very new that professional facility management is among the branches of business as a profession, and education departments are opened only a few years universities. Certification and at the ago documentation will be appropriate (Erentürk and Güven, 2018).

This study focused on total facilities operation and maintenance management is one of the rare studies on this subject by comparing various service delivery methods, approaches, and top-level functions within facility management including inhouse provision, outsourcing, and other contractual arrangements based on the literature studies. The weakness of the study is that only the operation phase of a building life-cycle included and the advantages of this outsourcing method "total facilities management' could not be investigated by quantitative methods.

3. Hospitality/hotel facilities operation and maintenance

The hospitality industry of today relies on welldesigned and well-maintained facilities as a key element of its business. Guests desire a safe and comfortable environment in which to conduct business, entertain, relax, dine, and sleep. The hotel or motel is their home away from home, and they usually want it to be better than home. Hospitality managers' involvement with facilities takes several forms. All departments use the facilities, relying on proper equipment and systems to perform their duties. Facilities play an important role in meeting They are, in essence, guests' needs. the «manufacturing plant» in which the services and products that the guest purchases are created delivered, and generally consumed. While the guests usually focus less on the facility than on what it produces (a safe and comfortable environment, services, amenities), it is the facility that enables us to produce the product. The equipment and elements of the facility are the production tools of the hospitality industry. The maintenance operation is responsible for ensuring that the building and its equipment and systems operate in a manner that enables the staff to perform its tasks and allows the guests to have a satisfying experience (Stipanuk and Roffmann, 1992).

Hospitality facilities are associated with several types of costs. They must be developed and constructed. Once occupied, they must be operated. And eventually, they must be renovated and modernized. Each of these steps involves its own kinds of expenses. The maintenance, operation, and renovation of million-dollar facilities are ultimately entrusted to the engineering staff. The development and construction of a hospitality facility represent a commitment of capital by an owner who expects a return on this investment. This expected return may involve two elements: Operating profit (from the sale of rooms, food and beverages, and meeting services) and real estate appreciation. To provide both types of returns, the facility must be operated and maintained in a manner that maximizes the potential profit and appreciation in the value of the building.

A facility constructed with appropriate quality and good budget control should have predictable costs for maintenance, renovation, and operation. A facility that was poorly designed or was constructed with cost-cutting due to poor budget planning, poor project management, or poor construction practices may face major problems during operation. The two primary categories on the operating statement containing the costs of facilities operation are the property operation and maintenance (POM) and the energy accounts. The POM account includes all labor and fringe benefits in the maintenance department, maintenance supplies and expendables, and all contract maintenance costs. The energy account includes electricity, fuel, steam, and water (Stipanuk and Roffmann, 1992). Plant operation and maintenance in uniform account system for hoteliers include the maintenance and repair of the hotel area, buildings, equipment, flooring and furnishings, related wages and salaries, the costs of the contracted works. Typical annual share as a proportion of total income; operation and maintenance 4-6%, energy and benefits 4-5%.

3.1. Hotel management's responsibilities in hotel facilities

The hotel manager's business is to generate income from space. If this place is managed well by a strategic method, not only is income increased, but profit is also provided. The main goal is to offer a service or product to the customer at a price that exceeds costs. Managing a facility well contributes significantly to profitability. From this point of view, it would be beneficial to consider the responsibilities of management in the following way; control of maintenance and energy costs, protection of the owner's investment, creating а business environment that will result inefficient operation of all departments, operating the maintenance areas in a way that will positively contribute to customer satisfaction, continuous attention to security issues related to buildings, floors, equipment, and operational procedures, contract responsibilities expressed in management contracts. The hospitality manager must be aware of the key role a well maintained and operated facility plays in the efficient operation of all departments. He/she should understand methods for enhancing the service role of the engineering department with regard to both staff and guests. The services provided by a properly funded and well-run maintenance department are of significant value to the property (Stipanuk and Roffmann, 1992).

It is clear that economic, environmental, and social problems have increased in recent years in the world. Businesses are now aware that they cannot survive without being susceptible to environmental problems, regardless of their sector. Therefore, as in other sectors, it has become a necessity to turn to sustainable practices and solutions in the tourism sector. One of the solution proposals that have emerged in the tourism sector and whose importance is increasing on a global scale is 'the green hotel management practices' that have developed within the framework of sustainable tourism. Several authors who work on sustainable tourism say that hospitality facilities often have a negative impact on the natural environment (Lorente et al., 2003; Mensah, 2006; Erdogan and Baris, 2007).

It is stated in the studies that businesses will increasingly need green management practices in the name of a green environment in the 21st century. The United Nations Environment Program states that today, global enterprises are turning to green

management practices, and the number of green enterprises is increasing in this direction (UNEP, 2012). In this context, it can be said that this understanding is developing on the basis of the sustainability principle and embodied as green business practices. These practices are directly related to hotel facilities managed professionally.

3.2. Classification of hotel activities

Hotel activities are classified in the uniform and standard accounting systems as follows; there are income-generating departments under the name of activity departments. Basic (primary) departments; rooms and food and beverage, small (auxiliary) departments; telephone, laundry and room services, customer services. Support other service departments are overhead departments. Accounting and finance, personnel services, purchasing, sales and marketing, facility operation and maintenance services are under support service departments. In practice, non-income service activities are organized in one of three main ways; it can be held between the hotel manager's own responsibilities, transferred to a deputy manager, or a separate department with their own department manager.

Each of these activities can be carried out in more or fewer degrees by consulting external experts and seeking help. There is no standardized hotel organization plan. The number and duties of the staff are determined by factors such as the size, type, location of the hotel, the skill of the management group, and the type of property. In small hotels, many functions can be performed by one person. In large hotels, staff should be more extensive and more specialized in customer-oriented service because the hotels vary not only with their size but also with the typology of the customers and the activities offered to them. The priorities are also different in each hotel. Management in each hotel should identify the necessary departments and decide on the number of employees (Stipanuk and Roffmann, 1992).

3.3. The necessity of maintenance in hotels

Maintenance is the key to providing better-built environment to building customers and users. Maintenance of the hospitality building is significant as its effectiveness will directly affect the quality of services, which have a direct and significant effect on satisfying customers' wants and expectations. Proper maintenance management is essential for hotel operations for many reasons (Borsenik and Stutts, 1997; Ghazi, 2016).

Maintenance and renovation in hotels are directed by the market with the need for more competition. The aim is to maintain its share and level in the market. The main maintenance goals are as follows; to maintain daily room services and cleaning activities for a properly looking facility; immediately respond and correct minor faults in the facility; to create and perform regular scheduled maintenance activities to prevent emergency failure of the systems and components; to increase safety and security of hotel guests and employees by ensuring the building, services and facilities are safe and fit for use; to conform with the new trends and technology in the market such as the green movement and environmental sensitivity; to conserve corporate image, appearance; to increase the operational stability and efficiency of the facilities and systems; to ensure energy expenditure (improving energy efficiency); to meet governmental requirements like disability act, health and safety regulations; to ensure operation readiness of all equipment required for emergency use at all time; to increase the life cycle of the property and achieve breakdowns or deteriorations: minimum to complete major repairs and renovations on the basis of the lowest useful life cycle cost; to create design and development projects in a way to minimize total facility operation and maintenance costs; to operate all activities in the facility in the most economical way possible by providing the necessary reliability; to ensure that required maintenance and repair works are fully and simply reported and determined; making precise estimates to ensure that maintenance problems are solved at the lowest cost; to schedule all planned works in advance; to observe the development of all maintenance works; in general, to provide all historical data on all facilities, equipment and components to maintain their registration; investigation of engineering solutions to maintenance problems.

Hotel owners/operators have begun to recognize the need to plan and manage maintenance as efficiently as other activities in order to achieve all the above goals. This inevitably created new demands for hotel owners or operators to require a more systematic approach to their business (Magee, 1988; Borsenik and Stutts, 1997; Lai, 2013; Dilek, 2018; Novacka et al., 2019).

In many instances, building owners spend millions of dollars each year on replacing systems and equipment due to a lack of proper maintenance on time. Some owners, on the other hand, leave their buildings to rot, which is very costly and difficult to return. Maintenance cannot be separated from the initial planning of the hotels; decisions on architecture, interior design, facilities. and equipment have a huge impact on the resulting energy cost, maintenance, and replacement costs. Insufficient maintenance will indirectly lead to some costs, bring along performance loss, and negatively affect the total quality. Due to unexpected failures, the demolition and closure of areas for maintenance can result in loss of income, inefficiency, and falling standards due to cuts; it will cause loss of quality and satisfaction. There will be safety, security risks, and conditions that do not comply with legal and insurance requirements. The first target of the owner is to maintain the value of the facility, ensuring continuous and satisfactory return and a smooth investment in the long run. The goal is to achieve this with minimum spending (Lee, 1987).

3.4. Maintenance definitions

Maintenance is defined as the preservation of a building so that it can serve its intended purpose (Arditi and Nawakorawit, 1999). Maintenance is defined as work undertaken to keep or restore every facility to an acceptable standard. This work may be organized and carried out with forethought, control, and records (planned maintenance) or carried out on an emergency basis when the need arises, as shown in Fig. 1. (Lawson, 2006). Building maintenance, according to BS 3811 (BSI, 1993) is defined as a combination of any actions carried out to retain an item in or restore it to, an acceptable condition. In recognizing the desirability of including a reasonable element of improvement, it can also be defined as work undertaken in order to keep, restore or improve every facility, i.e., every part of the building, its services and surrounding to a currently acceptable standard and to sustain the utility and value of the facility. Maintenance; is the act of keeping an object in good working order. It is a form of action that will increase the life of physical items such as tools, equipment, and structures in organizations and keep these items to certain standards.

Planned maintenance may be:

- Preventive to reduce the likelihood of failure or breakdown of plant and equipment by providing regular attention and servicing (e.g., elevators, mechanical and electrical plant, kitchen, and laundry equipment).
- Corrective to restore the area or facility to an acceptable standard (e.g., redecoration, refurbishment of rooms).
- Running maintenance facilitated by the installation of duplicate equipment (pumps, fans) and independent access.
- Shutdown maintenance requiring the closure of rooms or equipment best planned to enable other work in the area to be carried out at the same time.

Breakdown maintenance applying to the numerous small items of equipment which require replacement at irregular times for which advance provision can be made by way of spares, materials, labor, and equipment (Lawson, 2006).

In order to effectively manage the types of maintenance outlined above, the hospitality business uses a variety of maintenance management systems. The goals of these systems are; to handle the maintenance needs of the property effectively; to record essential information concerning the equipment and systems at the property; to establish standards for the performance of the maintenance workers; to provide the feedback necessary for management to assess the performance of the maintenance department and the status of work in this department (Stipanuk and Roffmann, 1992).

Building operation and maintenance (BOM) services are a combination of technical and administrative actions that ensure that the equipment and other elements of a building meet an acceptable standard in performing their required functions (Ali et al., 2010). BOM includes operational control and monitoring of plant and equipment, routine inspection, normal repair, equipment

overhaul, and emergency fault recovery, and equipment replacement, system modification, and modernization (Palmer, 1990; Lai et al., 2006; Chan, 2012).



Fig. 1: Maintenance structure (Lawson, 2006)

3.5. Personnel management in maintenance

Depending on the size of the property and the complexity of the equipment, the way in which the departmental organization is structured will vary, as will the needs of management. Management personnel for the engineering department will need to have some level of mechanical and electrical skills. The smaller the property, the more the engineering manager will have a "hands-on" role with regard to maintenance. As staff size grows and departmental responsibilities increase, the engineering manager becomes much more a manager and much less a line worker. Line staff for engineering needs very broad skills in maintenance at the small property level, where they perform a varied list of tasks. The property's need for maintenance staff varies depending on the property's facilities, services, and size. As facilities age, the number of maintenance staff usually must increase in order to meet the growing need for maintenance. Neglect of building and equipment maintenance will eventually result in a need for a major cash outlay, usually far more than the cost that would have been incurred if maintenance had been performed. A preventive will keep equipment maintenance program operating at or near its peak, minimize time and cost consuming breakdowns, and make scheduling of work in engineering much more possible. The proper operation of the maintenance department can significantly improve property operations and contribute to a positive bottom line for the business. Today, buildings such as hotels, hospitals, business centers contain high-tech elements that develop more and more every day. In parallel with technological development, the workload of technical services, the variety of work, and the need for expertise are increasing more and more every day (Stipanuk and Roffmann, 1992).

4. Facilities management and approaches to facility management

IFMA defined facilities management as, 'The practice of coordinating the physical workplace with the people and work of the organization. It integrates the principles of business administration, architecture, and the behavioral and engineering sciences'. The association also described facilities management as 'a profession that encompasses multiple disciplines to ensure functionality and sustainability of the built environment by integrating people, place, process, and technology' (IFMA, 2020). If buildings and facilities are not managed, they can begin to impact an organization's performance. Conversely, buildings and facilities have the potential to enhance performance by contributing to the provision of the optimum working and business environment. Facilities management covers a wide range of services, including real estate management, financial management, change management, human resources management, health and safety, and contract management, in addition to building maintenance, domestic services, and utility supplies. Facilities management approach displays the difference in organizations. Each organization will have different needs. Understanding those needs is the key to effective facilities management measured in terms of providing value for money.

Buildings represent substantial investments for organizations and have to accommodate and support a range of activities. An appropriate environment must be created in buildings for the core business of the organization. An organization might be focused on its core business but cannot lose sight of the supporting services-the non-core business. Organizations must consider the distinction between their core-business and non-core business (such as cleaning and maintenance) as part of the drive to deliver customer satisfaction and achieve better value for money. The relationship between the two is shown in Fig. 2. Facilities management is creating an environment that is conducive to carrying out the organization's primary operations, taking an integrated view of the services infrastructure, and using this to deliver customer satisfaction and value for money through support for and enhancement of the core business. Value for money in facilities management can be improved by the decisionmaking process that leads to the outcome, as shown in Fig. 3. Facilities management is something that will: make the assets highly cost-effective; enhance the organization's culture and image; enable future change in the use of space; deliver effective and responsive services; provide a competitive advantage to the organization's core business (Atkin and Brooks, 2000).

Outsourcing is one of the most widely used methods in strategic management today. The reason for the use of outsourcing has become more important in recent years, has been the concern of increasing the competitiveness of enterprises in parallel with the increasing competition and developments in globalization and information processing technology. Businesses started to choose the way of limiting their activities to the self-talent they possess and leaving all other business activities to businesses with more self-talent in these matters. It can be defined as the provision of functions from another company, previously performed by the company itself. Outsourcing, also in Turkey in recent years, similar to the world, has become a part of the solutions businesses find to increase their power (Kocel, 2014).



Fig. 2: The basic relationship between core and non-core business (Atkin and Brooks, 2000)

Value for money is often cited as the determinant of whether to outsource a service or to retain it in house. Value is about the relationship between cost or price and quality or performance. Organizations should set themselves cost and quality objectives for the management of their facilities. They should choose the approach and service provision that offer the best value, not simply the lowest cost, and measure performance against both cost and quality.

Organizations need to act as informed or intelligent clients if they are to be sure of delivering customer satisfaction and achieving the best value for money. The informed client function (ICF) is a requisite irrespective of how facilities are procured. The following outlines the role of ICF: Understand the organization, its culture, its customers and needs; understand and clearly specify service requirements and targets; manage the implementation of outsourcing; risk managementminimize risk to the organization's future; agree with monitoring standards; manage contractors and monitor their performance; benchmark performance of outsourced services; survey users for satisfaction with the service; provide relevant management reports to users; review service levels/requirements to ensure they still meet user needs; develop service delivery strategies with the contractor; agree with changes to service requirements with the contractor; maintain the capability to re-tender; understand the facilities management market and how it is developing; strategic planning; develop its own skills through training (Atkin and Brooks, 2000)

4.1. Developing strategies for facility management

To manage facilities efficiently and effectively, robust strategies should be developed within the context of an organization's strategic plan and accommodation strategy. It should be used to determine the nature and level of support services. The business plan for facility management should provide consideration of the needs of the organization, differentiating between core and noncore business activities; identifying and establishing effective and manageable processes for meeting those needs; establishment of the appropriate resource needs for providing services, whether obtained internally or externally; identifying the source of funds to finance the strategy and its implications; establishment of a budget, not only for the short term but also to achieve value for money over the long term.

Organizations should follow three stages to produce an effective strategy for the management of their facilities; strategic analysis, developing solutions, strategy implementation. On completion, the facilities management strategy should form part of the organization's strategic and operating plan, as shown in Fig. 3. The facilities management strategy document should incorporate financial objectives, goals and critical success factors (in terms of time, cost and quality objectives) targets for potential efficiency gains and quality improvements, customer focus strategy, technical strategy, inhouse/outsourcing strategy, procurement strategy, human resource plan, business processes, IT strategy (Atkin and Brooks, 2000).

4.2. Outsource or retain in-house

The initial step for an organization is to define its services requirements within an overall facility management strategy. The next step is to consider the attributes of service that it sees as important. Finally, the organization is able to determine the mechanism through which service providers should take place. Organizations must identify the key attributes of the services they require as part of the decision to retain in a house or to outsource. Consideration must be given to direct and indirect costs of both in-house and outsourced service provision. Support services should represent the best value on the basis of affordability for the organization in the implementation of the objectives of its strategic plan. Attributes that might be considered important to organizations include customer service, uniqueness of the service, flexibility, and speed of response, management implications and indirect cost, direct cost, and control.



Fig. 3: Overview of the top-level functions within facilities management (Atkin and Brooks, 2000)

The advantages of outsourcing which is the management of services with external resources can be summarized as follows; saving on personnel costs, saving from space, saving from bureaucratic transactions; a solution to problems among employees, simplifying budget control, easy application of international standards and norms; decreased responsibility for work and workplace safety; protection of company philosophy/culture; dissemination of management responsibilities; ease of staff salaries, training, and staff practice; cost control and management information systems; competitor analysis; medium and long term planning (Dirgeme, 2005; Erentürk and Güven, 2018).

Hotel businesses are functionally organized with complex operations, different schemas, and schedules (Chan et al., 2001).

Suweero et al. (2017) researched 'Outsourcing decision factors of building operation and maintenance services in the commercial sector' to elicit the different perceptions of managerial groups, including hotels. According to this research, hotel managers tended to emphasize the following sequence of group factors: Management factors,

strategic factors, quality factors, functioncharacteristics factors, technological factors, and economic factors, respectively. The services in a hotel operate 24 hours a day, and thus, it is really difficult to survive if the building or system has defects. Implementation and rectification work needs to be performed immediately whenever there is any defect (Chan et al., 2001). Management factors play a major role in determining and selecting outsourced BOM services. In addition, hotel managers are interested in the cost savings of energy efficiency and controlling the lighting and heating, ventilation, and air conditioning systems (Aryee, 2011). The outsourced BOM services also perform as the strategic factors for the long-term target. Of the strategic factors, reengineering is the most significant process for improving hotel facilities. The responsiveness of staff and the high quality of services were the attractive factors in consideration of outsourced BOM services. Room quality and services can enhance the role of the hotel and lead to increases in the hotel's room rates (Dortyol et al., 2014; Lu et al., 2015). The number of stars awarded to the hotel can be increased because of higherquality facilities and services. The more stars, the better the quality of service is. The functional characteristics are very difficult for hotel management to control. However, outsourced BOM services can be provided to specifically improve the required functions of hotel buildings. Technical knowledge and specialized expertise were the most significant technological factors leading to the selection of BOM services (Fersht et al., 2011). Utilization of BOM services in a hotel can contribute as one kind of investment and help to improve the hotel's ranking (Rauch et al., 2015). There will be certain costs at the beginning, but the cost of maintaining the building can be controlled in the future (Henley et al., 2004). As such, hotel managers should not fear increases in capital allocation when it comes to upgrading the amenities of their hotels because the increased investment brings increased revenue (Dortyol et al., 2014). Most of the hotel managers were more interested in the speed and quality of outsourced BOM services rather than the cost.

4.3. Outsourcing activities

If the organization decides to outsource, how the outsourcing will be organized and structured must be decided. The type of contract, separate or bundled individual contracts, a total facilities management package, or a management contract must be decided. If the last option is exercised, the organization will need to consider whether this should be undertaken for a fee or on the basis of service performance. There will be advantages and disadvantages to providing services either in a house or by outsourcing. The organization must decide the route that provides the best value for itself in the long term. When an outsourcing decision is made, some policies and methods need to be followed in obtaining jobs, materials and services. The objective is to ensure that the following critical success factors are achieved: The scope of the services and interfaces with related services are defined; the service level required by stakeholders from the outsourced team is clearly defined; the outsourced team has the capabilities and skills to deliver the service; outsourced service provision is provided through a team approach towards a common goal; service provision is continually reviewed and improved. There is a logical sequence to the outsourcing of services; strategy, tender documentation, tendering, and contract award, as shown in Fig. 3. Outsourcing involves many activities, and these have to be managed.

4.3.1. Definition of options; facilities management service providers

There are various service delivery methods in facility management other than in-house provision or outsourcing. Three approaches exist for the provision of BOM services to a building or part of a building: In-house, outsourcing, or hybrid (Atikol, 2004). Options range from the use of an external organization or individual who manages the client organization's own employees; managing agent, through the appointment of a contractor to manage some or all service providers; managing contractor, to an arrangement where all facilities are managed by an external entity offering a single point of responsibility; total facilities management company. There are also variations on them. Fig. 4 shows the three main types in terms of their contractual and communication links. The best approach to take will be the one that is most closely aligned to the needs of the organization, and that delivers the best value for money (Atkin and Brooks, 2000). According to RICS (2013), total facilities management is to carry out all the works within the scope of facility management together and by including sub-services.

Organizations need to weigh the risks and costs of different approaches. The employment of a total facilities management company-effectively providing a single point of responsibility-will not relieve the organization from managing the contract and the interface between the contractor and customers. An important consideration should be the bundling of individual services in a way that will provide the best value for money. There are two aspects to consider. First, client organizations will have worked out how best to arrange their outsourcing to ensure that value for money is likely to be achieved. Second, service providers will take a commercial view on what is profitable for them. Bundling of services can prove to be an attraction for service providers; likewise, carving up the totality of facilities management into very small contracts may not. Definition of options:

• In the house: The retention of the organization's employees for the delivery of estates-related and facilities services.

- Managing agent: The appointment of a specialist to act as a client representative. This person (or organization) is then responsible for arranging the appointments of service providers. This arrangement is applied when the organization decides to protect its staff. The managing agent approach gives the customer organization flexibility in finding the most appropriate contracts. It is possible to outsource some of the services and to provide some of them from the inside. In terms of risk, the organization is vulnerable to moderate risk. With the increase in the number of separate contracts, management costs increase.
- Managing contractor: The appointment of an organization to manage all service providers as though part of one large contracting organization. In this approach, there is a contract between the client organization and the relevant subcontractor. Subcontractors contract with the executive subcontractor and do not have contractual relationships with the client organization. Under the executive subcontractor approach, there is a single point of contact. By using executive subcontractors to undertake all or some of the works, much more financial risks can be eliminated

with the support of subcontractors. The approach of the executive subcontractor may result in poor performance due to the subcontractor and thus may result in inadequate service for the organization.

Total facilities management (total FM): Organizations can give full responsibility to the management of their facilities to a single organization for a fixed fee. In this case, the organization should provide the subcontractor to manage various services efficiently. The payment point for the organization is unique. The contractor may give all or most of the work to subcontractors. There is only one contract between the organization and the total facility management subcontractor. Total FM subcontractors can offer more effective and accurate solutions to an organization's needs than a managing agent or managing contractor. Total facility management can provide solutions for selecting the right and best subcontractor. From a risk perspective, the organization is only at moderate risk. The organization is more comfortable because it has a single point of contract and fewer management procedures. Attention should be paid to the additional cost of contract management.



Fig. 4: Three different types of contractual arrangements

Organizations should consider their own evaluation criteria to determine the importance or weight that might be given to an option in terms of their potential to add value to the core business. The exact interpretation of options differs from one organization to another. Total facility management has very attractive points. However, it does not save the organization from conducting contracts and the relationship between its subcontractor and its customers. As a result, client organizations must understand the expertise this subcontractor can offer (Palmer, 1990; Atkin and Brooks, 2000).

4.3.2. Matters to be followed at outsourcing

Hotel management that has decided to use outsourcing in facility operation and maintenance should make a firm decision about the services they want to be managed from outside and should not divide the service they want to outsource. They must find the firm, the real expert of the subject, and should prepare a complete specification for the services they want to outsource. They must make a full contract with the company and must establish an audit mechanism that will control the firm, which will provide external management services in all aspects. Hotel administrations need to analyze and determine when they really need outside management services. Before deciding on purchasing management services from outside, it is essential to work with consultants or companies who have experience in hotel management. The facility management consultant can assist management in managing the transition period in facility operation and maintenance functions. The technical services department within the hotel organization will transform from the extensive internal staff to the few contract managers. The roles of the remaining staff and significant changes in the processes of support services will need to be defined. The remaining systems will need to be replaced with new technologies that will provide meaningful management information. Preparation of tender documents in management with external resources, creation of tender process and specifications, tender evaluation, contract conditions are of great importance. In order to ensure that maintenance services are provided in accordance with national and international norms and standards, the maintenance services specification must be prepared. Cost and quality need to be weighed. Maintenance services need to be scheduled. The contract management process and structure needs be established. Effective performance to measurements should be used. A regular review of the service provider's performance should be planned. Many outsourcing contracts that seemed to be potentially successful have failed, and the client did not efficiently manage the contracts (Dunn, 2002).

5. Facility operation and maintenance management in small and medium-sized hotels in Turkey

Adaptation of facility management to the hotel industry is much slower than other sectors in Turkey. In the researches, it has been seen that national and international chains are more successful in this regard. The efforts of hotel managers to provide these services more with in house team are due to the fact that they do not have sufficient information about the importance of facility management (Dirgeme, 2005).

5.1. The situation of the hotel facilities in Turkey

Regarding the situation of the hotel facilities and enterprises in Turkey, the findings drawn from the examination of the experiences of hotel technical directors' association, and the field studies carried out at the beginning of this study with hotel managers by asking open-ended questions to see how operation and maintenance were handled and organized in their hotels are as follows:

- Building equipment and systems: The economic crisis and sectoral negativities, does not allow hotel owners and managers to allocate budget shares to funds for the maintenance, repair, renovation of hotel facilities, buildings, equipment, and systems. As the process gets longer, the systems that give life to the facility gradually wear out, their maintenance becomes impossible, and even they no longer accept repairs. The minimum number of staff and the share of wages have a negative impact workers and on skilled service quality. Consequently, this causes the property not to provide the expected services in many facilities at the national and international levels. In summary, it can be said that the equipment and systems of the majority of the existing hotels, unfortunately, slip out of business principles.
- Communication and collaboration: The fact that hotel businesses fail to realize the expected budgets in international norms directly affects the communication and cooperation of the people serving in these facilities. Unfortunately, the tourism service sector, which has teamwork, is disconnected from communication and cooperation. Likewise, the production of work and services takes its share from this negativity. Undoubtedly, it is not possible to expect work and service from unhappy personnel at international norms and standards.
- Quality and productivity: Equipment and systems that give life to hotels are the basic infrastructures of service and business production. These should always work at top performance. However, it is unfortunate that the revenues of tourism are far below what is required, and this causes the money required for the maintenance of this equipment and systems to fail, and even the maintenance and repairs to be disrupted. Service quality and productivity naturally decrease. Equipment and systems, which are the vital organs of tourism facilities, are entering irreversible destruction, and unfortunately, equipment and systems with huge investment costs are disposed of in order to not be repaired again
- Environmental sensitivity and green practices: Relatively new trend 'green practices' are hotel management practices aimed at protecting nature and sustainable tourism. Green hotel management helps to save energy and water and to reduce the waste left to nature. Thus, the accommodation business contributes to the protection of the environment, which is one of the main factors of tourism with its applications. In the studies, the accommodation facilities of the tourism sector in Turkey is interpreted still could not show enough effort on the sustainability of tourism (Dilek, 2018).

Although there has been a parallel between the rapidly growing structure of tourism and the growth rate of the green hotel applications, it is said that it is still not sufficient. Within the scope of the Environmental Awareness Campaign (Green Star) project initiated by the Culture and Tourism Ministry in 2008, as of September 2019, 478 eco-friendly accommodation facilities out of a total of 3,977 operating licenses are only 12% of the total which seems to be insufficient (Bölüm and Menü, 2020). Hotels perceive environmental practices on an economic basis. Cost reduction is the main motivator. Costs and investment returns are the dominant economic factors. The main environmental practices the hotels are trying to work on are Water savings, energy savings, light savings, heating/air conditions savings, waste reduction, and waste separations. All of these criteria are also mentioned in the Global Sustainable Tourism Criteria for Hotels in section D (GSTC, 2015). Over the next few years, more accommodation businesses will likely be required to obtain energy certificates, showing their energy performance, and ultimately affecting the overall value of the business (Novacka et al., 2019).

5.2. Classical administrative solutions applied

Human resources management: Even though the human resources departments of the enterprise first start working on qualified personnel, on-the-job training, and wages, they are never successful due to the principle of labor and wage. Employees who accept the job due to their economic difficulties express their unhappiness after a while and, unfortunately, directly affect the service quality and production. Since very frequent personnel changes are not acceptable in tourism services that demand knowledge, experience, and company principles, the employer is entering a cycle that is difficult to resolve, and the services that are already disrupted are increasingly disrupting, and the quality is decreasing.

Service management: Service management is undoubtedly an essential element in tourism facilities and investments. However, the establishment of this management and ensuring continuity is not only with requests, orders, and instructions. The building equipment and systems that make up the facility also need to work at full performance. Otherwise, no matter what the personnel does with maintenance-free and repairfree equipment and systems, it cannot produce superior service. In such a case, service management has no meaning. Superior and quality service production is strictly dependent on human and machine cooperation. Institutions and businesses that fail to do so are bound to compromise on service quality and productivity as soon as possible. It is well known that such compromises are void in a relentless and intensely competitive environment.

Property and material management: Property management is one of the main database areas of the financial situation. Therefore, property and material management is one of the elements of total assets. There are very few companies in Turkey that have applied scientific methods for the healthy management of the property. The reason for this is that firms working at high-income levels with low cost did not give proper importance to property management. High gains have resulted in the neglect of taking the necessary investment and measures for the longevity of the property. In short, it can be said that the firms trying to operate with classical operating methods have not understood and implemented in accordance with the importance of property management. This has undoubtedly led to the disposal of the property before it has completed its economic life.

Budget management: Budget is a key issue for businesses. The discipline of budget expenditure items in the fields of personnel, materials, and services, scientific preparation, and management appears as inevitable facts for businesses. For this purpose, studies on many management models have been started in recent years. In the United States, European countries, and even Far Eastern countries, the execution of especially the support services such as technical services, security, gardening, etc. by companies outside the organization of the enterprise has been implemented. Successful execution of such services planned under the name of outsourcing is only possible by individuals and organizations who are very fond of these issues.

Green Practices: Considering that the impact of tourism on global carbon gas emissions is around 5% and considering that the accommodation sector is the second largest sector after the transportation sector within this ratio, it is necessary to take further steps in terms of sustainability (UNWTO, 2008). According to Novacka et al. (2019), about the implementation of particular environmental practices and barriers in all surveyed hotels in Turkey, financial barriers for introducing environmental practices into life were different at independent hotels in comparison with hotels that were integrated into chains. Integrated hotels have a financial base significantly better for their development. %65 of the hotels said that implementation and maintenance costs are the barriers discourage them from implementing environmental practices in the hotels while %20 said lack of financial sources. %95 did not have any initiative or support to implement anv environmental practices in their hotel from nongovernment organizations (e.g., hotel associations, etc.), while %85 did not have information or education support. %85 prefer to consult it with the environmental organization if they decide to implement environmental practices.

6. Hotel facilities operation and maintenance model proposal

It is found that the facility management concept is not known enough in the organization of small and medium-sized independent hotels in Turkey. Facilities are managed by non-experts, maintenance is not given due attention, quality of service decreases, and operating costs increase. A more strategic approach is required, and more benefits will be gained through the implementation of facility management. Making use of facility management expertise other than hotel organization with proper control in the right conditions can help to improve the level of performance, reduce costs, and increase the hotel's physical and service features. Thus, hotel managers can approach market expectations, such as green practices sensitive to the environment and sustainable tourism. As a result, general manager and department managers can concentrate on their areas of expertise. Facility management aims to improve operational efficiency while providing a useful framework for considering the advantages of applying facility management techniques within the hospitality industry. The table, which was chosen as a guide when starting this study and where the researches were developed and concluded in this direction, and the accuracy of which was tried to be proved when starting this study, in other words, the said hypothesis is shown in the Fig. 5.



Fig. 5: Hotel facilities operation and maintenance model proposal (Dirgeme, 2005)

The implementation steps of the proposed model are as follows:

- Facilities management is about providing support to an organization's core business. To benefit most, organizations need to understand that they must be informed clients in managing their facilities. This requires a focus on service delivery that provides value for money and customer satisfaction in an environment in which risks abound. The Informed Client Function (ICF) is a requisite irrespective of how facilities are procured (Fig. 5 and Fig. 7). Organizations need to act as knowledgeable and instructed clients if they are to be sure of delivering customer satisfaction and achieving the best value for money.
- Quality of service or performance is a critical factor in any definition of value, and the relationship between quality and cost has to be better understood in this respect. Cost savings cannot be looked at in isolation from value. Organizations

must be able to demonstrate what they are getting for their money.

- Hotel management needs to understand the importance of maintenance management. All for these, it is of great benefit to get some help from a professional facility management consultant, as shown in Fig. 5 and Fig. 7.
- Hotel organizations should follow strong strategies for the business plan and its management in order to manage their facilities efficiently and effectively. Organizations for facilities management, when forming strategies, should follow analysis, solution, and implementation phases. The first stage of realizing is to determine the need for services. Those services must be analyzed. The next step would be the determination of important service attributes. Thus the determination of the utilization of inhouse team or outsourcing alternatives can be compared. Hotel management should clearly define the services that will be outsourced.

• Hotel management, at the restructuring process as described in the facility management, based on the main purpose of providing services directly to the customer, can outsource operation and

maintenance activities among support services by an agreement with a single service provider. Fig. 6 shows the relation between doing core-business and outsourcing support services of a hotel.



Fig. 6: The basic relationship between core and non-core business (Dirgeme, 2005)

• If ready to devote time, for the preparation of the right ground for total facility management arrangement, hotel management can provide the ideal solution for the operation and maintenance of the facility, by choosing the right and the best contractor, in national and international norms and standards such as ISO 9000 quality management and ISO 14000 environmental management standards, with the highest level of service quality and optimum operating costs. The total facility management arrangement is shown in Fig. 4 and compared with alternative service provision methods. The total facility management contractor can propose more professional and accurate solutions for maintenance needs, compared with the managing agent and managing contractor. Fig. 7 shows the contractual and communication link at total facilities management.



Fig. 7: Contractual and communication link at total facilities management (Dirgeme, 2005)

• Hotel management can give full responsibility to the management of its facilities and the maintenance services to a single organization. A total facility management contract can be made, as shown in Fig. 7. Long years relationships established between facility management contractors and their subcontractors can mean productive business relationships. The subcontractor company that will provide facility operation and maintenance management services outside from must have expertise in comprehensive and competent services. Reputation, value for money, and performance targets are required.

- Hotel management should provide adequate facilities to the facility management subcontractor to manage all maintenance services.
- The hotel technical manager shall take the position of the contract manager. He/she must possess good human relations. He/she should have knowledge of contracts and should know the elements of operations and performance. It will be beneficial to get help from a facility management consultant about performance standards, as shown in Fig. 7. In order to ensure that this arrangement does not go wrong, performance control should be carried out. Observation of works, measurement of performance and financial targets, and feedback from customers will be their responsibility.
- Maintenance management plans and the organization of the computerized maintenance management systems, reports, analyses, and feedback should be organized by the total facilities management contractor.
- Facility Management Company and its personnel should fully understand the organizational culture, business objectives, and the changing needs from the management. Common goals should be discussed at an early stage. Thus, a comprehensive facility maintenance management strategy can be created in line with the company's current and future primary business needs. In the field of human resources management, newly created or named roles and responsibilities of the positions should be clear.
- The facility management company assumes a number of responsibilities over hotel management. The creation and implementation of operational and maintenance business plans is the responsibility of the company. Organization of planned preventive maintenance and failure repair, emergency situations and measures, adaptation of the computer-based preventive maintenance program to the facility; preparation and control of the budget for facility maintenance management in scientific methods, providing analysis, reporting, and feedback by a quality control team is under the facility management companies' responsibility.
- Thus, the facility management function will allow the hotel management to concentrate on their own areas of expertise. The operation of the facility professionally in national and international norms and standards with high service quality and optimum operating costs will be ensured.

7. Results and recommendations

Facilities play an important role in meeting hotel guests' needs. They are, in essence, the «manufacturing plant» in which the services and products that the guest purchases are created delivered, and generally consumed. The equipment and elements of the facility are the production tools of the hospitality industry. Facility management is a complementary approach to create the appropriate environment to support the achievement of the primary objectives of an organization. Even within the same sector, the facility management approach differs between organizations. Facilities management includes facility operations and maintenance management to be the foremost in the list and contains extensive services. Correct application of facility management techniques enables organizations to create the right environment for them to manage their core business efficiently and profitably.

The concept of facility management is not known sufficiently in small and medium-sized hotel organizations in Turkey. Hotel management should be informed about the exact role of the facility management discipline, what it wants from the organization, and what it can provide as a return. Hotel management needs to understand the importance of maintenance management. For all of this, getting help from a specialized facility management consultant would be of great benefit. To manage hotel facilities efficiently and effectively, in hotel organizations, strong strategies should be developed in terms of business plan and management. Organizations should follow the analysis, solution, and implementation phases while creating an efficient strategy for managing their facilities. These should include setting strategic goals for the facility management function and a business plan.

On the basis of the services provided directly to the customer as the main purpose in the restructuring process, the hotel management can outsource and sign up with a single service provider for facility operation and maintenance activities from support services. Hotel management can provide the ideal solution for its operation by total facility management arrangement; it can give the full responsibility of the facility operation and maintenance management services to a single organization, choosing the right and the best subcontractor.

By the implementation of the steps of the proposed model, the facility management function will allow the hotel management to concentrate on their core business. The facility can be managed professionally, in the national and international norms and standards, enabling the service quality to be at the highest level, with optimum operational costs. Total facility management contractor can offer more professional and accurate solutions to the maintenance needs, more complete than the managing agent managing contractor or arrangements.

Under the current conditions in Turkey, managers of small and medium-sized hotels, during the initial installation phase or reconstruction phase of their hotel, taking the main purpose on the basis of providing services directly to the customer inhouse and by outsourcing facility operation and maintenance within support services, will provide advantages in the following matters: Establishment of economic management staff; partially avoiding personnel expenses; providing support services from experts or organizations; eliminating such effects as wage distribution among staff; maintaining discipline between main and support departments; ensuring standardization, speed and high quality in service through contracts with external companies; preventing union activities. Also can provide more flexible and serious business relations with the contracts to be signed with foreign companies and can save on business areas such as technical spaces. Dealing directly with work tools, spare parts, work, and workplace safety issues will not be necessary. Increasing service standards and operational efficiency, additional time and resources to improve hotels by avoiding specific responsibilities, ability to meet market requirements such as green hotel requirements, protecting and increasing real estate value can be possible.

When all these results were obtained, it was seen that all the predictions that were the basis of the formation of this study, as a hypothesis, coincide with the current situation. As a result, the study, which was started as a hypothesis and formed with a hypothetical approach, somehow tested.

In many studies, renovation takes place within the facility management functions in hotels. Since hotels have various renovation types and approaches throughout their life cycle and include planning, design, and construction phases, it is recommended that the hotel renovation issue be handled in a separate study as a facility management tool.

Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

References

- Alhammadi S (2019). Analysis and impact of facility management in performance of buildings. International Journal of Advanced and Applied Sciences, 6(11): 30-34. https://doi.org/10.21833/ijaas.2019.11.005
- Ali AS, Kamaruzzaman SN, Sulaiman R, and Peng YC (2010). Factors affecting housing maintenance cost in Malaysia. Journal of Facilities Management, 8(4): 285-298. https://doi.org/10.1108/14725961011078990
- Arditi D and Nawakorawit M (1999). Issues in building maintenance: Property managers' perspective. Journal of Architectural Engineering, 5(4): 117-132. https://doi.org/10.1061/(ASCE)1076-0431(1999)5:4(117)
- Aryee S (2011). Hotel maintenance management: Strategic practices in hotel operation. M.Sc. Thesis, KTH architecture and the built environment, Stockholm, Sweden.
- Atikol U (2004). A demand-side planning approach for the commercial sector of developing countries. Energy, 29(2): 257-266. https://doi.org/10.1016/j.energy.2003.09.002
- Atkin B and Brooks A (2000). Total facilities management. Blackwell Science, Hoboken, USA.
- Barrett P and Baldry D (2009). Facilities management: Towards best practice. John Wiley and Sons, Hoboken, USA.

- Borsenik F and Stutts A (1997). The management of maintenance and engineering systems in the hospitality industry. 4th Edition, Wiley, New York, USA.
- Bölüm O and Menü KYG (2020). Çevreye duyarlılık kampanyası (Yeşil Yıldız). Republic of Turkey Ministry of Culture and Tourism (RTMCT), Ankara, Turkey.
- Bruijn DH, van Wezel R, and Wood RC (2001). Lessons and issues for defining "facilities management" from hospitality management. Facilities, 19: 476-483. https://doi.org/10.1108/EUM000000006205
- BSI (1993). British Standard BS 3811: 1964–Glossary of maintenance management terms in terotechnology. British Standards Institution, Milton Keynes, UK.
- Chan KH (2012). Improving building safety in property maintenance. Property Management, 30(5): 465-476. https://doi.org/10.1108/02637471211273428
- Chan KT, Lee RHK, and Burnett J (2001). Maintenance performance: A case study of hospitality engineering systems. Facilities, 19: 494-504. https://doi.org/10.1108/02632770110409477
- Demir M (2014). Sürdürülebilir turizm ve otel işletmeleri. Detay Yayıncılık, Ankara, Turkey: 174-190.
- Dilek S (2018). Konaklama işletmelerinde yeşil uygulamalar. In: Atay L and Korkmaz H (Eds.), Turizm işletmelerinde yeşil uygulamalar: 69-92. 1st Edition, Detay yayınları, Ankara, Turkey.
- Dirgeme EN (2005). Otellerde tesis işletme ve bakım yöntemi modeli. Ph.D. Dissertation, Yıldız Teknik Üniversitesi, Fen Bilimleri Enstitüsü, İstanbul, Turkey.
- Dortyol IT, Varinli I, and Kitapci O (2014). How do international tourists perceive hotel quality? International Journal of Contemporary Hospitality Management, 26(3): 470-495. https://doi.org/10.1108/IJCHM-11-2012-0211
- Dunn S (2002). Maintenance outsourcing critical issues. Plant Maintenance Resource Centre, Brisbane, Australia.
- Erdogan N and Baris E (2007). Environmental protection programs and conservation practices of hotels in Ankara, Turkey. Tourism Management, 28(2): 604-614. https://doi.org/10.1016/j.tourman.2006.07.003
- Erentürk M and Güven ÖF (2018). Temel Kavram ve Uygulamaları ile Tesis Yönetimi. Beta Basım Yayım AŞ, İstanbul, Turkey.
- Ertas M, Yesilyurt H, Kırlar-Can B, and Koçak N (2018). Evaluation of environmental sensitivity of hospitality industry within the scope of green star applications. Journal of Travel and Hospitality Management, 15: 102-119. https://doi.org/10.24010/soid.415349
- Evcioglu K (2020). Ülkemiz için modern tesis yönetimi projesi ve uluslararası tesis teknik müdürleri derneği hedefleri. Available online at: https://bit.ly/2CL6akY
- Fersht P, Filippone T, Aird C, and Sappenfield D (2011). The evolution of global business services: Enhancing the benefits of shared services and outsourcing. HfS Research, Cambridge, UK.
- Ghazi KM (2016). Hotel maintenance management practices. Journal of Hotel and Business Management, 5(136): 2169-0286. https://doi.org/10.4172/2169-0286.1000136
- GSTC (2015). GSTC industry criteria for hotels. Global Sustainable Tourism Council, Washington, USA.
- Henley JA, Cotter MJ, and Herrington JD (2004). Quality and pricing in the hotel industry: The mobil "star" and hotel pricing behavior. International Journal of Hospitality and Tourism Administration, 5(4): 53-65. https://doi.org/10.1300/J149v05n04_03

- IFMA (2020). Brief history of IFMA. International Facility Management Association, Houston, USA.
- Jefferies EJ (2000). A preliminary investigation into facilities management in hotels. B.A. Dissertation, University of Strathclyde, Glasgow, Scotland.
- Jones C (2002). Facilities management in medium-sized UK hotels. International Journal of Contemporary Hospitality Management, 14(2): 72-80. https://doi.org/10.1108/09596110210419255
- Kakabadse A and Kakabadse N (2000). Sourcing: New face to economies of scale and the emergence of new organizational forms. Knowledge and Process Management, 7(2): 107-118. https://doi.org/10.1002/1099-1441(200004/06)7:2<107::AID-KPM91>3.0.CO;2-K
- Koçel T (2014). İşletme Yöneticiliği Yönetim ve Organizasyon. Beta Basım Yayım, İstanbul, Turkey.
- Lai JH (2013). An analysis of maintenance demand, manpower, and performance of hotel engineering facilities. Journal of Hospitality and Tourism Research, 37(3): 426-444. https://doi.org/10.1177/1096348012436380
- Lai JH and Yik FW (2012). Hotel engineering facilities: A case study of maintenance performance. International Journal of Hospitality Management, 31(1): 229-235. https://doi.org/10.1016/j.ijhm.2011.05.002
- Lai JHK, Yik FWH, and Jones P (2006). Critical contractual issues of outsourced operation and maintenance service for commercial buildings. International Journal of Service Industry Management, 17(4): 320-343. https://doi.org/10.1108/09564230610680640
- Lawson F (2006). Hotels and resorts: Planning, design, and refurbishment. Architectural Press, Oxford, UK.
- Lee R (1987). Building maintenance management. 3rd Edition, William Collins Sons and Co. Ltd, Glasgow, UK.
- Lorente CJ, de Burgos-Jiménez J, and Álvarez-Gil MJ (2003). Stakeholders' environmental influence: An empirical analysis in the Spanish hotel industry. Scandinavian Journal of Management, 19(3): 333-358. https://doi.org/10.1016/S0956-5221(02)00034-9
- Losekoot E, van Wezel R, and Wood RC (2001). Conceptualising and operationalising the research interface between facilities management and hospitality management. Facilities, 19: 296-303.

https://doi.org/10.1108/02632770110390775

- Lu C, Berchoux C, Marek MW, and Chen B (2015). Service quality and customer satisfaction: qualitative research implications for luxury hotels. International Journal of Culture, Tourism and Hospitality Research, 9(2): 168-182. https://doi.org/10.1108/IJCTHR-10-2014-0087
- Magee GH (1988). Facilities maintenance management. RS Means Company, Rockland, USA.

- Martorell S, Soares CG, and Barnett J (2009). Safety, reliability and risk analysis: Theory, methods and applications. CRC Press, Boca Raton, USA.
- McIvor RT, Humphreys PK, and McAleer WE (1997). A strategic model for the formulation of an effective make or buy decision. Management Decision, 35(2): 169-178. https://doi.org/10.1108/00251749710160331
- Mensah I (2006). Environmental management practices among hotels in the greater Accra region. International Journal of Hospitality Management, 25(3): 414-431. https://doi.org/10.1016/j.ijhm.2005.02.003
- Novacka L, Pícha K, Navratil J, Topaloglu C, and Švec R (2019). Adopting environmentally friendly mechanisms in the hotel industry. International Journal of Contemporary Hospitality Management, 31(6): 2488-2508. https://doi.org/10.1108/IJCHM-04-2018-0284
- Palmer JD (1990). Principles of hospitality engineering. Van Nostrand, New York, USA.
- Parry B and Collins B (1993). Where is facilities management going? International Journal of Contemporary Hospitality Management, 5: 2. https://doi.org/10.1108/09596119310036638
- Rauch DA, Collins MD, Nale RD, and Barr PB (2015). Measuring service quality in mid-scale hotels. International Journal of Contemporary Hospitality Management, 27(1): 87-106. https://doi.org/10.1108/IJCHM-06-2013-0254
- RICS (2013). Strategic facilities management. 1st Edition, Royal Institution of Chartered Surveyors, London, UK.
- Sloan PL, Legrand WW, and Chen JS (2013). Sustainability in the hospitality industry: Principles of sustainable operations. Routledge, New York, USA.
- Sönmezer B (1999). Otellerde bina yönetimi. M.Sc. Thesis, Yıldız Teknik Üniversitesi, Fen Bilimleri Enstitüsü, İstanbul, Turkey.
- Stipanuk DM and Roffmann H (1992). Hospitality facilities management and design. Educational Institute of the American Hotel and Motel Association, Orlando, USA.
- Suweero K, Moungnoi W, and Charoenngam C (2017). Outsourcing decision factors of building operation and maintenance services in the commercial sector. Property Management, 35(3): 254-274. https://doi.org/10.1108/PM-06-2016-0028
- UNEP (2012). The business case for the green economy-Sustainable return on investment. United Nations Environment Programme, Nairobi, Kenya.
- UNWTO (2008). Towards more competitive hotels. Hotel Energy Solutions (UNWTO), World Tourism Organization, Madrid, Spain.