

An Investigation on Faulty Renovation Practice in Hotel Facility Management: Adıyaman Grand Isias Hotel (GIO) Example

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Abstract

The facility management approach in hotels differs between organizations. Different issues need to be taken into account in the design, construction, operation and renovation of tourism accommodation facilities. As a result of the earthquake disaster that took place on February 6, 2023, it was seen how unprepared we were in terms of safe buildings. The loss of life at GIO in Adıyaman, which initially creates the perception that it is new to its customers, prioritizes drawing attention to this issue in terms of hotels. The aim of the study is to make suggestions to the project management process of medium-sized hotels that need renovation and are mostly operated by the owners, and to raise awareness in determining their priorities. The method of the study is case study. Within this study, the significance of renovation as a hotel facility management tool will be discussed through literature research, and the improper practices at GIO will be examined by conducting a case study. Information was obtained through the hotel's web page, by scanning the news published on the internet and by examining the report prepared by the academicians who were assigned as experts in the case process. The fact that the building's license projects could not be accessed and the business owner could not be contacted limited the case study. It has been suggested that facility management expertise should be used in the renovation management of medium-sized hotels, which are mostly managed by the owners.

Keywords: Hotel facility management, hotel renovation, Adıyaman Grand Isias Hotel.

Otel Tesis Yönetiminde Hatalı Renovasyon Uygulaması Üzerine Bir İnceleme: Adıyaman Grand Isias Otel (GIO) Örneği

Öz

Otellerde tesis yönetimi yaklaşımı, organizasyonlar arasında farklılıklar göstermektedir. Turizm konaklama tesislerinin tasarlanması, yapımı, işletilmesi ve renovasyonunda farklı konuların dikkate alınması gerekmektedir. 6/02/2023 tarihli deprem felaketi neticesinde güvenli binalar konusunda ne kadar hazırlıksız olduğumuz görülmüştür. İlk bakışta müşterileri üzerinde yeni olduğu algısı uyandıran Adıyaman GIO'deki can kayıpları, oteller açısından bu konuya dikkat çekmeyi öncelemektedir. Çalışmanın amacı renovasyona ihtiyacı olan ve daha çok malsahibi tarafından işletilmekte olan orta ölçekli otellerin proje yönetim sürecine öneri getirmek, önceliklerini tespit etmelerinde farkındalık oluşturmaktır. Çalışmanın yöntemi durum çalışmasıdır. Bu çalışma içerisinde literatür araştırmaları yoluyla otel tesis yönetimi aracı olarak renovasyonun öneminden bahsedilerek, GIO'deki yanlış uygulamalar, durum çalışması yapılarak incelenecektir. Otel ile ilgili bilgiler, otelin web sayfası üzerinden, internette yayınlanmış olan haberler taranarak ve dava sürecinde bilirkişi olarak görevli olan akademisyenlerin hazırlamış oldukları rapor incelenerek elde edilmiştir. Yapının ruhsat projelerine ulaşamamış ve işletme sahibiyle görüşülemediği olması yapılan durum çalışmasını kısıtlamıştır. Daha çok malsahibi tarafından işletilmekte olan orta ölçekli otellerin renovasyon yönetiminde tesis yönetimi uzmanlığından faydalanılması önerisinde bulunulmuştur.

Anahtar Kelimeler: Otel tesis yönetimi, otel renovasyonu, Grand Isias Otel Adıyaman.

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1. Introduction

In Turkey, Gaziantep and Kahramanmaras centred, 7.7 and 7.6 magnitude earthquakes, which occurred on February 6, 2023, were reverberated across a wide area covering Southeastern Anatolia, Eastern Anatolia, Central Anatolia and Mediterranean Regions, and has affected numerous provinces, including Malatya, Osmaniye, Sanliurfa, Adana, Adiyaman, Diyarbakir, Elazig, Gaziantep, Hatay, Kahramanmaras and Kilis. According to the data of the Turkish Statistical Institute, 14,013,196 people were affected and approximately 50,000 of our citizens lost their lives (TMMOB, 2023). It has been seen how unprepared we are for safe buildings, and it has become clear that this issue is not taken into account sufficiently in all building types, including hotels. The painful truth that buildings kill, not earthquakes, has been faced once again.

It is known that 65 people lost their lives as a result of the collapse of the 4-star Grand Isias Hotel (GIO), which is located in the city center of Adiyaman province, in Figure 1a. The wreckage of the Grand Isias Hotel after the earthquake can be seen in Figure 1b (News Kibris Int., 2023).

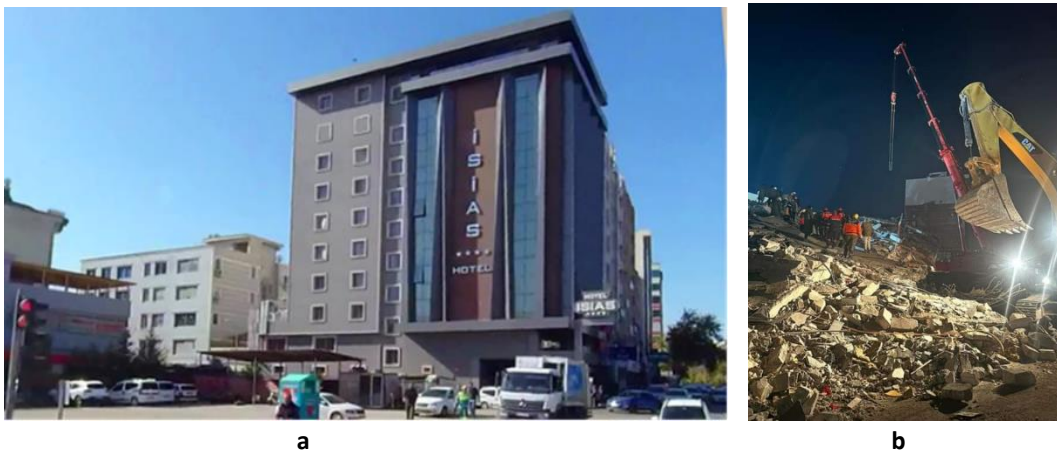


Figure 1. a. View of Grand Isias Hotel (GIO, 2023). b. Hotel Wreckage of the Grand Isias Hotel after the earthquake in Adiyaman (News Kibris Int., 2023)

It has been stated that Isias Hotel in Adiyaman, which initially seems to be new to its customers, should not have completely collapsed as a result of the earthquake forces it was exposed to if it had met the "Life Safety Performance Level" (EMU, 2023). It is obvious that the reason for the collapse of the building, occurring contrary to the expected "Life Safety Performance Level", was due to faulty renovation practices.

It is known that Turkey is under a great danger in terms of seismicity due to the fault lines of North Anatolia, East Anatolia, and West Anatolia. However, this is neglected in most renovation projects. In Turkey, the primary reference for designing new structures, assessing seismic performance of existing buildings, and addressing those with inadequate earthquake resilience is the ongoing development and revision of earthquake regulation.

The purpose of this regulation is to determine the necessary rules and minimum conditions for the design and construction of all or parts of all public and private buildings and building-type structures that will be rebuilt, changed or enlarged, under the influence of earthquakes, and for the evaluation and strengthening of the performances of existing buildings under the influence of earthquakes (Turkish Building Earthquake Regulation, 2018, Article:1)

According to the Turkish Building Earthquake Regulation (TBDY) 2018, the performance levels of buildings are related to the damage expected to occur in the structure under the applied earthquake effect, and the building performance limit values are; Continuous Use Performance Level (KK), Limited Damage (SH), Controlled Damage (KH) and Preventing Collapse (GÖ).

Similarly, in the Regulation on Buildings to be Built in Earthquake Zones (DBYBHY) 2007, these limit values are 'Immediate use performance level' (HK), where the elements maintain their rigidness and strength properties, "Life safety performance level" (CG); some of the structural elements were

damaged under the earthquake effect, but these elements preserved a significant part of their horizontal rigidity and strength, vertical elements were sufficient to carry vertical loads, although non-structural elements were damaged, the infill walls did not collapse, and small permanent drifts that are not visually noticeable may occur in the structure. Pre-collapse performance level (GÖ) and Collapse Situation; The structure reaches collapse under the effect of the applied earthquake. Some of the vertical elements have collapsed. Those that did not collapse can carry vertical loads, but their rigidity and strength are greatly reduced. The majority of non-structural elements have collapsed. There have been significant permanent drifts in the structure. The structure has completely collapsed or is on the verge of collapse and is likely to collapse under a slight ground movement that may occur later. If the building does not meet the pre-collapse performance level, it is in collapse. The use of the building in its current state is undesirable in terms of life safety (DBYBHY, 2007).

The main principle in the design of the 2007 earthquake regulation, as in the TDY-1997 regulation, is that in mild earthquakes, structural and non-structural system elements in buildings do not suffer any damage, in moderate earthquakes, the damage that may occur in structural and non-structural elements remains limited and at a repairable level, and in severe earthquakes, It is aimed to limit the formation of permanent structural damage in order to ensure safety (DBYBHY, 2007).

The aim of the study is to make suggestions to the facility management process of medium-sized hotels that need renovation and are mostly operated by the owners, and to raise awareness in determining their priorities.

In this study, the concept of facility management, the renovation and its importance as a hotel facility management tool, life cycle of a hotel and types of renovation, the planning, design and construction phases of a renovation process, service provision alternatives at facility management will be mentioned through literature research. The renovation practices in Adiyaman Isias Hotel will be examined employing a qualitative research approach involving a case study.

1.1. Facility Management Concept

The concept of facility management is an integrative approach to the operation, maintenance, development and creation of a suitable environment for buildings, systems and equipment in order to support the organization to achieve its main goals. Facility management includes comprehensive services, especially facility operation, maintenance, and renovation management (Barrett & Baldry, 2009; Ceylan & Tulbentci, 2020).

The International Facilities Management Association (IFMA) defines facilities management as an organizational function which integrates people, place and process within the built environment with the purpose of improving the quality of life of people and the productivity of the core business (IFMA, 2023).

It integrates the principles of business, architectural and engineering sciences. The association also defines facilities management as a multidisciplinary profession to ensure the functionality and sustainability of the built environment by integrating people, places, processes and technologies (IFMA, 2020; Erentürk & Güven, 2018).

In the ever-changing world order, it is seen that different issues should be considered in the design, construction and operation of tourism accommodation facilities and the renovation of existing hotel buildings. In the context of sustainable tourism, while green building practices gain importance in hotel facility management within social, environmental, and economic sustainability issues, healthy tourism certificates have changed the perspective on the design, maintenance, and operation of facilities during the covid pandemic we lived all over the world. In this case, the structural safety of hotel buildings is questioned.

Based on data from the Ministry of Culture and Tourism regarding certificated investment and operational facilities in our country, as of June 2023, there are a total of 19,980 facilities holding Operation Certificates. These establishments collectively offer approximately 1,743,687 beds. As per the records provided by the Turkish Ministry of Culture and Tourism in 2023, there are 4,969 facilities holding operation certificates, with a total of 1,100,139 beds. Additionally, there are 715 facilities with

investment certificates, collectively offering 168,604 beds. Furthermore, there are 15,147 facilities with simple accommodation operation certificates, providing a total of 676,883 beds (Turkish Ministry of Culture and Tourism, 2023). However, the statistics do not reveal when the facilities obtained their construction permits (licences).

It is seen that renovation investments are predominant in the investment incentive certificates issued by the Ministry of Industry and Technology (Hotel Association of Turkey, 2023).

At the Tourism Investment Forum (ITF) organized by the Tourism Investors Association (TTYD), Chairman of the Board of Directors Oya Narin mentioned that at least 50 thousand bed capacities should be renewed every year and that resources are needed for this. It has been mentioned that 5-10 thousand dollars are spent per room for renovation, and this figure goes up to 30 thousand dollars in other segments and up to 100 thousand dollars in some hotels (Narin, 2023).

Based on all these, the following comment can be made that due to the economic crises in the world and in Turkey, the increase in construction costs, the decrease in tourism revenues and the imperative to maintain competition, much more money is spent every year for the renewal of tourism accommodation facilities compared to the construction of new ones.

In many respects, it is seen that the renovation remains important for maintaining and improving the business volume of the hotels as hotel renovation projects are high-budget investments. Renovation management is included in the facility management functions. Professional management of renovation projects is an inevitable process for the success of hotel facility management and operation. As seen in the recent earthquake experienced, mistakes were made because of not taking seismicity and renovation management seriously enough in medium-sized hotels, which are mostly operated by the property owners, can cause very heavy losses that are irreversible. Since hotel projects require experience in a wide variety of technical fields, they must be managed by an expert.

1.2. Hotel Renovation as a Facility Management Tool

In the literature research, it is seen that in most cases, creating financial resources to renovate a hotel is easier and more profitable than building a new hotel (Macdonald, 1995; Ruttens et al., 2001). The inadequacy of the main spaces and common areas such as bedrooms in hotels, the limited time to be allocated for construction, and the cultural value of the transformation of a historical building into a hotel are some of the other factors that support renovation and restoration instead of a new construction. In some cases, it may be desired to transform an existing building into a hotel by changing its function (Penner et al., 2013).

It is seen that the academic studies on the importance of renovation in hotels in terms of facility management are very limited. Ransley & Ingram (2001) and Conner (1991) focused on the importance of design and renovation in ensuring operational efficiency of facilities. Hassanien & Losekoot (2002) conducted a study on hotel renovation as a facility management tool in the hospitality industry and examined the relationship between facility management and real estate renovation in the hospitality industry.

It is clear that there is a close relationship between renovation and facility management in the hospitality industry. Renovation can be viewed as activities related to the development and/or modification of the physical assets of hotels, used to serve to extend the useful life of the property, improve its operational efficiency and/or create a better image for the property in the market in order to remain competitive. Renovation can be thought of as a facility management tool (Hassanien & Losekoot, 2002).

Hotels always have a facility management process maintained at various levels (Jeffries, 2000). In the hospitality industry, hotel renovation is directly related to the facility management function. Derived from French origins, the term "renovation" means "renewal and repair" at the simplest level (TDK, 2023).

Although there is no universally accepted definition in the literature, renovation is defined by Hassanien & Baum (2002) as the process of protecting or improving the image of the hotel by changing

the tangible products for various reasons, through changes, additions and/or any additions or replacement of materials and furniture, fittings, and equipment.

Renovation is the process of correcting damage caused by usage and modifying, changing, and updating spaces to meet changing market needs in a hospitality property. It refreshes the appearance of the interiors and the effect it leaves on the customer. While it causes the installation of engineering systems that can be safer, modern, and efficient indoors, it allows for diversity in the service offered to customers (Stipanuk & Roffmann, 1996).

As the size and number of hotels increase, the renovation activities also increase. Decorative finishes and engineering systems can be used for a maximum of 15-20 years in hotels. Technological, functional, and architectural style obsolescence force many managers to make changes within five years of opening a new facility, with extensive changes typically occurring on a 12–15-year cycle (Stipanuk & Roffmann, 1996).

Hotels need to be renovated for many reasons. These reasons can be classified as strategic, operational, or functional needs. In summary, the reasons why renovation is required include the following: maintaining the competitiveness of the hotel in the market, maintaining or increasing its share in the market by increasing current or potential customer satisfaction, improving operational efficiency in order to increase the profit of the hotel, protecting the company image and standards, raising the class and star of the hotel, adapting to the new trend and technology in the market and complying with legal requirements, protection from natural disasters such as earthquakes, worn out furniture and equipment in the facility, and decrease in earnings due to outdated interior design. New opportunities are possible by renovating the facilities that cannot meet the changing guest demands. In the market, prevalent reasons include the failure of current or previous hotel owners to make the necessary investments for maintaining the property in a completely up-to-date condition and the facility's physical obsolescence. Thus, these not only lead to a decrease in business activity but also fall in earnings to a level where the hotel fails to meet its debt (Baum & Wolchuk, 1992; Baum, 1993; Bruns, 1996; Chipkin, 1997; Lynn & Seldon, 1993; Watkins, 1995).

Renovation of an existing hotel offers more advantageous opportunities than building a new hotel in terms of time and costs, and in some cases, it may be more advantageous in terms of zoning rights. The objectives of renovation projects change in relation to the age of a property. While it is important to preserve the original design in the first years, it becomes important to make extensive changes in order to meet the changing customer needs and expectations in the following years. Renovation works, which include concepts such as replacement, restoration, and redesign, require the participation and professional management of various departments within the facility. The renovation work, which concerns the physical appearance of the hotel, is included in the facility management issues.

In order to minimize the risks in the success of the renovation project, the hotel management should work with experts and be aware of the importance of facility management in this process. Although the owners and operators of luxury hotels understand the importance of regular renewal to meet customer expectations and competitive pressure, there appears to be a lack of strategic planning in terms of facility management in the hotel industry. It is important that the renovation policy is carried out by an effective plan and guide adopted by the hotel decision makers (Fox, 1993; Hassanien & Losekoot, 2002). Despite the importance of the renovation, owners do not consider it as an important facility management tool. Approaching hotel renovation through the lens of professional facility management can prevent critical mistakes and enable to find new solutions (Dirgeme, 2005).

1.3. Life Cycle of a Hotel

Hotels, like all commercial businesses, have a certain life cycle. A hotel is built to meet the needs of a thriving society and becomes the dominant force in the market for a few years, enjoying a higher occupancy rate than its competitors. During this strong first phase, this property may be the location of choice for local, social, and business functions. Seeing success, other hoteliers enter the market with equal or more innovative products. This is how the process works, especially in societies that are growing in terms of population and business activity.

In the second phase, the occupancy rate of the property decreases over time. This process speeds up if hotel ownership and management do not invest in the property. In the third phase, the market also changes and demands new and different services from others. If the hotel is part of the chain, in most cases the operating agreement is terminated or modified. Over time, it becomes apparent that the income provided by the property is not enough (Lawson, 1995; Stipanuk & Roffmann, 1996).

The hotel's downfall has two possible consequences: sale or change in focus and resettlement, or rehabilitation of the hotel. The critical factor at this point is whether investments in the facility will yield higher returns than selling the hotel and investing the money elsewhere.

The renovation needs to be done to prolong the period of strong performance and to minimize any downturn. Early renovation in a hotel's life preserves and prolongs the healthy first phase. Phase two renovations involve changes in response to market forces. Phase three renovations involve significant changes to the building to gain a new place in the market and to raise the level of support systems such as outdated electrical or security systems (Lawson, 1995; Stipanuk & Roffmann, 1996).

1.4. Renovation Types

Renovations typically fall into three categories, depending on the scope of work performed: small renovations, major renovations, and restoration. The scope of minor renovations is the replacement or renewal of unstable furniture, furnishings and finishes in a space without changing the use or physical plan of the space. It is mostly carried out in the form of a 6-year cycle. The scope of major renovations includes replacing or renewing all furniture, furnishings and finishes within a space. It may include extensive changes in the usage area of the space. It is mostly carried out within a 12–15-year cycle. The scope of restoration, which is mostly carried out in a 25–50-year cycle, includes the complete stripping of a space, the replacement of old and unused systems in technical and functional terms, and the repair of furniture, furnishings and systems that are still usable that meet the current needs of the facility (Lawson, 1995). Stipanuk & Roffmann (1996), using spatial change and/or material additions or displacements as criteria, classify the renovation as minor, major and restoration with a different approach. In the studies conducted by Hassanien (2007), a slight change was made in this classification and the term "master" renovations was used instead of restoration for the renovations in the third group, which includes partially or completely changing the image-appearance of the hotel. This refurbishment group is more comprehensive than the major refurbishment and is done specifically to breathe new life into old, tired hotels.

1.5. Renovation Process

There are many approaches to renovation. In some organizations, periodic renewal needs, lists, and financial resources are prepared by managers and maintained within a 3-5-year renovation program. In many organizations, the process is handled infrequently, and large sums are spent in a short period of time. In both cases the renovation process is essentially the same and can be divided into three general phases including planning, design, and construction (Baltin & Cole, 1995; Hassanien, 2007; Lawson, 1995; Nehmer, 1991; Stipanuk & Roffmann, 1996; Dirgeme, 2005).

1.5.1. Planning phase of renovation; It consists of 5 steps: setting long-term goals, examining the property, creating a project list, making project cost and benefit estimates, and selecting projects.

1.5.1.1. Setting long-term goals

The renovation process should start with setting the long-term goals of the hotel. The goal is to increase a property's competitive position and maximize its value. Any renovation, large or small, must be tailored to the nature of the property, its target markets, operating agreement, sales strategy, and service level. The next task is to identify the renovation projects that will best support the operational mission. This is accomplished through the examination of the property (Hassanien, 2006).

1.5.1.2. Inspection of the property

A full inspection of the property assists management in determining which areas and facilities need refurbishment. This review includes input from all departments regarding their needs. The purpose of the review is to identify needs and stimulate ideas. Another reason for the review is to force the

renovation managers to inspect the spaces to be renovated. The initial review is typically carried out by the hotel's management to identify needs (Stipanuk & Roffmann, 1996; Dirgeme, 2005). When renovation projects are identified, a separate review should be made by the manager responsible for the renovation with the designers and engineers to determine the actual scope of the renovation work. Especially in earthquake zones, earthquake engineers should be included in this group.

Studies by Stipanuk & Roffmann (1996), Paneri & Wolf (1994) state that managers should consider the relationship between the economic life of building systems and the physical life of these systems when examining the property. The age of the building and the condition of the building structure against possible earthquakes should be issues that should not be overlooked at this stage. It should be included in the plans to check the compliance with the regulations such as the current Turkish Building Earthquake Code (2018) by carrying out laboratory tests and reinforcement works if deemed necessary. Thus, when identifying renovation jobs and opportunities, more needs to be done than identifying obsolete elements.

Identifying the opportunities that the renovation can create requires sensitivity to the potential possibilities for the facility. In this case, the evaluation of its current position in the market becomes important. By abandoning renovation alternatives that are clearly inconsistent with the property's goals, managers may focus their attention on more promising alternatives (Stipanuk & Roffmann, 1996).

1.5.1.3. Creating the project list

At the end of the inspection of the property, the hotel management has a list of potential projects that need to be evaluated. Top management needs to carefully examine these projects to determine whether the property is compatible with its objectives and remove any that do not (Stipanuk & Roffmann, 1996). The projects that aim at strengthening the structural system as deemed necessary by geological engineers, earthquake engineers, and civil engineers based on laboratory analyses and core samples taken from suitable locations using the required equipment, should be prioritized, and included in the list.

The steps followed in the building strengthening process can be summarized as follows: determining the target performance level of the existing building, collecting information about the building, carrying out a building performance analysis using linear calculation methods and non-linear calculation methods, and conducting performance evaluation on the basis of building and element as a result of the analysis, that is, if the building meets the target performance level, it is suitable for use, but if it does not meet this level, one or more reinforcement methods detailed in TBDY (2018) are applied, by reporting that the use of the building is inconvenient in terms of life safety.

According to TBDY (2018), there are various strengthening methods. Among the reinforcement methods in TBDY, the most widely used reinforcement methods in practice is the addition of reinforced concrete curtains to the structural system in buildings. In addition, wrapping columns and beams, increasing the bending capacities of the elements by using some methods, adding new frames to the system, strengthening the partition walls with various methods such as fibrous polymer, strengthening the infill walls with special plaster with mesh steel reinforcement can be listed. It will be necessary to prepare suitable retrofit projects by civil engineers and structural earthquake engineers who are experts in the subject (Ahiskali, 2021).

In the same process, architectural and interior architectural projects as well as projects belonging to other engineering services can be prepared. As a result of all this, management has a list of eligible renovation projects that need to be evaluated later.

1.5.1.4. Estimating project costs and benefits

Once the project list is complete, management is required to make cost and benefit estimates for each project. In this process, projects that should be removed from the list are determined because their costs exceed their benefits. In many renovation projects, a decision has to be made on how to choose between alternative methods. It requires professional work. The problem for managers is which estimation technique they will use in the decision-making process (Stipanuk & Roffmann, 1996).

Projects for strengthening the building structure are a vital project group that should not be left to the initiative. However, it may be possible to calculate the cost and make a choice among various reinforcement methods such as concrete and fiber material usage suggested by civil engineers (Ahiskali, 2021).

Analysis is required on all proposed renovation projects that affect revenue. Thus, projects can be ranked from the most beneficial to the least beneficial according to their net benefits or their benefit/cost ratio. Top management and the owner need to choose which projects to implement, considering the budget available for the renovation. Managers must demonstrate that the funds allocated are best used and will prolong the life of the property. Projects that offer the most economic return or meet the most important needs should be chosen professionally (Stipanuk & Roffmann, 1996). If deemed necessary as a result of the engineering calculations, the building reinforcement to be carried out for the structure system of the hotel is the top priority and it should be the first budget item to be allocated for renovation. Being a secure hotel in terms of location and structure will then provide an indisputable competitive advantage in the market. From this point onward, the majority of approved projects are done. If the wrong project is chosen, management misses out on opportunities or the risk of destruction caused by a possible earthquake may be inevitable.

1.5.2. Design phase

After the projects are approved, it is necessary to prepare the design documents required for the building licence / permit. Whether the renovation is large or small, design is often the product of a team (Sullivan, 1994; West & Hughes, 1991; Hassanien & Losekoot, 2002). With the projects reflecting the wishes of the owner and the management, the scope and details of the work to be completed should be submitted to the subcontractors, and the specifications should be prepared in order to purchase the furniture and fittings. If the designed projects are not found to comply with regulations such as fire, elevator, health and safety, problems may arise in obtaining construction permits with renovation projects. The size and level of detail required in the design varies from project to project. Complex renovation projects require a complete construction plan, specifications, and schedules. All renovation projects have a team of management, design professionals, subcontractors, and buyers. These team members need to integrate their needs and responsibilities to be successful (Stipanuk & Roffmann, 1996; Dirgeme, 2005).

The designer's decisions will affect the renovation budget, schedule, the long-term appearance of the facility, and the success of the business. It is necessary to ensure the coordination of the projects with equipment and technical systems, and compliance with laws and regulations such as earthquake, fire, health and safety.

Construction documents that require the highest level of detail and the longest preparation time, form the final design phase. Good construction documentation will remove ambiguity. Technical systems with extensive content are heating systems, ventilation systems, air conditioning systems, water installations, sewage drains, drainage, fire extinguishing systems, natural gas systems, and electrical systems. Each of the laws related to these systems has extensive content. These systems should be evaluated under the supervision of experts on the subject. If the principles specified in the regulations such as fire regulations, earthquake regulations are not complied with, the building occupancy permit normally is not given to the buildings that are subject to re-use. In addition, spatial transformation should be implemented in a way to ensure contemporary building standards such as facilities for the disabled, fire safety, sound insulation, structural stability, and thermal efficiency (Stipanuk & Roffmann, 1996; Dirgeme, 2005).

In the selection of buildings to be reused as hotels, the structure system and features should be inspected and never ignored as well as the location, environmental characteristics, and the spatial formation. The main issues to be analysed include the suitability of the load-bearing structure of the existing building to be used as a hotel for this function, the adequacy of the building floor area, the convenience of the floor height, the service transportation facilities, and the robustness of the structure (Basa, 2007).

The robustness of the supporting structure is a factor that will directly affect the new function to be provided. After the control of the structural system, some decisions are made for the system. Decisions such as preserving the structure as it is, increasing the strength of the structure with some additions, i.e. strengthening it, and establishing a new system separate from the existing structure when necessary will reshape the structure of the building to be used as a hotel. Additions and reinforcements to the structural system can be defined as bringing the building to a state where it can meet the technological conditions and physical comfort of the day. For this, first, measures should be taken for the stability of the structure. Technological systems such as lighting, air conditioning, fire-life safety, communication, building automation, and building management systems are the most important factors affecting the design in spatial transformation (Basa, 2007).

1.5.3. Construction phase

In facilities such as hotels, when the construction documents are completed or at a much earlier stage of the project, agreements with subcontractors can be reached by making contracts with various variations of service provision apart from standard owner-subcontractor agreements.

In hotel facilities, the main issues of renovation management include the coordination between all parties and operations during the renovation, compliance with building codes and laws, cost and quality control, and the decisions of which places will be closed and for how long. Establishing the right balance between the quality and cost requires experience, attention to detail, and vision.

In a new construction, basic principles of project management are to improve quality, reduce time, and stay on budget, respectively. Renovation work requires minimizing disruptions, preventing problems before they escalate, documenting work and changes in business, and managing disputes in operating parts of the facility. By working as a professional team in coordination with trust and understanding, a high-quality renovation can be realized at the targeted time, in accordance with the budget.

1.6. Facilities management service provision

There are basically three main types of service provision in facilities management: 1) Use of the external organization or individual managing the organization's own staff, 2) Agreement with a subcontractor managing some or all of the service providers, 3) Management of the entire facility by an outside organization, with a single point of responsibility as shown in Figure 2 (Stipanuk & Roffmann, 1996). In each of them, the contract and communication links vary and have separate advantages and disadvantages. It is necessary to make a choice according to the current conditions.

1.6.1. Managing Agent

This regulation/arrangement is applied when the organization decides to protect its own personnel. The organization does not have the expertise and knowledge to manage its staff efficiently and effectively. By bringing in an outside person to manage the facility, it appoints a representative. This person acts as if he were part of the permanent formation of the organization. In this arrangement, contracts with service providers are made with the customer organization.

1.6.2. Managing Contractor

At this approach, there is a contract between the client organization and the relevant subcontractor. Subcontractors contract with the managing subcontractor and do not have a contractual relationship with the client organization. Organizations have a single-point relationship with the subcontractor on all matters related to service provision.

1.6.3. Total Facilities Management

Organizations can give full responsibility for the management of their facilities to a single organization for a fixed fee. In this case, the organization must provide the subcontractor with the opportunity to manage various services efficiently.

Total facilities management subcontractors can offer more effective and accurate solutions to an organization's needs than managing agent or managing contractor arrangements. Relationships

established over many years between contractors and subcontractors can mean that productive business relationships have been established from the very beginning. Total facility management can provide the solution in selecting the right and best subcontractor if the organization is ready to invest time for this type of arrangement.

Figure 2 shows the three main types in terms of contract and communication links.

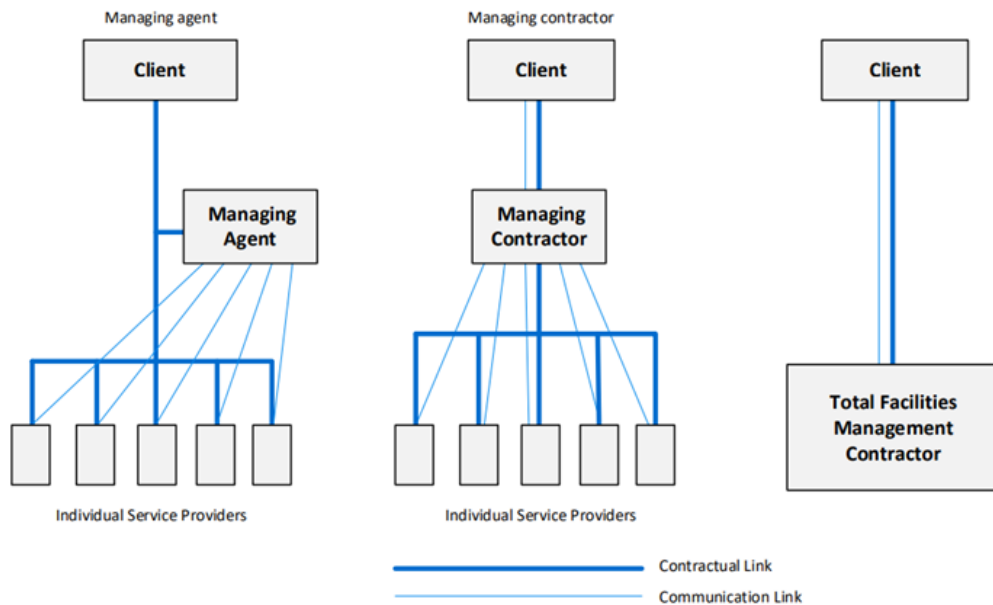


Figure 2. Types of contract arrangements (Atkin & Brooks 2000; Dirgeme, 2005)

2. Material and Method

The aim of the study is to make suggestions to the facility management process of medium-sized hotels that need comprehensive renovation and are mostly run by the owners, and to raise awareness in determining their priorities. The method of the study is case study. Case study is defined as a detailed installation exam or a repository document for a single subject or a special case (Mayring, 1996; Yin, 2003; Bogdan & Biklen, 1998). Case study is one of the systematic design types that includes steps such as collecting information, organizing the collected information, interpreting and reaching research findings, just like a detailed planning in architecture (Merriam, 1988). This case study will provide a rich and vivid description of the events in the situation.

The data world of the study consists of literature research about the facility management concept, the importance of renovation as a hotel facility management tool, life cycle of hotels, types of renovation, renovation processes consisting of planning, design and construction phases, information and pictures about the hotel obtained from the hotel's web page, the news published on the internet and the research report prepared by the academics who were assigned as experts in the case process regarding the ending of the hotel's life cycle due to the earthquake.

The reasons for the complete collapse of Adiyaman Grand Isias Hotel were investigated by Eastern Mediterranean University (EMU) including Civil Engineering Department Faculty Members. Then, a report was prepared and the Adiyaman Grand Isias Hotel Preliminary Investigation Report dated 16 February 2023 was published (EMU, 2023).

In the light of all this data, the life cycle of Isias Hotel, planning, design and construction stages of the renovation process, renovation types will be analyzed. As a result of the findings, suggestions will be made regarding the priorities in renovation planning and service provision methods in facility management of medium-sized hotels that are mostly run by their owners. The fact that the construction projects and documents could not be obtained, and the hotel's business owners and technical managers could not be contacted limited the case study.

3. Case Study

3.1. Life cycle of Isias Hotel (GIO)

According to the news published on the Internet, it is stated that the 4-star Grand Isias Hotel in Adiyaman was built as a family apartment building, and it was converted into a hotel in 2001 after a decade-long rough construction. It is stated that the function of the building, which was initially planned as a residence, was changed with the establishment of Isias Tourism and Hotel Management and Transportation Construction Trade Industry Joint Stock Company in 2001 and the building transformed into Isias Hotel. The number of rooms in the accommodation facility with an Operation Certificate from the Ministry of Culture and Tourism increased from 37 to 66 rooms in 2005, and the hotel's capacity was expanded to 132 beds (Turizm Guncel, 2023).

The mentioned situation can be summarized as the transformation of existing structures those lost their function and the ability to meet contemporary needs have gained a new function due to factors such as change in purpose, reuse, and environmental, social, cultural, economic, and technological reasons. Briefly, it can be thought of as the re-functioning of the buildings so that they can survive, and carry spatial values (Basa, 2007).

As seen in the pictures xxx, the extensive-major renovated hotel was in demand with its new and contemporary look, and the pre-earthquake Trivago Rating Index was rated excellent with 8.6 points, and excellent with 9.2 points on hotels.com (Trivago, 2023; Hotels.com, 2023).

The life cycle of the GIO ended by the Gaziantep and Kahramanmaraş centred, 7.7 and 7.6 magnitude earthquakes, which occurred on February 6, 2023 which has affected numerous provinces, including Adiyaman. It is known that 65 people lost their lives including many children as a result of the collapse of the 4-star GIO, which is located in the city center of Adiyaman province.

3.2. Renovation Process

3.2.1. Planning and design phase of renovation

Planning phase consists of 5 steps: setting long-term goals, examining/inspecting the property, creating a project list, making project cost and benefit estimates, and selecting projects.

In the report of EMU, it was stated that the earthquake records of Adiyaman were analysed first, and with the data obtained from the earthquake recording station located approximately 1 km from the GIO, it was stated that according to the Regulation on Construction in Disaster Zones (1997 Earthquake Regulation), the building was classified within Adiyaman's second-degree earthquake zone. It is also stated that due to the Adiyaman Courthouse Public Prosecutor's Office initiating an investigation by opening a file on the hotel, all the projects and documents related to the hotel, as well as the licensing process for the building to be used as a hotel, could not be accessed from the Adiyaman Municipality Archive due to confidentiality (EMU, 2023). The fact that the construction and renovation projects and documents could not be obtained and the hotel's business owners and technical managers could not be contacted, limited the understanding of the planning phase of the renovation process in detail.

As mentioned in 1.5.2; Whether the renovation is large or small, design is the product of a team. It is necessary to ensure the coordination of the projects with equipment and technical systems, and compliance with laws and regulations such as earthquake, fire, health, and safety.

At GIO, the owner/ the management had reflected their wishes of the design project to their architects and to the subcontractors, as modern style fitting with the decorative trends. But the designed projects cannot be reached and examined if they comply with regulations such as fire, elevator, health, and safety. Construction permits with renovation projects cannot be analysed.

It is obvious that GIO was designed as a family apartment and was reused as a hotel. The structure system and features had to be inspected and never ignored as well as the spatial formation. The main issues that should be analysed include the suitability of the load-bearing structure of the existing building to be used as a hotel for this function and the robustness of the structure.

After the control of the structural system, some decisions had to be made for the system. Decisions such as increasing the strength of the structure with some additions, and establishing a new system separate from the existing structure had to reshape the structure of the building to be used as a hotel., First measures should be taken for the stability of the structure and additions and reinforcements to the structural system should be made. It's obvious from the analyses and reports of EMU that reinforcement project was not prepared and applied at GIO.

3.2.2. Construction phase of renovation

Making a statement about the hotel, Özgür Tunç, The Head of Adıyaman Chamber of Civil Engineers, said, "The foundation of the hotel was laid in 1990-1991. For some reasons, the building remained unused until 2001, when the construction phase stopped during the rough construction phase. The rough construction corroded after being exposed to rain and snow for 10 years. The building, which was designed as a family apartment building, received a hotel license from the municipality with the company established in 2001. Like all buildings built before 1999, this building is one of the risky constructions. Atatürk Boulevard is an area with ground liquefaction. Prioritizing the reinforcement or demolition of buildings constructed before 1999 should have been emphasized. In buildings before 2000, the iron was not ribbed, the mortars were mixed by hand. In the following years, most of the building inspection and engineering services remained on paper until 2018." (Turizm Guncel, 2023).

In the report of EMU, it is indicated that when comparing the design spectrum obtained considering the earthquake hazard in the region with the spectrum derived from earthquake records, it is observed that especially for structures with 4 or more floors, if designed and constructed accurately, the forces acting on this earthquake align with the forces stipulated by the 1997 Earthquake Regulation. It is clearly stated that the building in question must have satisfied the life safety performance level by not completely collapsing as a result of the earthquake forces it is exposed to. Identifications were made from the building debris (EMU, 2023).

"One of the reasons for the collapse of the building in question, which should have met the life safety performance level, is serious irregularities in the building structure; this is likely due to design errors and/or post-engineering modifications improper arrangement of equipment, insufficient use of stirrups in columns and beams, inadequate concrete quality, cold joint problems, inadequate cross-section element, lack of foundation in the building , structural system irregularity in the building, lack of adequate shear safety in places with mezzanines, interaction problems with neighbouring structures and etc.", and it has been concluded that the reason for the collapse of this building is not the magnitude of the earthquake, but the wrong design and/or construction (EMU, 2023).

The debris found in the building area was closely examined and it was determined that the concrete quality was clearly low, and that the river gravel and sand were both used as gravel and sand (Figure 3a-b).



A

Figure 3. a-b. Parts showing the concrete content (EMU, 2023)

It was stated by EMU academics that according to the information obtained from the Adiyaman Chamber of Civil Engineers (IMO) Branch representative, though not confirmed, the building block where the hotel is located contains five buildings facing the main street. Among these buildings, including the hotel, it was indicated that four of them were constructed more than 30 years ago as 5-story structures and were initially used as residences. It was stated that the hotel building, which was used as an office, was converted into a 7-storey structure with the renovations and addition of 2 floors. By point of view, the building should have been designed according to the 1998 Earthquake Regulation due to the renovations (EMU, 2023).

Based on the findings, though not entirely certain, it was concluded that the construction of the building in question, which had its foundation and columns designed and built for 5 stories, was not executed correctly. It was deemed a serious mistake to add floors, and the building could collapse even in less severe earthquakes. For clearer results, it has been stated that all the projects of the building and its official documents at the licensing stages are needed (EMU, 2023). Figure 4a-b. shows the overall view from the debris field with the intact 7-story building in the background and Figure 5c. shows the columns from the undamaged part of the hotel (EMU, 2023).



Figure 4. a-b. Overall view from the debris field with the intact 7-story building in the background (EMU, 2023).
c. Columns from the undamaged part of the hotel (EMU, 2023)

It is stated that the picture in Figure 5 was taken in the lobby. It is noteworthy that some columns in the lobby were cut on the upper floor (Turizm Guncel, 2023).



Figure 5. Photo taken from the lobby (Tourism Guncel, 2023)

3.3. Renovation Types

Examinations conducted on the hotel's website reveal that the building, which was used as a hotel after years of functional change, has undergone a second comprehensive renovation.

On the website of GIO, a 4-star hotel, it is evident that there are 3 multi-purpose halls with an area of 45 m², 160 m² and 200 m². These halls were designed considering the needs of the business world and special occasions. It has been stated that it includes A'la carte restaurant, breakfast hall, lobby bar

and patisserie, Turkish bath, sauna, indoor pool and fitness centre, and indoor parking lot. In the photographs, it is seen that there are various types of rooms, suite and standard.

Figure 6a-b. The exterior is observed to be clad with aluminium composite panels in a manner that conceals the underlying structures; an extensive-major renovation.



Figure 6. a-b. Hotel entrance after extensive- major renovation (GIO, 2023)

In the lobby, it is seen that the opening on the mezzanine floor is very wide, the column has been cut, the floor coverings and movable furniture have been changed (major renovation) (Figure 7a-b).



Figure 7. a-b. Hotel lobby after major renovation (GIO, 2023)

The floor and ceiling coverings, movable furniture seen in the multi-purpose hall in Figure 8a-b. are outdated. In order to compete in the market, as seen in Figure 9, ceiling coverings, floor coverings and all movable furniture claddings have been replaced with fashionable styles. Since the renovation was done in an amateurish manner, beautiful visuals were provided, but it has been experienced that the details about the durability of the structural system, which is vital to the work, are not discussed.



Figure 8a-b. Picture of the hotel's multi-purpose hall before extensive-major renovation (GIO, 2023)



Figure 9. Hotel's multi-purpose hall after the extensive-major renovation (GIO, 2023)

The decoration of the rooms seen in Figure 10a-b are outdated. In order to compete in the market, as seen in Figure 11a-b., ceiling, floor and wall coverings, all movable furniture, fixtures and equipment and, claddings have been replaced with fashionable styles.



Figure 10. a-b. Picture from hotel rooms before extensive-major renovation (GIO, 2023)

All furniture, lighting elements, and all fittings seen in Figure 10a-b. have been renovated in accordance with fashionable styles, as seen in Figure 11a-b. However, it is known that these rooms have become graves for many people.



Figure 11.a-b. Pictures from hotel rooms after extensive-major renovation (GIO, 2023)

It is seen that the bathrooms in Figure 12a-b. have been renovated with contemporary building materials and fittings in Figures 13a-b.



Figure 12.a-b. Pictures from the hotel bathrooms before the extensive-major renovation (GIO, 2023).

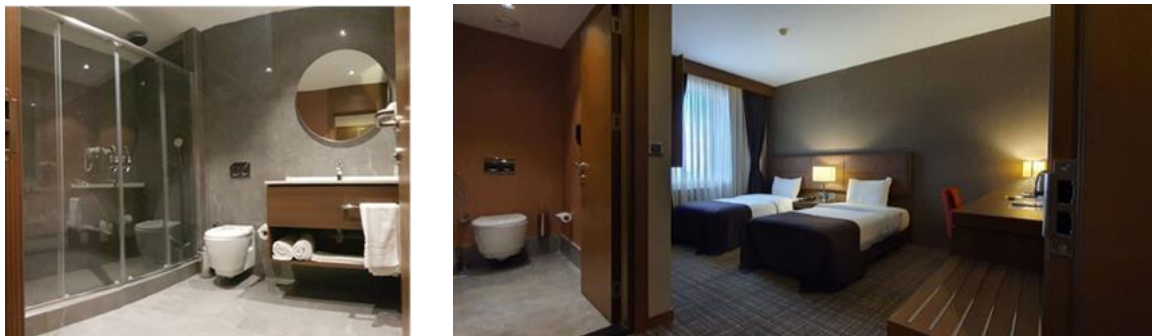


Figure 13.a-b. Pictures from the hotel's bathrooms and room after extensive renovation (GIO, 2023).

The basement garage entrance of the hotel is shown in Figure 14a, and the columns in the garage that were destroyed during the earthquake are shown in Figure 14b. In a professional renovation, evaluating the performance level of the existing structure requires analyzing core samples taken from columns that have been deemed suitable by engineers specializing in the field.



Figure 14.a-b. Images from the basement garage of the hotel (GIO, 2023).

The aluminium composite and glass curtain wall used on the exterior hides the entire exterior wall and structure of the hotel as seen in Figure 15.a-b. At figure 16.a-b. the hotel can be seen before and after the earthquake (GIO, 2023).



Figure 15.a-b. Exterior image of the hotel after renovation (GIO, 2023).



Figure 16. a-b. GIO before and after the earthquake (GIO, 2023).

It is obvious that no measures have been taken in terms of ground-structure safety against earthquakes. Necessary attention has not been given to facility and renovation management.

4. Findings and Suggestions

Experiences have shown that the building, which was originally designed as an apartment building was exposed to all kinds of weather conditions and remained under construction for many years. After years, its function was changed, and its construction continued as a hotel. However, the construction was completed unconsciously, with an understanding that dominates the construction market in general, using amateur methods that do not include any professional approach, resulting in the addition of floors that were not statically calculated. As is commonly observed among contractors in the market, the building has been constructed with the mindset of "making it visually appealing" without the involvement of expert architects and engineering services or by receiving inadequate/wrong services. However, in places with high seismicity, strengthening the structural-carrier system of the hotel in accordance with the current earthquake regulations should be the work item that should be included in the renovation plan in the first place.

Construction and decoration work for functional changes need to be handled professionally, and vital strengthening works must be followed in order to ensure compliance with earthquake regulations. In cases where it is determined by expert engineers that the strengthening works will not be sufficient, demolition and reconstruction of the worn-out buildings should be carried out with the approval of the local administrations. No cost-saving approach is worth risking human life when the renovation project items are analysed in terms of costs and benefits.

It is vital to work with a competent engineering firm on comprehensive renovation projects that include structural reinforcement. It is their responsibility to prepare a strengthening project for the structural systems of the buildings in accordance with the latest regulations. The control of the construction should be provided by an expert engineering firm, especially during the strengthening of the structural carrier system.

In buildings that are subject to a license, local governments should make compliance with the current earthquake regulations as the first condition. The control of the process should also be ensured with the building inspection system working for the public benefit. However, in the majority of hotel renovation projects in the sector, a construction permit may not be required again, since there is a building permit and occupancy permit already obtained in the past. In such cases, the Tourism Accommodation Health and Safety Technical Guides of the International Association of Travel Agencies such as ABTA (ABTA, 2017) and similar guides are the most important guides and sanction tools for many hotel businesses, especially in renovation projects where local government licenses are not required. It is possible to inspect the facilities where the settlement will be accommodated by the international travel agency association.

Mandatory ground-building safety certificates such as green building certificates by the Ministry of Culture and Tourism in Turkey can be seen as a solution.

Errors to be avoided in a renovation project can be summarized as avoiding working with professional designers, working with unqualified subcontractors to reduce construction costs, and minimizing the scope of renewal to the point of insignificance.

Although it is seen that reinforcement is required in some cases as a result of performance analyses in market conditions, it is known that the vital strengthening works, which are considered costly by the owner, are ignored because they are not directly seen by the customer and will not increase the sales of the hotel. It is vital to address such situations with professional facility management.

Figure 2. shows types of contract arrangements including managing agent, managing contractor and total facilities management contractor, contractual and communication links. .

Viewing hotel renovation from a facility management perspective is essential. Renovation in hotels, together with planned preventive maintenance, is the most important facility management tool (Stipanuk & Roffmann, 1996). Renewal must be carried out systematically. Utilizing comprehensive facilities management knowledge will create an opportunity to enhance current best practices. There are very few truly unique conditions that occur during a hotel renovation. It is then of great value to benefit from the experiences of others.

The facility management expertise should act as the subcontractor responsible for managing the renovation including planning the renovation, analysing alternative projects in terms of cost and benefit, financial analysis and renovation budget, preparing the specifications and tendering the renovation work items, contract and project management, testing and commissioning, personnel training, and etc (Figure 17). The responsibility of this expertise will provide great benefits to the hotel management in terms of facility management.

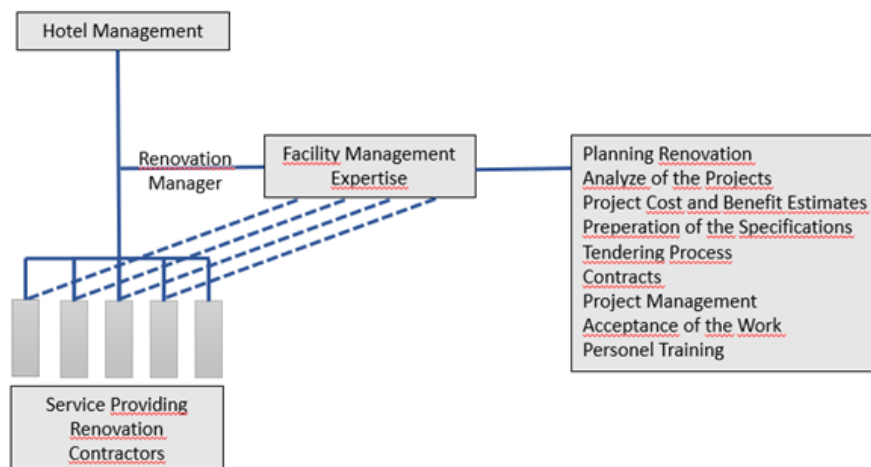


Figure 17. Utilizing facility management expertise in the Hotel Renovation Process (Atkin & Brooks, 2000; Dirgema, 2005).

It is necessary to ensure the coordination of the projects with equipment and technical systems, and compliance with laws and regulations such as earthquake, fire, health and safety.

The age of the building and the condition of the building structure against possible earthquakes should be issues that should not be overlooked at this stage. It should be included in the plans to check the compliance with the regulations such as the current Turkish Building Earthquake Code (2018) by carrying out laboratory tests and reinforcement works if deemed necessary.

Projects for strengthening the building structure are a vital project group that should not be left to the initiative. However, it may be possible to calculate the cost and make a choice among various reinforcement methods such as concrete and fiber material usage suggested by civil engineers.

In construction sector in general;

Qualified architectural and planning services, which are the prerequisites for healthy and safe building production processes, should be supported.

The profit-oriented planning, urbanization, and construction policies, responsible for the loss of numerous lives and ongoing substantial destruction and losses, should be abandoned.

The exclusion of projects and practices against zoning rules, illegal buildings, qualified architecture, engineering and planning services from the building production and inspection process should be prevented.

The building inspection system should be revised so as not to allow for negligence.

Acknowledgments and Information Note

This article is dedicated to KKTC volleyball players who lost their lives in Adiyaman Isias Hotel on 06.02.2023 at 04:17. Interviews, observations, etc., which require an ethics committee decision are not included in this article. No document requiring special permission was used.

Author Contribution and Conflict of Interest Declaration Information

Since the article was prepared by a single author, there is no conflict of interest.

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