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Thème

DESIGN PERFORMANCE OF URBAN HOTELS WITH PARTICULAR REFERENCE TO BEDROOMS FACILITIES

(**A CASE STUDY**)

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CHAPTER ONE

PROBLEM IDENTIFICATION

1.1. Introduction:

In the last few years, the demand for accommodation, the availability of a suitable infrastructure and services , the economic feasibility of development and good planning and design, all have facilitated a significant increase in hotel accommodation all around the world. Urban hotels, among different other types of accommodation, play an important part in serving the needs of its users either for business or holiday purposes. Users of urban hotels are classified into two main groups with different requirements. There is a sharp division between weekday and weekend demand : the weekday market comes from users travelling for business for four days a week, from Monday to Thursday, and the weekend market comes from users for non-business reasons for three days a week, from Friday to Sunday. Accordingly, the market in urban hotels is changing considerably. The problem arises from the fact that these different groups have different requirements, and when the product provided does not meet the demand of the user, this may lead to the under-utilisation of the space, which in turn may affect the occupancy rate of the hotel. Bedrooms, among other facilities in urban hotels, seems to be the most affected area by such fluctuation in demand. Accordingly, particular attention was given to the design of bedrooms. Bedrooms may be seen as much more than just bedroom. They serve a variety of purposes. Increasingly they are becoming living and working spaces as much as sleeping areas.

However, to ensure a good performance in use of the space and a good bed occupancy rate all around the year, a lot of works was done with regards to design guidance of bedrooms in urban hotels. A very large number of publications consisting of particularized recommendations on the requirements of specific facilities, and a large number of publications listing theoretical recommendations on multi-use space in hotels, such as the use of bedrooms for meeting. Such amount of information is a result of a lot of research work in the field of design so that architects can use it as guidance when designing their hotels.

As far as urban hotels and the design of bedrooms in Algeria are concerned, the need to investigate on design recommendations and space standards cannot be overstressed. From preliminary visits to some urban hotels in Algeria, it seems that there are many problems in terms of space characteristics and performance. It appears from the evidence that the characteristics of the space does not correlate with the international recommendations and standards.

Such problems according to a responsible in the ministry of tourism are mainly due to programming and design skills. First, no market research is taking place in the design process. It is argued in the literature that, before the design stage, it is essential for the developer / operator to have a clear knowledge of the market in order to meet the needs of his intended users, and determine the size, types of user that can be found in urban hotels. Second, such situation is also due to the lack of literature and other published data on the design requirements of hotel bedrooms in Algeria and little research has been carried out in Algeria on this subject. Architects in Algeria and government authorities are conscious that there is a great need to investigate these matters. In the meantime most architects are basing their design on their own experience and on the little information provided by the Ministry. Accordingly, it seems obvious that there is an important need for a body of knowledge derived from research studies supported by empirical evidence, which will serve as a guidance in the future for hotel design in Algeria.

The Algerian government experienced many difficulties especially with regard to planning and design aspects. The design guidance provided by the Ministry of Tourism does not provide adequate data for architects or designers. The existing guidance provided by the Ministry of Tourism is a standard guide with mandatory facilities and spaces currently supposed to be applied in the design of all hotels.   The provided guidance, which is still in use, deals mainly with the dimension of spaces with little attention to other design requirements. Accordingly, it becomes clear that architects do not have a research bias and appropriate resources.

Again, in addition to the limited guidance concerning Algerian hotel bedrooms , there is a clear requirement for flexibility in use of hotel bedrooms. Such information

however , is very limited and does not state clearly all the potential uses of hotel bedrooms or the means for achieving such flexibility.

It seems obvious that potential problems of architectural performance of bedrooms in urban hotels are mainly due to the lack of information and research studies. Accordingly, it is questionable whether bedrooms in existing hotels meet user requirements or not. Such problems may in turn have an impact on users satisfaction and accordingly affect the occupancy rate of the hotel.

This research work is divided into two main parts. The first part is a theoretical and predictive exercise based on a synthesis of recommendations from a large field of literature of different disciplines. The purpose of the second part is to take these theoretical predictions made by the first section and test them empirically by a detailed analysis of selected existing buildings in use.

So, it becomes clear that it is necessarily to set up an evaluation study in order to assess how bedrooms design performs in use in terms of efficiency and effectiveness. In other words, to evaluate the **Effectiveness** of a space is to assess whether or not the theoretical recommendation or standards are incorporated in the building in use. If these recommended characteristics are provided, to what extent they meet user requirements. Such approach means evaluating the performance of the space in terms of **Efficiency**.

Evaluation studies would give us a scientific background with different benefits. First, it gives us an idea about the level of architectural performance of the building in use. Second, through evaluation it is possible to define different associating problems in use. Knowing the nature of such problems, it is possible to avoid design problems in the future. Third, evaluation studies would give us a basis to develop design guidance for architects to use it as basis for their design in order to ensure a maximum fit between the activities and their intended spaces and in turn improve the architectural quality of the project. On the other hand, providing well designed architecture, would have a positive impact on user satisfaction and consequently a successful project.

This thesis comprises ten chapters. The first chapter identifies the research problem, the objectives and the hypothesis of the thesis. In chapter two the concept of post-

occupancy evaluation and performance of building will be defined in order to assess which aspect of post-occupancy evaluation this study will be concerned. In chapter three, both the requirements and different types of users who may make use of urban hotels and the main factors that may affect the match between users' requirements and the product are outlined. Then in chapter four, the recommendations or recommended characteristics, gathered from specialized literature about bedrooms design were listed. This is followed in chapter five by an outline of research methods that can be used to measure the inclusion of the recommendations in the sample. In chapter six, an examination of the selected sample for the study is outlined in order to understand its intended purpose, capacity and size of the project. This will be followed in chapter seven by measurements of the inclusion of the recommendations in the sample. In chapter eight, the views of users and their level of satisfaction with the building in general and the area under study are outlined. In chapter nine, the relationship between the following of the recommendations and the building's level of success in meeting the needs of users in terms of space features are investigated. In chapter ten, the conclusions that can be drawn from the study and recommendations to the design of bedrooms in urban hotels are given.

1.2.Tourism in Algeria:

Since independence , Algeria has been engaged in a continuous effort of economic , cultural and technological reconstruction, designed to overcome the problems of underdevelopment, socio-economic inequality and widespread poverty inherited from 132 years of French colonialism. To accomplish these tasks , Algeria has launched a series of consecutive development plans. Tourism, among sectors such as agriculture, education and industry which were seen to be the most important ones on independence, has also taken part in national development plans. (1)

Following independence, large numbers of foreign tourists wished to visit Algeria for two main reasons. The climate is favorable especially during the summer period, and people desired to several years due to the war. (2)

At that time, the amount of necessary accommodation was very limited and the demand from tourists exceeded the existing provision. The Ministry of Tourism, which had just been created, recognised that setting up a programme to develop

tourism in Algeria would probably assist in improving the Algerian economic situation. Between 1962 and 1964, this programme progressed from an initial stage , designed to develop the natural sights in terms of related infrastructure such as transport and electricity , and at the same time manage the colonial heritage ,to a second stage, initiating a scheme for training future designers and managers. (3)

Having gained more experience in hotel management, the Ministry of tourism started the construction of new hotel buildings all over the country.(4) However, due to a lack of indigenous skill at the time, the government utilized foreign architects and labor to take the planning and design responsibility although some small hotels of low grade were built by the local private sector. (5) Today, tourism in Algeria is becoming a national priority and a large programme of hotel buildings will be built in the future. The Minister of Tourism Mr.Rahmani cherif has emphasized these maters through his statement declared in 2008.

> "Tourism proved to be a national priority. Therefore, tremendous potentialities and resources have been identified to insure its development. A widely updated database, initiated a number of years ago, allowed the definition and consolidation of a "tourism development master plan" which priorities tourism's excellence clusters. These encompass all the "components" required for a high quality tourism industry which highlights the specific assets of each region. The new tourism policy implemented by the government is both ambitious and pragmatic. On the one hand, it is inspired by the various successful experiences of Mediterranean countries and others, in order to prevent the reoccurrence of glaring mistakes. On the other hand, such a policy will reflect the relevant provisions of the 1995 Charter on 'sustainable tourism'. In accordance with this Charter, tourism must be ecologically supportable, economically achievable and ethically and socially equitable for local populations. It is true that the development of the tourism sector in Algeria is still in progress and its empowerment will be largely dependent on the efficiency of the strategy to be implemented with the aim of making of Algeria a typical tourist destination by the year 2025"….

1.3. Hotels' production system:

Hotels in Algeria are divided into government hotels and private hotels. Government hotels are provided through the Ministry of Tourism. The types of hotels provided by the Ministry of Tourism are generally of a higher grade than those provided in the private sector and are considered as international hotels. In the public sector, investment in hotel projects is made through the Ministry of Tourism which in turn receives its budget from the Government treasury. In each development plan, the tourism sector receives its limited financial help from the Government within which the Ministry of Tourism carries out its projects. The amount of money provided by the Government to each sector depends mainly on the importance that such a sector has for the country's economic development. In addition, each year, the major part of a hotel's profit is allocated to the Government treasury to be invested in other sectors. (6)

Private hotels, although they can also be considered as international hotels, are generally used by domestic users because the majority of private hotels are of 'economic' grade and their comfort is of a very low standard. Private hotels are located mainly in large cities like Algiers, Oran and Constantine. They are financed and operated by the owner, who can be an individual or group of individuals.

Despite the government's effort to build more hotels as proposed in the development plans, the number of hotel buildings programmed was not totally achieved, apparently for two major reasons; firstly, at the construction level, the materials used were brought from abroad and often these were not delivered at the predicted time, affecting the rate of construction, and secondly, the lack of experienced engineers and entrepreneurs was critical through the years following independence.

1.4. Types of hotels:

Hotels in Algeria are classified in relation to their location and the facilities they provide, and the Ministry of Tourism classification distinguished three main types as follows : (7)

i. Sahara hotels :

These are used by tourists visiting the Sarah and cater primarily for their holiday needs. They are generally located near attractive cities that are of interest to tourists. This type of hotels, apart from accommodation and catering, provides a large number of entertainment and recreational facilities.

ii . Seaside hotel :

These are used by tourists (either domestic or foreign) during the summer period , and are considered as resort hotels, catering mainly for tourists looking for relaxation in sea and sun.

iii . Urban hotels :

Urban hotels in Algeria are used by people for both business and holiday reasons. Apart from accommodation and catering, other facilities are also provided. This type of hotel comprises the major proportion of all hotels in Algeria; they are located in large cities like Algiers, Oran, Constantine and Annaba.

Within this classification, there are different hotels categories ranging from the cheapest to the most expensive. Users from different economic backgrounds therefore have the ability to choose within their level of income the hotel which matches their ability to pay. By the ranking used in Algeria and by international standards, these are : (8) (see also appendix 6)

a. Luxury hotel (five stars hotels) :

This category offers the highest standard of accommodation and services, including a large number of extra facilities such as swimming pool and gymnasium. These are mainly used by people of high income who are looking for comfort.

b. Category one (four stars hotels) :

These may provide facilities and services similar to luxury hotels, but are of smaller space and have lower quality furnishing .

c. Category two (three stars hotels):

These provide limited facilities and are of lower quality than the four star hotels. This category of   hotel in Algeria will be discussed in this study since it is argued (see   below) that this will be the most needed category in the future.

d.Category three (two stars hotels) :

These provides no more than bedrooms and the entrance hall , in addition to low quality furnishing . This category of hotel does not provide catering facilities and consequently the hotel 's customers have to use outside restaurants.

e. Category four (one   star   hotels) :

These are similar to category four in terms of facilities provided but are of a lower size and lower quality furnishing. This is the lowest category and offers the most basic facilities at an inexpensive rate.

To assess which of the existing   type and category   of hotels is most profitable in Algeria to date; and   which is most likely to be needed in the future, the author did conduct an interview with an official in the Ministry of Tourism. It was only by such interviews   that such information could be collected as there was so little literature on the subject.

The spokesman   interviewed (9) argued   that   category one and two (3 and 4 stars hotels) are most likely to be   needed in   the   future. This is because the   combination of facilities provided and the price offered by 3 and 4 stars hotels are generally the most appropriate for the largest percentage of the majority of users of medium income, in addition   to the acceptable quality of facilities which are provided. In contrast, luxury hotels were considered so expensive that their use is limited   to people of high income for whom the price is not important. Another   disadvantage   of Luxury hotels is that they require highly qualified staff and managers to ensure a successful operation, and such skills scare in Algeria. Furthermore, the   need for continuous maintenance of all facilities such as swimming pools and theatres often

generates prohibitive running costs. The spokesman also argued that urban hotels were most likely to be needed in the future.

The substantial growth in national and international business conferences and meetings year round during the last few years has created a demand for more urban hotels than for other types. In addition, the advantages of being located in a large urban area makes the demand for urban hotels relatively higher all the year round, compared with other types. Urban hotels reach their peak occupancy rate during the summer period, with a slightly lower occupancy in winter period. The degree of fluctuation between the summer period and the winter period in urban hotels is much less compared with that for other types. In contrast, seaside hotels operation is mainly limited to four months from June to september. During this period seaside hotels reach a high occupancy rate but in the eight other months they fall to a very low level. Sahara hotels, mainly used by foreign tourists, are particularly utilized during the winter period. In other months of the year the region becomes too hot for most tourists and consequently the hotels are under-utilized. From this interview, it seems that urban hotels, category two or one (3 or 4 stars) are most urgently required for Algeria in the future and therefore seem the best topic for this study.

1.4.1. Urban hotels:

Most literature about hotels buildings shows that in urban hotels, in addition to bedroom accommodation; a large number of facilities and services ranging from entertainment to meeting and conference facilities. They may be a significant of the total accommodation which the hotel provides. Yet sleeping facilities, for a number of reasons discussed below, would seem to be the largest single determining factor contributing to the overall success of any hotel. It is argued that:

The main business of a hotel is essentially directed towards the letting of bedrooms. (10) It is also argued that the most important facilities and those likely to influence the user's decision on whether to return are the sleeping facilities. (11) Furthermore, of the three basic products the hotel has to sell (room, food and beverages), the most profitable for the operator is normally the bedroom accommodation. (12) (13) (14)

"No matter whether the hotel is in a city or in the country, every inch of bedroom space is of great importance as this area provides the greatest profit in the whole operation of the hotel. "(15)

Different types of bedrooms that can be found in urban hotels, their characteristics and different potentialities in use are discussed below.

1.4.2. Types of bedrooms in urban hotels:

The rate of bed occupancy varies widely from one hotel to another as well as from one country to another. Before the design stage, it is essential for the developer / operator to have a clear knowledge of the market in order to meet the needs of his intended users, and determine the size, types of user can be found in urban hotels, and because of the variation in their needs, different types of bedrooms have been developed to cope with this variety in demand. These types have been discussed by Lawson. (16) (17) There are common types which are widely used in urban hotels. These are single rooms, double and twin bedded rooms, studio rooms and suites. (18) (19) (20) (21) Different types of bedrooms and their potentialities in use will be discussed below. The percentage of each type varies from one hotel to the next, depending on the estimated demand. (22) (23) (24)

"In most city centre hotels, about 90 per cent of the requirements for eight months including winter are single rooms for businessmen. In summer, the tourist becomes the major source of demand." (25)

1.4.2.1.Single rooms :

In urban hotels, the demand for single rooms comes generally from single business users. (26) (27) (28) It is suggested that a city centre hotel accommodating mainly businessmen usually offers a high proportion of single rooms. (29) But, because there is a continual change in the use of urban hotels, and because the single room cannot be changed to serve two or more users, (30) providing a large proportion of single rooms in urban hotels may cause a problem for the operator in that their usage is necessarily limited by their size. It is argued by many hotel operators that it is more economic to design large bedrooms   with one double bed rather than single room. (31) The main disadvantage in providing double rooms for single use is that it can mean a waste of space and it leads to a lower occupancy

space ratio, which, can, in turn, affect the revenue for the operator. Therefore, the provision of single rooms represents a trade-off between the advantage of meeting the specific requirements of the single occupant against the economic advantages provided by the double bedroom which give, when occupied by two, a high occupancy / space ratio, and the disadvantages that can arise when only double rooms are available to meet the demands of single occupants.

1.4.2.2. Double and twin bedded rooms :

The most used types of accommodation are normally the double and twin bedded room. (32) (33) (34) (35) The heaviest demand is for the twin bedded room. A double room is a room with one large bed for two people, while a twin bedded room is a room with two single beds which are usually separated. (36) (37) The twin bedded room can be used as a double room by using two single beds side by side, linking them by a continuous headboard. (38)A large number of hotel companies use twin bedded rooms as a standard bedroom because they find that different sized rooms require more housekeeping and cause management problems. (39) Twin bedded rooms may also provide flexibility in use in that they can be arranged to accommodate changes in use to meet the needs of particular guests. (40) (41) By providing communicating doors between adjoining bedrooms, such room scan be let in combination for a family. (42) However, the main disadvantage of the twin bedded room is its under-utilisation during winter periods when the hotel is mainly occupied by business users.

1.4.2.3. Suites :

Suites are mainly used by business people, but can also be required by other types of user. (43) (44) Suites can be of different types. The usual suite is a sitting room connected with one or more bedrooms, though it may take the form of a large room with a partition separating the bedroom furniture from the sitting area. This is called a "junior suit". (45) In addition, suites can also differ in shape and size. A suite may contain some kitchen facilities to from a self catering unit. Such suites are called "efficiency suites". (46) (47) By providing communicating doors between adjoining rooms, it is possible to form a suite if required. (48) when there is no demand for such a suite, the bedrooms and the sitting room can be used separately as bedrooms rather than remain unoccupied. The typical suite living room contains a hide-bed

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acting as a sofa, which opens into twin beds. This room can be let out separately as a bedroom. (49) To meet this change in demand on a day-to-day basis, it is essential to provide access separate from that from the bedroom to the sitting room.

1.4.2.4. Studio Rooms :

A studio room can serve as a sitting room or bedroom. (50) This type of bedroom is mainly occupied by business users. (51) Usually studio room contain a bed that can be folded into a wall to provide additional space during the day time, so that it can be used as a meeting or sitting room. (52) (53) (54) The meeting table and chairs fit into a storage closet in the room. Because of such flexibility in use – a studio room can be used as a meeting room and sitting room -business user often prefer it to other types. (55) (56) However, there are some hotel companies such as Sheraton who do not provide studio rooms. They argued that they would not put any studio room in a hotel. It is not a good sofa and it is not a good bed. (57) There are other companies who prefer to keep studio rooms to a minimum. (58)

1.5. Operational problems of bedrooms :

From the earlier discussion about different types of bedroom provided in urban hotels, it seems that studies of bedrooms in urban hotels reveal that the main problems that arise in their operation are caused mainly by the clear change in the pattern of demand from weekday to weekend and from one season to the next. Take, for example, the sharp division between weekday and weekend demand : the weekday market comes from users travelling for business for four days a week, from Monday to Thursday, and the weekend market comes from users for non-business reasons for three days a week, from Friday to Sunday (different types of users that may make use of urban hotels will be developed in detail in the chapter three). (59) The problem arises from the fact that these different groups have different requirements, and when the product provided does not meet the demand of the user, this may lead to the under-utilisation of the space, which in turn may affect the occupancy rate of the hotel and the operating profit.

To overcome this problem of fluctuation in demand for different types of bedroom and to provide the greatest possible occupancy in bedrooms around the year, one possible solution has been suggested. This consists mainly in the use of standard rooms fitted with twin beds which allow adaptability day to day or

conversion to house other activities such as meeting if and when change is required. (60) If this approach is adopted bedrooms may be seen as much more than just bedroom. They serve a variety of purposes. Increasingly they are becoming living and working spaces as much as sleeping areas. (61) Neal prince stated :

"Bedrooms in new hotels generally fall into standard types and sizes". (62)

The standard size is not affected by the type of bedroom. For example, the twin bedded room as a standard type and size can be adapted to be used as a double room or converted into a meeting or sitting room ; the sitting room of a suite can be adapted to be let as a separate bedroom. It is difficult to formulate some specific recommendation to facilitate change if it is required. The main disadvantages of an 'adaptable' approach is that :

…" it is only feasible to provide adaptability if the increase in revenue which can be obtained compares favorably with relative cost of additional furniture, storage space and recurrent costs of adaptation (house-keeping, cleaning maintenance"). (63)

It becomes clear that, the design of bedrooms in new hotels has changed considerably. To ensure a good occupancy rate around the year, bedrooms design falls into standards types and sizes. This type of bedroom has the ability to cope with any changes in demand that may occur during the day time or week-end from its users. However, before any decision about which type of bedrooms to be most appropriate to ensure a good occupancy rate , it is essential for the developer / operator to have a clear knowledge of the market first, in order to meet the needs of his intended users, and determine the size, types of user can be found in urban hotels and accordingly the types of bedrooms most appropriate to the context. In addition, to ensure good performance in use, architects when designing their projects, needs to rely their design on a detailed and explicit design guidance. In this context, what are the characteristics that the space should include to ensure a good performance of bedrooms in use?

1.6. The design guidance:

As far as the architectural performance of urban hotels in Algeria are concerned, the need to set up an evaluation study cannot be overstressed. The preliminary interviews and contact with many responsible and managers of a number of existing hotels, has shown a number of problems with regards to architectural performance of different spaces. Such problems are mainly in terms of effectiveness and efficiency of the spaces. These problems are mainly due to two main factors according to a responsible in the Ministry of Tourism. First, no market research is taking place before the design stage. Second, an analysis of the design guidance provided by the Ministry of Tourism shows that there is a lack of adequate data for architects or designers. In an earlier peace of research, it was argued (64) that, it is imperative that the Algerian design guide about hotel buildings is amplified as a result of detailed investigation. The existing guidance provided by the Ministry of Tourism is a standard guide with mandatory facilities and spaces , currently supposed to be applied in the design of all hotels. The provided guidance, which is still in use, deals mainly with the dimension of spaces with little attention to other design requirements. Taking the sleeping facilities in urban hotel as an example, the Algerian guidance recommends the following : (65)

-Number of bedrooms per floor :

For ease of service, and whatever the size of the hotel, the number of bedrooms should not exceed 18 rooms per floor.

-Bedroom flexibility :

It is recommended that some of the bedrooms should have communicating doors. One of the two adjoining rooms should be able to be adapted as a sitting room.

-Bedroom unit :

Each bedroom should have a lobby entrance and a bathroom.

-Furniture : The following items should be provided in bedrooms. These are :
-Clothes storage units.
-Beds.
-Writing and dressing tables.

Luggage rack.

Chairs.

-Bedroom unit areas :

Bedroom : 12.5 m2.

Entrance lobby : 3.5 m2.

Bathroom : 4 m2.

These are all the recommended requirements for sleeping facilities provided in the Algerian design guide. Such a limited amount of information is not confined to sleeping facilities only but to all facilities in the hotel.

1.7.The research problem:

It was outlined in (1.5.) that the existing guidance provided by the Ministry of tourism is a standard guide with mandatory facilities and spaces, currently supposed to be applied in the design of all hotels. It seems obvious that architects **do not have a research bias and appropriate design guidance applicable to design**. It is argued that, in order to ensure good performance of the space, architects and designers needs to base their design on a clear and detailed design guide-lines based on adequate research and evaluation.

Again, in addition to the limited guidance concerning Algerian hotel bedrooms , there is a clear requirement for flexibility in use of hotel bedrooms. Such information however , is very limited and does not state clearly all the potential uses of hotel bedrooms or the means for achieving such flexibility.

Such situation is mainly due to the lack of literature and other published data on the design requirements of hotel bedrooms in Algeria and little research has been carried out in Algeria on this subject. Architects in Algeria and government authorities are conscious that there is a great need to investigate these matters. In the meantime most architects are basing their design on their own experience and on the little information provided by the Ministry. Accordingly, it seems obvious that there is an important need for a body of knowledge derived from research studies supported by empirical evidence, which will serve as a guidance in the future for urban hotel design in Algeria.

1.8. The objectives:

From the previous arguments, it becomes clear that operational problems may exist if the project in use has not been designed on the basis of a clear knowledge of the market and detailed design guidance. Such design problems may in turn have an impact on user satisfaction and accordingly affect the project profit. Accordingly, it is necessarily to investigate **the main planning and design recommendations** that were seen **most affecting user satisfaction**, then **set up an evaluation study** in order to **assess how bedrooms design performs in use in terms of efficiency and effectiveness**. In other words, to evaluate the **Effectiveness** of a space is to assess whether or not the theoretical recommendation or standards are incorporated in the building in use. If these recommended characteristics are provided, to what extent they meet users' requirements. Such approach means evaluating the performance of the space in terms of **Efficiency**.

Evaluation studies may have different benefits. First, it gives us an idea about the level of architectural performance of the building in use. Second, through evaluation it is possible to define different associating problems in use. Knowing the nature of such problems, it is possible to avoid design problems in the future. Third, evaluation studies would give us a basis to develop design guidance for architects to use it as basis for their design in order to ensure a good performance in use of the project in general and their intended spaces in particular. On the other hand, providing well designed architecture, would have a positive impact on user satisfaction and consequently a successful project in operation.

So, the main objectives of this study are:

First, to learn from more advanced countries in urban hotels design, particularly in terms of design recommendations and standards of a particular space in the hotel. Such information will be used as performance criteria to measure the architectural performance of bedrooms in urban hotels in Algeria.

Second, to **evaluate** bedrooms area in urban hotels building in Algeria through a case study in order to:

1. Assess the architectural effectiveness of the space. In other words, to assess how the selected building in use incorporate design standards or recommended characteristics.
2. Assess the architectural efficiency of the space. In other words to test empirically whether, and to what extent, a relationship between the inclusion of these recommendations and users satisfaction exist.
3. To formulate design guidance about bedrooms in urban hotels in Algeria to be used by architects.
4. To provide a research approach for researchers in the field of post-occupancy evaluation.

1.9.The hypotheses:

According to the outlined research problem and the objectives outlined earlier, it can be hypothesized that: **the level of success of the space in meeting the needs of users depends upon, both the extent of inclusion of the recommended characteristics and upon the level of satisfaction of users**. Accordingly, the study suggests a hypothetical relationship between the inclusion of these recommended features, and the level of success of the building in meeting the needs of users. Testing such hypothesis needs measuring, first, the level of inclusion of recommendations in the sample, and second, the effect of such recommendations on user satisfaction. Accordingly, different cases can be anticipated and can be further outlined as follows:

1. The recommended characteristics are **provided** in the sample. Accordingly, two cases can be noticed**:**
   a. If the users are satisfied, then the space should be successful in use and the recommendations are appropriate and important.
   b. If the users are not satisfied, the space should not be successful in use and the recommendations are whether not appropriate or other recommendations should be considered.
2. The recommended characteristics are not provided in the sample. Accordingly, two cases can be noticed**:**
   a. If the users are satisfied, then the building should be successful in use and the recommendations are not important.

c. If users are not satisfied, then the building should not be successful in use and the recommendations are important and should be provided in future design.

Figure N°1.1

The proposed effect of the recommended characteristics

on user satisfaction


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                    ┌─────────────────────┐
                    │  The recommended    │
                    │   characteristics   │
                    └─────────────────────┘
                              │
              ┌───────────────┴───────────────┐
      ┌───────────────┐               ┌───────────────┐
      │     Not       │               │   Provided    │
      │   provided    │               │               │
      └───────────────┘               └───────────────┘
              │                               │
       ┌──────┴──────┐                 ┌──────┴──────┐
   ┌────────┐  ┌────────┐         ┌────────┐  ┌────────┐
   │ Users  │  │ Users  │         │ Users  │  │ Users  │
   │unsatis-│  │satis-  │         │unsatis-│  │satis-  │
   │ fied   │  │ fied   │         │ fied   │  │ fied   │
   └────────┘  └────────┘         └────────┘  └────────┘
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Recommendations Are important	Recommendations Are not important	Recommendations are not appropriate	There are other Recommendations To be considered

Recommendations are important
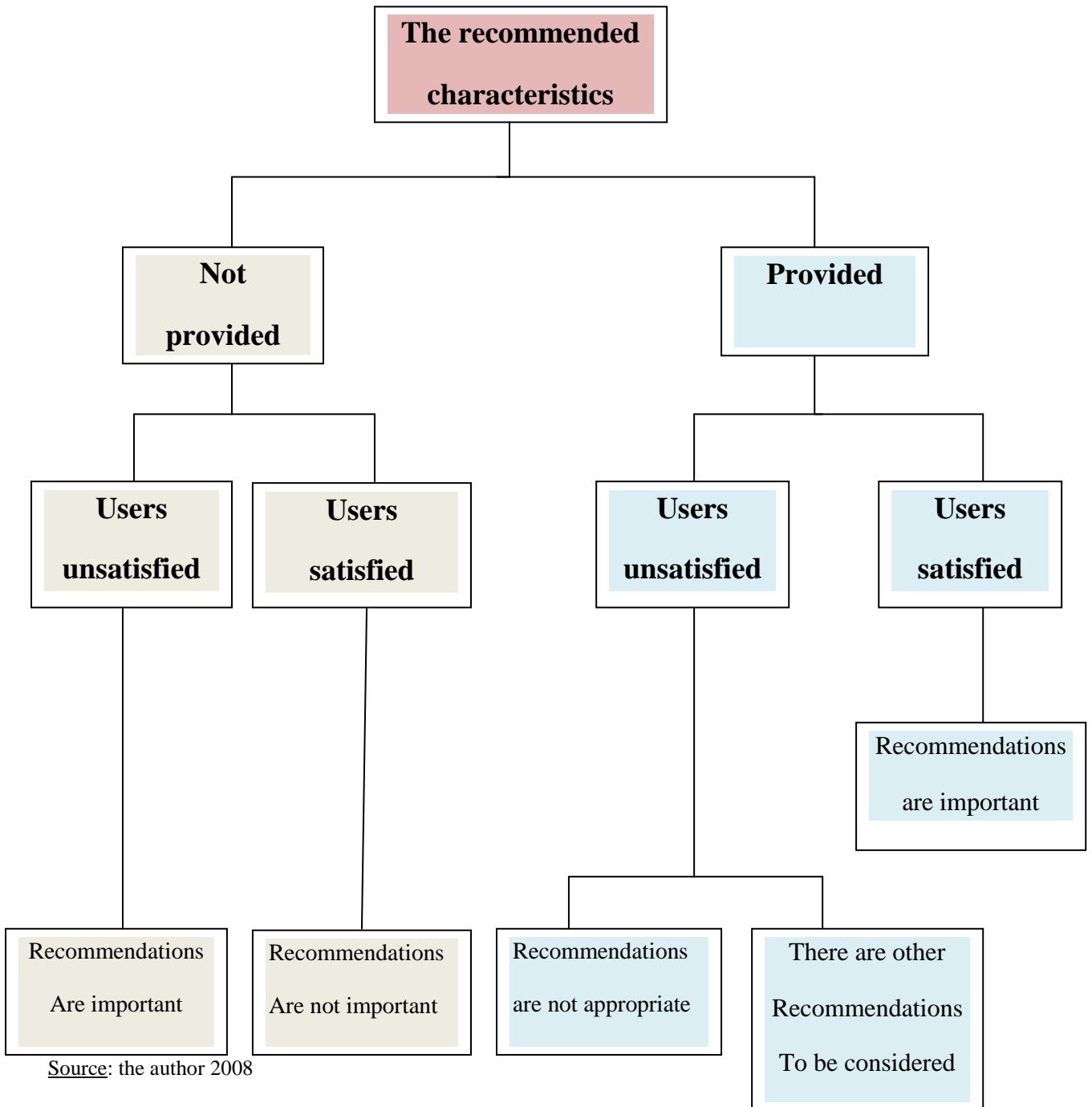
Source: the author 2008

1.10. The research approach :

To achieve the objectives outlined earlier, this study will be divided into two main parts :

The first part is mainly theoretical based on the collect of information about:

1 - Defining users of urban hotels and the factors that may affect the match between user requirements and the building in use.

2- List   from a field of literature:

a. The recommendations relating to fixed features or characteristics about bedroom design.
b. The recommendations relating to changeable features or characteristics to allow adaptability in bedroom design.

The second part, an evaluation study, in order to test empirically by an analysis of selected existing building in use specifically:

1. To evaluate empirically the extent to which :

a. The theoretical recommendation isolated from the literature in the first part about different type of bedrooms and the recommended characteristics are well founded.

b. If these recommended characteristics are provided, to what extent they meet users' requirements.

1.11. Summary:

From what has been outlined in this chapter, we can conclude that the research is aiming to test in practice whether, and to what extent, a relationship between the inclusion of the recommendations and users satisfaction exist. The key variables to be measured are the recommendations, as independed variables, and then relate them to the depended variables, the level of success of the building, and the satisfaction of users who use the building. In the next chapter, the concept of post occupancy evaluation   will be defined in order to identify which aspect of architectural performance this study will be concerned.

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CHAPTER TWO

THE CONCEPT OF POST-OCCUPANCY EVALUATION AND THE PERFORMANCE OF BUILDINGS

2.1. Introduction:

From the previous chapter, it becomes clear that the need for evaluation appears to be necessary in order to measure the architectural performance of bedrooms in urban hotels in Algeria. Such study would gives us useful information for future programming and design efforts on one hand, and mistakes can be avoided and successful design features capitalized upon on the other hand. In this chapter the concept of building performance and post occupancy evaluation will be defined and a general guidance and framework for the process of post occupancy evaluation are outlined.

2.2. Post occupancy evaluation in architecture:

In architecture, evaluation is a part of design process. (1) The objective of this type of study are to discover how the completed and occupied building performs; to determine possible misfits, mistakes, or omissions; and to accumulate information for future programming and design efforts.(2) Building should provide a safe, protected, and sanitary environment with enough area for anticipated activities. They also create a setting in which privacy and social interaction are accommodated. They provide space for the implement that we need to carry on our activities. Given that the built environment is always with us, and that architects are responsible for a large part of this environment, the importance of building evaluation in architecture cannot be overstressed. (3) Post Occupancy Evaluation (POE) involves systematic evaluation of opinion about buildings in use, from the perspective of the people who use them.(4) It assesses how well buildings match users' needs, and identifies ways to improve building design, performance and fitness for purpose. (5)

2.3. Definitions and Terminology:

The performance approach in building is not new; it is traced back thousands of years. The performance concept is widely acclaimed and is applicable to both

building procurement (design and construction) and to regulation (control), but has not been widely applied worldwide.(6) The idea of evaluation is not specific to architectural studies. In our daily lives we are continually evaluating objects, people and ideas in our immediate environments. We pass judgment in conversation, while reading, while shopping, while eating, and while watching television or movies, often being unaware that we are doing so. So, evaluation is the process of examining a subject and writing it based on its important features. (7) We determine how much or how little we value something, arriving at our judgment on the basis of criteria that we can define. There are definitions and terminology applicable to the performance concept. Nevertheless, these terminology and definitions are not widely accepted by those who are attempting to apply the concept. The performance concept itself means different things to different people. To some, it is a concept of qualitative aspirations for buildings without a systematic methodology for analysis and verification. For others, is a concept which requires quantitative analysis and rigorous evaluation that at times discourages those who wish to use the concept when these tools are not available. Some see the performance concept as opposed to or a nonrelated alternate approach to prescriptive standards, regulations and specifications. In the minds of some these two ideas are not meant to work together, when in fact, the prescriptive approach is complementary to but subordinate to the performance approach. In order to implement the performance concept, prescriptive descriptions are needed, both for programs of regulation and procurement. In applying the performance concept, prescriptive solutions are evaluated against performance requirements for compliance with user needs. In preconstruction applications, the solution must be expressed in prescriptive terms in order for evaluation and construction to take place. In post-construction situations, the construction itself provides the prescriptive solution for evaluation. Nevertheless, it is widely agreed that in the development of performance documents to meet either or both procurement and regulatory needs, three essential aspects must be considered in writing performance statements.(8)

1. *User Requirement* is a qualitative statement giving the user need or expectation for the item being addressed. It is a subjective statement of what the product or assembly is intended to do. (Other terms used include user needs, goals, objectives, intent, function, principles.)

2. *Performance Requirement* is a quantitative statement giving the level

ofperformance required to meet the user needs or expectations for the item being addressed. (Other terms used include criterion and function.)

3. *Evaluation Methods* set forth the tests or other information upon which judgment of compliance with the performance requirement is based. It identifies the standards, inspection methods, engineering analysis, calculations, review procedures, historical documentation, test methods used in evaluating whether or not the performance requirement has been satisfied.

2.3.1. Building Performance Evaluation:

Building performance evaluation (**BPE**) involves the inspection of buildings one to five years after their completion, and assessment of the extent to which a given building has met its design goals for resource consumption and occupant satisfaction.(9) The primary purpose of BPE is to improve design practice and to ensure the continuous improvement of design methods, through the provision of feedback to designers on the effectiveness of their design choices. BPE is also useful to property managers, building operators, and building occupants through its collation of detailed measurements and occupant feedback, which highlight which building features are operating optimally, and which features have the potential to be enhanced.

2.3.2. Post-occupancy evaluation (POE) and facility performance evaluation (FPE):

There is no industry-accepted definition of FPE, nor is there a standardized method for conducting a FPE.(10) In an effort to reflect the objectives and goals of FPEs as they are practiced, different terms have been used for FPEs including post-occupancy evaluations (POEs), environmental design evaluations, building-in-use assessments, building evaluation, facility assessment, and building performance evaluations.(11) POE is the best-known term. These studies are primarily involved in collecting information about occupants and buildings through questionnaires, interviews, site visits, and field observation. POEs were later applied to other facilities such as army barracks, hospitals, prisons, and courthouses. By the mid 1980s, POEs were applied to office buildings and other commercial real estate as well. Today the scope of evaluations of building performance continues to grow. POEs that started in

the 1960s and 1970s involved individual case studies such as public and student housing.

The first formal and comprehensive post occupancy evaluation took place in great Britain.(12) These studies included technical, functional, and behavioral evaluation. The common denominator of these studies was a rigorous approach to diagnostic and a comprehensiveness in examining numerous factors, like technical factors, constructional, material, functional, and behavioral. More numerous are studies concerning on a few aspects of the entire spectrum of variables. Oscar Newmen's defensible space is among the most extensive of these studies. (13) He concentrates on the relationships between physical design and behavior. Post occupancy building evaluations are now becoming institutionalized and acknowledged. The Architects' journal, a British weekly architectural magazine, has carried and even sponsored such building appraisals since the late 1960s. (14) The American Institute of architects journal began a series of evaluations in 1976.(15) This may signal the beginning of a cycle that, like programming before it, may take a decade or more to became a standards part of architectural practice.

Evaluation and feedback are the cornerstones for the continuous improvement in building procurement. Good feedback is an intrinsic part of good briefing and design of buildings. To be most effective building performance evaluation must happen throughout the lifecycle of the building. POE is a way of providing feedback throughout a building's lifecycle from initial concept through to occupation. The information from feedback can be used for informing future projects, whether it is on the process of delivery or technical performance of the building. It serves several purposes.

2.4. The building process with evaluation:

As part of the architectural design and building process, programming plays a key role in suggesting and defining many basic design parameters. Programming is the prescriptive tool used by designers in developing solutions. One step missing, however , in the existing view of the process an evaluation or diagnostic step to monitor the quality of the building. We need a diagnostic before we can prescribe. Post occupancy building evaluation is the new diagnostic step in the process. The objective is to learn from the past experience.(16) Many actors participate in the use

of buildings, including investors, owners, operators, maintenance staff, and perhaps most important of all, the end users (i.e., actual persons occupying the building). The focus is on occupants and their needs as they are affected by building performance and on occupant evaluations of buildings. The term evaluation contains the world "value"; thus, occupant evaluations must state explicitly whose values are referred to in a given case. An evaluation must also state whose values are used as the context within which performance will be tested. There are differences between the quantitative and qualitative aspects of building performance and the respective performance measures. Many aspects of building performance are in fact quantifiable, such as lighting, acoustics, temperature and humidity, durability of materials, amount and distribution of space, and so on. Qualitative aspects of building performance pertain to the ambiance of a space (i.e., the appeal to the sensory modes of touching, hearing, smelling, and kinesthetic and visual perception, including color). (17)

Figure N°2.1

The building process
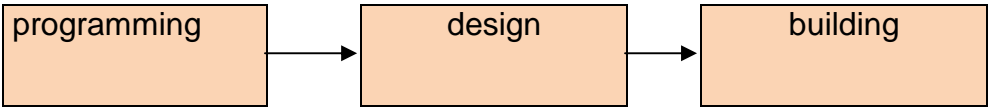
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│ programming  │ ───► │   design     │ ───► │  building    │
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Source: SNYDER, James C,& CATANESE, Anthony J, Introduction to Architecture,   McGraw-Hill,   USA   1979.p.415.

Figure N°2.2

The building process with evaluation
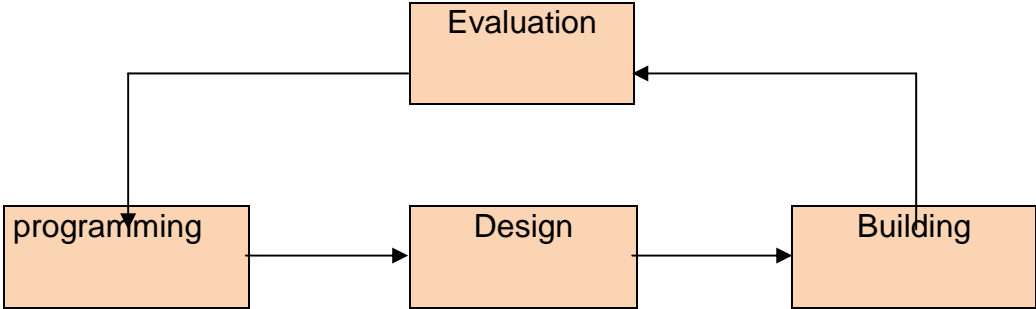
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│ programming  │──►│   Design     │──►│  Building    │
└──────────────┘   └──────────────┘   └──────────────┘
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Source: SNYDER, James C,& CATANESE, Anthony J, Introduction to Architecture, McGraw-Hill, USA   1979.p.415.

2.5. The benefits of post-occupancy evalution:

Benefits of Post Occupancy Evaluation include:

2.5.1. Short term benefits:

By understanding how buildings support and/or frustrate activities, they can be fine-tuned and management practices adjusted. Very often, slight adjustments to buildings and the ways they are used offer significant benefits to users. (18)

- Identification of and finding solutions to problems in buildings;
- Response to user needs;
- Improve space utilization based on feedback from use;
- Understanding of implications on buildings of change whether it is budget cuts or working context;
- Informed decision making

2.5.2. Medium term benefits:

- Built-in capacity for building adaptation to organizational change and growth;
- Finding new uses for buildings;
- Accountability for building performance by designers
- By designing new facilities with an understanding of how similar buildings perform in-use, mistakes can be avoided and successful design features capitalized upon. (19)

- Post Occupancy Evaluation identifies ways people can use buildings and equipment more efficiently and more cost-effectively. Dysfunctional or seldom-used building features can be eliminated or replaced. (20)

- Post Occupancy Evaluation is an important tool in planning the refurbishment of existing buildings. It helps clarify perceived strengths and weaknesses to focus resources where they are needed. It is also used to identify where building design adjustments are needed to support changing practices, markets, legislation and social trends. (21)

- Post Occupancy Evaluation involves building users in defining how buildings work for them. This participation has been shown to engender greater commitment to solutions, and more willingness to accept out comings.(22)

The greatest benefits from POE come when the information is made available to as wide an audience as possible, beyond the institution whose building is evaluated, to the whole Further Education sector and construction industry. Information from POEs can provide not only insights into problem resolution but also provide useful benchmark data with which other projects can be compared. This shared learning resource provides the opportunity for improving the effectiveness of building procurement where each institution has access to knowledge gained from many more building projects than it would ever complete.

2.6. The Application of POE:

Post occupancy evaluation should measure the performance of a building in use providing the decision makers with information relating to a series of key performance criteria. Any such evaluation must comprise the following key stages (Barrett 1992):
- Establishing the purpose;
- Definition of the key performance criteria;
- Planning the POE process;
- Measurement of the criteria;
- Evaluation of data/making assessment;
- Feedback stating the lessons learnt.

2.7. Post Occupancy Evaluation Process:

First step: Identify POE strategy:

-What: Identify the need for the evaluation and probable aspects of the evaluation.
-Issues to address: appointments for consultants and contractors.
-How to do: Identify who takes ownership of this stage of this process.(23)

Second step: Decide which approach:

-What: Identify what issues the evaluation must address and whether it will be carried out internally or by external consultant. (24)

-Issues to address:

- Objectives and priorities.
- How and when information will be used.
- Whether to use an existing method or develop your own.
- Do you want to benchmark against other buildings.

-How to do: Identify who takes ownership of this stage of this process.

Step 3 : Brief for the POE:

-What: Succinct statement setting out the purpose of the POE and how it is to be achieved. (25)

-Issues to address: Brief content:

- Objectives.
- Timing.
- Who will carry it out.
- Who should be involved (e.g. users; staff).
- Specific issues to address (perceived problem areas).
- Methods to use.
- Where it will take place (interviews, focus groups etc)

-how to do: Identify who takes ownership of this stage of this process.

Step 4: Plan the POE :

-What: Select approaches that will meet your needs. (26)

-Issues to address:

- Decide when the work will be carried out.
- Prepare any questionnaires .
- Prepare schedules and agendas for interviews or focus groups.
- Arrange meeting rooms.
- Arrange attendance at group meetings.
- Agree when feedback will be given and to whom.

-how to do: Identify who takes ownership of this stage of this process.

Step 5 : Carry out POE

-What: Distribute and collect survey questionnaires, carry out interviews, meetings and observations. (27)

-Issues to address:

- Arrange for distribution of questionnaires.
- Arrange for collection after relatively short period of time if possible.
- Collate data.
- Analyse information.

-How to do: Identify who takes ownership of this stage of this process.

Step 6 : Prepare the report

-What: Feedback of findings. (28)

-Issues to address:

- To whom is the information to be addressed
- Are separate reports required for different audiences
- Facilitator
- Structure of report

-How to do: Identify who takes ownership of this stage of this process

Step 7: Action in response to POE

What: Feed information into university policies. (29)

Feed information into next project

Issues to address:

- Collating information in a consistent way.
- Accessibility of information.
- Who will use the information and what for?
- Publication: For those outside the client organization.
- Possible feeding of information into HEDQF/HEFCE/ SHEFC for wider dissemination.

How to do: Identify who takes ownership of this stage of this process.

2.8. Framework for a POE:

2.8.1. Elements of evaluation:

The relevance of a particular approach to POE will depend on what is to be reviewed, the level of detail that is needed and when the evaluation is to be carried out.(30) The focus of a POE can be considered in terms of four broad areas: Process, Functional evaluation, technical evaluation and behavioral evaluation. (31) These relate to the architect's concerns in building design and to the classification of architectural literature, as well as to the perception of the building by both client and inhabitant.

2.8.1.1. Process:

There are two aspects to consider: (32)
- First, the delivery of the project from inception to handover, this looks at how the project was delivered and how decisions were arrived at.
- The second is the operational management, this asks questions of the Estates team about how they manage the buildings.

Table N°2.1

The areas covered in a Process evaluation

Brief	The way in which the team developed the brief on which the design was based including financial management aspects.
Procurement	The way in which the team selection, contractual and technical processes were undertaken including time and value aspects.
Design	The way in which the team developed and refined the design including space planning, engineering and financial management aspects.
Construction	The way in which the construction phase until handover was managed, including financial and change management processes.
Commissioning process	The way in which the final commissioning of the building was managed, including final adjustments and the provision of documentation.
Occupation	The way in which the handover process was managed including the rectification of last-minute snags and the removal/relocation process.

Source: SNYDER, James C,& CATANESE, Anthony J, Introduction to Architecture,   McGraw-Hill,   USA   1979.p.420.

2.8.1.2. Technical evaluation:

This involves measuring how the physical systems perform, for example lighting, energy use, ventilation and acoustics. Building must provide basic shelter and a sustaining environment. (33) Early shelter created an "inside" to keep the outside "outside". This remain the highest of building priority to exclude heat, cold,

rain, snow,….and we also expect them to provide satisfactory illumination, control of sound, and thermal comfort. We expect these attributes to last for the lifetime of the building. So we can say that technical factors are the building's background environment. Although we expect a high level of performance from this background environment, the object of our attention is more often the functional aspect of the environment.

Table N°2.2

Areas covered in a Technical Performance review

Physical systems	Lighting, heating, ventilation, acoustics
Environmental systems	Energy consumption, water consumption
Adaptability	Ability to accommodate change
Durability	Robustness, need for routine extensive maintenance, incidence of "down time" for unplanned technical reasons

Source: Building Evaluation Technique by Baird, G., Gray, J., Isaacs, N., Kernohan, D., and McIndoe, G. Wellington. New Zealand: McGraw-Hill, Inc., 1996.

2.8.1.3. Functional evaluation:

Functional factors are those aspects of the building that directly support user activities and organizational performance. (34) For example the storage area and the placement of adjacent areas to enhance work flow directly support user activity and organizational performance. Functional considerations are integral to the overall success of the building. (35) Unsatisfactory design decisions can inhibit functions and result in monetary loss or serious inefficiencies. The architect, dealing with function, is concerned with the connection between areas and activities inside the building; access for users and materials; the provision of services, such as utilities; storage;

36

and the correct dimensional fit of the environment for specific user groups. (36) In addition, specific building types require an emphasis on special needs such as security and flexibility. Many building types have guidelines for design that emphasize functional factors. (37) However, few are based on adequate research and evaluation; many are too general to be of sufficient use in architectural design.

Table N°2.3

The areas covered in a Functional Performance evaluation

Strategic value	Achievement of original business objectives
Aesthetics and Image	Harmonious, neutral, powerful, bland
Space	Size, relationships, adaptability
Comfort	Environmental aspects: lighting, temperature, ventilation, noise, user control
Amenity	Services and equipment: completeness, capacity, positioning
Serviceability	Cleaning, routine maintenance, security, essential changes
Life-cycle Cost	Initial construction cost, cost of operating, maintenance and repairs, replacement costs, alterations, demolition
Operational Management	Booking and space allocation systems, user support systems, help desks, manuals, training

Source: Building Evaluation Technique by Baird, G., Gray, J., Isaacs, N., Kernohan, D., and McIndoe, G. Wellington. New Zealand: McGraw-Hill, Inc., 1996.

2.8.1.4. Behavioural evaluation:

Behavioral factors emphasis the relationship between behavior and the physical environment. (38) It addresses itself to the question of how does the size of the facility affect its users. Or, what does the building's image imply to the users and to the community. Or, how does the proximity of areas in the building affect the frequency of their use. (39) Does the configuration of rooms and materials affect user behavior. Research and evaluation indicate that the physical environment can profoundly affect behavior.(40) Such research efforts are growing rapidly in universities and in government, but applications are rare in architectural practice. Though decisions made by architects strongly affect the users of buildings and the economic success or failure of the building, the architect's use of behavioral design input is infrequent. What are the reasons for this lapse? It seems obvious that architects do not have a research bias, and appropriate resources. One problem has been the small amount of information in this area applicable to design. The first trend towards the inclusion of behavioral information in design might be traced back to Alexander and Charmayeff's *community and privacy* and much of the subsequent work of Alexander. (41) Community and privacy included extensive lists of user needs, requirement, and patterns that helped prepare the framework for later architects' evaluative studies. By the 1970s such user needs studies were common programming devices in architectural practice. Evaluative studies of behavioral factors began emerging in the late 1960s.(42) In England , the Pilkington research unit at the university of Liverpool and the building performance Unit at the university of Strathclyde, Scotland, conducted comprehensive building evaluation that were later published.(43) In England the Ministry of housing and local government were also funding significant research and publications. Finally, the environmental design Research association was formed in 1969, giving more formal recognition to the field and the home to many architectural researchers, and providing a necessary forum for communication. Another strong institutional indicator of a change in attitude towards building evaluations a series of such case studies begun in 1977 in the *American Institute of Architects Journal*.(44) As the number of such studies increases and the evidence of tangible benefits grows, greater architectural application may make evaluation a common aspect of professional services as programming is today.

2.9. Identifying Approach to Use:

There are two principal choices, either develop your own approach using a range of existing evaluation techniques (Tool) or use an established method.(45) A bespoke solution may be useful for specific situations for example, where the intention is to analyse specific issues. While this approach can enable benchmarking across an institutions' own estate, the downside is that expertise may be needed to interpret more complex findings or to carry out some types of evaluation.(46)

2.9.1. Existing method:

The advantages and disadvantages of an existing method are summarized as follows:

Advantages	Disadvantages
• Already tested • Ready to use • Backed up by rigorous research • May offer benchmarking with other organisations in Higher Education sector • Expertise available to administer • May be able to license use of method	• May be a significant cost • May not be suitable for specific situations • Ownership of the data may not be yours • Cost of expertise to back up

2.9.2. Combined approaches:

The advantages and disadvantages of a combined method are summarized as follows:

Advantages	Disadvantages
• Tailor to suit specific needs • May cost less than established method • Under your own control	• Time needed to set up • Expertise needed • May cost more than established methods

Chart 1 (see appendix 2) summarises the suitability of techniques for each review stage. (47) This chart can be used by those who wish to put together their own POE. Clearly it is possible to use most of the techniques at every stage, but this guide aims to indicate which are likely to be more or less useful in the context of busy organizations needing to gather enough quality data that will provide useful information which the organisation can then act upon. There is a danger of gathering a lot of data which may be valuable but leaves a significant data handling problem, and may in the end not be analysed because of the magnitude of the task. The usefulness of the technique is based on a balance of useful information gathered for the effort required.

When deciding which techniques to use it is helpful to consider how different techniques can be combined. For example combining a questionnaire with a focus group or workshop will enable different levels of information to be gathered with the workshop or group being used to tease out some of the results from the questionnaire. It is important to make the study manageable by erring on the side of gathering less data, but focusing on the quality of it. So rather than use every technique for each area of the review select those which will best meet your purpose.(48)

2.10. Design and performance requirements:

In this section of the brief, specific criteria are set out. Much of these may be in the form of performance criteria that the design must meet. These performance criteria are by their nature measurable and should be used as the basis for the POE.(49) (50) (51) (52) These are:

2.10.1. Sites and surroundings:

• Special relationships:
  – surroundings
  – other buildings
  – other site features
• Protection:
  – flooding
  – weather
  – erosion

• Access:

    – pedestrians

    – bicycles

    – vehicles

    – public transport

    – parking

    – road layouts

2.10.2. The building as a whole:

• Physical characteristics:

    – dimensions

    – volumes

    – number of storeys

    – loading

    – energy

    – flexibility for future uses

• Circulation/access:

    – vertical/horizontal

    – pedestrian/mechanised

    – goods/people

    – handicapped people

    – signposting

• Safety:

    – structural

    – construction

    – fire

    – safety in use

• Environmental – strategy:

    – passive cooling

    – heating system

    – control of heating

- Environmental:

    – heat (required levels)

    – humidity (required levels)

    – light (required levels)

    – sound (required levels)

    – air (quality, movement. Strategy – mechanical/natural)

- Environmental systems:

    – energy consumption

    – water consumption

- Lighting strategy:

    – daylight use and control

    – artificial lighting (types, location)

    – lighting controls

- Fire strategy:

    – alarm system

    – means of escape

    – extinguishing

- Security strategy:

    – Systems (access control, alarms)

- Appearance:

    – building forms/symbolic/functional

    – proportions

    – material colors

    – finishes

- Works of art:

    – murals

    – sculpture

- Operation:

– cleaning

– repair

– maintenance

– waste disposal

2.10.3. Building fabric performance:

• <u>Structure</u>

• <u>External envelope roof , walls and windows</u>

• <u>Building Interior:</u>

– walls

– doors

– ceilings

– furnishings

• <u>Materials and finishes:</u>

– access

– security

• Spatial dividers within the envelope

• Services

2.10.4. Grouping of spaces:

• Zoning

• Spatial relationships

• Physical characteristics

2.10.5. Spaces in detail:

• Physical characteristics

• Related activities

• Relationship to other spaces

2.10.6. Equipment and furnishings:

• Items listed by category

• Location/area of use

• Installation

• <u>Appearance:</u>

– materials

– colors

• Maintenance:
  – life-span
  – cleaning
  – maintenance control

2.11. Summary:

It is clear that total building performance and its evaluation is continuing to attract a considerable degree of interest among building professionals. As was noted: 'the performance concept will be the most crucial development in property and building in the next decade". (53) Measurement and assessment are the two elements of the performance approach:

1.Measurement stage, the identification and selection of the required standards that are undertaken;
2.The assessment stage, a comparison of the actual findings with the optimal standards is carried out.

POE will play an ever increasing role in building design as external and internal factors place more demands upon the facility. POE provides a mechanism to both learn from the past and evaluate contemporary trends. The arguments presented in this chapter suggest that buildings may benefit greatly from applying POE to gather data on space performance, in analysing that data, and in making recommendations for space improvements. This is particularly true when POE results are fed into a database which focuses on building performance from the end user perspective.

For many reasons, closely related to the context, first, this study will not cover all aspects of building performance, but with deal mainly with functional aspects. Second, it will not evaluate the building as a whole, but deal mainly with evaluating the performance of a particular space in the building. In the next chapter, different types of users that may make use of urban hotels will be outlined; followed by the main planning factors that were seem most affecting users attitudes when choosing their hotel. Such information would give us background information about the main planning recommendations that can be used as criteria for evaluating the performance of a hotel regarding these factors.

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CHAPTER THREE

USERS OF URBAN HOTELS AND THE MAIN PLANNING FACTORS AFFECTING USERS ATTITUDE AND OPERATION OF THE HOTEL

3.1. Introduction:

It is outlined in chapter one that before the design stage, it is essential for the developer / operator to have a clear knowledge of the market in order to meet the needs of his intended users, and determine the size, types of user can be found in urban hotels. Accordingly, this chapter aims to identify different types of users of urban hotels, in order to establish their requirements as a factor affecting the design, and to outline the main planning factors or aspects that may affect users satisfaction.

3.2. Users of urban hotels:

Different individuals and groups of individuals can be found in urban hotels. The first requirement of hotel planning is a knowledge of the market, and this means researching user requirements and establishing the different categories involved.(1) Given the accumulation and analysis of such data on customer's requirements, this can provide a basis for considering how best these requirements can be met doswell says that:

> 'it is found on the belief that profitable sales and satisfactory returns on investment can only be achieved by identifying, anticipating and satisfying customer needs and desires'.(2)

Ideally each category represents homogeneous of users with similar needs. (3) Professor Stevens states:

> 'each segment (of customers), if large enough to serve economically, is a specific market with specific needs and will require specific marketing activities to satisfy'.(4)

The criteria which can be utilized conveniently to categories the hotels users are listed below:

3.2.1. The purpose of visit:

This category classifies users according to the purpose and interest of their visit and includes:

a. People traveling to visit families or friends (including guests at wedding, birthdays, or other family occasion).(5)

b. People staying in hotel to visit institutions such as universities, schools and special events such as agricultural shows, exhibition, civic ceremonies. (6)

c. Convention and conference attenders; these are people whose prime reason is participation on a planned convention or conference. (7)

d. Business or institutional employees for whom travel is not a habitual part of their job they may be executives in subsidiary plants or employees attending training courses. (8)

e. Weekend break-takers; people who wish to take a brief break of one or two nights over a week end. (9)

But generally users of urban hotel are categorized into two main groups, people traveling for business reasons and those travelling for holiday reasons. The types can be subdivided as follows:

Table N°3.1

Types of users classified by purpose of visit

Type of users	Business users	Non-business users
Purpose of visit	-People whose prime reason is participation In a planned meeting. -People for whom travel Is not an habitual part of Their job , such as Employees attending training courses.	-Holiday makers and Leisure travelers. -Those visiting friends And relatives. -Week end break visitors -People staying in hotel to visit institutions such as exhibition universities, etc.

Source: English tourist board. Tourism in London, ETB London, October 1997.

3.2.2. Social grade:

Hotel users can be grouped according to their level of income and/or occupation. It is considered that total hotel demand is primarily composed of classes; upper, upper middle, middle and lower class.(11) But the same person may belong at different times to different social groups.(12) Doswell argued that many people interchange between classes according to the circumstances in which they find themselves.(13) For example, a businessman may belong to the upper class, but traveling for pleasure with his wife, he may transfer to upper-middle class.

 Young people not in business are generally looking for the most economical accommodation and can be classified as lower class user. (14) Requirements for business people vary between upper to middle class. (15) Adult of all ages seeking leisure requires accommodation as well as a medium range to luxury hotel. (16)

3.2.3. The Age:

People of all ages can make use of urban hotels, ranging from children in groups or with families, to aged and disabled people.(17) According to a survey of overseas visitors to London(18), in 1980, 42 per cent of overseas visitors to London were aged between 16and 24 years. In 1979 and 1978 the percentage of these young people was about 36 and 37 per cent. In addition, 42 per cent of these young in 1980 were on holiday, whereas the older people were generally travelling for business reason. Between 1973 and 1976, more than 50 per cent of British tourists traveling to London were young people, people between 16 and 36 years old. (19) In the same period (1973-1976) the number of British tourists, 55-66 years and 65 years and over, and travelling to London on holiday increased.

3.2.4. Duration of stay :

With regard to duration of stay, users of urban hotels can be categorized in different ways. They might be grouped in relation to a certain number of nights or weeks spent in the hotel. (20) A method used by the British tourist board is:

3.2.4.1 Short stay users:

i. 1-3 night's users:

This group may induce business users who are delegates to a conference held in the hotel, or they may be on a touring holiday spending a night or two in each location. (21) A survey of overseas visitors to London, done by the British tourist authority, showed that 15 per cent of overseas visitors in 1978, 19 per cent of overseas visitors in 1980 were staying in London for 1-3 nights.(22) This group also included business people who were delegates to a conference held in the hotel. The average length of conference held In Britain in 1977, 1978 and 1979 were 2.87, 3.05 and 3.23 days respectively, of wish more than 75 per cent were held in hotels. (23)

3.2.4.2 Long stay users:
i. 4-5 night users:

This type may include any business or non-business users. But they are mostly users on holiday or traveling for non-business reasons. (24)

ii. 6 or more night users:

In this category users are mostly traveling for non-business reasons and the location may represent the end of the journey. In 1980, a survey done by the British authority indicated that 85 per cent overseas visitors were staying in London for more than 3 nights, (25)   and the average length of stay in London was 13 nights in 1978,1979 and 1980.

3.2.5. Transport used:

Different methods of transport are utilized; these are largely air, train, private car ,or coach. (27) (28) More than 50 per cent of the British tourists on holiday in Britain between 1973 and 1976 used cars. And about 20 per cent of them used trains. (29) Another survey (30) showed that mort most of the businessmen who were delegates to conferences in 1973 used cars, and it was very important for them to have parking facilities in the hotel they used.

3.3. Main planning factors affecting users attitudes and operation of the hotel:

When considering the design and operation of a hotel, there are a large number of complex factors that the operator must take into account. Accordingly, it is essential for the operator to have a clear knowledge of the characteristics of the intended   users in order to achieve the best possible match between user requirements and the product. For this purpose and during the development process, operators should use market research and surveys to collect sufficient data upon which the design will be based. An analysis of such data on user requirements can provide a basis for considering how best these requirements can be met. Many decisions taken at the development stage will influence and often determine the characteristics and the quality possible in the operating stage. Doswell argued (32) that, at the beginning of design stage, all the factors (some of which will be described below), are equally important, since it is impossible to allocate a specific value to each in an objective manner .He argued that what is more important to one person may be less important to another and it is the complete package which people either accept or reject. However, some considerations relating to the importance of each factor in the package are discussed below:

3.3.1. Location and ease of access:

Location is one of the most important factor affecting operator satisfaction and the success of the hotel. (33) (34) Ease of access, absence of noise and pollution must be considered . A feasibility study when considering hotel development is very important . It is stated that : there important factors in the success of an hotel are : location , location and location .(35) In deciding the location of a hotel the principal factors to be taken into account are (36)

- Proximity to main travel routes (accessibility).
- proximity to tourist and recreational attractions and shopping facilities.
- Proximity to population centre.

It is therefore clear that a feasibility study when considering hotel development is crucial. When considering the location, the operator will have to take into account the advantages of proximity to travel routes and population centers against the high site costs that such proximity inevitably entails. Nevertheless,

> "Location in relation to the transport and other amenities is often of crucial importance and hotels, therefore, frequently compete for sites in town centers and other situations when land value are high". (37)

In addition, particularly in recent decades, other factors should be considered including absence of pollution and noise.

A study done by Arbel and Pizam (38) revealed that most people prefer to be outside the city centre in order to be far from pollution, noise, congestion and inconvenience.

But this should be achieved without affecting the attractiveness of the city to its visitors. They argued that people are prepared to travel distances of 15 to 20 minutes from the hotel to the city centre providing the transport system and price of travel were reasonable.(39)

Another study , done by Ritchie in 1980,(40) showed that most users generally seem to prefer the location of the hotel to be far from pollution, noise, congestion, inconvenience and in a good physical condition. At the same time, the location should have proximity to the main tourist attractions and recreational facilities , proximity to shopping centers.(32)

3.3.1.1. Ease of access and car parking:

- Ease of access from the main routes to the building and the main entrance to the hotel. Access routes should be clearly indicated and easily recognizable by strangers to the area.(17) (18)

-Ease of access from the car park to the hotel.(19) (20) The parking should be either directly connected or by means of covered walkway from the car park to the hotel to shelter users from bad weather. Good sign posting and illumination , to clearly identify routes to and from the car park and reception lobby, are required. (21)

-Adequacy of car park places for users: it was suggested in some studies that the provision of one parking space per 10 users is necessary.(22) Furthermore, additional parking space in the front of the hotel is also required in certain circumstances, example, one coach parking space per 100 delegates or users is required at or near the entrance. (23)

3.3.2. Cost consideration:

Here the operators' objective is to provide the required level and quality of service, at a price which will make him and the developer a profit, and cost will therefore be a primary factor in decision making. Most users are price conscious, and in choosing their hotel act in relation to their level of income, and how they could afford to pay within this income.

 To determine the price ,operators might use the technique of 'backward pricing' (41) Instead of using the traditional technique of proceeding from cost price, the operator , following market research data, decides on the category or group of users for which his hotel will cater .

Collecting such data on the type of user, he calculates the price which such groups of users are likely to pay. Clearly, great knowledge of the potential market is required. It is argued that the backward pricing method and traditional methods are related to each other, and are really the same. Because the price is related to the hotel product when the price is fixed , this normally means the category of the hotel is fixed, which in turn means that the level ,quantity and quality of facilities are all recognized and determined. On the other hand, the user according to the price he pays , expects a

certain standard in the hotel. So, in a case where the product is of lesser quality than expected by the user , the price should be reduced , and in an opposite situation where the product is of higher quality ,the price could be increased .this means that the price is an indicator to the user of the type of product , and the services and facilities offered are an indicator of the price .

3.3.3. The image:

The image of an hotel may be defined as the way in which an hotel portrays it self to people or the way in which people see it as portraying itself .(42) There are many factors that contribute to the total image of an hotel including:

-The attractiveness of the grounds and landscape, (43) (44) (45) the external appearance of the building, (46) (47) (48) and the impact of the entrance lobby.

-The interior design and equipment: finishing materials, type of furniture (traditional or modern), type of equipment such as air conditioning, bar and restaurant facilities,

"The image of a product contributes to the satisfaction of the buyer" (49)

These are some examples of hotels' image in Tunisia.

The attractiveness   of the grounds and landscape

Source: the author 2008

Source: the author 2008

Source: the author 2008

Source: the author 2008
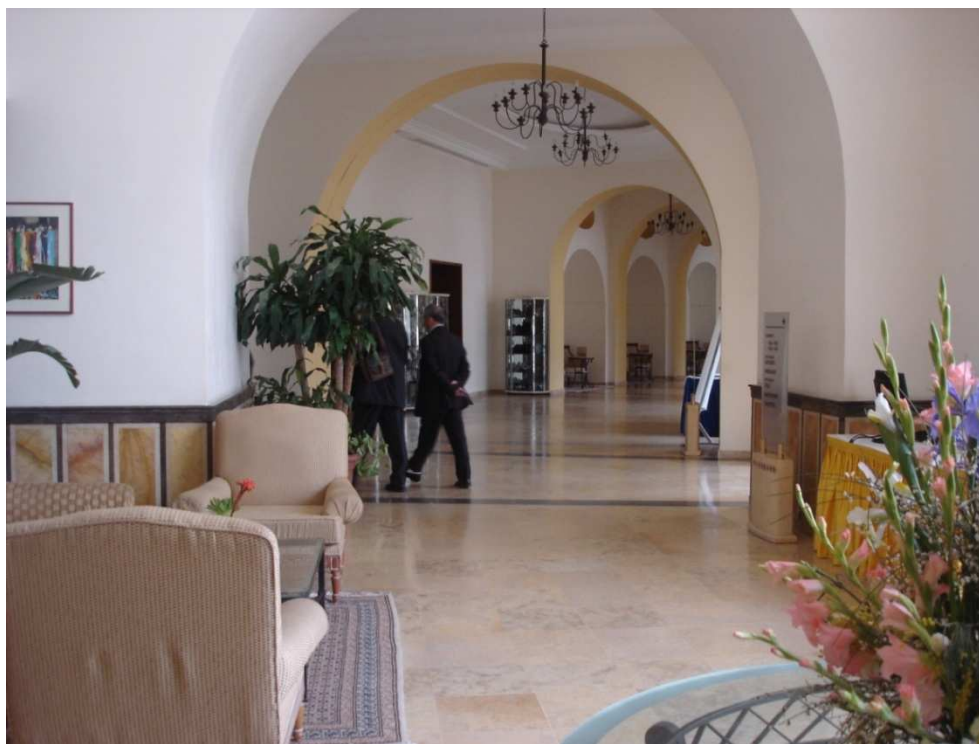
The interior design of the entrance lobby

Source: the author 2008

3.3.4. The service provided:

The type of service is also closely related to the image. (50). An important factor is the degree of individual attention given and warmth of welcome. User satisfaction can be obtained if the hotel deals with each user as a very import person, suggesting suitable menus or providing secondary services such as valet and laundry; and generally treating the customer as a welcome guest. (51) (52) Good quality food is of prime importance to the user, as is a large variety of choice in menu, times of meals, and quality as well as speed of service (53) (54).

Generally, users prefer a certain degree of informality in catering services. Some prefer self –service to table service. Others prefer table service. This means that there is a demand for choice of type and speed of service, in addition to the choice of menu.

Two studies indicate the order of preference by users of the type of service provided in the hotel. The first done by Smith(55) indicates that 90% of motorway users prefer self-service to table service; the second study (56) indicated that 87.5% of hotel

guests prefer table service (full service) to self-service ; some users 59.4% are prepared to pay 25% more for personal service and full service ,and full service was important for business users than others.

3.3.5. The facilities provided:

This includes the whole range of facilities for the enjoinment of the guest. These are:

i.   The type and size of catering facilities (self-service or waiter service); traditional or international cuisine; ratio of dining space to hotel room; size of restaurant which, in some star grading depends largely on the type of service (personal or self-service) which in turn affects the size of pantry and kitchen.(57)

ii.   The types of facilities required by all types of users, either for holiday or business reasons such as the hotel lobby, restaurant, dining rooms and bars. Other specific facilities are required by only some of the hotel users. Such as conference and meeting facilities, used by business users. Other leisure facilities, mainly used by non-business users, can also be used by business users. The provision of these facilities differs from one hotel to another depending on the star grading and the operator's decision.(58)

iii.   The provision of sleeping facilities: where long term guests needs may differ from short term guests needs. The ratio of single bedrooms which might be requested by business users to other types of bedroom must be considered.(59)(60) The size of the bedroom will depend on the number of people to be accommodated in it and the types of furniture provided.

3.4. Summary :

It has become clear that different types of users make use of urban hotels. These types can be categorized into two main groups according to the purpose of visit; business and non-business. These two groups have different requirements and can be further grouped as follows:

Business users:

a. social grade : user travelling for business reasons are generally classified as upper to middle .

b. age : users travelling for business reasons are mostly older people from 25 years and over to 65 years .

c. duration of stay : users travelling for business reasons stay in hotels for mostly 1-3 nights (short stay) .

d. transport used : users travelling for business reasons mostly use cars.

Non –business users:

a. social grade : users travelling for holiday reasons can be of all social classes but young people vary between lower to middle class.

b. age : users travelling for holiday reasons can be of all ages.

c. duration of stay : users travelling for holiday reasons stay in hotels for a longer period mostly 4 days and more (long stay).

d. transport used : users travelling for holiday reasons use all transport methods but about 50% use cars.

The design of the built environment has an important part in determining an hotels popularity and therefore financial success. To provide a satisfactory environment both for user and to meet marketing objectives, the developer in conjunction with the architect will need to consider design factors, the attractive of the ground and landscape, and access either from the building to the external facilities, or from the outside to the inside of the building. In addition the type , size, range and quality of facilities provided must also be considers.

The five main factors that were seen to affect and hotel operation are listed below. They should be taken into consideration by the operator to ensure a successful operation. These were:
   A. The hotel location and ease of access
   B. The price

C. The image

D. The service provided

E. The facilities provided

The types of facilities provided are also of great importance to users. Since different types of users are expected to make use of urban hotels, the need to take into account the requirements of each types of user is very important . All these factors are directly related to the hotel operation, and the operational success of a hotel will largely depend on them.

In this study, particular emphasis is also placed upon design factors as part of the hotel built environment. The recommendations listed above with regards to the location and the image of the hotel will be taken into account in this study, since it is possible to measure their inclusion and evaluate their performance in a case study. In the next chapter, the main requirements of bedroom design will be outlined. A list of theoretical recommendations or standards called from a large field of literature about bedrooms design will be investigated. These will be used as criteria for assessing the performance of bedrooms in urban hotels in Algeria.

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CHAPTER FOUR

LIST THE RECOMMENDATIONS OR RECOMMENDED CHARACTERISTICS OF BEDROOM DESIGN

4.1. Introduction:

It was hypothesized as mentioned in chapter one, that the level of success of the space in meeting the needs of users depends upon, both the extent of inclusion of the recommended characteristics and upon the level of satisfaction of users. Accordingly, it is necessary to examine:

a. Whether, and to what extent the buildings selected for the case study incorporate these recommendations.

b. If the recommended characteristics are provided , to what extent they meet users' requirements.

This chapter lists the main recommended characteristics culled from a very large amount of literature and publication to be used as criteria for assessing functional performance of bedrooms.

From preliminary research in the literature, it seems that there are two groups of literature about hotels:

A very large number of publications consisting of particularized recommendations on the requirements of specific facilities, such as conference hall, exhibition, restaurant, bedrooms, banquet, etc…, and every one of these facilities if they are to be provided each in a separate space. Again, a large theoretical recommendation on the multi-use spaces in hotels, and their characteristics, some recommended modification based on their use in some existing space, descriptions of existing multi-use, such as the use of hotel bedrooms for meeting in some hotels, or the use of restaurants for other functions such as banquets and other private functions, or the use of the main entrance for exhibitions. These have been analysed to extract only these recommendations which were thought as relevant to the users satisfaction and level of success of the building or the space. These recommendations specified various design features, values, dimensions, numbers and lengths of particular aspects of design and suggested main characteristics of adaptability of bedrooms. To assist

comprehension in this very complex area,   this chapter will be divided onto two main sections. The first section lists in detail recommendations that are closely related to bedroom flexibility; called **changeable characteristics**, the second section lists in detail praticularised recommendations on the requirements of bedroom design, called **unchangeable characteristics**.

SECTION 1

4.2. Changeable characteristics:

In the first chapter, reference was made to the effect that fluctuation in demand from people using urban hotels and the change in the distribution for these   people within the hotel may have on its operation. Particular   reference was made to the under-utilisation of space, which in turn will   affect the occupancy rate   of the hotel. Such under-utilisation   may occur in a particular period of the day, the week or the year, where the available product does not meet the demand of users. One possible solution has been suggested to   avoid such   problems so that the operator can successfully meet his marketing objective. This section list some recommendations dependent on changes made in the bedroom to meet requirements of different activities. The recommended characteristics derived from literature to allow adaptability or conversion in bedrooms are:

4.2.1. Size:

If the bedrooms are to allow adaptability or converted to house other activities such as sitting or meeting activities, the recommended standard size should be about 3.66m X 4.88 m.(1) The standard size is not affected by the type of bedroom.

4.2.2 . Openings :

If a twin bedded room is to be used as a family unit or as part of a suite, communicating doors between adjoining rooms should be introduced to allow a combination. Intercommunicating doors between bedrooms will often extend bedroom flexibility. (2) The rooms linked in this way can, if required, from a suit. (3) If the sitting room and the bedroom of a suite are to be let separately, the sitting room should have a separate access from the corridor other than

from the bedroom. (4) There are many instances of hotels in which the sitting room of a suite has no access other than from the bedroom. When the bedrooms are let separately, the sitting rooms remain unoccupied and produce no revenue.

4.2.3. Furniture :

For the purpose of adaptability, the bedroom should be capable of being adjusted to accommodate different layouts. The following recommendations are mainly related to the mobility of equipment which is to provide flexibility within a hotel bedroom. (5) Layout can be then changed and furniture moved to where it is needed. This will obviously facilitate daily changes in use.(6) these are :

If a twin bedded room is to be used as a double room, the two beds should be able to be linked side by side using a continuous head board. (7) The beds should run on castors to facilitate movement. (8) (9)

If a bedroom is to be used as a sitting room or meeting room, then the bed should be capable of being folded into a wall to provide additional space during the day time to allow the room to be used for other activities. (10)
If a sitting room in a suite is to be let separately as a bedroom, the sitting room should contain a hide-a-bed acting as a sofa, which will open into either a twin or double bed. (11)

4.2.4. Storage spaces:

If a studio room is to be used as bedroom, sitting or meeting room a storage closet should be provided in the studio room. (12) The main advantage of such storage is that it permits grater adaptability in use during the day time.
If a living room in a suite is to be used as a bedroom, a storage space should be provided either in the bedroom or elsewhere, but preferably on the same floor. (13)

4.2.5 . Equipement :

If the studio room is to be used as a meeting room, one wall should be designed to slide and expose a board, and a projector screen. (14)

If the studio room is to be used as a meeting room, the provision of a high standard of air-conditioning and services should be considered. (15) The location of such rooms in relation to the service kitchens and bar stores must be considered at an early stage of planning. (16)

Figure N°4.1
Rooms rearranged for multiple use.
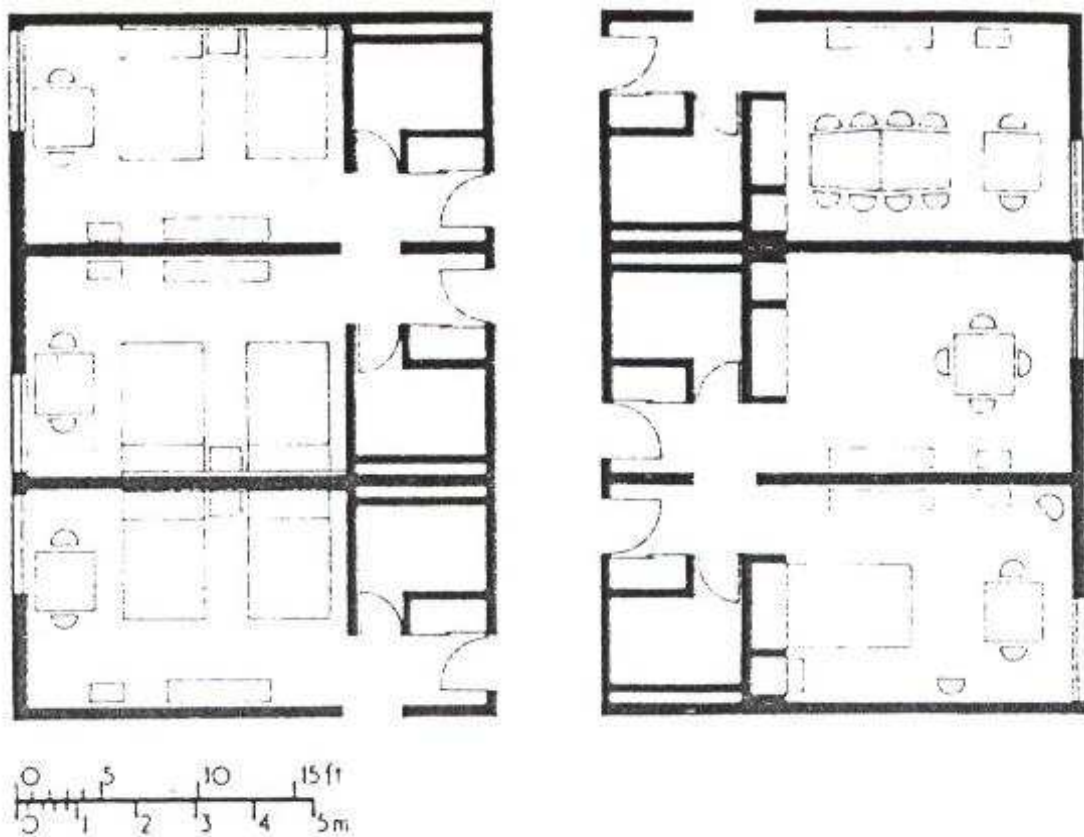
Bank of three conventional rooms, on left, is shown on right rearranged for multiple use. Entrances and bathrooms remain unchanged, but furnishings differ: bed folds against partition wall, bedside stand folds inward. Absence of second bed makes room for two extra chairs. These three rooms can now serve three small business meetings.

Source : LAWSON, Fred, Hotels, Motels and resort planning, Design and refurbishment, the Architectural press Ltd, London 1995, p.138.

Figure N°4.2

Studio room arrangement

Source: LAWSON, Fred, Hotels, Motels and resort planning, Design   and   refurbishment, the Architectural press Ltd, London 1995, p.140.

SECTION 2

4.3 . Unchangeable characteristics:

This group consists of recommendations relating to fixed features or characteristics of bedrooms irrespective of function for which the space is being used. It aims to provide some necessary requirements recommended by literature to help in designing hotel bedrooms.

4.3.1. Bedroom location and access :

The recommended relationship of all types of bedroom and access are as below:

> -Bedroom should generality be grouped together in a separate block in order to provide an easy and rapid service and maintenance and to reduce management problems .(24) In addition, bedrooms situated in that way reduce initial operating costs and provide for uncomplicated engineering services and efficient use of equipment .(25)

> -The bedroom block should have a direct access from the main entrance hall (26) and at the same time should be separated from outside noise of other facilities.(27)

> -Access for housekeeping , room service and maintenance should ensure an efficient service without unnecessary disturbance of the users .(28)

> Various relationship between the bedroom block and the public areas are shown diagrammatically in figure 4.3.

Figure N°4.3

Various relationship between bedrooms and public areas

-The choice between a high or low building depends mainly on site cost and planning limitations imposed on the development.(29) The main advantage of low building is in substantial savings in foundation and structural work; lifts are not obligatory up to three storey's .(30) But the main disadvantages are that long corridors with more staircases are needed , in addition, to an increase in engineering service capital costs for heating , insulation, plumbing and drainage.(31) In urban areas where land cost is high , a tall building is justified. Generally, account must be taken of limitations on the average numbers of floors which may constructed over the plot, rights of light and other legal restrictions protecting nearby property.(32) The most common arrangement in some recent hotels is a tall bedroom block over a much larger area of low rise public rooms.

4.3. 2. Layout and number of bedrooms per floor:

-Bedroom layout for a multi storey construction is generally a linear plan with bedrooms on both sides of a central corridor.(34) The corridor between bedrooms should be treated in some way to avoid monotony.(35) Rooms can also be situated on only one side of the corridor.(36) The one side arrangement allows natural daylights into the corridor, but the two side arrangement is more economical and may save between 10% to 15% On the total cost of the bedroom wing.(37)

-The number of bedrooms per floor should be related to the staff capacity, regulatory standards and operational needs.(38) Normally one chambermaid can cope with about six bedrooms in luxury hotels and up to twenty or more in lower grade hotels.(39)

-The bedroom area is formed of relatively small units divided by separating wall, and under spaced with ducts which convey soil, waste, and other services.(40) To minimize noise, the bedrooms usually form the upper structure rising above the base of public areas (41) The orientation of the bedrooms depends mainly on the restrictions imposed by the site and climatic conditions.

-The bedroom block may be one of a number of different shapes, but the design of the structural framework and vertical services (example. Soil, waste and lifts) must be related to   the layout of public areas underneath, which have different structural requirements.(42)

-The bedroom unit is composed of a bedroom and a bathroom. The bedroom should have a direct access to the bathroom through the entrance foyer.(43)

Figure N°4.4

Typical layout of bedrooms

Source: ERDI, LAWSON, Fred; DOSWELL, Roger, PHILLIPS, Maurice, **Information Sheet Hotel 3**: **Guest Bedrooms and Bathrooms**, Article in The Book: Principle of Hotel Design, by The Architectural Press Ltd , London 1992.p.94.

4.3.3. Structure:

In a hotel, there are a large variety of functions. Each major function requires a different structural from and the bedroom section is generally based on a repetitive modular dimension arranged along a corridor or grouped around a central core.(44) In framed buildings column spacing should be regular, particularly if the columns extend down through a lobby or entrance. (45).

Variations in room size are made possible by column spacing to accommodate two room widths, usually with practical limits of 7 to 8 meters (23-26 ft). (46) In addition, and for maximum flexibility, the inner rows of columns should coincide with the service ducts .(47) Other features affecting the structural design are the locations of these different function in relation to each other and the need for flexible spaces.(48)

4.3.4. Space standard:

The review of literature showed a wide variety of different ideas and recommendation regarding bedroom size. Their size in a hotel varies from one country to another and from one company to another, as well as from city to rural location. (49) These variation are mainly due to economic consideration which in turn are related to hotel grading, traditional practices , social factors and the operator's interest in solving management problems. (50) In Britain, standard sizes vary according to the star grading of the hotel. The minimum standards recommended for single, double bedrooms and twin-bedded room are shown in table below. All other types of bedroom can be related to these two type standards. Finally, if the market is variable and future changes are envisaged, provision should be made for this at the initial planning stage. (51) The recommended bedroom size when there is a need for adaptability is 3.66 m x 4.88 m.

Table N°4.1

Minimum space standards for hotel bedrooms

Type of bedroom	room area (sq. m)
Single bedroom	5.57
Double bedroom	8.36
Twin-bedded room	10.22

Source : ERDI , Louis , LAWSON , Fred , DOSWELL , Roger & PHILIPS , Maurice , Information sheet hotel 3: guest bedrooms and bathrooms , principles of hotel design by the architects   journal , the architectural press ltd London 1995, p. 65

4.3.5. Space requirements:

i. Room width:

Positioned at right angles to the party wall , beds, including headboards, need 2.10m in length.(95)(96) Adding a minimum of 0.80 m passage between the other party wall and the bed end, the minimum width of the room must be 2.90m (97)(98) allowing a further 0.60 m in width , a closet can be provided in the lobby , and furniture such as a dressing table or luggage rack can be placed against the party wall enabling the circulation space to allow for drawer opening and sitting at the dresser.(99)(100) This gives a wall to wall clear width of 3.50 m this is a fairly common module in modern medium priced bedroom accommodation.(101)(102)

ii. Room length:

For a typical twin bedded room , the minimum space taken up by 1.00 m wide beds together with the necessary access is about 2.90 m.(103) Adding a limited area for sitting and television viewing , this gives a room length of about 4.50 m .(104) (105)
A studio room arrangement ,with single beds at right angles to each other, or having studio couches which can swing out from the wall to from a second bed, occupies a similar area .(106)

iii. Ceiling height:

The minimum recommended ceiling height over the sleeping and living areas is 2.3 m. (52) but the standard stipulated is 2.5 m. (53)

The minimum over the entrance foyer (to accommodate ventilation ducts and services) should not be less than 2.00 m. (54)

<u>Figure N°4.5</u>

<u>Space requirement for a twin bedded room</u>

<u>Source</u>: ERDI , Louis , LAWSON , Fred , DOSWELL , Roger & PHILIPS , Maurice , <u>Information sheet hotel 3: guest bedrooms and bathrooms</u> , principles of hotel design by the architects   journal , the architectural press ltd London 1995, p 84.

4.3.6. Furniture:

-The choice of furniture differs from one hotel to another depending on whether the user stays for a short or long period, and standard of accommodation, which is broadly related to price charged. (55) In addition, the furniture used may be free standing or built-in. (56) Fitted furniture may help to make the best use of bedroom. (57) Units can be designed to facilitate cleaning by being hung from the wall and clear of the floor. (58) Freestanding furniture has the advantage of providing flexibility and ease of maintenance. (59)

-Furniture , such as beds, clothes cupboards , bedside tables , luggage racks and writing desks is required in a bedroom. (60) (61) But there might be some variation in the importance of some furniture and equipment between different types of customer. For example, television in bedrooms is important to non-business customer in their choice of hotel; (62) and a writing table is required by business customers. (63) The requirements for each type of furniture are as follow:

4.3.6.1. Beds:

R .Eldridge has said that:

> "In assessing the importance of furniture and furnishing in any location, beds have to take strong precedence on the list of priorities. The beds are going to be used for about eight hours in every 24, which will put a heavier demand on them than any other item of furniture". (64)

Hotel beds should satisfy a number of requirements like comfort, height, length and width; durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs; appearance (including headboard and end board). (65) (66)

i.Bed sizes:

-Beds should, in principle, be standardized for international travelers, but there are no rigid rulers. (67)

There are many variations in bed sizes depending on many factors. They are: (see also appendix. 5. a)

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- Single bed 90 cm x 190 cm or 100 cm x 200 cm recommended by R. Eldridge. (68) 100 cm x 200 cm recommended by F . Lawson. (69)

- Double bed size varies considerably. 135 cm x 190 cm and the small king size of 150 cm x 200 cm is recommended by R Eldridge. (70)

-Measurements for new metric beds are: for double 200 cm x 150 cm; single 200 cm x 100 cm. (71) Eldridge recommended that these should always be used in future. (72)

-For most situation twin beds are preferable, providing both single or double occupation by linking the two beds by a continuous   headboard.(73) In addition, there is a strong case for using 200 cm x 150 cm beds in single rooms so that they can be used as double beds if required. (74)

ii. Beds height:

There are many variations in bed height. For appearance, a height of 35 cm to 40 cm (including mattress) is best, (75) but for ease of stripping and making, however, the preferred height should be from 53 cm to 60 cm or even up to 70 cm . (76)

iii. Beds layout:

-Positioning of beds is important. The most common arrangement is one with twin beds at right angles to one the party walls (see, figure 4.6), (77) for a single bedded room , economy in width is gained by putting the bed parallel to the party wall. (78) Where it is turned and moved back against the wall to create a larger living space in the centre of the room.(79) Twin beds are generally separated by a night table to allow a degree of individual privacy.(80)

Figure N° 4.6

Typical layout of beds in a twin bedded room

Source: ERDI , Louis , LAWSON , Fred , DOSWELL , Roger & PHILIPS , Maurice , Information sheet hotel 3: guest bedrooms and bathrooms , principles of hotel design by the architects   journal , the architectural press ltd London 1995, p 82.

4.3.6.2. Clothes storage:

-Hanging space is provided in a wardrobe or closet , sometimes built into the entrance foyer to the bedroom .(81) The amount of space for clothing and personal provided by the hotel will depend on the design standard or grade of the hotel, and length of stay .(82) The length of hanging space varies from a single to a double room .

The recommended length of hanging space is as follow: (see also appendix 5. b)

Table N°4.2

The recommended length of clothe storage by types of bedrooms

Requirement	modest tariff	high tariff
Hanging space length	cm	cm
Single	50	90
Double	90	120

Source: Lawson , Fred , hotel , motel , and condominium : design , planning and maintenance , the architectural press ltd , London 1976 , p . 153.

4.3.6.3. Bedside tables:

-A night table stand should be provided adjacent to each bed space , between beds or on each side of a double bed.(83) A bedside table should be large (37.5 cm x 45 cm). For books , glasses , water and telephone.(84) (85) Table height must be related to the height of the bed and is usually between 60 cm-75 cm.(86) To allow the bed to be swung out for cleaning , the facing corner of the table should be angled . (87)

4.3.6.4. Luggage rack :

One luggage rack is adequate for most transient hotels, but two racks are usually recommended for resort hotels.(88) Regarding the size of luggage rack, 75 cm to 90 cm long is required in all rooms. Usually, 80 cm long is required. The recommended width varies between 45 cm to 55 cm. (89) The

recommended height of the luggage rack varies between 45 cm to 55 cm. (90) (see also appendix.5.c)

4.3.6.5. Writing and dressing tables:

A dressing table at least 90 cm long which can also be used as writing desk is recommended .(91) Optimum table heights are 70 cm -75 cm with a corresponding stool height of 43 cm- 45 cm.(92) In addition, the dressing table should contain at least one drawer, and a mirror above it .(93) (see also appendix 5.d) Table and furniture should be uniform in depth, between 40 cm- 50 cm.(94)

Table N°4.3

Recommended standards sizes for different types of furniture

Type of furniture	Length (cm)	Width (cm)	Height (cm)
Beds : -Single bed -Double bed	 200 135 - 150	 90 - 100 190 - 200	 53 – 60 or 70 53 – 60 or 70
Bedside tables	-	37.5 - 45	60 - 75
Luggage rack	80	45 - 55	40 - 45
Writing and dressing tables	90	40 - 45	70 - 75

Source: the author 2008

3.2.6.   Doors and openings:

It is argued that intercommunicating doors between bedrooms may help to make the accommodation more flexible, but the main disadvantage with this is therefore necessary that doors in bedrooms should provide a high degree of

sound insulation;(107)(108) and should meet local fire regulations which is 93cm. (109)(110)

Window dimensions in a bedroom are related to structural room modules, and climatic conditions. (111) Full width windows provide the best advantage for views but requirements for insulation, screening , curtains equipment for air conditioning and furniture should also be considered.(112)

Number of escape exits: Escape exits, with a minimum of two units at the end of the corridor should be provided in the bedroom bloc. (113)(114)

4.3.8.   Environmental:

4.3.8.1. Sound insulation:

Consideration should be given to potential noise problems. For a high degree of sound insulation between bedrooms, doors should be 45 mm thick, in addition the transmission of sound can be either from one area to another within the hotel , or from outside the hotel , such as traffic noise of roads and streets.(115)(116)

For the transmission of noise within the hotel , a possible solution apart from adequate party walls is to separate the areas generating noise from areas which are noise sensitive.(117)(118) The noise-producing areas are show in table 4.4. This applies particularly to the separation of bedrooms from public areas and to the grouping together and screening of work areas. (119) (120)

External noise such as that from traffic may also be reduced by arranging sensitive areas like bedrooms at right angle to the highway, screening them from other areas by walls and banks of trees, the use of balconies and recessed or angled windows. (121) (122)

Table N°4.4

Noise-producing areas and noise-sensitive areas in a hotel

Areas sensitive to noise include:	
Bedrooms	
Meeting rooms and other areas for speech, music or other functional uses requiring clarity.	
Noise producing areas include:	
Work areas	: User activity
Kitchen	: Ballrooms discotheques
Laundries	: Bars, cocktail lounges
Compressors, fans, motors and Other mechanical planet	: Lobbies, entrance foyer : Toilets, swimming pools
Delivery and refuse areas	: Indoor and outdoor : Recreational activities
Incinerator, boilers	: Bathrooms
Compactors and similar Equipment	: Guestrooms and apartments

Source: LAWSON, Fred Hotel, Motels and Condominiums: Design, Planning and Maintenance the Architectural Press Ltd, London 1976, p. 188.

4.3.8.2. Heating ventilation and air conditioning:

It was argued that, if the bedroom is to be used a meeting room, the provision of air conditioning is necessary. Accordingly, these are some British standards concerning heating, ventilation and air conditioning, derived from literature.

As a basis for design, climatic data must be determined for the external condition likely to be experienced in the locality and on the site and for the internal environmental standards in various zones of the building. (123)

i. Internal temperature of the bedrooms :

The internal temperature mainly increases as the external temperature increases. The following recommendation are IHVE (Institution of heating and ventilating Engineers) standards to provide basic requirements for a bedroom. (124)

Table   N°4.5

Internal design temperatures

Environmental Conditions	Air conditioning Day	Night	Notes
Winter C	24	24	(22 if heating only).
F	75	75	Winter lower temperature adjustment.
Summer C	22	20	With higher
F	72		temperature adjustment.
Relative Humidity %	40-60	40-60	Double glazing may be required to avoid condensation.

Source: LAWSON, Fred, hotels , Motels and Condominiums: Design, Planning and Maintenance, the Architectural Press LTD, London 1976, p.203.

ii. Air requirements :

Design standards for air flow requirements depend on two criteria. These are the fresh air ventilation and the air change required to maintain recommended condition.(125) The air change is affected by heating or cooling requirements, an extraction of impurities like smock and fumes.(126)   Standards may be

described by volumetric rates of air change per hour or rates of air flow per unit area per person :

Table N°4.6

Fresh air requirement for fully air –conditioned rooms

Room	Outdoor air supply		
	Per person		per m2
	Recommended	minimum	minimum
	Litre/sec	Litre/sec	Litre/sec
Hotel Bedrooms	12	8	1.7

Source: LAWSON, Fred   hotels. Motels   and Condominiums:
Design planning   and maintenance   , the Architectural Press Ltd, London 1976, p 203.

iii.Natural ventilation :

The number of air changes per hour will depend on the space occupancy relationship. The recommended rate of air change for normal conditions is one air change per hour. (127)

4.4. Summary:

In this chapter, the main design data or characteristics required in bedroom design were outlined. They were divided into two main groups:

-changeable characteristics.

-unchangeable characteristics.

Some of these requirements or variables   will be   tested in a case study in order to evaluate their inclusion first, and then, how they perform in a real context. In the next chapter, research methods that are used in   a research project in general will be outlined in order to set up which method is most suitable for this study.

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CHAPTER FIVE

RESEARCH METHODS AND TESTING OF HYPOTHESIS

5.1. Introduction:

Research is a human activity based on intellectual investigation and aimed at discovering, interpreting, and revising human knowledge on different aspects of the world. It can be scientific or not scientific.

Scientific research relies on the application of scientific methods based on scientific paradigm. The term research is also used to describe an entire collection of information about a particular subject. Basic research (also called *fundamental* or *pure* research) has as its primary objective the advancement of knowledge and the theoretical understanding of the relations among variables. (1) It is *exploratory* and often driven by the researcher's curiosity, or interest. It is conducted without any practical end in mind, although it may have unexpected results pointing to practical applications. The terms "basic" or "fundamental" indicate that, through theory generation, basic research provides the foundation for further, sometimes applied research. As there is no guarantee of short-term practical gain, researchers may find it difficult to obtain funding for basic research. Research is a subset of invention.

Traditionally, basic research was considered as an activity that preceded applied research, which in turn preceded development into practical applications. Recently, these distinctions have become much less clear-cut, and it is sometimes the case that all stages will intermix. This is particularly the case in fields such as biotechnology and electronics, where fundamental discoveries may be made alongside work intended to develop new products, and in areas where public and private sector partners collaborate in order to develop greater insight into key areas of interest.

5.1. Research methods:

The goal of the research process is to produce new knowledge. The **case study** is one of several ways of doing social science research. Other ways include experiments, surveys, a histories, and analysis of archival information. (2). Rather

than using large samples and following a rigid protocol to examine a limited number of variables, case study methods involve an in-depth, longitudinal examination of a single instance or event: a <u>case</u>. They provide a systematic way of looking at events, collecting <u>data</u>, analyzing <u>information</u>, and reporting the results. (3) As a result the researcher may gain a sharpened understanding of why the instance happened as it did, and what might become important to look at more extensively in future research. Case studies lend themselves to both generating and testing <u>hypotheses</u>. (4)

Yin, on the other hand, suggests that **case study** should be defined as a **research strategy**, an empirical inquiry that investigates a phenomenon within its real-life context. Case study research means single and multiple case studies, can include quantitative evidence, relies on multiple sources of evidence and benefits from the prior development of theoretical propositions.(5) He notes that case studies should not be confused with qualitative research and points out that they can be based on any mix of quantitative and qualitative evidence (6). This is also supported and well-formulated in (7): "The case study is a research approach, situated between concrete data taking techniques and methodological paradigms".

5.2.1. The case study: an overview

As a distinct approach to research, use of the case study originated only in the early 20th century. The Oxford English Dictionary traces the phrase *case study* or *case-study* back as far as 1934, after the establishment of the concept of a *case history* in medicine.

The use of case studies for the creation of new theory in social sciences has been further developed by the sociologists Barney Glaser and Anselm Strauss who presented their research method, Grounded theory, in 1967.(8) The popularity of case studies as research tools has developed only in recent decades. One of the areas in which case studies have been gaining popularity is education and in particular educational evaluation. Some of the prominent scholars in educational case study are Robert Stake and Jan Nespor. (9) Case studies have, of course, also been used as a teaching method and as part of professional development. They are well-known in business and legal education. The problem-based learning (PBL) movement is one of the examples. When used in (non-business) education and professional development, case studies are often referred to as *critical incidents* (10).

5.3. Research techniques:

There are many ways to get information. The most common research methods are: literature searches, interviews , focus groups   or personal interviews, telephone surveys, mail surveys, email surveys, internet surveys, questionnaires and observation. (11) The relevance of a technique depends upon, for example:

• The level of detail required;

• The level of information available;

• The resource available in terms of time and money;

• How quickly the study is to be carried out;

• The skill levels of those who will be undertaking the study;

• The extent to which a problem has already been identified.

The most accurate evaluation can usually be gained from employing a combination of techniques, e.g. a widely circulated questionnaire with a focus group to examine in more detail any major problem identified by the questionnaire survey. (12) The key is:

• To be holistic (consider the interplay between the physical environment, facilities provision, and organisational attitudes);

• To look for both cause and effect;

• To verify subjective results either by taking objective measurements or through balancing subjective opinions from a broad range of people;

• To involve different groups of people (assessing perception and reality, for example in the case of productivity impacts, do staff and managers' opinions coincide);

• To use transparent methodology so that results can be interpreted with the appropriate degree of assurance, limitations can be understood, and repeatable if benchmarking is to be undertaken.

It is tempting to collect data first and then decide what to do with it. However, in its raw state data does not contribute much in the way of useful information or knowledge until it has been analysed.(13) This toolkit shows the range of techniques for gathering the information: questionnaire surveys, focus groups, interviews, measurement, benchmarking, walk-throughs and observation. It offers advice on using each approach with some model data collection forms which in most circumstances may need to be adapted.

5.3.1. A literature search:

Literature involves reviewing all readily available materials. These materials can include internal company information, relevant trade publications, newspapers, magazines, annual reports, company literature, on-line data bases, and any other published materials. (14) It is a very inexpensive method of gathering information, although it often does not yield timely information. Literature searches over the web are the fastest, while library literature searches can take between one and eight weeks.

5.3.2. Interviews:

Interviews with individuals are a useful way of getting very specific, detailed information and developing a deeper understanding of particular problems.(15) They are best facilitated by a professional who is able to be objective. Whilst there needs to be a focus to an interview they are often most useful when conducted with a loose agenda, allowing free discussion to pick up issues that may not be initially obvious. Interviewees must be carefully selected to provide a balance of perspectives.(16) Personal interviews are a way to get in-depth and comprehensive information. They involve one person interviewing another person for personal or detailed information. Personal interviews are very expensive because of the one-to-one nature of the interview. Typically, an interviewer will ask questions from a written questionnaire and record the answers verbatim. Sometimes, the questionnaire is simply a list of topics that the research wants to discuss with an industry expert. Personal interviews (because of their expense) are generally used only when subjects are not likely to respond to other survey methods.

i. Advantages:

• Detailed exploration of issues.
• Fine grain of detail and insights can be generated.
• Target very specific knowledge.
• Easier to arrange meetings with individuals than groups.(17)

ii.Disadvantages:

• Specific opinions do not necessarily represent broad views.
• Biased response likely.

• Cannot benchmark.

• No anonymity.(18)

5.3.2.1. Conducting interviews:

There are broadly two ways of carrying out interviews. A structured interview where there are very specific questions or the semi-structured interview where there is an agenda of questions and issues, but allows the discussion to develop which may identify issues not already established.(19)

Interviews should last no more than one hour and be preceded by a visit to the area of the building where the interviewee works making notes about any unusual features of the space which could impact on the views given. In addition each interviewee should be given an agenda which explains the purpose of the investigation and issues to be covered in the interview.

Tips for conducting successful interviews Steps:

• Identify types of staff to be interviewed. Could break this down by organisational hierarchy and area of activity.(20)

• Circulate agenda, with start and finish time

• Prepare and distribute minutes of meeting

5.3.3. A focus group:

A focus group is used as a preliminary research technique to explore peoples ideas and attitudes. It is often used to test new approaches (such as products or advertising), and to discover customer concerns. (21) A group of 6 to 20 people meet in a conference-room-like setting with a trained moderator. The room usually contains a one-way mirror for viewing, including audio and video capabilities. The moderator leads the group's discussion and keeps the focus on the areas you want to explore. Focus groups are good way of drawing out information on a range of topics. (22) Often they are a useful adjunct to a questionnaire survey where the responses to that have identified key problem areas but you need to get more qualitative information on them to understand the problem.(23)

i.Advantages:

• Management time needed to prepare is less than for questionnaire survey

• Involves relatively in few people

• Enables specific issues to be addressed in detail

• Interactions between attendees enables deeper insights

• Flexibility of coverage, agenda can allow issues to be explored as they are uncovered

• Useful for teasing out broad issues uncovered by questionnaire survey.(24

ii.Disadvantages:

• Expert facilitation needed.

• Qualitative data lacks statistical rigor of survey questionnaire.

• Bias of those who attend – therefore selection of attendees critical.

• No anonymity – people may be reticent to say what they think. (25)

5.3.3.1. Conducting focus groups:

A good focus group size is 6- people. Groups of this size are manageable and it enables the facilitator to get input from everyone present at the same time as getting a broad range of views.(26)

A maximum length of 1 hour enables attendees to feel that they can devote time to it and usefully contribute. If the sessions are longer then breaks would be necessary which would break the flow of the session.

It is important to consider the selection process and identify the right mix of people. For example do you include both staff and students? Do you need to be careful of some dominant personalities? It is important that the selection is made objectively. Voluntary attendance may bias the responses.

As with the questionnaires it is important that the purpose of the session is clear and what actions will follow.(27)

• Define the areas of investigation and the 'focus' of the session.`

• Identify about six key questions that the group is to address. (It is a good idea for the facilitator to have supplementary questions to aid the group reflection if the group either wanders off the subject or finds it hard to address the question as posed).

• Circulate an agenda making the purpose of the session clear and the areas of investigation, but without the specific questions.

• At the end of the session go around the table asking each person if they have a final comment they want to make.

• Circulate a report on the meeting to the participants.

5.3.4. Telephone surveys:

Telephone surveys are the fastest method of gathering information from a relatively large sample (100-400 respondents). The interviewer follows a prepared script that is essentially the same as a written questionnaire.(28) However, unlike a mail survey, the telephone survey allows the opportunity for some opinion probing. Telephone surveys generally last less than ten minutes. Typical costs are between four and six thousand dollars, and they can be completed in two to four weeks.

5.3.5. Mail surveys:

Mail surveys are a cost effective method of gathering information. They are ideal for large sample sizes, or when the sample comes from a wide geographic area. (29) They cost a little less than telephone interviews, however, they take over twice as long to complete (eight to twelve weeks). Because there is no interviewer, there is no possibility of interviewer bias. The main disadvantage is the inability to probe respondents for more detailed information.

5.3.6. Email and internet surveys:

These are relatively new and little is known about the effect of sampling bias in internet surveys. (30) While it is clearly the most cost effective and fastest method of distributing a survey, the demographic profile of the internet user does not represent the general population, although this is changing. Before doing an email or internet survey, carefully consider the effect that this bias might have on the results.

5.3.7. Observation:

This can use both observation, reflecting on how space is performing, and informal discussions with users to identify conflicts.(31)

i. Advantages:
• Few staff resources needed.
• Can be done without any end user involvement or inconvenience.
• Can provide quantitative data if designed appropriately.
• Enables unbiased view.

ii.Disadvantages:

• Methodology may demand rigorous application e.g. observations at particular times of the day.

• Comparison can be difficult unless observer is given a methodology to apply

5.3.8. Questionnaire :

Questionnaires are an inexpensive way to gather data from a potentially large number of respondents. Often they are the only feasible way to reach a number of reviewers large enough to allow statistically analysis of the results. (32) A well-designed questionnaire that is used effectively can gather information on both the overall performance of the test system as well as information on specific components of the system. If the questionnaire includes demographic questions on the participants, they can be used to correlate performance and satisfaction with the test system among different groups of users. (33)

It is important to remember that a questionnaire should be viewed as a multi-stage process beginning with definition of the aspects to be examined and ending with interpretation of the results. Every step needs to be designed carefully because the final results are only as good as the weakest link in the questionnaire process. Although questionnaires may be cheap to administer compared to other data collection methods, they are every bit as expensive in terms of design time and interpretation.

The steps required to design and administer a questionnaire include:

-Defining the Objectives of the survey.

-Determining the Sampling Group.

-Writing the Questionnaire.

-Administering the Questionnaire.

Questionnaire design is a long process that demands careful attention. A questionnaire is a powerful evaluation tool and should not be taken lightly. (34) Design begins with an understanding of the capabilities of a questionnaire and how they can help your research. If it is determined that a questionnaire is to be used, the greatest care goes into the planning of the objectives. Questionnaires are like any

scientific experiment. One does not collect data and then see if they found something interesting. One forms a hypothesis and an experiment that will help prove or disprove the hypothesis. (35)

Questionnaires are versatile, allowing the collection of both subjective and objective data through the use of open or closed format questions. Modern computers have only made the task of collecting and extracting valuable material more efficient. However, a questionnaire is only as good as the questions it contains. There are many guidelines that must be met before you questionnaire can be considered a sound research tool. The majority deal with making the questionnaire understandable and free of bias. Mindful review and testing is necessary to weed out minor mistakes that can cause great changes in meaning and interpretation. When these guidelines are followed, the questionnaire becomes a powerful and economic evaluation tool. (36)

i.Advantages of Written Questionnaires:

Questionnaires are very cost effective when compared to face-to-face interviews. This is especially true for studies involving large sample sizes and large geographic areas. Written questionnaires become even more cost effective as the number of research questions increases.

Questionnaires are easy to analyze. Data entry and tabulation for nearly all surveys can be easily done with many computer software packages.

Questionnaires are familiar to most people. Nearly everyone has had some experience completing questionnaires and they generally do not make people apprehensive.

Questionnaires reduce bias. There is uniform question presentation and no middle-man bias. The researcher's own opinions will not influence the respondent to answer questions in a certain manner. There are no verbal or visual clues to influence the respondent.

Questionnaires are less intrusive than telephone or face-to-face surveys. When a respondent receives a questionnaire in the mail, he is free to complete the

questionnaire on his own time-table. Unlike other research methods, the respondent is not interrupted by the research instrument.

ii.Disadvantages of Written Questionnaires:

One major disadvantage of written questionnaires is the possibility of low response rates. Low response is the curse of statistical analysis. It can dramatically lower our confidence in the results. Response rates vary widely from one questionnaire to another (10% - 90%), however, well-designed studies consistently produce high response rates.(37)

Another disadvantage of questionnaires is the inability to probe responses. Questionnaires are structured instruments. They allow little flexibility to the respondent with respect to response format. In essence, they often lose the "flavor of the response" (i.e., respondents often want to qualify their answers). By allowing frequent space for comments, the researcher can partially overcome this disadvantage. Comments are among the most helpful of all the information on the questionnaire, and they usually provide insightful information that would have otherwise been lost.(38)

Nearly ninety percent of all communication is visual. Gestures and other visual cues are not available with written questionnaires. The lack of personal contact will have different effects depending on the type of information being requested. A questionnaire requesting factual information will probably not be affected by the lack of personal contact. A questionnaire probing sensitive issues or attitudes may be severely affected.

When returned questionnaires arrive in the mail, it's natural to assume that the respondent is the same person you sent the questionnaire to. This may not actually be the case. Many times business questionnaires get handed to other employees for completion. Housewives sometimes respond for their husbands. Kids respond as a prank. For a variety of reasons, the respondent may not be who you think it is. It is a confounding error inherent in questionnaires.

Finally, questionnaires are simply not suited for some people. For example, a written survey to a group of poorly educated people might not work because of reading skill

problems. More frequently, people are turned off by written questionnaires because of misuse.(39)

5.4. Measuring the inclusion of recommended characteristics in the sample:

From the previous section about research methods outlined in this chapter, it becomes clear that there is a very large number of possible research methods. However, to measure the extent of inclusion of each of the recommended characteristics (outlined in chapter four), not all techniques will be used, but only certain methods were seen most appropriate and effective.

5.4.1. Methods of measuring the extent of inclusion of the recommended characteristics:

These methods were divided into two main groups:

-Physical measurements.

-Environmental measurements.

5.4.1.1. Physical measurements: these were:

i. Bedroom location:

Location of bedrooms can be measured through observation in the sample or through plans of the hotel and compare it with the recommendations outlined in chapter four.

ii . Bedroom access:

Bedroom access can also be measured through observation in the sample or through plans of the hotel and compare it with the recommendations outlined in chapter four.

iii. Layout and number of bedrooms per floor:

This can be measured through the plan of the hotel and comparing it with the recommended bedroom layout and number of bedrooms per floor outlined in chapter four.

<u>iv. Space requirements:</u>

To measure the size of the bedroom, ceiling height, doors and openings number and dimensions , metric was used and number of doors were counted and compared with the recommendations.

<u>v. Furniture:</u>

The existence of furniture in the sample such as beds , clothes , storage , bedside tables , luggage rack and writing and dressing tables were measured through observation in the sample. Regarding their characteristics such as number , size, length and height and layout of beds, were measured physically by the use of measuring scales or counting numbers, depended on the recommendations and then compared with the recommendations.

5.4.1.2. Environmental measurements:

These include measurements of the suitability of the noise control, heat temperature or air conditioning and ventilation, lighting quality in the bedroom. Unfortunately, this study will not cover this aspect of design because of lack of means and tools that should be used to measure such technical recommendations.

5.5. Measuring the level of success of the building:

5.5.1. Users satisfaction:

To determine users satisfaction or dissatisfaction it was necessary to ascertain which of the recommendations played an important part, or not, in leading to user satisfaction and a successful building.

There are many problems and difficulties associated with measuring the concept "satisfaction" and "feeling of comfort" mainly because of the large degree of personal variation in responses to the built environment both within the society and between different societies.(40) Research up to date has shown that any reasonably successful evaluation study should take into consideration what the user thought about the building environment, and

how satisfactory they found them. Furthermore, there are certain limits within which satisfaction of users being below or above these limits will cause dissatisfaction.

5.5.2. Measuring users attitude:

Users attitude was measured by employing questionnaires and in some cases interviews. The questions used were of two main types. The first section was designed to find out information that are closely related to planning factors. Accordingly different questions were asked about different types of users and these related to:

-The purpose of visit.

- The choice of the hotel.

- The criteria that may affect the design of users in choosing the hotel.

- The transport used.

- Duration of stay.

- Different types of bedrooms occupied.

The second section was designed to find out information that are closely related to design factors. Again, different questions were asked to different types of users and these related to:

- Ease of access from the parking to the hotel.
- Ease of access from the main entrance hall to the bedroom bloc
- Different design factors that may affect user satisfaction about bedrooms.

5.6. Summary:

It is clear that there are different methods and techniques applicable to research studies. Depending on the nature of the subject and the objective, the researcher has to select among the existing methods which one is most appropriate to his research problem. The case study is one of several ways of doing social science research. It involves an in-depth examination on a single event: a case. Also, the techniques used to collect data varies from one research objective to another. In this study, the techniques used which were seen most appropriate were outlined in (5.4. and 5.5.).

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CHAPTER SIX

CHOICE OF THE SAMPLE

6.1. Introduction:

This chapter gives a general outline of the choice of the sample for this study; examine the two hotels in order to understand their intended purpose, their existing location, their size and capacity, the problems with each hotel, if any, and the content of each hotel, including plans.

6.2. The sample for the study:

There were three main factors influencing the choice of the two hotels – The Arc en ciel hotel el Khroub- and –Panoramic hotel Constantine- The first factor requires that the two hotels must be urban hotels. Second, the rate and size of the hotels were also taken into consideration. Both hotels are graded 4 stars. Third, it was seen interesting to choose a public and private hotel to compare the level of performance between the two hotels.

6.2.1. The Arc en ciel hotel:

6.2.1.1. General background:

The ARC EN CIEL hotel is a four stars urban hotel built in 2002, designed by the Architect Haddouche Makhlouf.

This hotel overlooks a panoramic view and the city of El Khroub. Located close to the city centre, the hotel ARC EN CIEL hotel is located 2 min from the city centre and 15 min from the airport, with several adjacent bus routes to the city centre of El Khroub.

Offering a total of 70 bedrooms including 45 double bedrooms, 19 simple bedrooms and 6 suites. Facilities include 1 restaurants and one meeting rooms that can accommodate up to 500 people. The hotel has also its own car parking.

Figure N°6.1

A general view of the Arc en ciel hotel

Source: the author 2008

Figure N°6.2

Parking of the ARC EN   CIEL   hotel

Source: the author 2008

6.2.1.2. The brief:

The ARC EN CIEL hotel has been designed to serve the need of users, either for pleasure, business and pleasure or business alone. (2) It has been planned to provide a comfortable hotel for short or long stays. The ARC EN CIEL hotel has to provide a limited number of facilities suited to the hotel's capacity such as a restaurant and conference facilities. All bedrooms have their own private bathrooms.

6.2.1.3. A description:

The average bed occupancy this year in the ARC EN CIEL hotel is 65%. This rate is satisfactory according to the general manager of the hotel.(3)

The ARC EN CIEL hotel comprises five storeys plus the ground floor. It has a total of 70 bedrooms; 45 twin bedded rooms, 19 single rooms and 6 suites. There are 13 bedrooms in the first floor and the rest are located in the four other floors. (see plans below)

Figure N°6.3

The Arc en Ciel hotel –Ground Floor Plan-
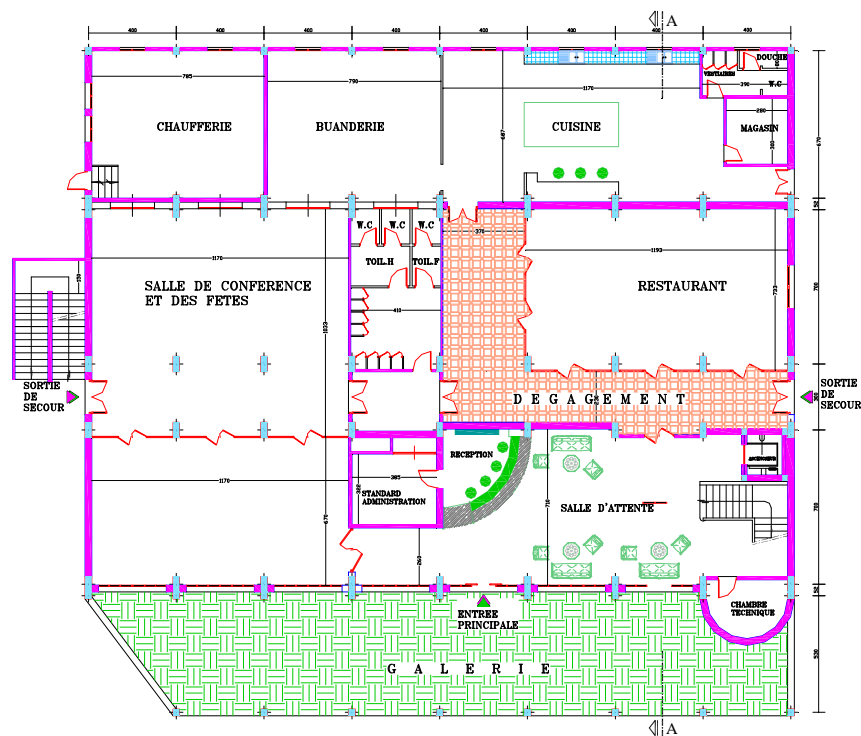
Source : Direction d'urbanisme El khroub 2007

To reach the bedrooms bloc , users have to pass through the reception hall and can either use the lift or the stairs. All bedrooms have their own private bathrooms and are equipped with colour television and a fridge. They are all centrally heated and air conditioned. In addition, the hotel offers a range of facilities for both the business and holiday visitors. For added convenience, there is an hotel shop on the ground floor which sells news papers, books and magazines. The restaurant , located in the ground floor, serves a variety of Algerian dishes.

Figure N°6.4

The Arc en Ciel hotel –1st and 2nd Floor Plan-
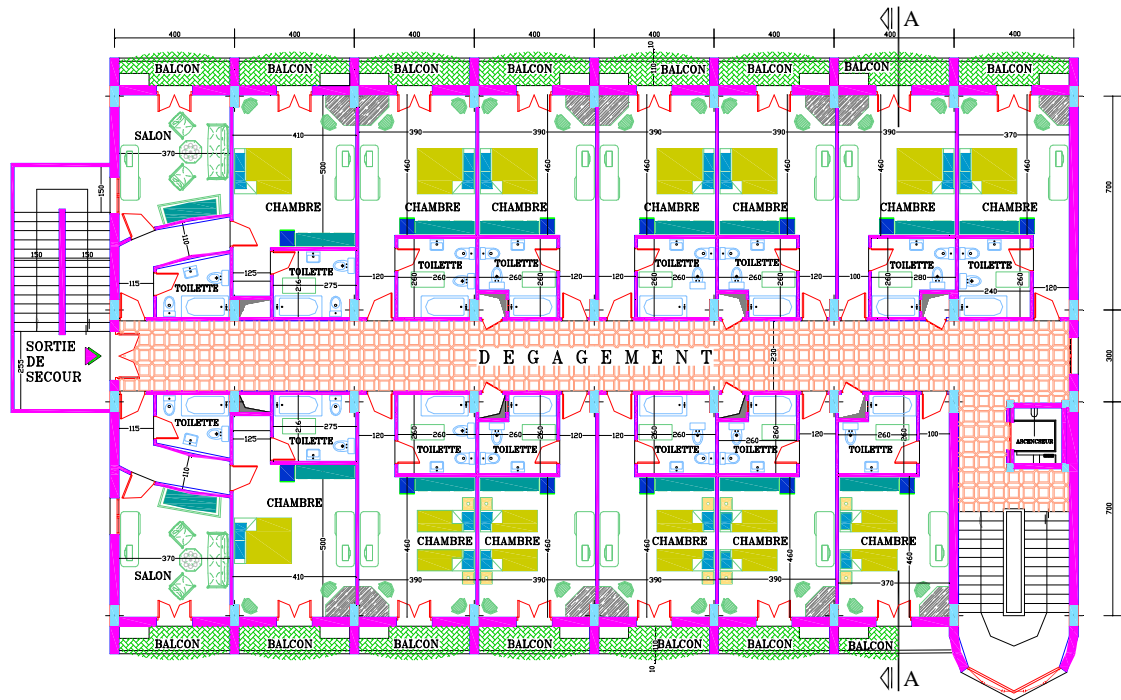
Source: Direction d'urbanisme El khroub 2007

Figure N° 6.5

The Arc en Ciel hotel –3rd to 5th Floor Plan-
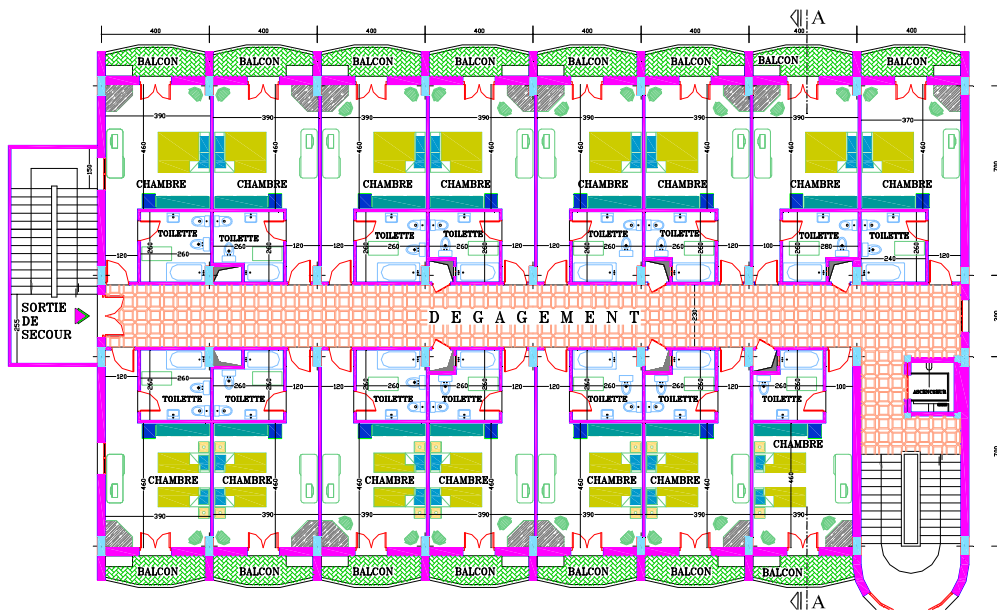
Source : Direction d'urbanisme El khroub 2007

6.2.2. The Panoramic hotel Constantine:

6.2.2.1. The city of Constantine: an overview:

Constantine is the capital of Constantine Province in north-eastern Algeria. Slightly inland, it is about 80 kilometers from the Mediterranean coast. Regarded as the capital of eastern Algeria and the centre of its region, Constantine has a population of over 500,000 (750,000 with the agglomeration), making it the third largest city in the country after Algiers and Oran. Constantine is situated on a plateau at 640 metres above sea level. The city is framed by a deep ravine and has a dramatic appearance. The city is very picturesque with a number of bridges and a viaduct crossing the ravine. The ravine is crossed by four bridges, including Pont Sidi M'Cid. The gorge serves to a large extent as a dustbin, and is heavily polluted by oil as well. With many of it beautiful bridges, the city had a superb market and economy. This will lead to excellence in the city and dramatic growth and tourism in the future. Today life in constantine needs improving. Many of these reason are to do with the civil war which took place for 30 years. The city was demolished by the french with over 500,000 people killed, and 70,0000 injured. The city is very picturesque with a number of bridges and a viaduct crossing the ravine. Gustave Mercier Museum (displays of ancient and modern art). Abd al Hamid Ben Badis Mosque. The Constantine Casbah. Emir Abd al-Qadir University & Mosque. Soumma Mausoleum Massinissa's Mausoleum. The Palace of Ahmed Bey. Ruins of the Antonian Roman aqueduct. Ben Abdelmalek Stadium. Nearby is the Roman city of Tiddis and the megalithic monuments and burial grounds at Djebel Mazala Salluste. Constantine is also known for its universities: Mentouri, designed by the Brazilian architect Oscar Niemeyer., Zerzara, and The Islamic University of El amir Abdelkader, Constantine will have another huge University town under construction in the (nouvelle ville). (1)

Accommodation in Constantine is a big deal due to the lack of valable hotels in Constantine. There are only two hotels in Constantine that are valable to some extent. One of the hotels is the 'Cirta Hotel'. This hotel is regularly visited by bulk of tourists. The other hotel in Constantine is the 'Panoramic Hotel'. This hotel is graded 4 stars hotel.

6.2.2.2. General background:

The Panoramic hotel is a four stars urban hotel. The hotel is situated in the central part of the city of Constantine. The hotel is just 9 kilometers far from Mohamed Boudiaf Airport. The local train station is also within few kilometers with several adjacent bus routes to the city centre of Constantine. This hotel overlooks a panoramic view to the city of Constantine. The hotel attracts the visitors for its strategic location close to the city center. Panoramic Hotel in Constantine is close by the major local attractions like, Ben-Badis Mosque, Palace of Ahmed Bey and the Casbah. Panoramic Hotel is one of the frequented Accommodations in Constantine.

Figure N° 6.6

The Panoramic hotel a general view

Source: the author 2008

6.2.2.3. Accommodation in Panoramic Hotel:

Panoramic Hotel offers different types of bedrooms. Users can select from the different categories of room. Types and number of bedrooms provided in Panoramic hotel are shown in table below :

Table N°6.1

Number of bedrooms by types of bedrooms in Panoramic hotel

Types of Room:	Number of bedrooms
double room	11
twin bedroom	55
Suite	06
Total	72

Source: Panoramic hotel 2008

Room Facilities:

- Air conditioning
- Color television with satellite channels
- Telephone
- Room service

6.2.2.4. The brief:

The Panoramic hotel has been designed to serve the need of users , either for pleasure, business and pleasure or business alone. (4) It has been planned to provide a comfortable   hotel for short or long stays. The Panoramic hotel has to provide a number of facilities suited to the hotel's capacity such as bar, cafeteria, a restaurant and conference facilities. All bedrooms   have their own private bathrooms .

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Figure N° 6.7

Parking of the Panoramic hotel

<u>Source</u>: the author 2008

6.2.2.5. A description:

The average bed occupancy in the Panoramic hotel is about 80%. According to the hotels' manager, this rate is very satisfactory.(5)

The Panoramic hotel comprises six storeys plus the ground floor and four basement floors. The ground floor comprises the reception desk, a living area plus a bar service. There are two stairs cases. The first one is situated near the entrance. The second one is situated inside the living area. To use this stair case, users have to pass through the living area and the bar. To reach the bedrooms area , users have to pass through the reception hall and can either use the lift or the stairs. All bedrooms are located from the first to the sixth floor. Each floor comprises 11 bedrooms, one suite and one office. All bedrooms are equipped with

private bathrooms and colour television. They are all centrally heated and air conditioned. In addition, the hotel offers a range of facilities for

both the business and holiday visitors. Facilities such as restaurant, services and administration are located in the basement floors. The first basement floor comprises principally a restaurant and two living areas in addition to some services areas. The second basement comprises the kitchen and its annexe areas. The third basement comprises the administration area. The fourth basement comprises the services areas such as dinning area for the hotels' personnel and stock areas. For added convenience, there is an hotel shop on the ground floor which sells news papers, books and magazines.

Figure N°6.8

The Panoramic hotel –Ground Floor Plan-
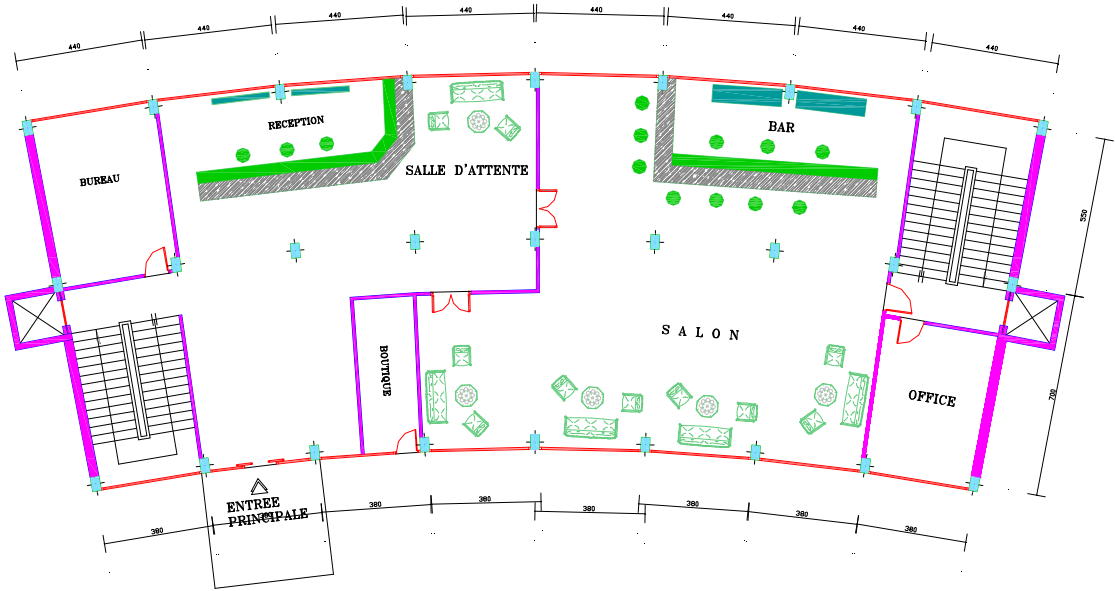
Source : the author 2008

Figure N°6.9

The Panoramic hotel –1st to 6th floor Plan-
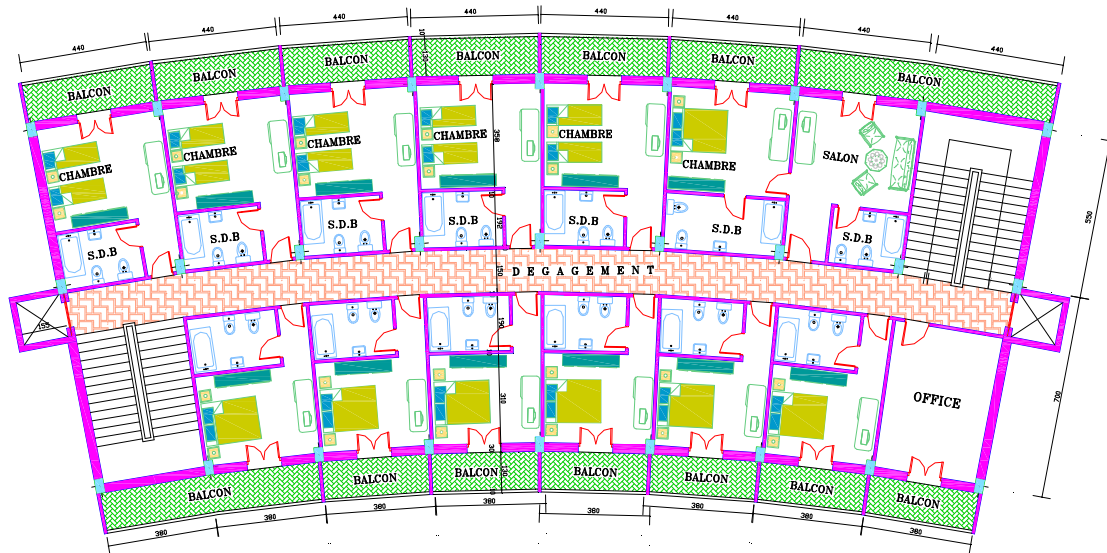
6.3. Summary:

According to the brief, the two hotels were designed to serve the needs of users either for business or for holiday purposes. In both hotels, bedrooms were not designed to cope with the fluctuation in the demand from different types of users. Accordingly, no studio rooms are provided in both hotels. The types of bedrooms that are provided in both hotels are: the twin bedded room, the single room and suites. The potentialities in use and the inclusion of design recommendations in the two hotels will be investigated in the next chapter.

6.4. References:

1**.** Constantine Official website. Internet. (2008)

2. Manager of the Arc en ciel hotel. October,2006.

3. Ibid.

4. Manager of the Panoramic hotel, March, 2007.

5. Ibid.

CHAPTER SEVEN

MEASURING THE INCLUSION OF
RECOMMENDATIONS IN THE SAMPLE

7.1. Introduction:

The main aim of this chapter is to compare the recommended characteristics outlined in chapter four, with the actual features of the building in the sample, in order to identify the level   to   which   such recommendations have been incorporated. This will provide a basis for   an assessment of the building   measured against the recommended features   and the extent to which conformation   with the   recommendation correlates   with the empirical   data related to the success or satisfaction with the building. The methods   used to measure the   extent of incorporation   of recommendations in   the   sample building were   given   in chapter five. This chapter   outlines   detailed comparison between the two hotels   and the recommendations given in chapter four.

7.2. Cheking the recommendations in   the - Arc en ciel hotel -:

7.2.1. Planning considerations:

The main planning factors that were seen to be the most affecting variables on users satisfaction were outlined in chapter two. These are:

7.2.1.1. Location and access:

 The main recommendations to be considered by the operator are:

-Ease of access ,absence of noise and pollution.

-Proximity to main travel routes (accessibility).

-Proximity to tourist and recreational attractions and shopping facilities.

-Proximity to population centre.

-Location in relation to the transport and other amenities.

The Arc en Ciel hotel:

The Arc en ciel hotel is located about 5 minutes from the city centre. Bus services are available from the main road. The main entrance to the hotel was easily recognisable by people living in the city, though it might be difficult for the strangers, or first time users , using their cars to gain access to the hotel because of the main entrance's location in a secondary street. Therefore, the Arc en Ciel hotel does not include the recommendations relating to the ease of access from the main route to the building.

Figure N°7.1

Access to the Arc en ciel hotel from the main route

Source: the author 2008

-Ease of access from the car park to the hotel:

It was recommended that the parking should be either directly connected or by means of covered walkway from the car park to the hotel to shelter users from bad weather. Again, good sign posting and illumination , to clearly identify routes to and from the car park and reception lobby, are required.

The Arc en Ciel hotel:

The Arc en Ciel does have its own car park, and it is directly connected with the building. However, there is no covered walkway from the parking to the hotel. Thought the sign position identifying the hotel from the main route, the access is not really adequate and need to be reconsidered . Sign posting illumination to clearly identify the access of the hotel from the car park is not necessary because the parking is directly connected to the main entrance hall . Therefore, the Arc en Ciel hotel does not include the recommendations relating to the ease of from the parking to the building.

Figure N°7.2

External appearance and landscape of the arc en ciel hotel

Source: the author 2008

7.2.2. Bedroom types:

The types of bedrooms most used in urban hotels and which may provide further potential for flexibility in use were identified in chapter one and are grouped as follows:

- Twin bedded room
- Double room
- Studio room
- Suite

These types were examined in the ARC EN CIEL hotel as follows:

7.2.2.1. The twin bedded room:

Different potentialities in use of the twin bedded room are:

i.   The twin bedded room should normally be used as a twin bedded room and as a double bedroom by using two single beds side by side, linking them by a continuous   headboard. Also, the twin bedded room can be used as a family room   by providing communicating doors between adjoining bedrooms.

The Arc en ciel hotel:

ii.   The Arc en ciel hotel provides this type   of bedroom but   there is no potential for it to be used as a double room   because of the bedside between the two beds. On the other hand, it cannot be combined with an adjacent room to be used as a family room because   there is no communicating doors between bedrooms. Accordingly, the twin bedded room in the Arc en ciel hotel does not include all the recommendations regarding   different potentialities in use of such type of bedroom.

Figure N°7.3

twin bedded room

Source: the author 2008

7.2.2.2.The studio room:

Different potentialities in use of the studio room are:

i. A studio room should serve as a sitting room or bedroom. It should contain a bed that can be folded into a wall to provide additional space so that it can be used as a meeting or a sitting room. It should have extra storage space to allow changes in use during the day or during the night.

The Arc en ciel hotel:

ii. The ARC EN CIEL hotel does not provide this type of bedrooms. When the manager was asked about the reason, he said that when the hotel was built the objectives were just to provide

comfortable bedrooms for users without planning for changes that might occur in the future since the was no market research has been done. He said he wishes now that he has this type of bedroom because there is a great demand for small meeting room for business people and it would have been very useful for him to have some adaptable studio rooms. The main advantage of providing adaptable bedrooms is that they can be let twice; as a meeting room during the day time and as a bedroom at night.

7.2.2.3. Double room:

Different potentialities in use of the studio room are:

i.   A double room is a room with one large bed for two people. It can also be let for a single person. The main disadvantage of providing double room for single use is the waste of space and a lower occupancy space ratio and in turn affect the revenue for the operator.

The Arc en ciel hotel:

ii.   The Arc en ciel hotel does provide double room which can also be let as a single bedrooms but cannot be let as a family room because there is no communicating doors between the bedrooms. Accordingly, the double room in the Arc en ciel hotel does not include all the recommendations regarding different potentialities in use of such type of bedroom.

Figure N°7.4

Double bedroom

Source: the author 2008

7.2.2.4. Suite:

Different potentialities in use of suites are:

i.   Suites can be of different   types. The most common suites that can be found in urban hotels are:

A sitting room connected with one or   more   bedrooms. This is called a 'junior suite'.

A suite   may contain some   kitchen   facilities to form a self catering   unit for the   client. This type   of suite is called 'efficiency suite'.

By providing communicating doors between bedrooms. In that case one room can be used as   a bedroom   and the other room as a sitting room.

The living room should contain a hide-bed acting as a sofa , which opens into twin beds. For more flexibility in use, the two bedrooms should have a separate access with the corridor.

The Arc en ciel hotel:

ii.   The ARC EN CIEL hotel provides one type of suite. But, it is not a 'junior suite' nor an 'efficiency suite'. The suite in the ARC EN CIEL hotel can be described as a two bedrooms related with a corridor. One room can be used as a bedroom, the other as a sitting room. In the case where there is no demand for such suite, it remains unoccupied. Accordingly, suite in the Arc en ciel hotel does not include all the recommendations regarding different potentialities in use of such type of bedroom.

Figure N°7.5

The sitting room of a suite in the Arc en Ciel hotel

Source: the author 2008

7.2.3. Design recommendations:

Design recommendations outlined in chapter four were divided into two main groups:

-Changeable characteristics

-Unchangeable characteristics

7.2.3.1.Changeable characteristics:

These are closely related to bedroom adaptability and are grouped under five main headings:

- The size

- Openings

- Furniture

- Storage spaces

- Equipment

These recommendations have been checked in the ARC EN CIEL hotel as follows:

a. Size:

i. The standard size recommended to allow change in use and which is not affected by the bedroom type is 3.66m by 4.8m .

ii. The ARC EN CIEL hotel provides one type of bedroom size which is 4.5m by 3.8m. This size is used for both the double room and the twin bedded room. Compared with the recommended standard size, we can say that the width of bedroom in the arc en ciel hotel is less than the recommended width of the standard size. On the other hand, the length in the Arc en Ciel hotel more than the length in the recommended standard size. Accordingly, it questionable whether or not the bedroom in the Arc en Ciel hotel allow adaptability and changes.

b. Openings:

i. It was recommended that communicating doors should be introduced if the twin bedded room or the double room is to be used as a family unit or if required as a suite.

ii. In the Arc en Ciel hotel there is no communicating doors between bedroom.

c. Furniture:

i. The recommendations related to furniture were outlined in chapter three.

   -The two beds should be able to be linked side by side using a continuous head board.

   -The beds should run on castors to facilitate movement.
   -The bed should be capable of being folded into a wall to provide additional space during the day time to allow the room to be used for other activities.
   -The sitting room should contain a hide-a-bed acting as a sofa, which will open into either a twin or double bed.

The Arc en ciel hotel:

ii. The arc en Ciel hotel cannot be used as a double room because of the bedside between the two beds.
   The beds in the Arc en Ciel hotel are fixed furniture and have got no castors.
   Since there is no studio room in the Arc en Ciel hotel , there is no a hide-a-bed acting as a sofa nor folding beds.

d. Storage spaces:

i. The recommendations related to storage given in chapter three are mainly related to studio room.

The Arc en ciel hotel:

ii. Because the Arc en Ciel hotel does not provide this type of bedrooms, no storage spaces are provided in any room.

e. **Equipment:**

i. The recommendations related to equipment given in chapter three are mainly related to studio room.

The Arc en ciel hotel:

ii. Because the Arc en Ciel hotel does not provide this type of bedrooms, no specific equipment are provided in any room.

7.2.3.2. Unchangeable characteristics:

This group consists of recommendations to the fixed features or characteristics of the bedrooms irrespective of the activities for which the space is being used.

7.2.3.2.1. Bedroom location and access:

i. It was recommended that bedrooms should be grouped together in a separate block in order to provide an easy and rapid service and maintenance and to reduce management problems.
The bedroom block should have a direct access from the main entrance hall. Access for housekeeping , room service and maintenance should ensure an efficient service without unnecessary disturbance of the users.

The Arc en ciel hotel:

ii. In the Ac en Ciel hotel bedrooms are grouped together above the reception area. To reach the bedroom area, users have to use either the stairs or the lift directly from the main entrance hall as shown in photo below. Accordingly, we can say that the Arc en Ciel hotel include the recommendation relating to location and access.

Figure N°7.6

The Main entrance hall of the Ac en Ciel hotel

7.2.3.2.2. Layout and number of bedrooms per floor:

i.   It was recommended   that in a multi storey hotel construction the layout is   generally.

-A linear plan with bedrooms on both sides of a central corridor or can also be situated on only one side of the corridor.

- The number of bedrooms per floor should be related to   the staff capacity. Regulatory standards   recommends one chambermaid can cope with about six bedrooms in luxury hotels   and up to twenty or more in lower grade hotels.

-The   bedroom area should   be under spaced with ducts which convey soil, waste, and other services.

- The bedrooms usually form the upper structure rising above the base of public areas.

The Arc en ciel hotel:

i. The plan of the Arc en Ciel hotel is a linear plan with bedrooms on both sides of a central corridor as shown on the photo below. The arc en Ciel has got 14 bedrooms per floor. One chambermaid can cope with about 7 bedrooms. The bedroom area in the Arc en Ciel hotel is under spaced with ducts which convey soil, waste, and other services. Finally the bedroom bloc form the upper structure rising above the base of public areas. Accordingly, we can conclude that the Arc en Ciel hotel include the recommendations relating to layout and number of bedrooms per floor.
- The bedroom unit is composed of a bedroom and a bathroom. It is recommended that the bedroom should have a direct access to the bathroom through the entrance foyer.

-The bedroom unit in the Arc en Ciel hotel is composed of a bedroom and a bathroom. The bedroom is directly related to the bathroom through the entrance foyer. Accordingly, we can conclude that the Arc en Ciel hotel include the recommendations relating to functional relationship with the bathroom.

<u>Figure N°7.7</u>

<u>The corridor between bedrooms in the Arc en Ciel hotel</u>

<u>Source:</u> the author 2008

7.2.3.2.3.<u>Space standards:</u>

i.   The minimum area recommended for different types of bedrooms were outlined in chapter four. These were:

-Single bedroom ……………   5.57 (sq. m)

-Double bedroom ……………   8.36 (sq. m)

-Twin-bedded room …………   10.22 (sq. m)

On the other hand, the recommended bedroom size when there is a need for adaptability is 3.66 m x 4.88 m

The Arc en ciel hotel:

ii.   The Arc en Ciel hotel provides one type of bedroom either for the twin bedded room for double bedroom. The size of the bedroom is

27.10 (sq.m). Accordingly, we can say that the minimum size requested for bedroom in a hotel is included.

7.2.3.2.4.Space requirements:

a. Room width:

i. The recommendations regarding room width requirements were outlined in chapter three. These are:

- Beds, including headboards, need 2.10m in length.

- Beds should positioned at right angles to the party wall.

 The passage between the other party wall and the bed end needs 0.80 m.

- Requirement for furniture such as a dressing table or luggage rack that can be placed against the party wall enabling the circulation space to allow for drawer opening and sitting at the dresser, needs further 0.60 m. This gives a wall to wall clear width of 3.50 m.

The Arc en ciel hotel:

i. The Arc en Ciel hotel include the recommendations regarding the layout of the beds in the bedroom, either in the twin bedded room , the double room or suites. Beds are positioned at right angle to the party wall. Beds in the Arc en Ciel hotel , including headboards are 2.10m in length from the party wall. The passage between the other party wall and the bed end is 1.20 m in the Arc en Ciel hotel. Thus, the Arc en Ciel hotel does not include the recommendation. The distance required to enable the circulation space to allow for drawer opening and sitting at the dresser is 0.50 m. Thus, the Arc en Ciel hotel does not include the recommendation. This gives a wall to wall clear width of 3.80 m. Comparing with the recommended width , we conclude that the width of bedroom in the Arc en Ciel hotel is more than the recommended width.

b. Room length:

i. The recommendations regarding room length were outlined in chapter three.

- For a typical twin bedded room, room length is about 4.50 m . The space taken by the two beds is about 2.0 m wide. Together with the necessary access between beds, this gives a total of about 2.90 m. Adding 1.60 m for sitting and television viewing , this gives a room length of about 4.50 m. As far as the studio room is concerned, this type of bedroom require similar area.

The Arc en ciel hotel:

iii.   In the Arc en Ciel hotel, beds are positioned at right angle to the party wall. The space taken by the two beds is about 2.0 m wide. Including the necessary access of 0.45 m between the two beds, this gives a total of 2.45 m. Adding 1.0 m and 1.05 on both sides of the beds, this gives a room length of about 4.50 m. Comparing with the recommended length , we conclude that the length of bedroom in the Arc en Ciel hotel include the recommended length. On the other hand, as far as the layout of the bedroom is concerned, we can conclude that the layout of furniture in the Arc en Ciel hotel does not include the recommendations regarding space requirement for sitting and television viewing which requires 1.060 m rather than 1.00 m. Accordingly, it is questionable how is users attitude regarding the layout of the bedroom.

c. **Ceiling height:**

i. The minimum recommended ceiling height over the sleeping and living areas is 2.3 m. (33) but the standard stipulated is 2.5 m.
   -The minimum over the entrance foyer (to accommodate ventilation ducts and services) should not be less than 2.00 m.

The Arc en ciel hotel:

ii.   In the Arc en Ciel hotel there is one height for different types of bedrooms. The height used for the double, suite and the twin bedded room is 3.25m. Therefore, the Arc en Ciel hotel does not

include the recommendation regarding ceiling height of bedroom in hotels.

No foyer is provide in the Arc en Ciel hotel to accommodate ventilation ducts and services. Therefore, the Arc en Ciel hotel does not include the recommendation regarding the minimum distance requested for foyer to accommodate ventilation ducts and services in bedrooms .

Table N°7.1

The inclusion of recommendations regarding space requirements in a twin bedded room.

Bedroom type	Recommended size (cm)			Arc en ciel hotel		
	Length	Width	Height	Length	Width	Height
Twin bedroom	450 cm	350 cm	250 cm	450 cm	380 cm	325 cm
Recommendations includes	X			X		
Recommendations not included		X	X		X	X

Source: the author 2008

7.2.3.2.5.Furniture:

i. Furniture , such as beds, clothes cupboards , bedside tables , luggage racks and desks are required and recommended in a bedroom.

In addition, the furniture used may be free standing or built-in. Fitted furniture may help to make the best use of bedroom. Units can be designed to facilitate cleaning by being hung from the wall and clear of the floor.

The Arc en ciel hotel:

  ii.   The Arc en Ciel hotel includes all the furniture recommended in chapter three. The requirements for each type of furniture are as follow:

7.2.3.2.5.1.Beds:

  i.   It was recommended that hotel beds should satisfy a number of requirements like comfort, height, length and width; durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs; appearance (including headboard and end board).

The Arc en ciel hotel:

  ii.   In the Arc en ciel hotel, requirements like height, length and width of the beds can be measured by using metrics. On the other hand, requirements like durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs were measured either through observation for the case of durability and resistance, or dismantling the bed and testing the ease of dismantling and the absence of creaking joints. Other variables like the feeling of comfort, the questionnaire was used instead to measure user attitude concerning bed's comfort.
  Beds in the Arc en Ciel have strong resistant fame. They have been in use since the opening of the hotel and all the furniture in the bedroom looks new. Accordingly, we can say that the hotel include the recommendation regarding durability and resistance to edge damage. On the other hand, concerning the ease of movement , the beds are very heavy and not easy to carry. Therefore , we can say that the hotel does not include the recommendations regarding ease movement and ease of dismantling for removal.

a. Beds size:

i. The recommendations regarding beds size were outlined in chapter three. These are:

-Single bed 90 cm x 190 cm or 100 cm x 200 cm recommended by R. Eldridge.

-100 cm x 200 cm recommended by F . Lawson.

-Double bed size varies considerably. 135 cm x 190 cm and the small king size of 150 cm x 200 cm is recommended by R Eldridge.

-Measurements for new metric beds are: for double 200 cm x 150 cm; single 200 cm x 100 cm. Eldridge recommended that these should always be used in future.

There is a strong case for using 200 cm x 150 cm beds in single rooms so that they can be used as double beds if required.

The Arc en ciel hotel:

ii. In the Arc en Ciel hotel , the size of the single bed is : 200 cm x 90 cm. The size of the double bed is : 200 cm x 180 cm. Comparing these dimensions with the recommended bed sizes, we can see that the length of the twin bedded room and the double room include the recommendations. On the other hand, whereas the width's bed of the single bed include the recommendations, the width of the double bed is more than the recommended standard. All these data were collected in the sample by using metrics.

b. Beds height:

i. The recommendations regarding beds height were outlined in chapter three.

-For appearance, a height of 0.35 m to 0.40 (including mattress) is best.

- For ease of stripping and making , however , the preferred height should be from 0.53 to 0.60 m or even up to 0.70 m .

The Arc en ciel hotel:

iii. In the Arc en Ciel hotel , the height of the single bed and the double bed 0.60 m.

Comparing this height with the recommended bed height, we can conclude that for appearance requirement, the bed height in the Arc en Ciel hotel does not include the recommendations. Whereas for ease of stripping and making requirement , the bed height in the Arc en Ciel hotel include the recommendations.

Table N° 7.2

The inclusion of recommendations regarding bed's size

	Recommended size (cm)			Arc en ciel hotel		
Bed's type	Length	Width	Height	Length	Width	Height
Single bed	190 to 200	90 to 100	35 to 40 53 to 60	200	90	60
Recommendations includes	X	X	X	X	X	X
Recommendations not included						

	Recommended size (cm)			Arc en ciel hotel		
Bed's type	Length	Width	Height	Length	Width	Height
Double bed	190 to 200	135 to 150	35 to 40 53 to 60	200	180	60
Recommendations includes	X		X	X		X
Recommendations not included		X			X	

Source: the author   2008

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i. **Beds layout:** The recommendations regarding beds layout were outlined in chapter three. These are:

-Beds should be positioned at right angles to one of the party walls.

-For a single bedded room , economy in width is gained by putting the bed parallel to the party wall.

-Twin beds are generally separated by a night table to allow a degree of individual privacy.

The Arc en ciel hotel:

ii. In the Arc an Ciel hotel, beds, either in the twin bedded room or the double room, beds are positioned at right angles to one of the party walls. Again, twin beds are separated by a night table. Therefore, beds layout in the Arc en Ciel hotel include the recommendations outlined in chapter three.

Figure N° 7.8

Layout of the twin bedded room in the Arc en Ciel hotel

Source: the author 2008

7.2.3.2.5.2.clothes storage:

i.   The recommendations regarding clothes storage were outlined in chapter three. These are:

-Hanging space can be   provided in a wardrobe or closet , sometimes built into the entrance foyer to the bedroom.

-The length of hanging space varies from a single to a double room .

The recommended length of hanging space is as follow:

-The requirement of hanging space length   for a single bedroom in a modest tariff   is 50 cm.

-The requirement of hanging space length   for a single bedroom in a high tariff   is 90 cm.

-The requirement of hanging space length   for a double bedroom in a modest tariff   is 90 cm.

-The requirement of hanging space length   for a double bedroom in a high tariff   is 120 cm.

The Arc en ciel hotel:

ii.   In the Ac en Ciel hotel,   hanging space is   provided in a wardrobe. Since the Arc en Ciel hotel is a four stars hotel, it can be classified as a high standards hotel and providing high tariff. On the other hand, the wardrobe in the Arc en Ciel hotel is the same in the three types of   bedrooms. The twin bedded room, the double   room, and suites, which means that the hotel does not include the recommendations regarding types of hanging space with regards to different types of   bedrooms.

Regarding the dimensions of the wardrobe   in the sample, the hotel provide a wardrobe's length   of 520 mm. Since the Arc en Ciel hotel can be classified as a high standards hotel, the length provide   does not include the recommendations.

Source: the author 2008

7.2.3.2.5.3.Bedside tables:

i.   The recommendations regarding bedside tables were outlined in chapter three. These are:

-A night table stand should be provided adjacent to each bed space , between beds or on each side of a double bed .

-A bedside table should be large (0.375 m. by 0.45 m)

-Table height must be related to the height of the bed and is usually between 0.60 m-0-.75 m.

-To allow the bed to be swung out for cleaning , the facing corner of the table should be angled.

The Arc en ciel hotel:

ii.   The Arc en Ciel hotel provides two bedside tables on each side
         of a double bed and the suite, and three   bedside tables
         adjacent to each bed space and between beds. Therefore, the arc
         en Ciel hotel include the recommendations regarding to provision
         and the position of   the bedside table in the bedroom. Regarding
         bed side tables dimensions, the Arc   en Ciel hotel   provides one
         type of bedside tables for all types of bedrooms ; these are: 0.40 m
         x 0.40 m . Comparing these dimensions with the recommended
         dimensions, we can conclude that both the width and the length
         of the   bedside tables do not include the recommendations. On
         the other hand, the height of the bedside table in the Arc en Ciel
         hotel which is 0.60 m, include the recommended of the bed side
         table. Concerning facing corner of the table, all bed side tables in
         the Arc en Ciel hotel are angled and therefore include the
         recommendation outlined in chapter three.

Table N°7.3

The inclusion of recommendations regarding bedsides' tables in all types of room.

Bedroom type	Recommended size (cm)			Arc en ciel hotel		
	Length	Width	Height	Length	Width	Height
All types of bedrooms	45 cm	37.5 cm	60 to 75	40	40	60
Recommendations includes			X			X
Recommendations not included	X	X		X	X	

Source: the author

7.2.3.2.5.4.Luggage rack:

i.   One or two luggage rack are recommended in the bedroom. The Arc en Ciel hotel provides one luggage rack . Thus , the Arc en Ciel hotel include the recommendations regarding the provision of one luggage rack in a bedroom. On the other hand, concerning the size of the luggage rack, 0.75 m to 0.90 m long is recommended by Lawson , Fred. The same person recommends a height of 0.45 m for a luggage rack.

The Arc en ciel hotel:

ii.   The Arc en Ciel hotel provides a luggage rack with 0.50 m long, 0.40 in width and 0.60 m height. This means that the length of the luggage rack in the Arc en Ciel hotel is less than the recommended standards, whereas, the height is more than the recommended standards. Therefore, the Arc en Ciel hotel does not include the recommendations.

Table N°7.4

The inclusion of recommendations regarding luggage rack in all types of room.

	Recommended size (cm)			Arc en ciel hotel		
Bedroom type	Length	Width	Height	Length	Width	Height
All types of bedrooms	90 cm	75 cm	45 cm	50 cm	40 cm	60 cm
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

Source: the author   2008

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7.2.3.2.5.5. Writing and dressing tables:

i.   The recommendations regarding writing and dressing tables were outlined in chapter four. These are:

-The dressing table should contain at least one drawer , and a mirror above it.

- A dressing table at least 90 cm long by 45 cm width is required.

- Table heights varies between 70 cm to 75 cm.

- Table and furniture should be uniform in depth, between 4 cm- 5 cm, to avoid wall damage.

The Arc en ciel hotel:

ii.   The Arc en Ciel hotel provides a dressing table that contains one drawer , a mirror above and it can also be used as a writing desk. Concerning the length and the height of the writing and dressing table, the Arc en Ciel hotel provides a writing and dressing tables with 2.48 m long and a height of 0.96m which is more than the recommended standards. Instead of stool, the Arc en Ciel provide a chair with 50 cm in height which is more than the recommended standards. Concerning the width of the table, the Arc en Ciel hotel provides a table with 70 cm in width which is more than the recommended standards. Therefore, all the recommendations regarding the dimensions of the writing and dressing tables are not included in the Arc en Ciel hotel.

Table N°7.5

The inclusion of recommendations regarding writing and dressing tables

Bedroom type	Recommended size (cm)			Arc en ciel hotel		
	Length	Width	Height	Length	Width	Height
All types of bedrooms	90 cm	45 cm	70-75 cm	248 cm	70 cm	96 cm
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

Source: the author 2008

Figure N° 7.10

Writing and dressing table in the Arc en Ciel hotel

Source: the author 2008

7.2.3.2.6.Doors and openings:

i. The recommendation regarding communicating doors between bedrooms are closely related to bedroom flexibility. Since the arc en Ciel hotel does not provide any communicating doors, recommendations regarding communicating cannot be measured in the sample.

As far as the openings are concerned, the recommendations regarding window dimensions in a bedroom are related to structural and room modules. Full width windows provide the best advantage for views.

The Arc en ciel hotel:

ii. Windows in all bedrooms in the Arc an Ciel hotel are not full width windows. They are limited in surface, although the Arc en Ciel hotel presents a very good views. Accordingly, it is questionable how is users attitude regarding the dimension of the window's bedroom.

7.2.3.3. Environmental variables:

In this study, environmental variables will be limited to some recommendations that are closely related to architectural solutions. All technical recommendations would not be concerned in this study, because of lack of tools and materials that should be used to measure and evaluate such variables in the Arc en Ciel hotel. These are:

7.2.2.2.8.1. Sound insulation:

i. The recommendations regarding potential noise problems were outlined in chapter three. Nevertheless, these are some recommendations that are closely related to architectural solutions:

Noise transmission can arise from different sources. It can be either from one area to another within the hotel , or from outside the hotel ,

such as traffic noise of roads and streets. Noise that came from one area to another within the hotel are:

-Doors between communicating rooms should be 45 mm thick.

- Apart from adequate party walls is to separate the areas generating noise from areas which are noise sensitive. The separation of bedrooms from public areas can reduce noise transmission by grouping together the bedrooms in a separate bloc.

Noise that came from out of the hotel can be reduced by:

- Arranging sensitive areas like bedrooms at right angle to the highway.

- Screening them from other areas by walls and banks of trees.
- The use of balconies and recessed or angled windows.

The Arc en ciel hotel:

 iii. In the Arc en ciel hotel, since there is no communication rooms, this later does not include recommendations regarding the thickness of the door between bedrooms. On the other hand, it includes the recommendations regarding grouping together the bedrooms in a separate bloc. All bedrooms in the Arc en Ciel hotel are located above the public area. The Arc en Ciel hotel is oriented parallel to the street not at right angle. Thus, does not include the recommendation. Screening the hotel from other areas like the parking is made by a bank of trees between the parking and the hotel. Thus, the Arc en Ciel includes the recommendations. Also, the Arc en Ciel hotel provides balconies for each bedroom which may reduce noise coming from outside and thus includes recommendations regarding potential noise problems coming from outside the hotel.

7.3. Cheking the recommendations in   the   - Panoramic hotel -:

7.3.1. Planning considerations:

7.3.1.1. Location and access:

    i.   The recommendations regarding planning factors were summarised in (7.2.1.)

The Panoramic hotel:

    ii.   The Panoramic hotel is located in the central part of the city of Constantine. Bus services are available from the main road. The main entrance to the hotel is easily recognisable by users. With regard to ease of access from the main travel route to the hotel, we can conclude that the recommendations are included.

Figure N°7.11

Limited number of parking places in Panoramic hotel

Source: the author 2008

-Ease of access from the car park to the hotel:

i. With regard to ease of access from the car park to the hotel, the Panoramic hotel does not have a car park area. Instead, users can manage to park their cars by using pedestrian area very close to the building. However, there is no covered walkway from the parking to the hotel. Sign posting illumination to clearly identify the access of the hotel from the car park is not necessary because the parking is directly connected to the main entrance hall .

ii. Therefore, according to such data, it seems that the recommendations were included to some extent in the Panoramic hotel. With regard the ease of access from the parking to the main entrance hall, we can conclude that the recommendations are included. On the other hand, with regard to the provision of a car park, covered walkway from the parking to the hotel and the attractiveness of the ground and landscape, we can conclude that the recommendations are not included.

Figure N°7.12

The main access of Panoramic hotel

Source: the author 2008

7.3.2. Bedroom types:

The   types of bedrooms most used in urban hotels and their potentialities in use were identified in chapter one. These types were examined in the Panoramic hotel   as follows:

7.3.2.1. The twin bedded room:

i. The recommendations regarding the potentialities in use of such type of bedroom were summarised in 7.2.2.1.

The Panoramic hotel:

ii. The Panoramic hotel   provides this type of bedroom but there is no potentialities for this type of room   to be used as a double room. First, the twin bedded room provides a built-in furniture. Second, the layout of bedside   table between the two beds does allow the combination of the two beds side by side. However, the twin bedded room can be combined with an adjacent room to be used as a family room by using communicating doors between   bedrooms. Accordingly, the twin bedded room cannot be used as a double room, but can be combined with adjacent room to be used as a family room. Therefore, the potentialities in use of this type of bedroom can only be used to some extent.

Figure N°7.13

twin bedded room in Panoramic hotel

Source: the author 2008

7.2.2.2.　　The studio room:

i.　　The recommendations regarding the potentialities in use of such type of bedroom were summarised in 7.2.2.2.

The Panoramic hotel:

ii.　　The Panoramic hotel does not provide this type of bedrooms. All bedrooms in Panoramic hotel are built-in furniture and cannot be changed to house other activities such as meeting or sitting.

7.3.2.2. The double room:

i.　　The recommendations regarding the potentialities in use of such type of bedroom were summarised in 7.2.2.3.

The Panoramic hotel:

iii. The Panoramic hotel does provide double room which can also be let as a single bedrooms and can also be let as a family room by using communicating doors between the bedrooms. Therefore, this type of bedroom use all its potentialities.

Figure N°7.14

double bedroom in Panoramic hotel

Source: the author 2008

7.2.2.3. **Suite:**

i. The recommendations regarding the potentialities in use of such type of bedroom were summarised in 7.2.2.4.

The Panoramic hotel:

ii. The Panoramic hotel does provide a suite. The suite in the Panoramic hotel can be described as a two bedrooms related with a communicating door. One room can be used as a bedroom, the

other as a sitting room. The bedroom are has no got a separate access with the corridor. If there is no demand for such suite, it remains unoccupied. Therefore, the potentialities in use of this type of bedroom can only be used to some extent.

<u>Figure N°7.15</u>

<u>The sitting room of a suite in the Panoramic hotel</u>

<u>Source</u>: the author 2008

Source: the author 2008

7.2.3. Design recommendations:

The design recommendations outlined in   chapter three were divided into   two main groups:

7.3.3.1.Changeable characteristics:

These are closely related to bedroom flexibility   and have been checked in the Panoramic hotel   as follows:

   a. The size:

      i.   The recommendations regarding the size of bedroom   to   allow change   in use were summarised in 7.2.3.1.

The Panoramic hotel:

    ii.   The Panoramic hotel provides two types of bedroom size; 3.58 m x 4.20 m and 3.44 m x 3.54 m. The first size is used for the twin bedded room, the second one is used for both the double room and the suite. Compared with the recommended standard size, it seems that in both cases the size of bedrooms in the Panoramic hotel is less than the recommended standard size. Accordingly, the size of bedrooms in the Panoramic hotel does not allow change in use as recommended in chapter three.

  b. <u>Openings</u>:

    i.   The recommendations regarding the size of bedroom to allow change in use were summarised in 7.2.3.1.

The Panoramic hotel:

    ii.   The Panoramic hotel provides a number of bedrooms with communicating doors so that they can be combined to be used as a family unit or as a suite if required.

  c. <u>Furniture</u>:

    i.   The recommendations regarding the size of bedroom to allow change in use were summarised in 7.2.3.1.

The Panoramic hotel:

    ii.   All these specific furniture to allow adaptability in use are not provided in the Panoramic hotel.

  d. <u>Storage spaces</u>:

    i.   The recommendations regarding the size of bedroom to allow change in use were summarised in 7.2.3.1.

The Panoramic hotel:

    ii.   Since the Panoramic hotel does not provide this type of bedrooms, no storage spaces are provided in any room.

e. Equipment:

    i.   The recommendations regarding the size of bedroom to allow change in use were summarised in 7.2.3.1.

The Panoramic hotel:

    ii.   Since the Panoramic hotel does not provide this type of bedrooms, no specific equipment are provided in any bedroom. According to such data, we can conclude that the concept of adaptability has not been taken into account in the design of Panoramic hotel.

7.3.3.2.Unchangeable characteristics:

This group consists of recommendations to the fixed features or characteristics of the bedrooms.

7.3.3.2.1. Bedroom location and access:

    i.   The recommendations regarding the location and access of bedroom were summarised in 7.2.3.2.1.

The Panoramic hotel:

    ii.   In the Panoramic hotel bedrooms are grouped together above the reception area. To reach the bedroom area, users have to use either the stairs or the lift directly from the main entrance hall as shown in photo below. Accordingly, we can say that Panoramic hotel includes the recommendations relating to location and access.

Figure N°7.17

The Main entrance hall in Panoramic hotel

Source : the author 2008

7.3.3.2.2. Layout and number of bedrooms per floor:

i.   The recommendations regarding the layout and number of bedrooms per floor were summarised in 7.2.3.2.2.

The Panoramic hotel:

ii.   The plan of the Panoramic hotel is a linear plan with bedrooms on both sides of a central corridor as   shown on the photo below. The Panoramic hotel has got 12   bedrooms per floor. One chambermaid   cope with about 12 bedrooms which is more than the recommended standard. The   bedroom area is under spaced with ducts which convey soil, waste, and other services. Finally the bedroom bloc form the upper structure rising above the base of public areas.   -The

bedroom unit in the Panoramic hotel is composed of a bedroom and a bathroom. The bedroom is directly related to the bathroom through the entrance foyer. Accordingly, we can conclude that, in terms of layout, number of bedrooms per floor and functional relationships with the bathroom, the Panoramic hotel includes the recommendations outlined in chapter four.

Figure N°7.18

The corridor between bedrooms in the Panoramic hotel

Source: the author 2008

7.3.3.2.3. Space requirements:

a. **Room width:**

i. The recommendations regarding room width requirements were summarized in 7.2.3.2.3.

The Panoramic hotel:

ii. The Panoramic hotel include the recommendations regarding the layout of the beds in the bedroom, either in the twin bedded room , the double room or suites. Beds are positioned at right angle to the party wall. Beds , including headboards are 2.00 m in length from the party wall. The passage between the other party wall and the bed end is 2.20 m. The distance required to enable the circulation space to allow for drawer opening and sitting at the dresser is 0.50 m. This gives a wall to wall clear width of 4.90 m. Comparing with the recommended width , we conclude that the width of bedroom in Panoramic hotel is more than the recommended width. Accordingly, it does not include the recommended width of bedroom.

b. Room length:

i. The recommendations regarding room length were summarized in 7.2.3.2.3.

The Panoramic hotel:

ii. In Panoramic hotel, beds are positioned at right angle to the party wall. The space taken by the two beds is about 1.70 m wide. Including the necessary access of 0.50 m between the two beds, this gives a total of 2.20 m. Adding 0.45 m and 0.93 m on both sides of the beds, this gives a room length of about 3.58 m. Comparing with the recommended length , we conclude that the length of bedroom in the Panoramic hotel is less than the recommended standard, and therefore does not include the recommendations. On the other hand, as far as the layout of the bedroom is concerned, we can conclude that the layout of furniture in the Panoramic hotel does not include the recommendations regarding space requirement for sitting and television viewing which requires 1.060 m rather than 0.45 m. Accordingly, it is questionable how is users attitude regarding the layout of the bedroom.

c. Ceiling height:

i.   The recommendations regarding ceiling height room were summarized in 7.2.3.2.3.

The Panoramic hotel:

ii.   The heights of bedrooms in the Panoramic hotel is 2.45 m which is more than the recommended height. Therefore, the Panoramic hotel does not include the recommendation regarding ceiling height of bedroom in hotels.

Table N°7.6

The inclusion of recommendations regarding space requirements in

a twin bedded room.

	Recommended size (cm)			Panoramic hotel		
Bedroom type	Length	Width	Height	Length	Width	Height
Twin bedroom	450 cm	350 cm	250 cm	358 cm	440 cm	245 cm
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

Source: the author   2008

7.3.3.2.4. Furniture:

All types of furniture outlined in chapter three were provided in Panoramic hotel. The inclusion of the requirements for each type of furniture are analyzed as follows:

7.3.3.2.4.1. <u>Beds</u>:

    i.   The recommendations regarding beds' requirements were summarized in 7.2.3.2.4.1.

The Panoramic hotel:

    ii.   To measure the inclusion of such recommendations different methods were used. Requirements like height, length and width of the beds were measured by using metrics. On the other hand, requirements like durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs were measured either through observation for the case of durability and resistance, or dismantling the bed and testing the ease of dismantling and the absence of creaking joints. Other variables like the feeling of comfort, the questionnaire was used instead to measure user attitude concerning bed's comfort.

    Beds in the Panoramic hotel have been changed recently and all the furniture in the bedroom looks new. On the other hand, concerning the ease of movement , the beds are very heavy and not easy to carry. Therefore , recommendations regarding ease movement and ease of dismantling for removal were not included in the hotel

  a. **Beds size:**

    i.   The recommendations regarding beds' size were summarized in 7.2.3.2.4.1.

The Panoramic hotel:

    ii.   In Panoramic hotel , the size of the single bed is : 195 cm x 85 cm. The size of the double bed is : 190 cm x 144 cm. Comparing these dimensions with the recommended new metric beds' sizes, either for single or double bed, we can see that beds' sizes in the Panoramic hotel do not include the recommendations.

b. Beds height:

i. The recommendations regarding beds height were summarized in 7.2.3.2.4.1.

The Panoramic hotel:

ii. In the Panoramic hotel , the height of the single and the double bed are 0.55 m. Comparing this height with the recommended bed height, we can conclude that for appearance requirement, the bed height in the Panoramic hotel does not include the recommendations. Whereas for ease of stripping and making, the beds' height include the recommendations.

Table N°7.7

The inclusion of recommendations in the Panoramic hotel regarding bed's size.

Bed's type	Recommended size (cm)			Panoramic hotel		
	Length	Width	Height	Length	Width	Height
Single bed	200	100	35 to 40 53 to 60	195	85	55
Recommendations includes			X			X
Recommendations not included	X	X		X	X	

Source: the author 2008

	Recommended size (cm)			Panoramic hotel		
Bed's type	Length	Width	Height	Length	Width	Height
Double bed	200	150	35 to 40 53 to 60	190	144	60
Recommendations includes			X			X
Recommendations not included	X	X		X	X	

Source: the author   2008

c. **Beds layout:**

i.   The recommendations regarding beds layout were summarized in 7.2.3.2.4.1.

The Panoramic hotel:

ii.   In the Panoramic hotel, beds, either in the twin bedded room or the double room, beds are positioned at right angles to one of the party walls. Again, twin beds are separated by a night table. Therefore, beds layout in the Panoramic hotel includes the recommendations outlined in chapter four.

Layout of the twin bedded room in Panoramic hotel

<u>Source</u>: the author 2008

7.3.3.2.4.2. clothes storage:

i. The recommendations regarding clothes storage were
summarized in 7.2.3.2.4.2.

The Panoramic hotel:

ii. In the Panoramic hotel,   hanging space is   provided in a
wardrobe. The Panoramic hotel is a four stars hotel, and can
be classified as a high standards hotel. There are three types of
wardrobe sizes provided in the Panoramic hotel with regard to
bedroom types. The twin bedded room provides a clothes storage
with the following dimensions. 140 cm in length, 47 cm in depth, and
190 cm in height. The single room provides a clothes storage with

the following dimensions. 146 cm in length, 50 cm in depth, and 190 cm in height. The suite provides a clothes storage with the following dimensions. 157 cm in length, 50 cm in depth, and 190 cm in height. Comparing such data with the recommended dimensions, we can conclude that, except the depth of the wardrobe provided in the suite which includes the recommendations, all other sizes do not include the recommendations outlined in chapter three.

Figure N°7.20

Clothes storage in a suite in Panoramic hotel

Source: the author 2008

Tables N°7.8

The inclusion of recommendations in the Panoramic hotel regarding clothes storages' sizes in single room

Room type	Recommended size (cm)			Panoramic hotel		
	Length	depth	Height	Length	Depth	Height
Single room	90	55	175	146	50	190
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

Source: the auteur 2008

Tables N° 7.9

The inclusion of recommendations in the Panoramic hotel regarding clothes storages' sizes.

Room type	Recommended size (cm)			Panoramic hotel		
	Length	Depth	Height	Length	Depth	Height
Twin bed	120	55	175	140	47	190
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

Source: the auteur 2008

Tables N°7.10

The inclusion of recommendations in the Panoramic hotel regarding clothes storages' sizes.

	Recommended size (cm)			Panoramic hotel		
Room type	Length	Depth	Height	Length	Depth	Height
Suite	120	55	175	157	50	190
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

Source: the auteur 2008

7.3.3.2.4.3. Bedside tables:

i. The recommendations regarding bedside tables were summarized in 7.2.3.2.4.3.

The Panoramic hotel:

ii. The Panoramic hotel provides two bedside tables on each side of a double bed and the suite. But in the twin bedded room, there is only one bedside table between the two beds. Accordingly, the twin bedded room does not include the recommendations regarding the number of bedside tables that should be provided in the twin bedded room. Regarding bed side tables dimensions, the Panoramic hotel provides two types of bedside tables. The first type provided in the single room and the suite with the following dimensions: 40 cm x 30 cm x 50 cm. The second type provided in the twin bedded room with the following dimensions: 50 cm x 45 cm x 56 cm. Comparing these dimensions with the recommended dimensions, we conclude that the dimensions of bedside tables provided in the Panoramic hotel do not include the

recommendations outlined in chapter three. The comparison between the recommended sizes of bedside tables and the sizes of bedside tables provided in the Panoramic hotel are summarised in table below:

Figure N°7.21

Bedside table in Panoramic hotel

Source: the author 2008

Table N°7.11

The inclusion of recommendations in the Panoramic hotel regarding
bedside tables' sizes in a single room and suite

	Recommended size (cm)			Panoramic hotel		
Room type	Length	Width	Height	Length	Depth	Height
Single room Suite	45 cm	37.5 cm	60-75 cm	40 cm	30 cm	50 cm
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

Source: the author 2008

Table N°7.12

The inclusion of recommendations in the Panoramic hotel regarding
bedside tables' sizes in a twin bedroom

	Recommended size (cm)			Panoramic hotel		
Room type	Length	Width	Height	Length	Depth	Height
Twin bedroom	45 cm	37.5 cm	60-75 cm	50 cm	45 cm	56 cm
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

Source: the author 2008

7.3.3.2.4.4. <u>Luggage rack:</u>

i.   The recommendations regarding luggage rack were summarized in 7.1.3.2.4.4.

The Panoramic hotel:

ii.   The Panoramic hotel provides one luggage rack . Thus, the hotel includes the recommendations regarding the provision of one luggage rack in the bedroom. The sizes of luggage rack provided in Panoramic hotel are: 57 cm x 27 cm by 65 cm in height. This means that both the length and the width of luggage rack in the Panoramic hotel is less than the recommended standards, whereas, the height is more than the recommended standards. Therefore, the Panoramic hotel does not include the recommendations regarding luggage racks' sizes. The comparison between the recommended sizes of luggage rack and the sizes of luggage rack provided in the Panoramic hotel are summarised in table below:

<u>Table N°7.13</u>
<u>The inclusion of recommendations in the Panoramic hotel regarding luggage rack sizes in all types of bedrooms</u>

Room type	Recommended size (cm)			Panoramic hotel		
	Length	Width	Height	Length	Depth	Height
All types	80 cm	45-50 cm	40-45 cm	57 cm	27 cm	65 cm
Recommendations includes						
Recommendations not included	X	X	X	X	X	X

<u>Source:</u> the author 2008

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Figure N°7.22

Luggage rack in Panoramic hotel

Source: the author 2008

7.3.3.2.4.5. Writing and dressing tables.

i.   The recommendations regarding writing and dressing tables were summarized in 7.2.3.2.4.5.

The Panoramic hotel:

ii.   The Panoramic hotel provides a dressing table that contains one drawer , a mirror above and it can also be used as a writing desk. The sizes of writing and dressing table provided in Panoramic hotel are: 130 cm x 40 cm by 66 cm in height. Comparing such data with recommended sizes we conclude that except the width which include the recommendations, the other dimensions do not include the recommendations. The comparison between the recommended sizes of writing and dressing table and the sizes of writing and dressing table provided in the Panoramic hotel are summarised in table below:

Table N°7.14

The inclusion of recommendations in the Panoramic hotel regarding writing and dressing tables' sizes.

Room type	Recommended size (cm)			Panoramic hotel		
	Length	Width	Height	Length	Depth	Height
All types	90 cm	40-45 cm	70-75 cm	130 cm	40 cm	66 cm
Recommendations includes		X			X	
Recommendations not included	X		X	X		X

Source : the author 2008

Figure N°7.23

Writing and dressing table in Panoramic hotel

Source: the author 2008

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7.3.4. Openings:

As far as the openings are concerned, the recommendations regarding window dimensions in a bedroom are related to structural and room modules as well as the climatic conditions. Full width windows provide the best advantage for views. The windows in all bedrooms in the Panoramic hotel are not full width windows. Nevertheless they provide very good views.

Figure N°7.24

A view from the bedroom in the Panoramic hotel

Source: the author 2088

7.3.5. Environmental variables:

In this study, environmental variables will be limited to some recommendations that are closely related to architectural solutions. All technical recommendations

would not be concerned in this study, because of lack of tools and materials that should be used to measure and evaluate such variables.

7.3.5.1. <u>Sound insulation:</u>

i.   The recommendations regarding potential noise problems were outlined in chapter three and summarized in 7.2.5.1.

The Panoramic hotel:

ii.   Communicating doors in Panoramic hotel are simple doors. On the other hand, noise problems coming from outside the hotel can be reduced by screening the hotel from other areas like the parking using a bank of trees between the parking and the hotel which is not the case in the Panoramic hotel. Also, the Panoramic hotel provides balconies for each bedroom which may reduce noise coming from outside. So, the recommendations regarding reducing noise transmission from inside or outside the hotel are included to some extent.

7.4. <u>Summary and conclusion:</u>

The comparison between the two hotels in terms of level of inclusion of recommendations are summarized in table below:

Recommendations	Arc en ciel hotel		Panoramic hotel	
	Included	Not included	Included	Not included
Location and access		x	x	
Ease of access from parking to hotel		x	x	
Potentialities in use of bedrooms:				
-Twin bedroom		x	To some ext	
-Studio room		not provided		Not provided
-Double room		x	x	
-Suite		x	To some ext	
Space characteristics:				
1.Changeable characteristics				
-Size		x		x
-Openings		x		x
-Furniture		not provided		not provided
-Storage spaces		not provided		not provided
-Equipement		not provided		not provided
2.Unchangeable characteristics				
-Location and access	x		x	
-Layout and number of bedrooms	x		x	
-Relation with bathroom	x		x	
Space requirements:				
-Room width		x		x
-Rom length	x			x
-Room height		x		x
Furniture:				
-Beds size	x			x
-Beds height	x		x	
-Beds layout	x		x	
Cloths storage				
-Size		x		x
Bedside tables:				
-Width		x		x
-Length		x		x
-Height	x			x
Luggage rack:				
-Size		x		x
Writing and dressing table:				
-Length				x
-Width		x		x
-Height		x		x
		x		
Doors and openings		x		x
Number of recommendations included and not included	8	17	10	15

According to this table, we can conclude that the Panoramic hotel includes more recommendations than the Arc en ciel hotel and theoretically, should be more performing than the Arc en ciel hotel. In the next chapter, users attitudes will be measured in the two hotels in order to assess their satisfaction or unsatisfaction with the space.

7.5. References:

1. Interviews with the manager of the Arc en Ciel hotel. October 2006.

2. Ibid.

3. Interviews with the manager of the Panoramic hotel. March, 2007.

CHAPTER EIGHT

MEASURING USER ATTITUDES

8. 1. Introduction:

In chapter seven, the Arc en Ciel hotel and 'Panoramic' hotel were examined and the recommendations included in the two hotels were identified. It was assumed , as stated earlier in the first chapter, that meeting these recommendations and the inclusion of the features recommended promotes users satisfaction and leads to a successful space in use. Accordingly, the higher the level of inclusion the more of these features included the more successful the building should be, and the more suitable the building should be in meeting the needs of functions or activities in the space.

This chapter describes how the level of success of the building was measured by measuring the users' attitudes and their reactions towards the suitability of bedrooms in the Arc en ciel hotel and 'Panoramic' hotel , their feeling of comfort and their satisfaction with the spaces concerned in this study.

Two types of users were interviewed or completed questionnaire:

-Users of the two hotels were asked for their opinion of the suitability of the specific features of the bedrooms and their feeling of comfort in term of location of the building and access, the quality and layout of furniture, visual quality and appearance. They were also asked about the factors that may affect their choice of the hotel and to assess their attitude towards these factors. Finally, it was necessary to assess their satisfaction of the hotel in general, and to state the main problems or the main satisfactory points in bedrooms by the use of questionnaires.

-The chambermaid were also asked to indicate how satisfactory the bedrooms were in meeting their needs, their satisfaction with the bedrooms , and the main problems they experienced with bedrooms. They said that one chambermaid cope with seven bedrooms and are satisfied when accomplishing their job.

So, as reported in this chapter, the views of users was first analyzed and a conclusion about the suitability of each of the features were drawn.

8.2. Measuring users attitudes in the 'Arc en ciel' hotel:

8.2.1. Types of users making use of the Arc en Ciel hotel:

In this period of the year (November), the case study revealed that 100% of users that have been asked or completed questionnaire were staying in the Arc en Ciel for business reasons.

8.2.2. Factors affecting the choice of the hotel:

Users of the Arc en Ciel hotel have been asked to state their attitude towards the factors that have affected their choice of the hotel. Accordingly, five factors were proposed to users of the Arc en Ciel hotel in order to see which of them is the most influencing factors when users choose their hotel; and then assess the suitability of each factor in the Arc en ciel hotel. These are:

-The location of the hotel

-The image

-The price

-The quality of the service provided

-The quality of architecture

-The quality of bedrooms

8.2.2.1. The location:

The location of the hotel was seen to be the most important factor affecting operator satisfaction and the success of the hotel (see chapter three). 88% of users thought that location is an important factor influencing their choice of any hotel in general. Only 12% thought they were not affected by the location of the hotel. In the 'Arc en ciel' hotel, 55 % of users were satisfied about the location of the hotel. 45% were not satisfied about the location of the Arc en ciel hotel. Accordingly, hotels'

location seems to be an important factor and should be considered by the operator. Also, the location of the Arc en ciel hotel seems to be suitable since the majority of users were satisfied about the hotels' location.

Figure N°8.1

Users attitude regarding the importance of hotels' location

Users attitudes	Percent%
Satisfied	55%
Not satisfied	45%

55% satisfied   45% not satisfied
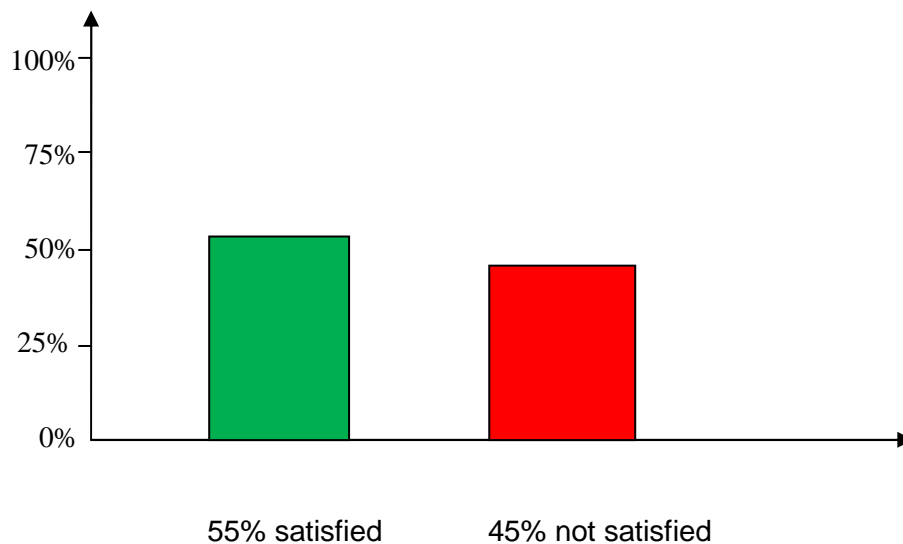
Source: the author 2008

8.2.2.2. The image:

The image of the hotel was seen to be an important factor affecting users attitudes when choosing their hotel (see chapter three). 75% of users thought that they were not affected by the image when choosing the hotel in general. 25 % of them though that the image of the hotel affect to some extents their choice of the hotel. Regarding users attitudes towards the image of the Arc en ciel hotel, 99 % of users thought that the image of the hotel did not affect their attitude when choosing the hotel. Only 01 % of users

thought that that the image of the hotel has influenced to some extent their choice of the hotel. Accordingly, it seems that the image of the hotel cannot be considered as an important factor influencing the choice of the hotel.

Figure N°8.2

Users attitude regarding the importance of the hotel image

Users attitudes	Percent%
Important	01%
Not important	99%

01% important   99% not important
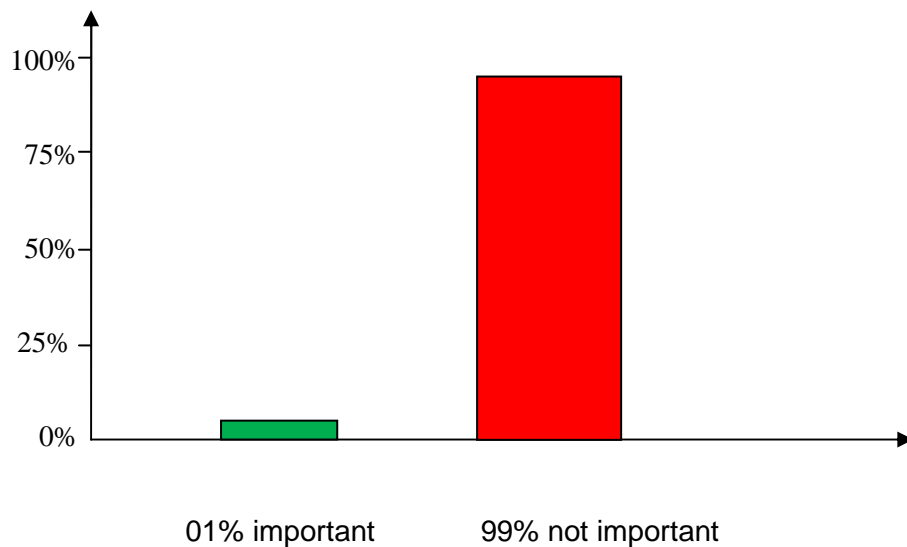
Source: the author 2008

8.2.2.3. The price:

Here the operators' objective is to provide the required level and quality of service, at a price which reflect the quality of service provided. Although most users are price conscious when choosing their hotel, 72% of users thought that they were not affected by the price of the hotel when choosing their hotel in general. Only 28% thought that the price affect to

some extent their choice of the hotel. On the other hand, 42 % of users are
not satisfied with the proposed price in the Arc en ciel hotel. They thought that
the price does not reflect the level and   quality of services provided. 58% of
them were satisfied. Accordingly, the price cannot be considered as an
important factor influencing users decisions when choosing their hotel in
general. However, it seems that the proposed price in the Arc en ciel hotel
is suitable according to its users.

Figure N°8.3

Users attitude regarding the importance of the price

 in   choosing their hotel

Users attitudes	Percent%
Satisfied	58%
Not satisfied	42%

58% satisfied   42% not satisfied
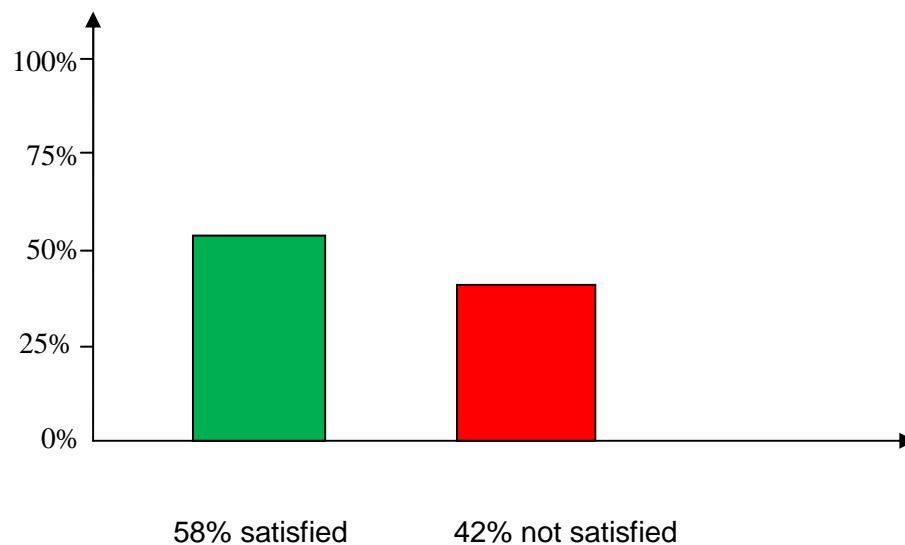
Source: the author 2008

8.2.2.4. The quality of service provided:

The quality of service provided in the hotel seems to be an important
factor   influencing   users when choosing their hotel. 75 % of users thought

that the quality of service provided seems to be an important factor influencing their choice of the hotel in general. 25% of them thought that the quality of service is not considered as a determining factor when choosing their hotel. The quality of service provided in the arc en ciel hotel seems to be the most influencing factor for users when choosing the hotel. 85 % of users were satisfied about the quality of service provided in the Arc en Ciel hotel. Only 15% were not satisfied. According to such data, it seems that the quality of service in a hotel should be considered as an important factor influencing user decision when choosing their hotel. Again, the quality of service provided in the Arc en ciel hotel seems to be suitable according to users opinion.

Figure N°8.4

Users attitude regarding the importance of the quality

of service provided in choosing their hotel

Users attitudes	Percent%
Satisfied	85%
Not satisfied	15%
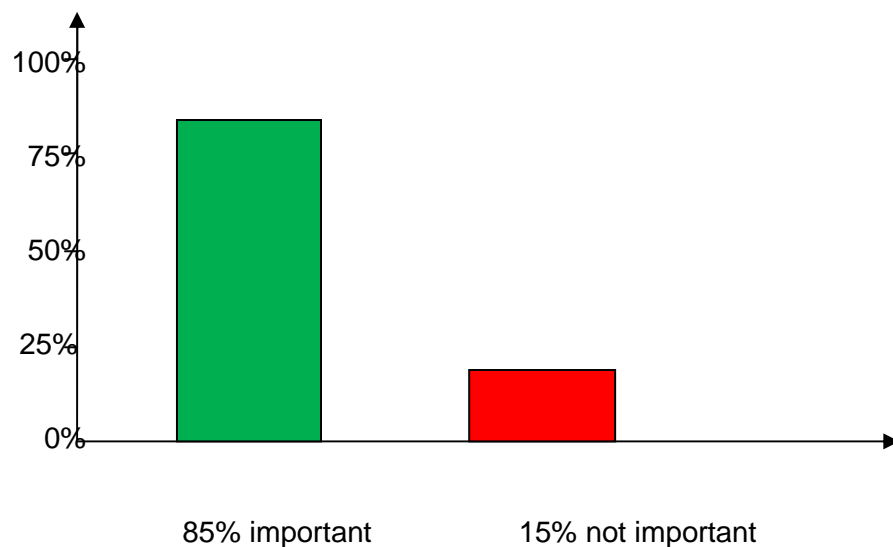
Source: the author 2008

8.2.2.5. The architectural quality of bedrooms:

It was stated in chapter four that the quality of bedrooms seems to be the main business of a hotel. It was also argued that the most important facilities and those likely to influence the users' decision on whether to return are the sleeping facilities. The case study revealed that, 95% of users thought that the quality of bedrooms provided seems to be an important factor influencing their choice of their hotel in general. Only 5% thought that the quality of bedrooms cannot be considered as a determining factor affecting their choice of their hotel. Regarding the quality of bedrooms in the Arc en ciel hotel, 33% of users were not satisfied about the bedrooms. 67% of them were satisfied. According to such data, it seems that the quality of bedrooms in a hotel should be considered as an important factor influencing users decisions when choosing their hotel. Again, the quality of bedrooms provided in the Arc en ciel hotel seems to be suitable since the majority of users were satisfied.

Figure N°8.5

Users attitude regarding the importance of bedroom quality

in choosing their hotel

Users attitudes	Percent%
Satisfied	67%
Not satisfied	33%

67% satisfied   33% not satisfied
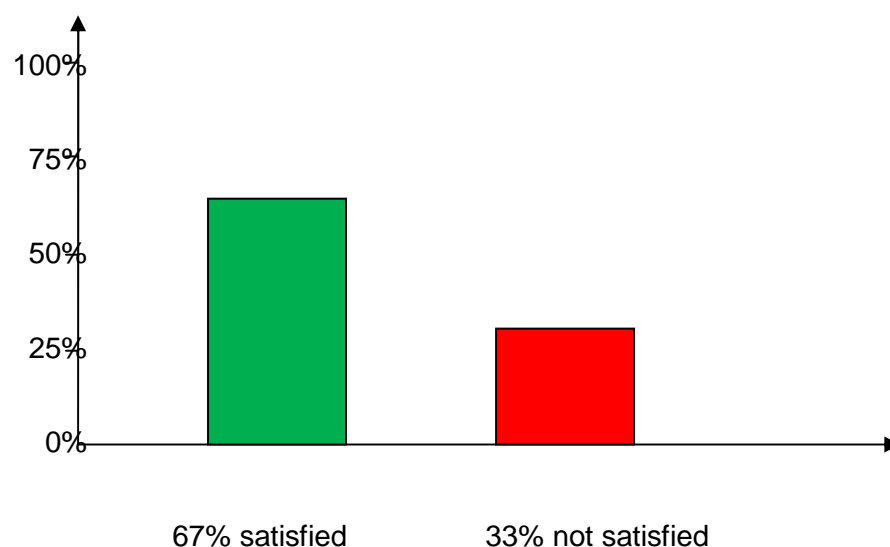
Source: the author 2008

i. **Ease of access and adequacy of car parking:**

In the Arc en Ciel hotel 75% of users thought that the location and access of the hotel and its proximity to the main travel route was easy. Only 25% thought that the access from the main travel route to the hotel was difficult. Therefore, these figures indicate that the Arc en Ciel hotel in term of location and proximity to main travel routes was satisfactory and a high percentage of people thought that it was good.

Figure N°8.6

Users attitude regarding ease of access

from the main travel route to the hotel

Users attitudes	Percent%
Easy	75%
Not easy	25%
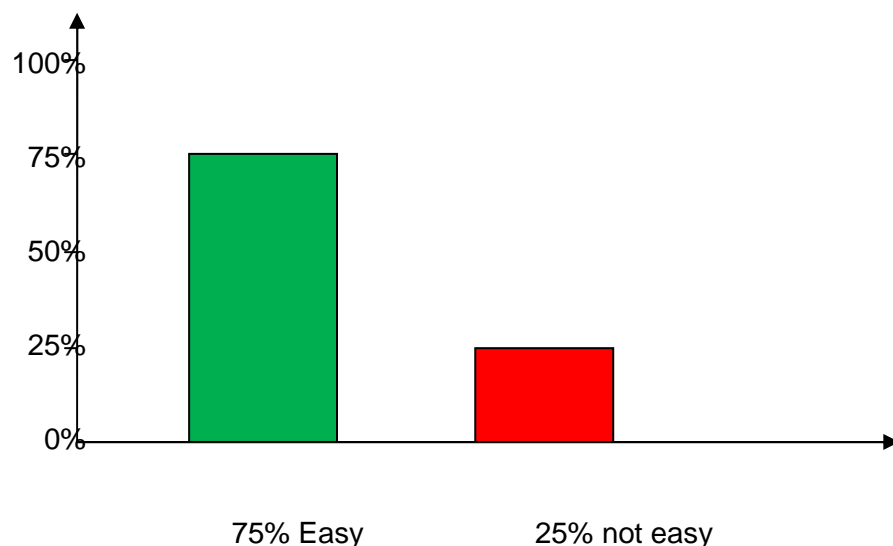
75% Easy   25% not easy

Source: the author 2008

ii. **Ease of access from the car park to the hotel:**

Regarding ease of access from the ca park to the hotel, users were asked about what they thought about the ease of finding the main entrance from the car park. 95% of users thought that the access from the main entrance to the car park was easy. Only 5% of users thought that finding the main entrance from the car park was not easy. 85% of users were not satisfied about the relation between the parking and the main entrance of the hotel. They argued that the entrance should be directly connected by means of covered walkway to shelter users from bad weather. Therefore, from these figures, it seems that the hotel was satisfactory in general in terms of ease of access from the parking to the main entrance of the hotel, and very bad or not suitable in terms of covered walkway between the parking and the main entrance of the hotel.

Figure N°8.7

Users attitude regarding ease of access from the car park to the hotel

Users attitudes	Percent%
Easy	95%
Not easy	05%

95% Easy   5% not easy

Source: the author 2008

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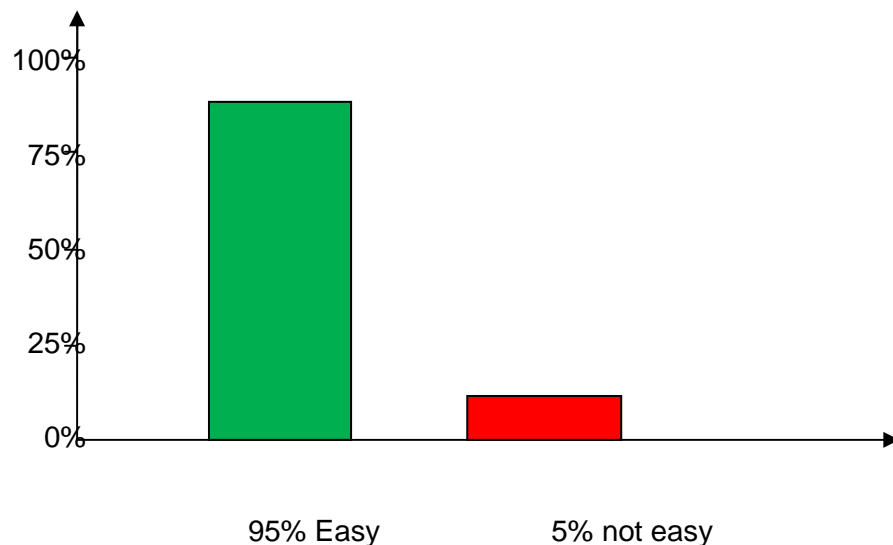
iii. **Ease of access from the main entrance hotel to the bedroom bloc:**

Regarding ease of access from the main entrance hall of the hotel to bedroom area, 98% of users thought that access to the bedroom area from the main entrance hall was easy. Only 2% of users find it not easy. Therefore, in general, and from these figures, it seems that the Arc en ciel hotel is satisfactory in terms of ease of access from the main entrance of the hotel to the bedroom bloc.

Figure N°8.8

Users attitude regarding Ease of access

from the main entrance hotel to the bedroom bloc

Users attitudes	Percent%
Easy	98%
Not easy	02%

98% Easy   2% not easy
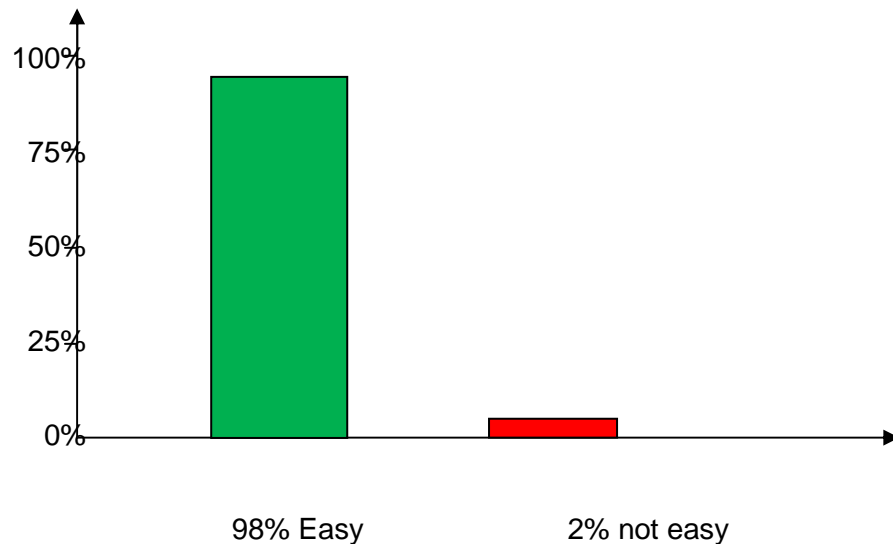
Source: the author 2008

8.2.4. Design variables:

To assess the suitability of space variables, the writer has asked first, a general question about which of the related variables affects more users

attitudes. Second, what users though about these variables; whether his is satisfied or not. These questions were related to the following variables:

- Bedroom orientation
- Bedroom layout
- Space requirement
- Furniture
- Natural daylights
- Artificial lights
- Thermal comfort
- Acoustic comfort
- The quality of materials
- The color of the bedroom

8.2.4.1. The suitability of bedroom orientation:

Concerning bedroom orientation, the writer objective is to assess first, the importance of bedroom orientation on users when choosing their hotel in general, then assess users attitudes regarding bedroom orientation in the Arc en ciel hotel. Accordingly, 65 % of users thought that bedroom orientation is important when choosing their hotel. Only 35% thought that the orientation of the bedroom is not important. Regarding bedrooms' orientation in the Arc en ciel hotel, 33% of users were not satisfied about bedrooms' orientation. 67% of them were satisfied. According to such data, it seems that bedrooms' orientation should be considered as an important factor influencing users decisions when choosing their hotel. Again, the orientation of bedrooms provided in the Arc en ciel hotel seems to be suitable since the majority of users were satisfied.

Figure N°8.9

Users attitude regarding bedroom orientation

Users attitudes	Percent%
Satisfied	67%
Not satisfied	33%

67% satisfied   33% not satisfied
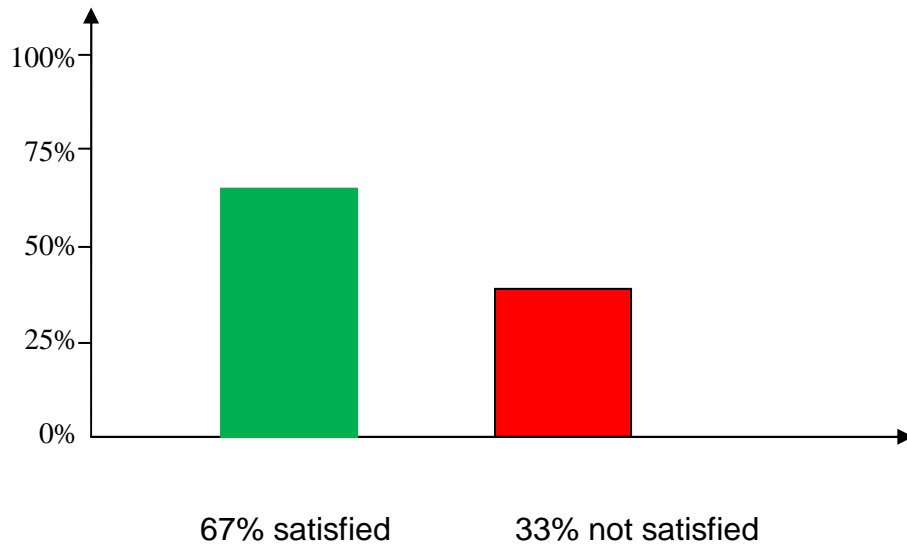
Source: the author 2008

8.2.4.2. The suitability of bedroom layout:

Concerning bedroom layout, users were   asked about their feeling of
comfort in terms layout   of different furniture in the bedroom. 86% of
users were   satisfied with the layout of   bedroom provided   in the Arc en
Ciel hotel. Only 14% of users were not satisfied about the layout of the
bedroom. Accordingly, and from   these figure it   seems that bedroom
layout is   suitable in the Arc en Ciel hotel.

Figure N°8.10

Users attitude regarding beds layout

Users attitudes	Percent%
Satisfied	86%
Not satisfied	14%

86 % satisfied   14 % not satisfied
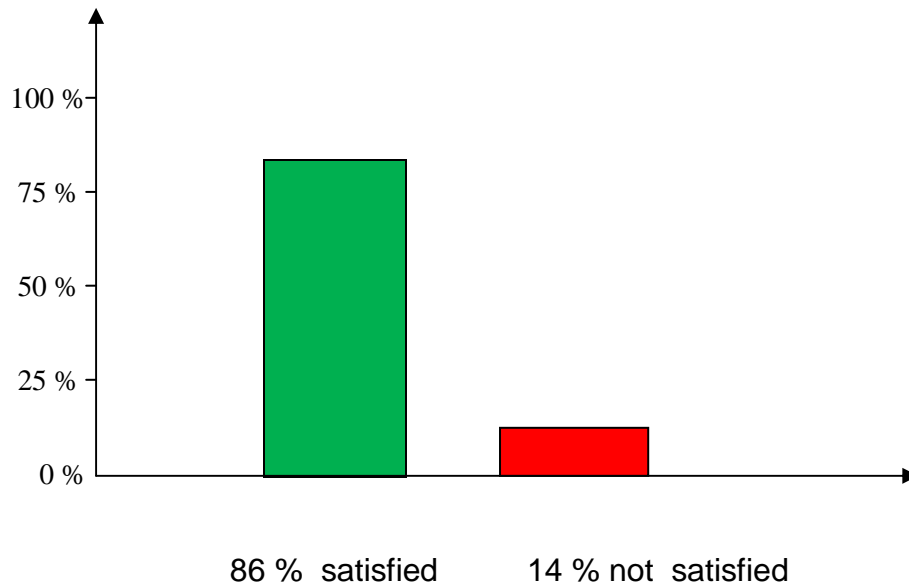
Source: the author 2008

8.2.4.3. The suitability of space   requirement:

The size of bedroom was one of the most affecting factor on user
satisfaction in the Arc en ciel hotel. To assess the suitability of bedroom
size, users   were asked about their opinion and attitude towards the size
provided in the Arc en Ciel hotel. 90% of users thought that bedroom
size is one of the most determining factors when   choosing their hotel.
92% of them were satisfied with the provided size . Only 8 % were not
satisfied with the provided size. Accordingly, and from these figure it
seems that bedroom size is   suitable in the Arc en Ciel hotel.

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Figure N°8.11

Users attitudes regarding space requirements

Users attitudes	Percent%
Satisfied	92%
Not satisfied	08%

92 % satisfied   8 % not satisfied
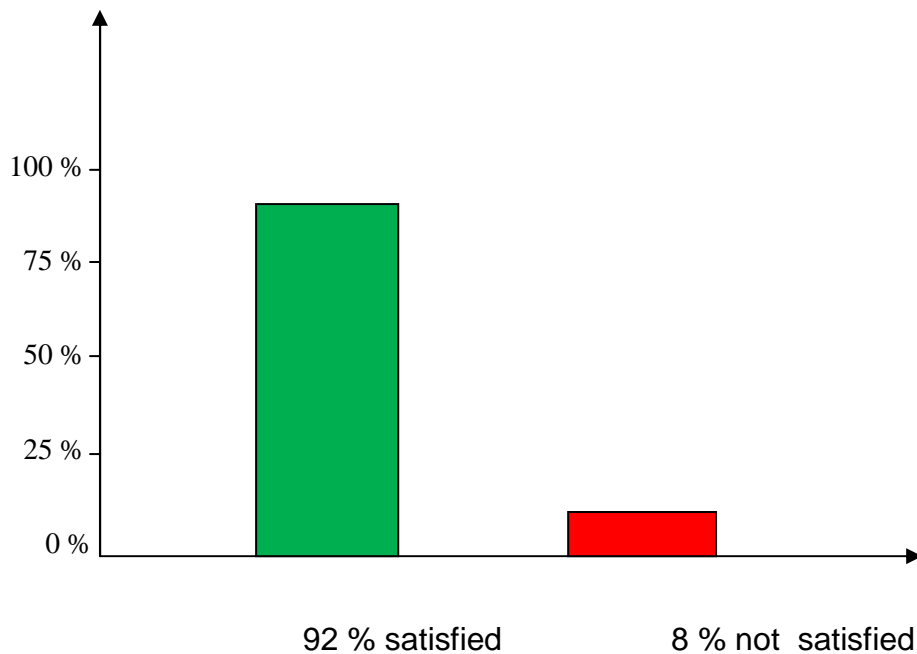
Source: the author 2008

8.2.4.4. The suitability of furniture:

To assess the suitability of bedroom furniture, first, it was   necessary to have a clear   idea of the impact of furniture on user satisfaction. 68 % of users   thought that furniture is an important   factors when   choosing their hotel. 32 % of them thought that furniture is not important   when choosing   their hotel. Second, it was also necessarily to know which type of furniture is most   important for the client. The types of furniture were outlined in chapter four. These   are:

-The beds

-Clothes storage

-Bedsides tables

-Luggage rack

-Writing and dressing tables

8.2.4.4.1. The suitability of beds:

To assess the suitability of beds it was necessarily to measure the feeling of users with regard to beds comfort. Accordingly, users were asked about their feeling of comfort in terms beds materials and size. 77% of users thought that beds provided in the Arc en ciel hotel are comfortable and are satisfied with beds provided in the hotel. 33% of users thought that beds provided in the Arc en ciel hotel are not comfortable and are not satisfied with beds provided in the hotel. Accordingly, and from these figure it seems that beds are suitable in the Arc en Ciel hotel.

Figure N°8.12

Users attitudes regarding beds suitability

Users attitudes	Percent%
Satisfied	77%
Not satisfied	23%

77 % satisfied   23 % not satisfied
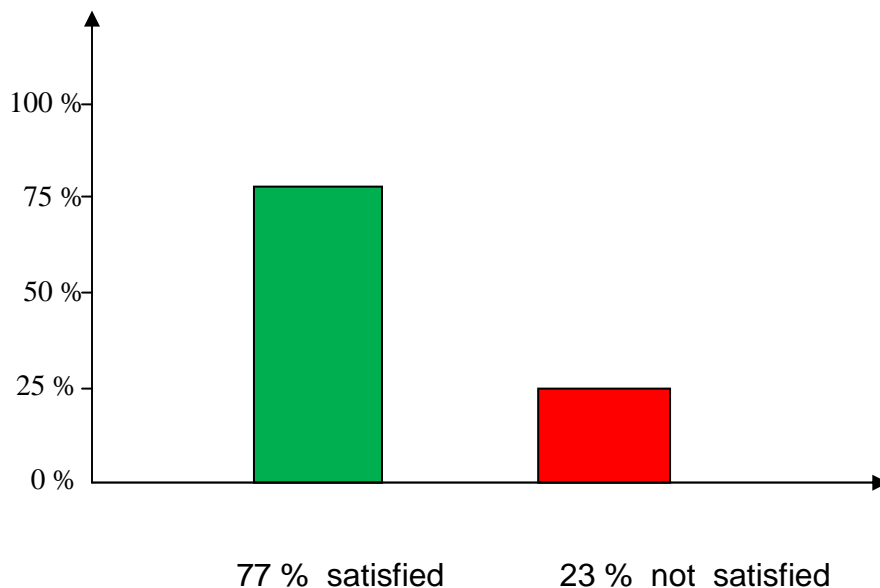
Source: the author 2008

8.2.4.4.2. The suitability of Clothes storage :

To assess the suitability of Clothes storage it was necessarily to
measure the attitudes of users with regard to clothes storage efficiency.
Accordingly, users were asked about their feeling in terms of ease of
use of the clothes storage and its dimensions. 95% of users are satisfied
with clothes storage provided in the hotel. 5 % of users are not satisfied
with clothes storage provided in the hotel. Accordingly, and from these
figure it seems that clothes storage are suitable in the Arc en Ciel
hotel.

Figure N°8.13

Users attitudes regarding clothes storage suitability

Users attitudes	Percent%
Satisfied	95%
Not satisfied	05%

95 % satisfied   5 % not satisfied
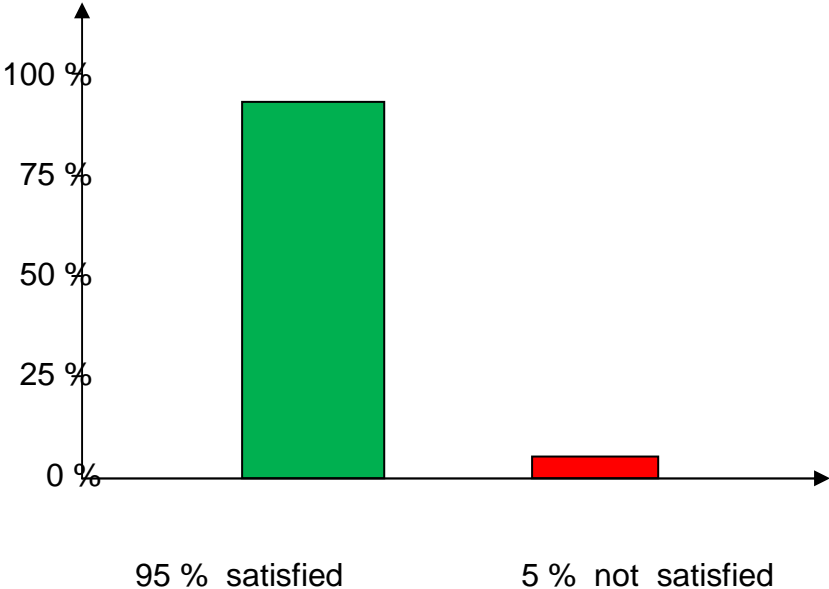
Source: the author 2008

8.2.4.4.3. The suitability of bedsides tables :

To assess the suitability of bedsides tables it was necessarily to measure the attitude of users with regard to bedsides tables efficiency. Accordingly, users were asked about their feeling in terms of ease of use and dimensions. 97% of users are satisfied with the bedside tables provided in the hotel. Only 3 % were not satisfied. Accordingly, and from these figure it seems that bedsides tables are suitable in the Arc en Ciel hotel.

Figure N°8.14

Users attitude regarding bedside tables suitability

Users attitudes	Percent%
Satisfied	97%
Not satisfied	03%

97 % satisfied   3 % not satisfied
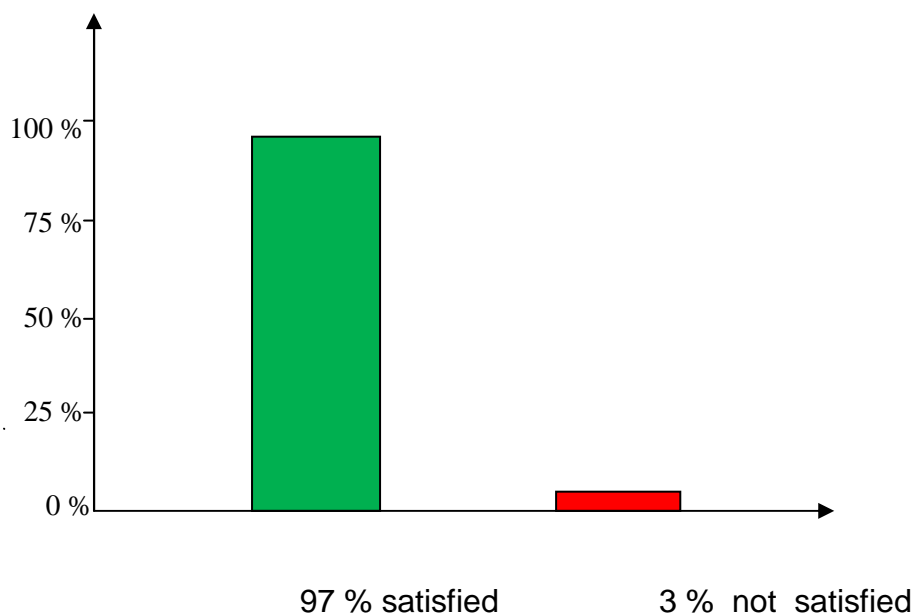
Source: the author 2008

8.2.4.4.4. The suitability of Luggage rack:

To assess the suitability of Luggage rack it was necessarily to measure the attitude of users with regard to bedsides tables efficiency. Accordingly,

users were asked about their feeling in terms of ease of use and dimensions. 32 % of users were satisfied with Luggage rack provided in the hotel. 68 % of users were not satisfied with Luggage rack provided in the hotel. Accordingly, and from these figure it seems that bedsides tables are not suitable in the Arc en Ciel hotel.

Figure N°8.15

users attitude regarding luggage rack suitability

Users attitudes	Percent%
Satisfied	32%
Not satisfied	68%

32 % satisfied   68 % not satisfied
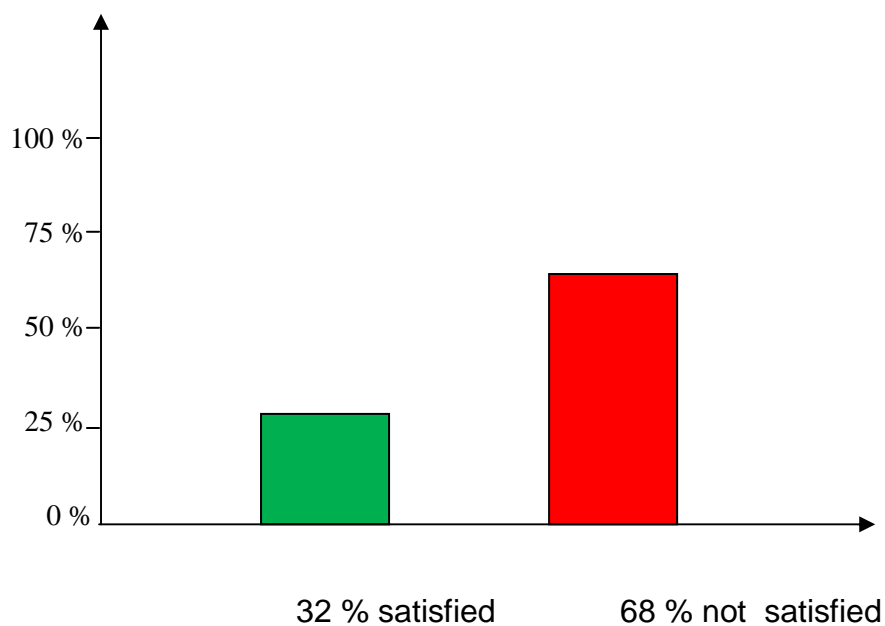
Source: the author 2008

8.2.4.4.5. The suitability of writing and dressing tables:

To assess the suitability of writing and dressing tables it was necessarily to measure the attitude of users with regard to writing and dressing tables efficiency by using questionnaire. Accordingly, users were asked about their feeling in terms of ease of use and dimensions. 76 % of users were satisfied with the writing and dressing tables provided in the Arc en ciel hotel. 24 % of users were not satisfied with writing and

dressing tables provided in the hotel. Accordingly, and from these figure it seems that writing and dressing tables are suitable in the Arc en Ciel hotel.

Figure N°8.16

Users attitudes regarding writing and dressing tables suitability

Users attitudes	Percent%
Satisfied	76%
Not satisfied	24%
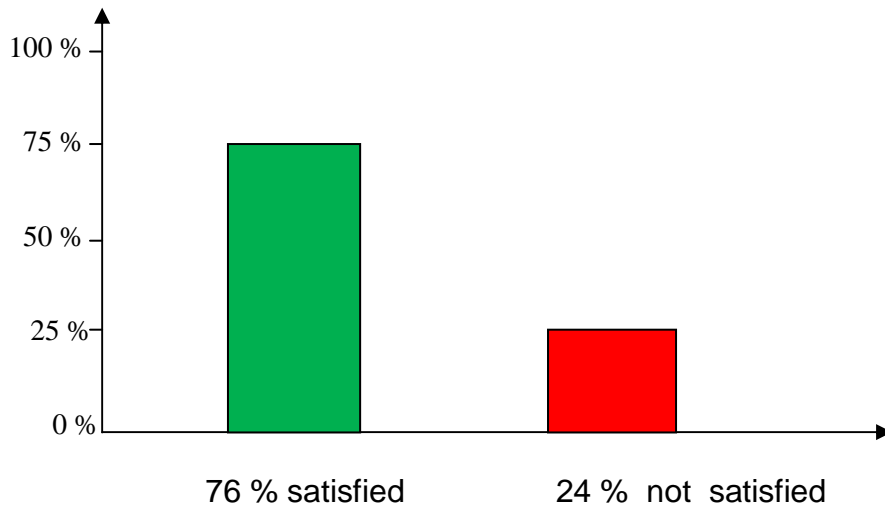
Source: the author 2008

8.2.5. Users attitudes towards the building in general:

At the end of each questionnaires, users were asked to state their feeling and overall satisfaction about the hotel in general. Accordingly, the statistics showed that 95% of users were satisfied about the hotel in general. Only, 5% were not satisfied.

Figure N°8.17

Users attitudes towards the hotel in general

Users attitudes	Percent%
Satisfied	95%
Not satisfied	05%
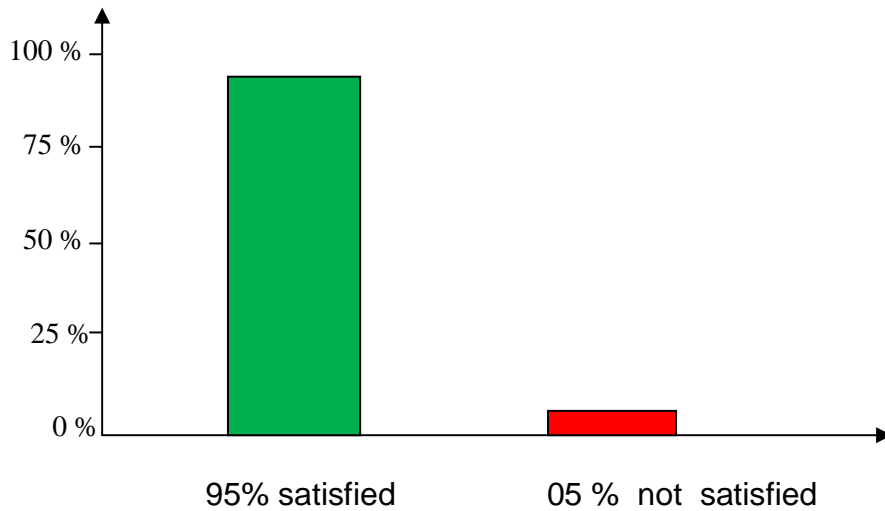
Source: the author 2008

8.3. Measuring users attitudes in the 'Panoramic' hotel :

8.3.1. Types of users making use of the Panoramic hotel:

In this period of the year (February), the case study revealed that 96% of users that have been asked or completed questionnaire were staying in the Panoramic for business reasons. Only 04% were staying in the hotel for holidays reasons.

8.3.2. Factors affecting the choice of the hotel:

Users of the Panoramic hotel have been asked to state their attitude towards the factors that have affected their choice of the hotel. Accordingly, five factors were proposed to users of the Panoramic hotel in order to state which of them is the most affecting factors when choosing their hotel in general; and then assess the suitability of each

factor in the hotel. The five factors most affecting users satisfaction were outlined in 8.1.1.

8.3.2.1. The location:

The location of the hotel was seen to be the most important factor affecting operator satisfaction and the success of the hotel (see chapter two). 98% of users thought that location is an important factor influencing their choice of any hotel in general. Only 02% thought they were not affected by the location when choosing their hotel. In the 'Panoramic' hotel, 80 % of users were satisfied about the location of the Panoramic hotel. Only 20% were not satisfied about the location of the hotel. Accordingly, hotels' location seems to be an important factor and should considered by the operator. Also, the location of the Panoramic hotel seems to be suitable since the majority of users are satisfied about the hotels' location.

Figure N°8.18

Users attitude regarding the hotels' location

Users attitudes	Percent%
Satisfied	80%
Not satisfied	20%

80% satisfied   20% not satisfied
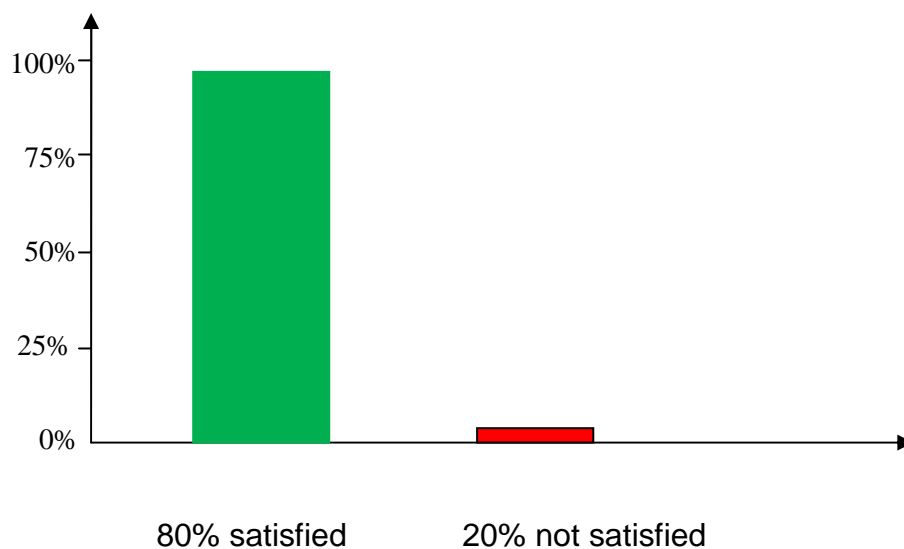
Source: the author 2008

8.3.2.2. The image:

The image of the hotel was seen to be an important factor affecting users attitudes when choosing their hotel (see chapter two). 65% of users thought that they were not affected by the image when choosing the hotel in general. Only 35 % of them though that the image of the hotel affect to some extents their choice of the hotel. Regarding users attitudes towards the image of the Panoramic hotel, 97 % of users thought that the image of the hotel did not affect their attitude when choosing the hotel. Only 03 % of users thought that the image of the hotel has influenced to some extent their choice of the hotel. Accordingly, it seems that the image of the hotel cannot be considered as an important factor influencing the choice of the hotel.

Figure N°8.19

Users attitude regarding the importance of hotel image

Users attitudes	Percent%
Important	03%
Not important	97%

03 % important   97% not important
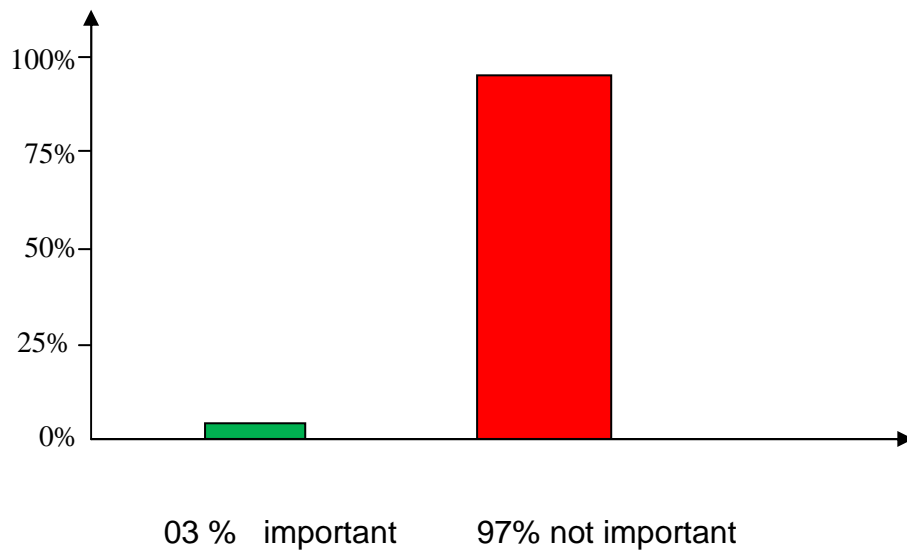
Source: the author 2008

8.3.2.3. The price:

As far as the price is concerned, the study revealed that 80 % of users are price conscious when choosing their   hotel in general. Only 20 % of users thought that the price is not so important. On the other hand, 100 % of users are not satisfied with the proposed price in the Panoramic hotel. They thought that the price does not reflect the level and   quality of services provided. Accordingly, it seems that the proposed price in the Panoramic hotel seems to   be not suitable and should be reconsidered in the future.

Figure N°8.20

Users attitude regarding the importance of the price

 in   choosing their hotel

Users attitudes	Percent%
Satisfied	0%
Not satisfied	100%

0% satisfied   100% not satisfied
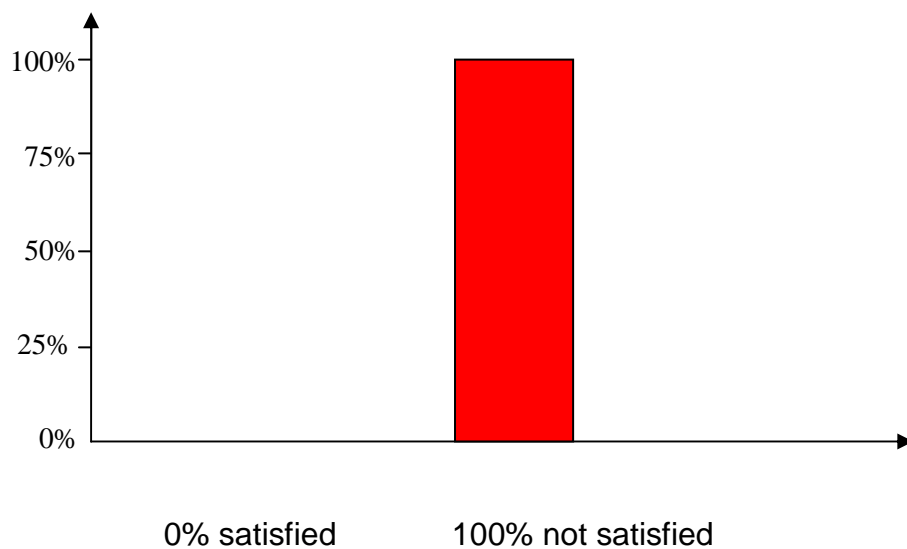
Source: the author 2008

8.3.2.4. The quality of service provided:

The quality of service provided in the hotel seems to be an important factor   influencing   users when choosing their hotel. 75 % of users thought

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that the quality of service provided seems to be an important factor influencing their choice of the hotel in general. 25% of them thought that the quality of service is not considered as a determining factor when choosing their hotel. Concerning users attitudes towards the quality of services provided in the Panoramic hotel, 55% of users were satisfied with the service provided in the hotel. 45% of them were not satisfied. According to such data, it seems that the quality of service in a hotel should be considered as an important factor influencing user decision when choosing their hotel. On the other hand, the quality of service provided in the Panoramic hotel seems to be suitable.

Figure N° 8.21

Users attitude regarding the importance of the quality

of service provided in the hotel

Users attitudes	Percent%
Satisfied	55%
Not satisfied	45%

55% satisfied   45% not satisfied
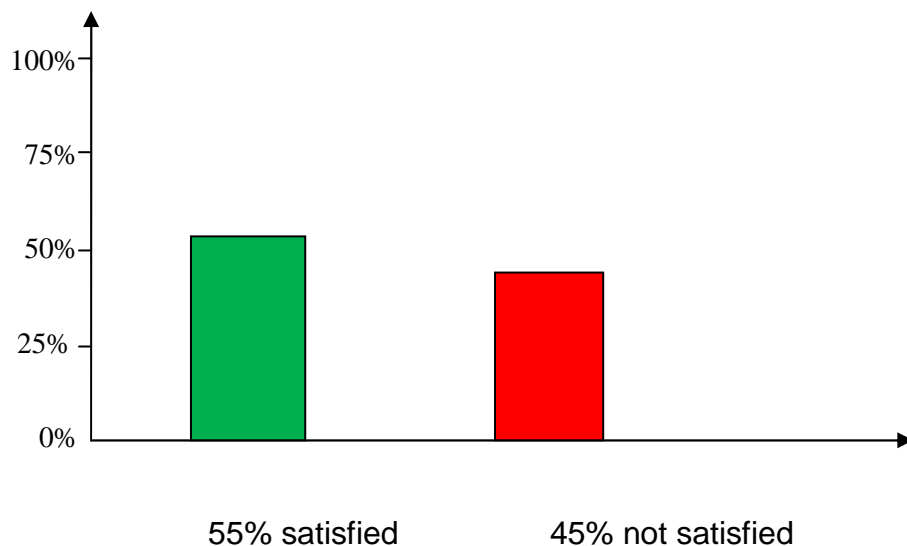
Source: the author 2008

8.3.2.5. The architectural quality of bedrooms:

It was stated in chapter four that the quality of bedrooms seems to be the main business of a hotel. It was also argued that the most important

facilities and those likely to influence the users' decision on whether to return are the sleeping facilities. The case study revealed that, 95% of users thought that the quality of bedrooms seems to be an important factor influencing their choice of the hotel in general. Only 05% thought that the quality of bedrooms cannot be considered as a determining factor affecting their choice of their hotel. Regarding the quality of bedrooms in the Panoramic hotel, 72% of users were not satisfied about the bedrooms. 28% of them were satisfied. According to such data, it seems that the quality of bedrooms in a hotel should be considered as an important factor influencing users decisions when choosing their hotel. On the other hand, the quality of bedrooms provided in the Panoramic hotel seems to be not suitable since the majority of users are not satisfied.

Figure N°8.22

Users attitude regarding bedroom qualityin the hotel

Users attitudes	Percent%
Satisfied	28%
Not satisfied	72%
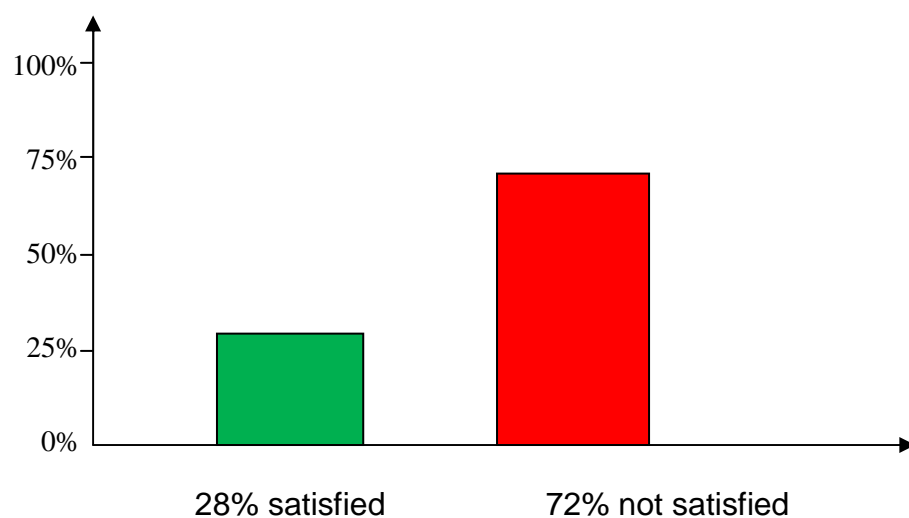
Source: the author 2008

i. **Ease of access and adequacy of car parking:**

With regards to ease of access from the main route to the hotel, the study revealed that 100% of users thought that the access is very difficult and even dangerous. Again, 100% of users thought that the parking provided in the Panoramic hotel is not adequate and need to be changed. Therefore, from these figures, it seems that the panoramic hotel is not suitable in terms of access from the main route and car parking adequacy.

Figure N°8.23

Users attitude regarding ease of access from the main route to the hotel

Users attitudes	Percent%
Easy	0%
Not easy	100%
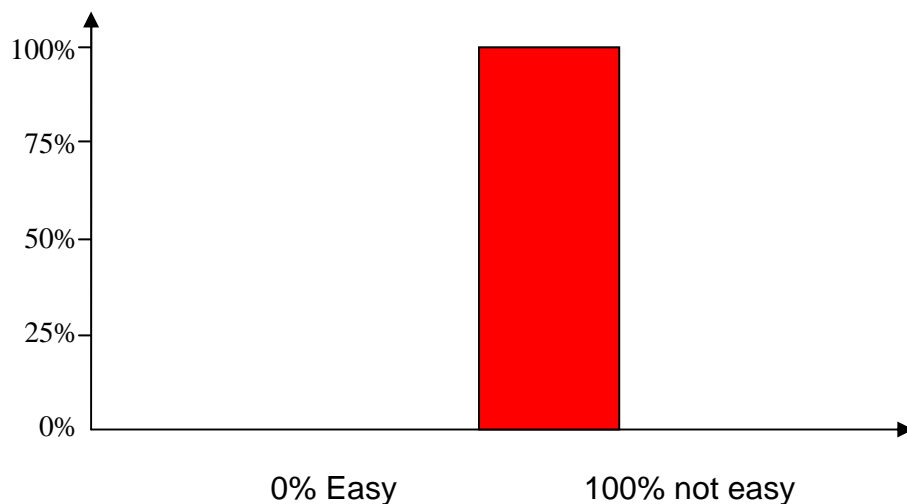
Source: the author 2008

ii. **Ease of access from the car park to the hotel:**

Regarding ease of access from the car park to the hotel, 100% of users thought that it was very easy to find the main entrance of the hotel from the car park . 57% of users were not satisfied about

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the relation between the parking and the main entrance of the hotel. They argued that the entrance should be directly connected by means of covered walkway to shelter users from bad weather. Therefore, from these figures, it seems that the hotel was satisfactory in general in terms of ease of access from the parking to the main entrance of the hotel, and very bad or not suitable in terms of covered walkway between the parking and the main entrance of the hotel.

Figure N°8.24

Users attitude regarding Ease of access

from the car park to the hotel

Users attitudes	Percent%
Easy	100%
Not easy	0%

100% Easy   0% not easy
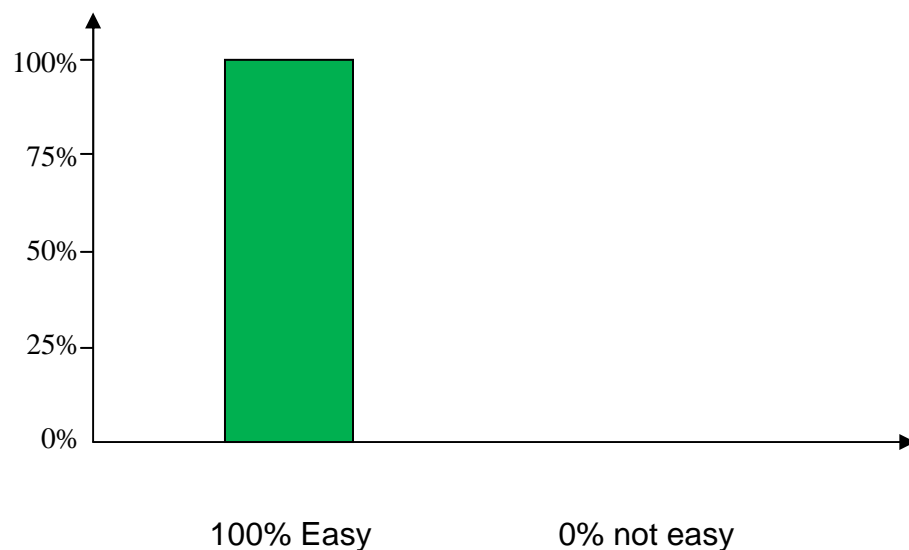
Source: the author 2008

iii.   **Ease of access from the main entrance hotel to the bedroom bloc:**

Regarding ease of access from the main entrance hall of the hotel to bedroom area, 95% of users thought that the access from the main entrance hall to the bedroom area was easy. Only 5% of users find it not easy. Therefore, in general, and from these figures, it seems that the Panoramic hotel is satisfactory in terms of ease of access from the main entrance hall of the hotel to the bedroom bloc.

Figure N°8.25

Users attitude regarding ease of access from
the main entrance hotel to the bedroom bloc

Users attitudes	Percent%
Easy	95%
Not easy	05%

95% Easy   5% not easy
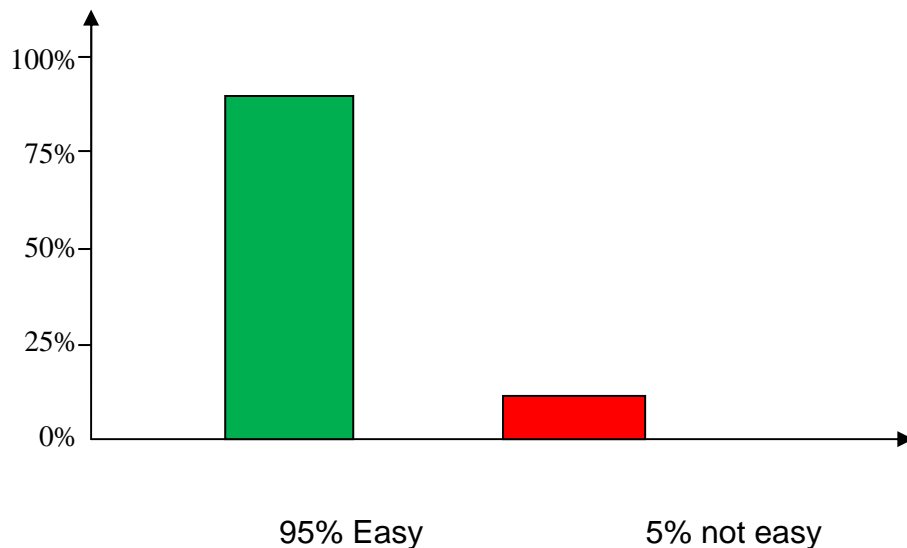
Source: the author 2008

8.3.4. Design variables:

To assess the suitability of space variables, the writer has asked first, a general question about which of the related variables affects more user attitude.

Second, what users though about these variables; whether his is satisfied or not. These variables were outlined in 8.2.4.

8.3.4.1. The suitability of bedroom orientation:

Concerning bedroom orientation, the writer objective is to assess first, the importance of bedroom orientation on users when choosing their hotel in general, then assess users attitudes regarding bedroom orientation in the Panoramic hotel. Accordingly, 85 % of users thought that bedroom orientation is important when choosing their hotel. Only 15% thought that the orientation of the bedroom is not important. Regarding bedrooms' orientation in the Panoramic hotel, 12% of users were not satisfied about bedrooms' orientation. 88% of them were satisfied. According to such data, it seems that bedrooms' orientation in a hotel should be considered as an important factor influencing users decisions when choosing their hotel. Again, the orientation of bedrooms provided in the Panoramic hotel seems to be suitable since the majority of users were satisfied.

Figure N°8.26

Users attitude regarding bedroom orientation

Users attitudes	Percent%
Satisfied	88%
Not satisfied	12%

88% satisfied   12% not satisfied
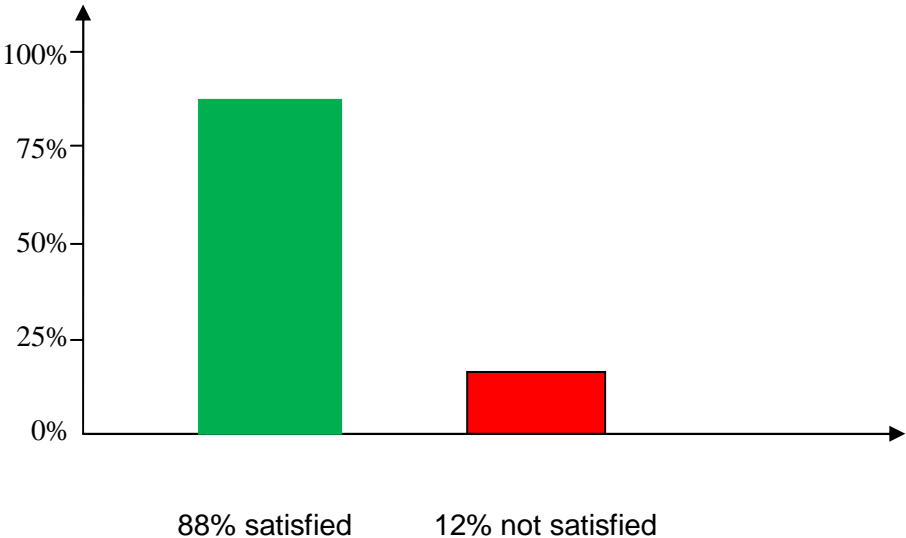
<u>Source</u>: the author 2008

8.3.4.2. The suitability of bedroom layout:

Concerning bedroom layout, users were asked about their feeling of comfort in terms layout of different furniture in the bedroom. 66% of users were satisfied with the layout of bedroom provided in the Panoramic hotel. Only 34% of users were not satisfied about the layout of the bedroom. Accordingly, and from these figure it seems that bedroom layout is suitable in the Panoramic hotel.

Figure N°8.27

Users attitude regarding beds layout

Users attitudes	Percent%
Satisfied	66%
Not satisfied	34%

66 % satisfied   34 % not satisfied
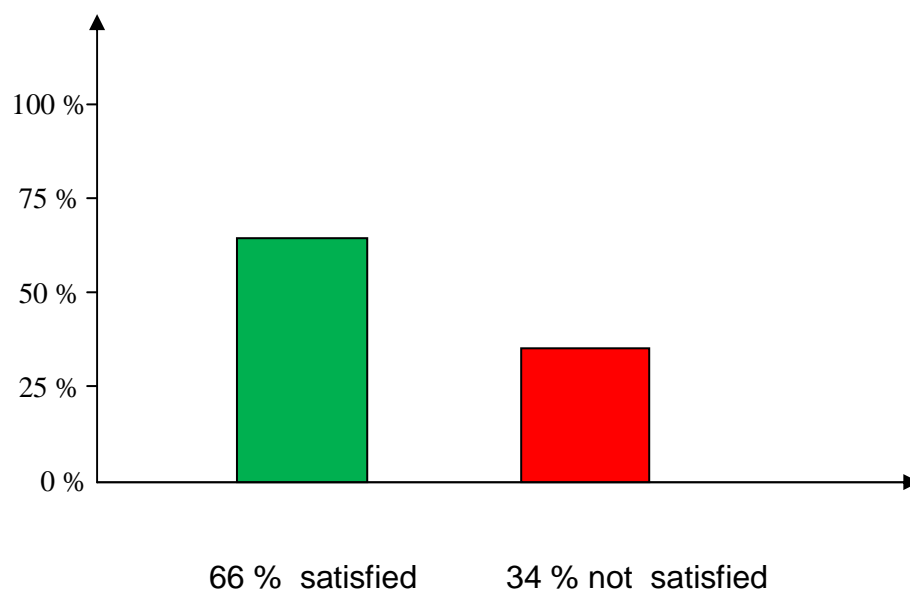
Source: the author 2008

8.3.4.3. The suitability of space requirement:

The size of bedroom was one of the most affecting factor on user satisfaction. 90% of users thought that bedroom size is one of the most determining factors when choosing their hotel. Only 10% of them though

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that bedroom size is not a determining variables when choosing their hotel. 35% of them were satisfied with the provided size in the Panoramic hotel . 65 % of them were not satisfied. Accordingly, and from these figure it seems that bedroom size is not suitable in the Panoramic hotel.

Figure N°8.28

Users attitudes regarding space requirements

Users attitudes	Percent%
Satisfied	35%
Not satisfied	65%

35 % satisfied   65 % not satisfied
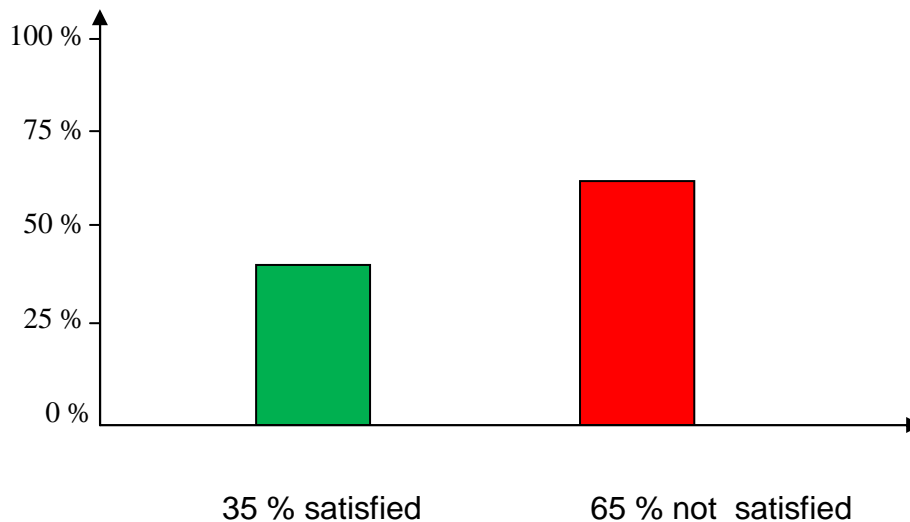
Source: the author 2008

8.3.4.4. **The suitability of furniture:**

As outlined in 8.1.2.4. To assess the suitability of bedroom furniture, first, it was   necessary to have a clear   idea of the impact of furniture on user satisfaction. 58 % of users thought that furniture is an important factors when   choosing   their hotel. 42 % of them thought that furniture is not important when   choosing   their hotel. Second, it was also necessarily to know which type of furniture is most   important for the client and then assess the suitability of each type of furniture in the Panoramic hotel. Different types of furniture that can be found in the bedroom in urban hotels were outlined in 8.1.2.4.

8.3.4.4.1. The suitability of beds:

To assess the suitability of beds it was necessarily to measure the feeling of users by using questionnaire and interview, in terms of beds comfort and size. Accordingly, users were asked about their feeling of comfort in terms beds materials and size. 45% of users thought that beds provided in the Panoramic hotel are comfortable and are satisfied with beds provided in the hotel. 55% of users thought that beds provided in Panoramic hotel are not comfortable and are not satisfied with beds provided in the hotel. Accordingly, and from these figures it seems that beds are not suitable.

Figure N°8.29

Users attitudes regarding beds suitability

Users attitudes	Percent%
Satisfied	45%
Not satisfied	55%

45 % satisfied   55 % not satisfied
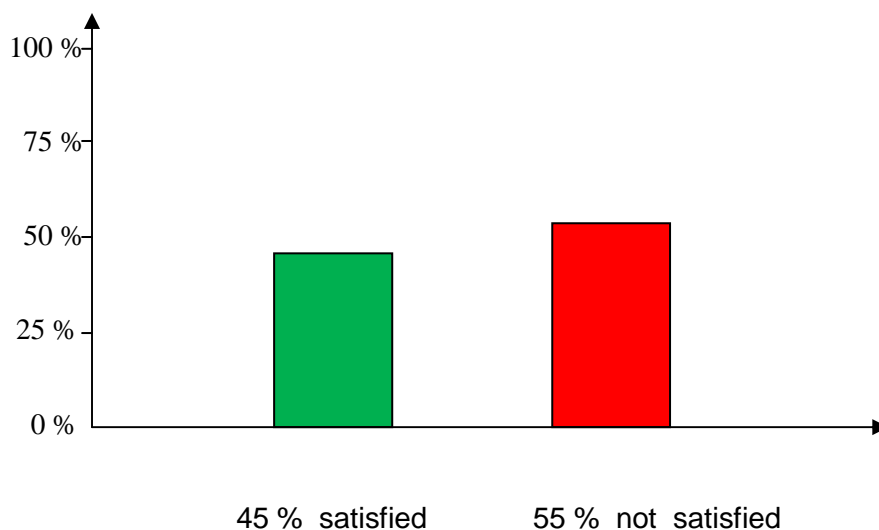
Source: the author 2008

8.3.4.4.2. The suitability of Clothes storage :

To assess the suitability of Clothes storage, it was necessarily to measure questionnaire and interviews users attitudes in terms of efficiency.

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Accordingly, users were asked about their feeling in terms of ease of use and dimensions. The case study revealed that 75% of users are satisfied with clothes storage provided in the Panoramic hotel. 25 % of users were not satisfied with clothes storage provided in the hotel. Accordingly, and from these figures it seems that clothes storage are suitable in Panoramic hotel.

Figure N°8.30

Users attitudes regarding clothes storage suitability

Users attitudes	Percent%
Satisfied	75%
Not satisfied	25%

75 % satisfied   25 % not satisfied
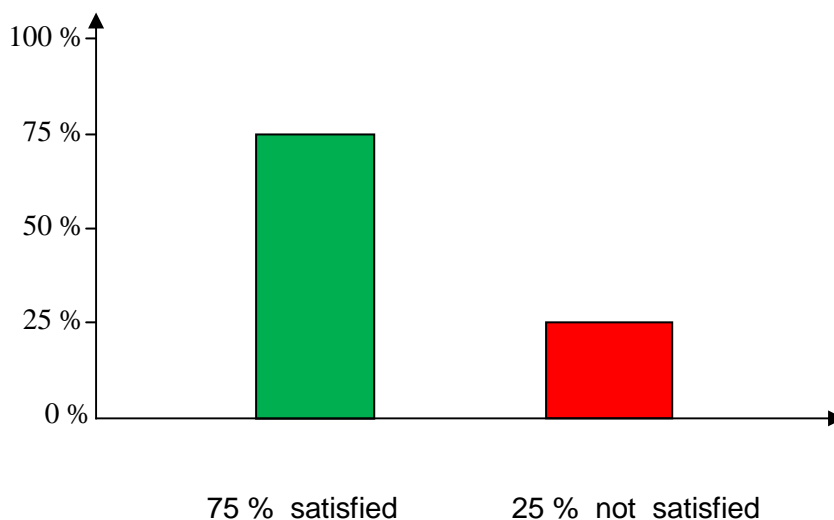
Source: the author 2008

8.3.4.4.3. The suitability of bedsides tables :

To assess the suitability of bedsides tables it was necessarily to measure users attitude in terms of bedsides tables efficiency. Accordingly, users were asked about their feeling in terms of ease of use and dimensions. 33% of users are satisfied with bedside tables provided in the Panoramic hotel. 67 % were not satisfied. Accordingly, and from these figure it seems that bedsides tables are suitable in the hotel.

Figure N°8.31

Users attitude regarding bedside tables suitability

Users attitudes	Percent%
Satisfied	33%
Not satisfied	67%
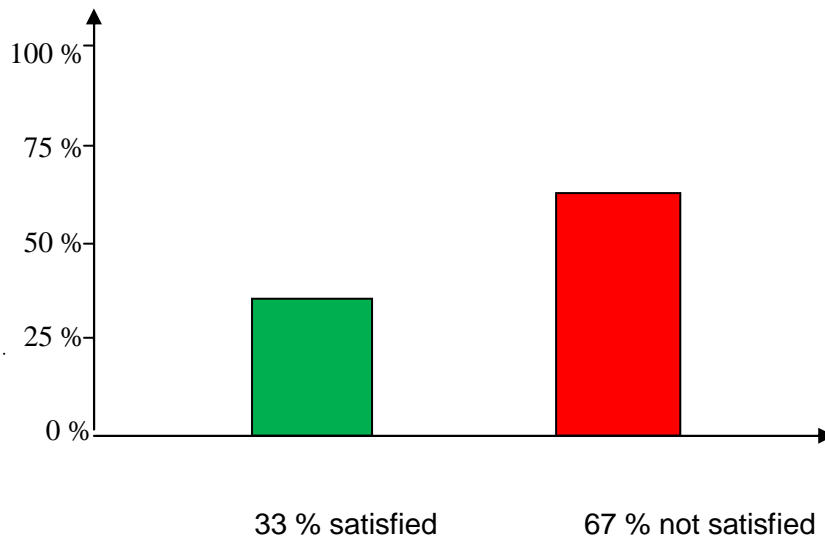
33 % satisfied   67 % not satisfied

Source: the author 2008

8.3.4.4.4. The suitability of Luggage rack:

To assess the suitability of Luggage rack it was necessarily to measure users attitude in terms of luggage rack efficiency. Accordingly, users were asked about their feeling in terms of ease of use and dimensions. 39 % of users were satisfied with Luggage rack provided in the Panoramic hotel. 61 % of users were not satisfied with Luggage rack provided in the hotel. Accordingly, and from these figures, it seems that luggage rack are not suitable in the Panoramic hotel.

Figure N°8.32

users attitude regarding luggage rack suitability

Users attitudes	Percent%
Satisfied	39%
Not satisfied	61%

39 % satisfied   61 % not satisfied
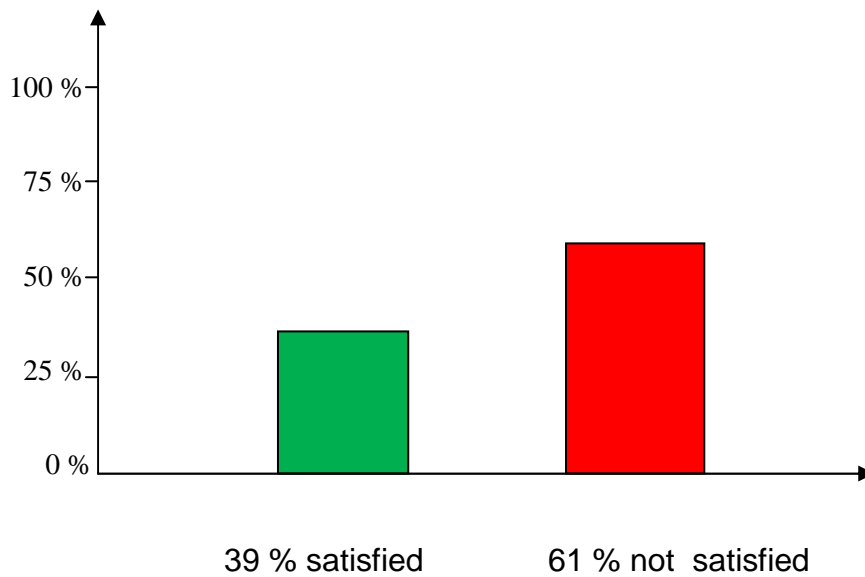
Source: the author 2008

8.3.4.4.5. The suitability of writing and dressing tables:

To assess the suitability of writing and dressing tables it was necessarily to measure users attitudes in terms of   writing and dressing tables efficiency. Accordingly,   users were   asked about their feeling in terms of ease of use and dimensions. 41 % of users were   satisfied with   writing and dressing tables provided in the Panoramic hotel. 59 % of users were not satisfied with   writing and dressing tables provided in the hotel. Accordingly, and from   these figure it   seems that writing and dressing tables are not suitable in Panoramic hotel.

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Users attitudes regarding writing and dressing tables suitability

Users attitudes	Percent%
Satisfied	41%
Not satisfied	59%

41 % satisfied   59 % not satisfied
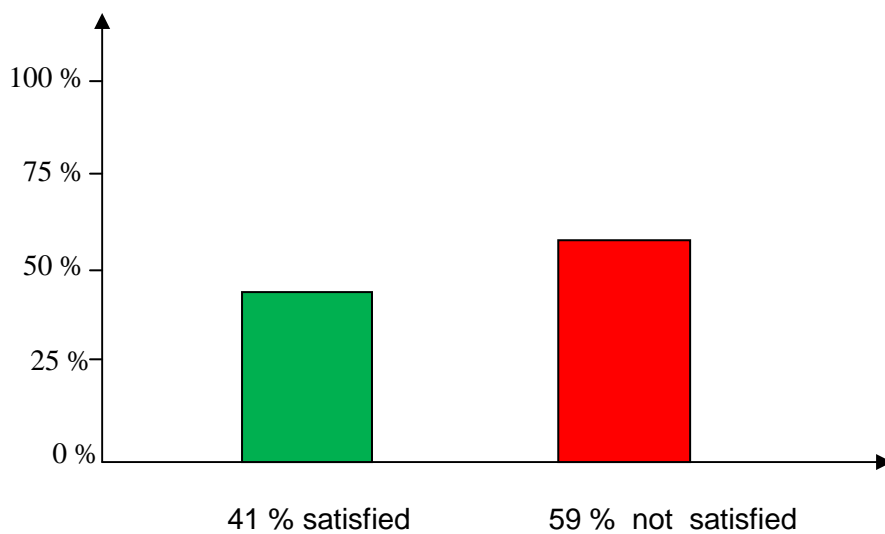
Source: the author 2008

8.3.5. Users attitudes towards the building in general:

At the end of each questionnaires, users were asked to state their feeling and overall satisfaction about the hotel in general. Accordingly, the statistics showed that 63% of users were satisfied about the hotel in general. 37% of them were not satisfied.

Figure N°8.34

Users attitudes towards the hotel in general

Users attitudes	Percent%
Satisfied	63%
Not satisfied	37%

63% satisfied   37 % not satisfied
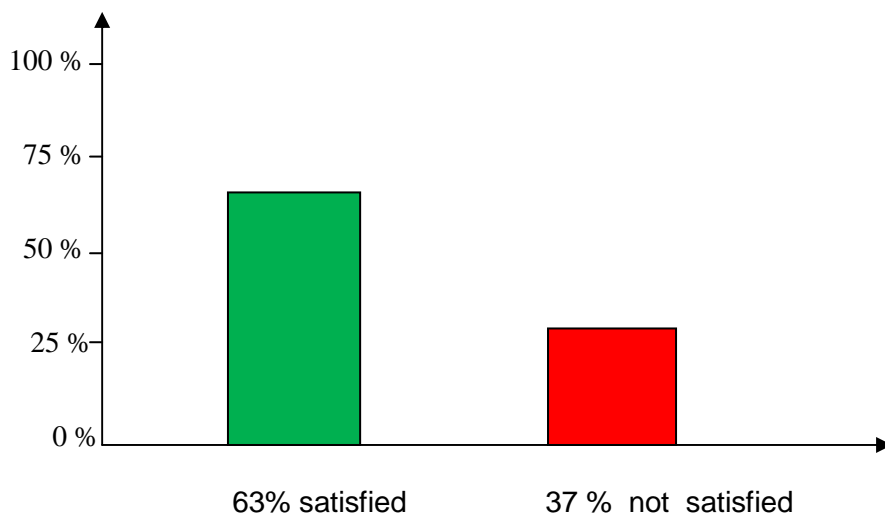
Source : the author 2008

8.4. Summary :

The statistics showed that there was a weak relationship between users'overal satisfaction with the hotel and the bedroom in general, and some of the answers to other questions in the questionnaire about bedroom characteristics suitability. The analysis indicated that the overall satisfaction with both hotels was weakly associated with design features or characteristics. So, it would appear that the users' satisfaction was not strongly affected by the inclusion of specific requirements, and the problems mentioned, associated with design features of the bedrooms, had a limited effect on their overall satisfaction with the hotel and the bedroom in general. This indicated that there were other factors strongly associated with user satisfaction. In the next chapter, the relationship between chapter seven and chapter eight will be investigated. Such correlation would gives us a basis to assess whether the

hypothetical relationship between the inclusion of recommendations and user satisfaction is verified or not.

CHAPTER NINE

THE RELASHIONSHIP BETWEEN FOLLOWING THE   RECOMMENDATIONS AND THE LEVEL OF PERFORMANCE

9.1. Introduction:

The aim of this chapter is to describe the relationships between the implementation of the recommendations in the   sample and the buildings' level of success in meeting the needs of users. As stated earlier, it is assumed that there is a hypothetical relationship between the inclusion of the recommendations in the sample and satisfaction of users in the building. If the bedrooms in use followed the recommendations then the design   of these   spaces should satisfactory and the   more these characteristics were included, the more satisfactory the space should be and the   more   satisfied the users. Thus, this chapter aims to investigate   and describe to   what extent the inclusion of the characteristics recommended in this   study affected, or not, the   success of the bedrooms in meeting users' needs , in order to   establish which of these characteristics   is more effective in causing user satisfaction or dissatisfaction. Thus, in this chapter, the results of measures related in chapter seven , will   be related to users' view and their feelings about the   suitability of bedrooms and   their level of   satisfaction described in chapter eight.

9.2. The Arc en Ciel hotel:

9.2.1. Ease of access from the main route:

i.   Through observation it was found in chapter seven that recommendations related to location and ease of   access were included in the Arc en ciel hotel but at different levels.

The recommendations which were included are:

Ease of access   from   the main routes to the building.

Ease of access from the parking to the main entrance hall.

The recommendations which were not included are:

> Access routes is not clearly indicated   and not easily recognizable
by   strangers   to the area.The attractiveness of the ground and
landscape.

> Therefore, in theory, the Arc en Ciel hotel should be satisfactory in
terms of ease of access   from   the main routes to the building and
ease of access from the parking to the main entrance hall. On the other
hand, the Arc en ciel hotel should not be satisfactory or at least
less satisfactory in terms of ease of access for   strangers   to the
area from the route to the hotel.

ii. **The relationship between the inclusion of the
     recommendations and measures of success:**

-Ease of access   from   the main routes to the building: All   users
of the Arc en Ciel hotel indicated that   the location and its
proximity to the main travel   route was satisfactory. Therefore, the
recommendations were followed and satisfactory in meeting the
users requirements.

-Access routes   is not clearly indicated   and easily recognizable by
strangers   to the area: Although access routes   is not clearly
indicated   and not easily recognizable by   strangers   to the area, all
users of the hotel indicated that   they did not find any difficulties to
find the main access of the hotel and its location was satisfactory.
Therefore, although the recommendations were not followed the
hotel was satisfactory in meeting the users requirements.

9.2.2. Ease of access from   the car park to the hotel:

i. Through using questionnaire, it was found in chapter six that
    recommendations related to   the ease of access from the parking   to
    the building were not included. The Arc en Ciel hotel does not
    include recommendations regarding covered walkway or footpath
    from the parking to the hotel.

Therefore, in theory, the hotel should be not satisfactory in terms of ease of access from the car park to the hotel because there is no sign posting illumination to clearly identify the access of the hotel from the car park. On the other hand, the hotel should be less satisfactory in terms walkway or footpath from the parking to the hotel.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Ease of access from the car park to the hotel: the majority of users of the hotel indicated that the access from the parking to the main entrance hotel was satisfactory. Therefore, although the recommendations were not followed, the hotel seems to be satisfactory in meeting the users requirements.

-Ease of access from the car park to the hotel in terms of covered walkway: the majority of users of the hotel indicated that the access from the parking to the main entrance hotel regarding covered walkway was not satisfactory. Therefore, the recommendations were not followed and the hotel seems to be not satisfactory in meeting the users requirements.

9.2.3. <u>Bedroom location and access:</u>

i. Through observation it was found in chapter six that recommendations related to location and ease of access from the main entrance hall to bedroom bloc were included in the hotel. These are:
-Bedrooms should be grouped together in a separate block.
-The bedroom block should have a direct access from the main entrance hall.
-Access for housekeeping , room service and maintenance should ensure an efficient service without unnecessary disturbance of the users. Therefore, in theory, the Arc en Ciel hotel should be

satisfactory in terms of ease of location and ease of access from the main entrance to bedrooms bloc.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Grouping bedrooms in a separate bloc. All users of the Arc en Ciel hotel indicated that the location of bedrooms was satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

-The bedroom block should have a direct and easy access from the main entrance hall. All users of the Arc en Ciel hotel indicated that the access from the main entrance hall to bedrooms was satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

-Efficiency regarding room service. All chambermaid of the Arc en Ciel hotel indicated that working conditions regarding the number and design of bedrooms were satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

9.2.4. Layout and number of bedrooms per floor:

i. Through plans and observation it was found in chapter seven that recommendations related to layout and number of bedrooms per bloc were included in the Arc en ciel hotel. All users and chambermaid of the Arc en Ciel hotel indicated that the layout and number of bedrooms was satisfactory. Therefore, in theory, the Arc en Ciel hotel should be satisfactory in terms of layout and number of bedrooms per bloc.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Location and number of bedrooms per bloc. All users of the Arc en Ciel hotel indicated that the location of bedrooms was

satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

9.2.5. Space requirements:

i. Through observation and measurements, it was found in chapter seven that recommendations related to space requirement suitability were included in the Arc en ciel hotel but at different levels.

The recommendations that were not included are:

a. Room width:

The bedroom width considered suitable for bedroom outlined in chapter seven was not included in the Arc en Ciel hotel. The width of bedroom in the Arc en Ciel hotel is more than the recommended width.

b. Room height:

The bedroom height considered suitable for bedroom outlined in chapter seven was not included in the Arc en Ciel hotel.

The recommendations that were included are:

c. Room length:

The bedroom length considered suitable for bedroom outlined in chapter seven was included in the Arc en Ciel hotel.
Therefore, in theory, the Arc en Ciel hotel should be satisfactory in terms of bedroom length. On the other hand, it should not be satisfactory or at least less satisfactory in terms of bedroom width and height.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Recommendations that are included and concerning room length: the majority of users of the Arc en Ciel hotel indicated that the

room length was satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

-Recommendations that are not included and concerning room width and room height: the majority of users of the Arc en Ciel hotel indicated that the room width was satisfactory. Therefore, although the recommendations were not followed, they were satisfactory in meeting users requirements.

9.2.6. Furniture:

9.2.6.1. Beds:

i. Through observation and measurements, it was found in chapter seven that recommendations related to beds suitability were included in the Arc en ciel hotel but at different levels. The recommendations which were included are:

The recommendations related to beds comfort, height, length of double bed ; durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs; appearance (including headboard and end board). All these recommendations were included in the hotel. Therefore, in theory, the Arc en Ciel hotel should be satisfactory in terms of height and length of beds requirement, durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs and appearance.

The recommendations which were not included are:

The arc en Ciel hotel does not include recommendations regarding the width's bed of the single bed and the width of the double bed. Therefore, in theory, the Arc en Ciel hotel should not be satisfactory in terms of width's beds of the double and twin bedded room.

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ii.   **The relationship between the inclusion of the recommendations and measures of success:**

Beds requirements regarding comfort, height, length of double bed ; durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs; appearance (including headboard and end board). The majority of users of the Arc en Ciel hotel indicated that beds requirements regarding beds outlined above and provided in the Arc en Ciel hotel was satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

Recommendations regarding the width's bed of the single bed and the width of the double bed. The majority of users of the Arc en Ciel hotel indicated that beds requirements regarding beds' width outlined above and provided in the Ac en Ciel hotel was satisfactory. Therefore, although the recommendations were not followed, they seems to be satisfactory in meeting the users requirements.

a. **Beds layout:**

i.   Through observation and plans measurements, it was found in chapter six that recommendations related to beds layout were included in the Arc en Ciel hotel. These recommendations were related to the position of beds at right angles to one of the party walls. Or the twin beds are generally separation of the beds by a night table to allow a degree of individual privacy. Therefore, in theory, the Arc en Ciel hotel should be satisfactory in terms of beds layout in the bedroom.

ii.   **The relationship between the inclusion of the recommendations and measures of success:**

Beds layout in the bedroom. The majority of users of the Arc en Ciel hotel indicated that bedroom layout provided in the Ac en Ciel hotel was in general satisfactory. Therefore, the recommendations were followed and satisfactory in meeting users requirements.

9.2.6.2.   Clothes storage:

i.   Through observation and measurements, it was found in chapter seven that recommendations related to the suitability of clothes storage were not included in the Arc en ciel hotel. The hotel does not include recommendations regarding clothes storage built into the entrance foyer to the bedroom. It does not include recommendations regarding cloths storage' length for double or twin bedded room. Therefore, in theory, the Arc en Ciel hotel should not be satisfactory in terms of cloths storage requirement in the bedroom.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-With regards to cloths storage requirements, the majority of users of the Arc en Ciel hotel indicated that cloths storage provided in the Ac en Ciel hotel was in general satisfactory. Therefore, although the recommendations regarding cloths storage were not followed, they seems to be satisfactory in meeting the users requirements.

9.2.6.3.   Bedside tables:

i.   Through observation and measurements, it was found in chapter seven that recommendations related to bedside tables suitability were included in the Arc en ciel hotel but at different levels.

The recommendations which were included are:

A night table stand should be provided adjacent to each bed space ,
between beds or on each side of a double bed .
Bedside tables' height.
The facing corner of the table should be angled.

The recommendations which were not included are:

Recommendations regarding bedside tables' dimensions.
Therefore, in theory, the Arc en Ciel hotel should be satisfactory in terms of bedside tables' height and the design of bedside tables. On

the other hand, the Arc en ciel hotel should not be satisfactory or at least less satisfactory in terms of bedside tables's dimensions.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Recommendations that are included and concerning bedside tables' height and the design of tables : the majority of users of the Arc en Ciel hotel indicated that the design and height of bedside tables was satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

Recommendations regarding bedside tables's dimensions and that are not included in the Arc en Ciel hotel: although the recommendations were not included, : the majority of users indicated that the design and height of bedside tables' dimensions was satisfactory. Therefore, bedside tables' dimensions seems to be satisfactory in meeting the users requirements.

9.2.6.4.   Luggage rack:

i. Through observation and measurements, it was found in chapter six that recommendations related to the suitability of luggage rack were not included in the Arc en ciel hotel. The size of luggage rack recommended in chapter seven was not included in the hotel. Also, the height of luggage rack recommended in chapter seven was not included in the hotel. Therefore, in theory, the Arc en Ciel hotel should not be satisfactory in terms of luggage rack' height.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Recommendations related to the suitability of luggage rack: the majority of users in the Arc en Ciel hotel indicated that the dimensions regarding luggage rack was not satisfactory. Therefore, the recommendations were not followed and not satisfactory in meeting the users requirements.

9.2.6.5. Writing and dressing tables.

i. Through observation and measurements, it was found in chapter seven that recommendations related to writing and dressing tables suitability were not included in the Arc en ciel hotel. Such recommendations were related to writing and dressing tables' dimensions. The writing and dressing tables' length considered suitable for writing and dressing tables outlined in chapter seven was not included. Therefore, in theory, the Arc en Ciel hotel should not be satisfactory in terms of writing and dressing tables' dimensions.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Recommendations related to the suitability of writing and dressing tables: the majority of users in the Arc en Ciel hotel indicated that the dimensions regarding writing and dressing tables was not satisfactory. Therefore, the recommendations were not followed and not satisfactory in meeting the users requirements.

9.2.7. Openings:

i. Through observation and measurements, it was found in chapter seven that recommendations related to openings suitability were not included in the Arc en ciel hotel. Window dimensions in a bedroom or full width windows are recommended since it provides the best advantage for views. Therefore, in theory, the Arc en Ciel hotel should not be satisfactory in terms of windows dimensions.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Recommendations related to the suitability of windows dimensions: the majority of users of the Arc en Ciel hotel indicated that the

windows dimensions was not satisfactory. Therefore, the recommendations were not followed and not satisfactory in meeting the users requirements.

9.2.8. Environmental variables:

As stated in chapter seven, this study will be limited to some recommendations that are closely related to architectural solutions.

i. Sound insulation: through observation, it was found in chapter seven that recommendations related to sound insulation suitability were in general included in the Arc en ciel hotel. Therefore, in theory, the hotel should be satisfactory in terms of sound insulation.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Recommendations related to the suitability of sound insulation: the majority of users of the Arc en Ciel hotel indicated that sound insulation was satisfactory.

Therefore, the architectural recommendations related to sound insulation were followed and satisfactory in meeting the users requirements.

9.3. The Panoramic hotel:

9.3.1. Ease of access from the main road:

i. Through observation it was found in chapter seven that recommendations related to location and ease of access were included in the Panoramic hotel but at different levels.

The recommendations which were included are:

Ease of access from the main routes to the building and from the parking to the main entrance hall. Accordingly, the Panoramic hotel

should be satisfactory in terms of ease of access from the main routes to the building and access from the parking to the main entrance hall. Ease of access from the parking to the main entrance hall.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Ease of access from the main routes to the building: All users of the Panoramic hotel indicated that the access from the main route to the hotel was not satisfactory and even dangerous. Therefore, the recommendations were followed but not satisfactory in meeting users requirements.

The recommendations which were not included are:

The attractiveness of the ground and landscape and the provision of covered walkways from the parking to the main entrance:

9.3.2. Ease of access from the car park to the hotel:

i. Through using questionnaire, it was found in chapter seven that recommendations related to the provision of covered walkway or footpath from the parking to the hotel was not included in the hotel. Accordingly, the hotel should not be satisfactory or at least less satisfactory in terms of covered walkways from the parking to the main entrance and the attractiveness of the ground and landscape.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Ease of access from the car park to the hotel in terms of covered walkway: the majority of users of the hotel indicated that the access from the parking to the main entrance hotel regarding covered walkway was not satisfactory. Therefore, the recommendations were not followed and the hotel seems to be not satisfactory in meeting the users requirements.

9.3.3. <u>Bedroom location and access:</u>

i. Through observation it was found in chapter seven that recommendations related to location and ease of access from the main entrance hall to bedroom bloc were included in the hotel. These are:

-Bedrooms should be grouped together in a separate block.

-The bedroom block should have a direct access from the main entrance hall.

-Access for housekeeping , room service and maintenance should ensure an efficient service without unnecessary disturbance of the users. Therefore, in theory, the Panoramic hotel should be satisfactory in terms of location and ease of access from the main entrance to bedrooms bloc.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Grouping bedrooms in a separate bloc. The majority users of the Panoramic hotel indicated that the location of bedrooms were satisfactory. Therefore, the recommendations were followed and satisfactory in meeting users requirements.

-The bedroom block should have a direct and easy access from the main entrance hall. The majority of users of the Panoramic hotel indicated that the access from the main entrance hall to bedrooms was satisfactory. Therefore, the recommendations were followed and satisfactory in meeting users requirements.

-Efficiency regarding room service. The majority of chambermaid that were interviewed were not satisfied regarding working conditions and were not satisfied. Therefore, the recommendations were not followed and not satisfactory in meeting users requirements.

9.3.4. <u>Layout and number of bedrooms per floor:</u>

i. Through plans and observation it was found in chapter seven that recommendations related to layout and number of bedrooms per

bloc were included in the Panoramic hotel. The majority of users indicated that the layout and the number of bedrooms was satisfactory. Therefore, in theory, the Panoramic hotel should be satisfactory in terms of layout and number of bedrooms per bloc.

ii.   The relationship between the inclusion of the recommendations and measures of success:

-Location and number of bedrooms per bloc. All users of the Panoramic hotel indicated that the location of bedrooms was satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

9.3.5. Space requirements:

i.   Through observation and measurements, it was found in chapter seven that recommendations related to space requirement suitability were not included in the Panoramic hotel.

The recommendations that were not included are:

a. Room width:

The bedroom width considered suitable for bedroom outlined in chapter seven was not included in the Panoramic hotel.

b. Room length:

The bedroom length considered suitable for bedroom outlined in chapter seven was not included in the Panoramic hotel.

c. Room height:

The bedroom height considered suitable for bedroom outlined in chapter seven was not included in the Panoramic hotel.

Therefore, in theory, the Panoramic hotel should not be satisfactory in terms of bedroom size in general.

ii.   The relationship between the inclusion of the recommendations and measures of success:

-The study revealed (see chapter eight) that the majority of users were not satisfied with bedrooms' dimensions in general. Therefore, the recommendations were not followed and not satisfactory in meeting the users requirements.

9.3.6. Furniture:

9.3.6.1.   Beds:

i.   Through   observation and   measurements, it was found in chapter seven that recommendations related to beds   suitability were   not included in the Panoramic hotel but at different levels.

The recommendations which were included are:

The recommendations related to beds' height. Therefore, in theory, the Panoramic   hotel should be satisfactory in terms of beds' height.

 The recommendations which were not included are:

The Panoramic hotel does not include recommendations regarding the width and the length   of   the single bed and the double bed. Therefore, in theory, the hotel should not be satisfactory in terms of the width and length of beds.

ii.   **The relationship between the inclusion of the recommendations and measures of success:**

Beds requirements regarding comfort, height, length of   double bed ; durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs; appearance (including headboard and end board). The majority of users of the Panoramic hotel indicated that   beds requirements regarding beds outlined above not was satisfactory. Therefore, regarding beds' height the recommendations were followed and satisfactory in meeting the users requirements.

Regarding beds' width and length, the recommendations were not included. Regarding users attitudes, the   majority of users indicated

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that beds requirements regarding beds' width outlined above were not satisfactory. Therefore, in terms of beds' length and width, the recommendations were not followed and not satisfactory in meeting users requirements.

a. **Beds layout:**

i. Through observation and plans measurements, it was found in chapter seven that recommendations related to beds layout were included in the Panoramic hotel. These recommendations were related to beds' position at right angles to one of the party walls. The twin beds are generally separated by a night table to allow a degree of individual privacy. Therefore, in theory, the hotel should be satisfactory in terms of beds layout in the bedroom.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Beds layout in the bedroom. The majority of users of the Panoramic hotel indicated that bedroom layout provided in the was in general satisfactory. Therefore, the recommendations were followed and satisfactory in meeting users requirements.

9.3.6.2. **Clothes storage:**

i. Through observation and measurements, it was found in chapter seven that recommendations related to the suitability of clothes storage were not included in the Panoramic hotel. The hotel does not include recommendations regarding clothes storage built into the entrance foyer to the bedroom. It does not include recommendations regarding cloths storage' length for double or twin bedded room. Therefore, in theory, the Panoramic hotel should not be satisfactory in terms of cloths storage requirement in the bedroom.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-With regards to cloths storage requirements, the majority of users of the Panoramic hotel indicated that cloths storage provided in hotel was in general satisfactory. Therefore, although the recommendations regarding cloths storage were not followed, they seems to be satisfactory in meeting the users requirements.

9.3.6.3. **Bedside tables:**

i. Through observation and measurements, it was found in chapter seven that recommendations related to bedside tables suitability were not included in the Panoramic hotel but at different levels.

The recommendations which were not included are:

A night table stand should be provided adjacent to each bed space , between beds or on each side of a double bed. The twin bedded room in the Panoramic hotel provides only one bedside table between the two beds. Also, bedside tables' dimensions were not included. Therefore, in theory, the Panoramic hotel should not be satisfactory.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

-Recommendations that are not included and concerning bedside tables' dimensions. The majority of users of the Panoramic hotel indicated that bedside tables' was not satisfactory. Therefore, the recommendations were not followed and not satisfactory in meeting the users requirements.

9.3.6.4. **Luggage rack:**

i. Through observation and measurements, it was found in chapter seven that recommendations related to the suitability of luggage rack were not included in the Panoramic hotel. The luggage racks' dimensions recommended in chapter seven was not included.

Therefore, in theory, the Panoramic hotel should not be satisfactory in terms of luggage rack' dimensions.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Recommendations related to the suitability of luggage rack: the majority of users of the Panoramic hotel regarding luggage racks' dimensions were not satisfactory. Therefore, the recommendations were not followed and not satisfactory in meeting users requirements.

9.3.6.5. <u>Writing and dressing tables.</u>

i. Through observation and measurements, it was found in chapter seven that recommendations related to writing and dressing tables suitability were not included to some extent. Except the width of the table which was included, the length and height were not included. Therefore, in theory, the Panoramic hotel should not be satisfactory in terms of writing and dressing tables' width, but not satisfactory in terms of width and height.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Recommendations related to the suitability of writing and dressing tables: the study revealed that the majority of users in the panoramic hotel were not satisfied regarding writing and dressing tables' dimensions. Therefore, the recommendations were not followed and not satisfactory in meeting users requirements.

9.3.7. <u>Openings:</u>

i. Through observation and measurements, it was found in chapter seven that recommendations related to openings suitability were not included in the Panoramic hotel. Window dimensions in a bedroom or full width windows are recommended since it provides the best

advantage for views. Therefore, in theory, the Panoramic hotel should not be satisfactory in terms of windows dimensions.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Recommendations regarding the suitability of windows dimensions: Although the recommendations were not included, the majority of users were satisfied regarding the views provided by the hotel. Therefore, the recommendations were not followed but satisfactory in meeting users requirements.

9.3.8. Environmental variables:

As stated in chapter seven, this study will be limited to some recommendations that are closely related to architectural solutions.

i. Sound insulation: through observation, it was found in chapter seven that recommendations related to sound insulation suitability were in general included in the Arc en ciel hotel. Therefore, in theory, the hotel should be satisfactory in terms of sound insulation.

ii. **The relationship between the inclusion of the recommendations and measures of success:**

Recommendations related to the suitability of sound insulation: the majority of users of the Arc en Ciel hotel indicated that sound insulation was satisfactory.

Therefore, the architectural recommendations related to sound insulation were followed and satisfactory in meeting the users requirements.

9.4. Summary:

It was assumed in the first chapter that there is a hypothetical relationship between the inclusion of recommendations in the sample and satisfaction of user in the building. From this chapter, it appears that this hypothesis was not always verified. In the two hotels, there are cases where the inclusion of recommendations

were associated with user satisfaction, on the other hand, there are cases where the recommendations were not included but associated with user satisfaction. Finally, there are cases where the recommendations were not included and user not satisfied. In the next chapter, the conclusions that can be drawn from this study will be outlined.

CHAPTER TEN

CONCLUSION OF THE CASE STUDY
AND DESIGN GUIDANCE

10.1. Introduction:

The conclusions that can be drawn from this study are given in this chapter. It also includes a reminder of the background to the problem, and of the research objectives and then assess what has been done in this study in terms of these objectives.

10.2. Problem and objectives:

As stated earlier in chapter one, the existing guidance provided by the Ministry of Tourism is a standard guide with mandatory facilities and spaces, currently supposed to be applied in the design of all hotels. Again, although there is a need for bedroom adaptability as outlined in the design guide provided by the Ministry of Tourism, there is no information about how to achieve such flexibility or the means to be used to ensure a good performance of the space.

Accordingly, potential operational problems may exist if the project in use has not been designed on the basis of a clear knowledge of the market and detailed design guidance. The study recommends a number of theoretical features and recommendations and suggests a hypothetical relationship between the inclusion of these recommended features, and the level of success of the building in meeting the needs of users. Accordingly, a field work was set up in order to:

5. Assess the architectural effectiveness of the space. In other words, to assess how the selected building in use incorporate design standards or recommended characteristics.
6. Assess the architectural efficiency of the space. In other words to test empirically whether, and to what extent, a relationship between the inclusion of these recommendations and users satisfaction exist.

7. To formulate design guidance about bedrooms in urban hotels to be used by architects.

8. To provide a research approach for both researchers and practicing architects in the field of post-occupancy evaluation.

10.3. Testing of hypothesis and comparison between the level of success or performance between the two hotels:

It was assumed in the first chapter, that the level of success of the space in meeting the needs of users depends upon, both the extent of inclusion of the recommended characteristics and upon the level of satisfaction of users. Accordingly, the higher the level of inclusion the more of these features included the more successful the building should be, and the more suitable the building should be in meeting users' satisfaction. Accordingly, the effect of the recommended characteristics on user satisfaction were classified into four potential cases as outlined in chapter one. These were:

3. The recommended characteristics are **provided** in the sample. Accordingly, two cases can be noticed**:**
   d. If the users are **satisfied**, then the space should be **successful** in use and the recommendations are **essential**.
   e. If the users are **not satisfied**, the space should **not be successful** in use and the recommendations are whether **not appropriate** or **other recommendations** should be **considered**.
4. The recommended characteristics are **not provided** in the sample. Accordingly, two cases can be noticed**:**
   b. If the users are **satisfied**, then the building should be **successful** in use and the recommendations are **not essential**.
   f. If users are **not satisfied**, then the building should **not be successful** in use and the recommendations are **important** and should be provided in future design.

These anticipated cases were analysed and tested in a real context , and the conclusions that can be drawn from this study and the comparison between the level of performance between the two hotels are given as follows:

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10.3.1. Recommendations included and associated with users satisfaction:

-Ease of access from the main routes to the building: There was high percentage of users that were satisfied regarding ease of access from the main routes to the building. This affected the Arc en ciel only. (see 9.2.1.) Accordingly, in terms of ease access from the main routes to the hotel, the Arc en ciel hotel was more successful than the Panoramic hotel. Thus, the recommendations regarding eases of access from the main routes to the hotel are essential and should be considered as an important factor affecting users satisfaction.

-Bedroom location and access: There was high percentage of users that were satisfied regarding bedroom location and access in both hotels. (see 9.2.3. and 9.3.3) Accordingly, the level of performance in both hotels was satisfactory. Therefore, recommendations regarding bedroom location and access are important and should be considered as a factor affecting users satisfaction.

-Layout and number of bedrooms per floor: there was high percentage of users that were satisfied regarding layout and number of bedrooms per floor in both hotels. (see 9.2.4 and 9.3.4) Accordingly, the level of performance in both hotels was satisfactory. Therefore, recommendations regarding layout and number of bedrooms per floor are important and should be considered as a factor affecting users satisfaction.

-Suitability of beds in terms of comfort, height, length of double bed ; durability and resistance to edge damage, ease of movement for making up; absence of creaking joints or springs; appearance (including headboard and end board) : there was high percentage of users that were satisfied regarding beds comfort, height, length of double bed ; durability and resistance to edge damage, ease of movement for making up; ease of dismantling for removal and storage; absence of creaking joints or springs; appearance. (see 9.2.6.1.)This affected the Arc en ciel only. Accordingly, the Arc en ciel hotel was more successful than the Panoramic hotel. The Panoramic hotel shares such performance in terms of beds' height only. (see 9.3.6.1) Therefore, recommendations regarding beds comfort, height, length

of double bed ; durability and resistance to edge damage, ease of movement for making up; absence of creaking joints or springs; appearance are important and should be considered as a factor affecting users satisfaction.

-Beds layout: there was high percentage of users that were satisfied regarding beds layout in both hotels. (see 9.2.6.1 and 9.3.6.1) Accordingly, the level of performance in both hotels was satisfactory. Therefore, recommendations regarding beds layout are important and should be considered as a factor affecting users satisfaction.

-Bedside tables: the suitability of bedside tables in terms of layout, height. There was high percentage of users that were satisfied regarding bedside tables layout and height . (see 9.2.6.3) This affected the Arc en ciel hotel only. Accordingly, the Arc en ciel hotel was more successful than the Panoramic hotel. Therefore, these recommendations are important and should be considered as a factor affecting users satisfaction.

Space requirements:

-Suitability of space requirements in terms of room length: there was high percentage of users that were satisfied regarding room length. This affected the Arc en ciel only. (see 9.2.5) Accordingly, the Arc en ciel hotel was more successful than the Panoramic hotel. Therefore, recommendations regarding room length are important and should be considered as a factor affecting users satisfaction.

-Suitability of space in terms of sound insulation: there was high percentage of users that were satisfied regarding sound insulation in bedrooms. (see 9.2.8) This affected the Arc en ciel only. Accordingly, the Arc en ciel hotel was more successful than the Panoramic hotel. Therefore, recommendations regarding sound insulation are important and should be considered as a factor affecting users satisfaction.

10.3.2. Recommendations not included but associated with users satisfaction:

These concerns cases where recommended characteristics were not included but the space was satisfactory in meeting users requirements:

-The suitability of eases of access from the parking to the main entrance hall: there   was high percentage of users that   were satisfied regarding ease of access from   the parking to the main entrance hall in both hotels. (see 9.2.2 and 9.3.2) Accordingly, the level of performance in both hotels was satisfactory. Therefore, recommendations regarding   ease of access from the parking to the main entrance hall are not important since users are satisfied although the recommendations are not included.

-Suitability of beds' width: there   was high percentage of users that   were satisfied regarding   beds' width. (see 9.2.6.1) This affected the Arc en ciel only. Accordingly, the Arc en ciel hotel was more successful   than the Panoramic hotel. Therefore, recommendations regarding   beds' width are not important since users   are satisfied although the   recommendations   are not included.

-The   suitability of clothes storage in terms of built in into the entrance foyer to the bedroom and   dimensions: there   was high percentage of users that were satisfied regarding cloths storage in general in both hotels. (see 9.2.6.2 and 9.3.6.2) Accordingly, the level of performance in both hotels was satisfactory. Therefore, recommendations regarding   cloths storage are not important since users are satisfied although the recommendations are not included.

-The suitability of bedside tables dimensions: there   was high percentage of users that   were satisfied regarding bedside tables dimensions in general. (see 9.2.6.3) This affected the Arc en ciel hotel only. Accordingly, the Arc en ciel hotel was more successful than the Panoramic hotel. Therefore, recommendations regarding bedside tables dimensions are not important since users are satisfied although the recommendations are not included.

-The suitability of room width: there was high percentage of users that were satisfied regarding room width in general. (see 9.2.5) This affected the Arc en ciel hotel only. Accordingly, the Arc en ciel hotel was more successful than the Panoramic hotel. Therefore, recommendations regarding room width are not important since users are satisfied although the recommendations are not included.

10.3.3. Recommendations not included and users not satisfied:

-The suitability of eases of access in terms of sign positing illumination to clearly identify the access of the hotel from the main route: there was high percentage of users that were not satisfied regarding sign position illumination to clearly identify the access of the hotel from the main route. (see 9.2.2) This affected the Arc en ciel only. Accordingly, the Arc en ciel hotel was unsatisfactory. Therefore, recommendations regarding sign positing illumination are important and should be considered as a factor affecting users satisfaction.

-The suitability of access from the car park to the hotel in terms of covered walkway: there was high percentage of users that were not satisfied regarding covered walkway in front of the access of the hotel in both hotels. (see 9.2.2 and 9.3.2) Accordingly, both hotels were unsatisfactory. Therefore, recommendations regarding covered walkway are important and should be considered as a factor affecting users satisfaction.

-The suitability of luggage rack in terms of size and height : there was high percentage of users that were not satisfied regarding the size and height of the luggage rack in both hotels . Accordingly, both hotels were unsatisfactory. (see 9.2.6.4 and 9.3.6.4) Therefore, recommendations regarding size and height of the luggage rack are important and should be considered as a factor affecting users satisfaction.

-The suitability of writing and dressing tables in terms of length, width and height: there was high percentage of users that were not satisfied regarding length, width and height of writing and dressing tables in both hotels . (see 9.2.6.5 and 9.3.6.5) Accordingly, both hotels were

unsatisfactory. Therefore, recommendations regarding length, width and height of the writing and dressing tables are important and should be considered as a factor affecting users satisfaction.

-The suitability of bedside tables in terms of length, width and height: there was high percentage of users that were not satisfied regarding length, width and height of bedside tables. (see 9.3.6.3) This affected the Panoramic hotel only. Accordingly, the Panoramic hotel was unsatisfactory. Therefore, recommendations regarding length, width and height of bedside tables are important and should be considered as a factor affecting users satisfaction.

-The suitability of space requirements in terms of length, width and height: there was high percentage of users that were not satisfied regarding length, width and height of the bedroom. (see 9.3.5) This affected the Panoramic hotel only. Accordingly, the Panoramic hotel was unsatisfactory. Therefore, recommendations regarding length, width and height of the bedroom are important and should be considered as a factor affecting users satisfaction.

-The suitability of beds' length and width: there was high percentage of users that were not satisfied regarding beds' length and width. This affected the Panoramic hotel only. (see 9.3.6.1) Accordingly, the Panoramic hotel was unsatisfactory. Therefore, recommendations regarding beds' length and width are important and should be considered as a factor affecting users satisfaction.

-The suitability of windows' dimensions in the bedroom: there was high percentage of users that were not satisfied regarding the size of the windows. (see 9.2.7) This affected the Arc en ciel only. Accordingly, the Arc en ciel hotel was unsatisfactory. Therefore, recommendations regarding the size of window are important and should be considered as a factor affecting users satisfaction.

10.3.4. Recommendations included and   users not satisfied:

The case study revealed that there is no case where recommendations are included and users not satisfied.

From this analysis, it appears that the hypothesis was only verified to some extent. The hypothesis was verified when most of the recommendations were included, and the level of inclusion is positively associated with the success with the space and users satisfaction. (As shown in 10.3.1) The hypothesis was also verified when most of the recommendations were not included, and was associated with user dissatisfaction. (As shown in 10.3.2) However, the hypothesis was not verified when the recommendations were not included but associated with user satisfaction. (As shown in 10.3.3).

The study also revealed that there are some recommendations that are included in one hotel and not on the other. On the other hand, there are some recommendations that are not included in one hotel but included in the other hotel but at different degrees.

10.4. Design guidance:

One of the objectives of this study was to formulate guidance supported by empirical evidence for the design of bedrooms in urban hotels in Algeria and to indicate the degree of importance of different types of design features. In other words, which of the recommendations are more or less essential than others. As outlined above in (10.2.), four cases were formulated regarding which of the proposed recommendations are important and should be considered in the design of bedrooms, and which were not or less important in the design of bedrooms in urban hotels. Accordingly, two types of recommendations were proposed. There are some recommendations that are important and essential in the design of bedrooms in urban hotels, and some others are not or less important. These are:

10.4.1. Recommendations that are essential in the design of urban hotels and bedrooms:

10.4.1.1. Ease of access:

i.   From the main routes to the building:

-The access from the main travel route should be clearly indicated and easily recognizable by strangers to the area.

-Good sign posting should be provided to clearly identify the access.

ii.   From the car park to the hotel:

- The parking should be either directly connected or by means of covered walkway from the car park to the hotel to shelter users from bad weather.

- Good sign posting and illumination, to clearly identify the access of the main entrance hall of the hotel.

-The provision of covered area in front of the main access of the hotel.

iii.   From the main entrance hall to the bedroom block:

-The provision of lift are necessary to facilitate access from the entrance lobby to the bedroom bloc.

10.4.1.2. Furniture:

a.   Beds:

i.   **Beds dimensions**:

To have good appearance, beds' height should be between 35 cm to 40 cm as recommended in chapter four. For ease of stripping and making the height should be from 53 cm to 60 cm or even up to 70 cm.

-Beds' length should be between 190 cm to 200 cm as recommended in chapter four.

ii.   **Strength and durability of beds**:

-Beds must be sufficiently strong and able to resist stress.

iii.   **Ease of movement and dismantling**:

- Ease of movement for making up.

- Ease of dismantling for removal and storage.

 -Absence of creaking joints or springs.

iv. **Appearance and comfort**:

-Beds should have good appearance including headboard.

-Beds should be comfortable.

v. **Beds layout**:

-Beds should be positioned at right angle to the party wall as recommended in chapter four.

b. Bedside tables:

i. **Bedside tables dimensions**:

-Bedside tables height should be between 60 cm to 75 cm as recommended in chapter four.

-A night table stand should be provided adjacent to each bed space, between beds or on each side of a double bed.

c. Luggage rack:

i. **Luggage rack dimensions**:

-The length of the Luggage rack should be between 75 cm to 90 cm as recommended in chapter four.

-The width of the luggage rack should be between 45 cm to 55 cm as recommended in chapter four.

-The luggage rack height should be between 40 cm to 45 cm as recommended in chapter four.

d. Writing and dressing tables:

i. Writing and dressing tables dimensions:

- The length of the Luggage rack should be at least 90 cm as recommended in chapter four.

- The width of the luggage rack should be between 40 cm to 45 cm as recommended in chapter four.

- The luggage rack height should be between 7 cm to 75 cm as recommended in chapter four.

c.   Bedroom dimensions:

i.   Room length :

- Room length should be 450 cm as recommended in chapter four.

10.4.1.3. Environmental:

i.   Sound insulation:

Consideration should be given to potential noise problems. For the transmission of noise from outside the hotel the recommendations given in chapter four should be considered.

10.4.2. Recommendations that are not or less essential in the design of bedrooms in urban hotels:

10.4.2.1. Ease of access:

i.   From   the car park to the hotel:

- Sign posting from the parking to the hotel seems to not very important.

10.4.2.2. . Furniture:

a.   Beds:

i.   Beds dimensions:

-Beds' width can be reconsidered.

b.   Clothes storage:

i.   Cloths storage layout in the bedroom can be reconsidered.

ii.   Cloths storage dimensions:

- Cloths storage length can be reconsidered.

- Cloths storage width can be reconsidered.

- Cloths storage height can be reconsidered.

c.   Bedside tables:

i.   Bedside tables dimensions:

- Bedside tables length can be reconsidered.

- Bedside tables width   can be reconsidered.

d.   Bedroom dimensions:

i.   Room width   can be reconsidered.

10.5. Research guidance:

The second   objective of this study is to formulate a research approach which would be of use to both practicing architects and researchers in the field of post-occupancy evaluation and the provision of design guidance   in the field of architecture. The study showed that architects do not have a research bias and appropriate resources. One problem has been the small amount of information regarding design guidance applicable to design. The study showed that, to provide design guidance about one or different spaces in any building type the following procedure should be followed:

a. Examine the facility and list the recommendations regarding the requirements of such facility.(chapter 4)

b. Select a sample for the study.

c. Measure the inclusion of the recommendations in the sample.

d. Measure the level   of success or performance of the building.

e. Relate the level of inclusion to the level of success of the building in order to relate   the level of inclusion of the recommendations   against the level of success achieved.

f. Formulate guidance on the relationship of the   recommendations to the building success, i.e. which ones are essential or important, and which ones are not or less important.

10.6. Summary:

The main lessons that has been learnt from this study is that the factors involved in the design of any space are very complicated. As the study showed, it is not at all easy to predict which type of variables are most influencing user

satisfaction. The case study showed that though the literature recommends certain features to be included in the design of the space to ensure good performance in use, were proven to be less essential than other features which were not included in the design of the space. Clearly, it is insufficient to base briefing and design decision purely on theoretical recommendations which should where possible be supported by empirical evidence.

Finally, this research was based on theoretical work derived from a very large amount of specialized literature, and a field work carried out in Algeria. It is not easy to measure the extent to which such findings can be applied to all urban hotels in Algeria or other countries. Architects can nevertheless draw upon the design recommendations listed herein as a basis for any work they may undertake in the design of bedrooms in urban hotels. At the end, it can be noticed that still much work needs to be done in the field of post-occupancy evaluation in different types of buildings.

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Appendix 1. a.

Space requirements for beds and bedside tables in a hotel bedroom.

Source: LAWSON,   Fred, Hotels and Resorts Planning, Design, and Refurbishment, The Architectural Press Ltd,   London 1995. p.71.

Appendix 1. b.

Space requirements for clothes storage in a hotel bedroom.

Source: LAWSON, Fred, Hotels and Resorts Planning, Design, and Refurbishment, TheArchitectural Press Ltd, London 1995. p.72.

Appendix 1.c.

Space requirements for luggage rack in a hotel bedroom.

Source: LAWSON,   Fred, Hotels and Resorts Planning, Design, and Refurbishment, TheArchitectural Press Ltd,   London 1995. p.73.

Appendix 1.d.

Space requirements for writing and dressing table in a hotel bedroom.

Source: LAWSON,   Fred, Hotels and Resorts Planning, Design, and Refurbishment, TheArchitectural Press Ltd,   London 1995. p.73.

Appendix 2:

The suitability of techniques for different stages of POE

KEY	OPERATIONAL REVIEW					
Most suitable approach 🟩		Qualitative assessment			Analytical assessment	
Quite useful 🟨	Observation	Interview	Focus Group	Workshop	questionnaire	Measurement
Least useful 🟦						
Not applicable 🟥						

PROCESS

	Observation	Interview	Focus Group	Workshop	questionnaire	Measurement
Brief	🟥	🟦	🟨	🟩	🟩	🟥
Procurement	🟥	🟦	🟨	🟩	🟩	🟩
Design	🟥	🟦	🟨	🟩	🟩	🟥
Construction	🟥	🟦	🟨	🟩	🟩	🟩
Commissioning Process	🟩	🟨	🟦	🟩	🟨	🟥
Occupation	🟩	🟨	🟦	🟩	🟨	🟥

FUNCTIONAL PERFORMANCE

Strategic value	🟥	🟥	🟥	🟥	🟥	🟥
Aesthetics and image	🟨	🟨	🟨	🟨	🟨	🟥
Space	🟩	🟥	🟦	🟦	🟦	🟩
Comfort	🟩	🟨	🟦	🟦	🟨	🟥
Serviceability	🟩	🟦	🟨	🟨	🟨	🟦
Life-cycle cost	🟥	🟥	🟥	🟥	🟥	🟥
Operational management	🟥	🟥	🟥	🟥	🟥	🟥
Amenity	🟩	🟦	🟦	🟦	🟨	🟥

TECHNICAL PERFORMANCE

Physical systems	🟩	🟦	🟦	🟦	🟨	🟨
Adaptability	🟥	🟥	🟥	🟥	🟥	🟥
Environmental Systems	🟥	🟥	🟥	🟥	🟥	🟥
Durability	🟥	🟥	🟥	🟥	🟥	🟥

KEY	PROJECT REVIEW					
	Qualitative assessment				Analytical assessment	
	Observation	Interview	Focus Group	Workshop	questionnaire	Measurement

KEY

Most suitable approach — green

Quite useful — yellow

Least useful — blue

Not applicable — red

PROCESS

	Observation	Interview	Focus Group	Workshop	questionnaire	Measurement
Brief	red	yellow	yellow	green	green	red
Procurement	red	yellow	yellow	green	green	light green
Design	red	yellow	yellow	green	green	red
Construction	red	yellow	yellow	green	green	light green
Commissioning Process	light green	yellow	blue	green	yellow	red
Occupation	light green	yellow	blue	green	yellow	red

FUNCTIONAL PERFORMANCE

Strategic value	🟥	🟦	🟩	🟨	🟨	🟥
Aesthetics and image	🟦	🟨	🟨	🟩	🟩	🟥
Space	🟩	🟦	🟩	🟨	🟦	🟩
Comfort	🟦	🟨	🟩	🟨	🟩	🟩
Serviceability	🟥	🟥	🟥	🟥	🟥	🟩
Life-cycle cost	🟥	🟥	🟥	🟥	🟥	🟩
Operational cost	🟩	🟦	🟨	🟨	🟩	🟩
Amenity	🟩	🟦	🟨	🟨	🟦	🟩

TECHNICAL PERFORMANCE

Physical systems	🟩	🟦	🟨	🟨	🟨	🟩
Adaptability	🟩	🟥	🟥	🟥	🟥	🟩
Environmental Systems	🟥	🟥	🟥	🟥	🟥	🟩
Durability	🟩	🟦	🟦	🟦	🟦	🟩

KEY	STRATEGIC REVIEW					
	Qualitative assessment				Analytical assessment	
	Observation	Interview	Focus Group	Workshop	questionnaire	Measurement

KEY

Most suitable approach 🟩

Quite useful 🟨

Least useful 🟦

Not applicable 🟥

PROCESS

PROCESS	Observation	Interview	Focus Group	Workshop	questionnaire	Measurement
Brief	🟥	🟨	🟩	🟩	🟥	🟥
Procurement	🟥	🟨	🟩	🟩	🟥	🟥
Design	🟥	🟨	🟩	🟩	🟥	🟥
Construction	🟥	🟨	🟩	🟩	🟥	🟥
Commissioning Process	🟥	🟨	🟩	🟩	🟥	🟥
Occupation	🟥	🟨	🟩	🟩	🟥	🟥

FUNCTIONAL PERFORMANCE

Strategic value	🟥 red	🟨 yellow	🟩 green	🟩 light green	🟥 red	🟥 red
Aesthetics and image	🟦 blue	🟦 blue	🟩 green	🟨 yellow	🟨 yellow	🟥 red
Space	🟩 light green	🟨 yellow	🟩 green	🟨 yellow	🟩 light green	🟩 light green
Comfort	🟦 blue	🟨 yellow	🟩 green	🟨 yellow	🟩 light green	🟩 light green
Serviceability	🟩 light green	🟦 blue	🟨 yellow	🟦 blue	🟩 light green	🟩 light green
Life-cycle cost	🟥 red	🟥 red	🟥 red	🟥 red	🟥 red	🟩 light green
Operational management	🟩 light green	🟥 red	🟥 red	🟥 red	🟩 light green	🟩 light green
Amenity	🟩 light green	🟦 blue	🟨 yellow	🟦 blue	🟦 blue	🟩 light green

TECHNICAL PERFORMANCE

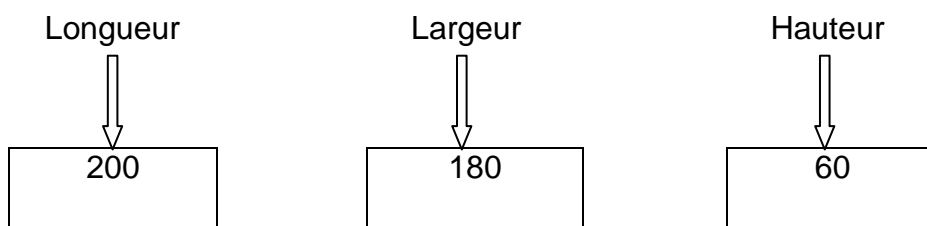|						
Physical systems	🟩 light green	🟨 yellow	🟨 yellow	🟨 yellow	🟨 yellow	🟩 light green
Adaptability	🟩 light green	🟨 yellow	🟩 light green	🟩 light green	🟨 yellow	🟩 light green
Environmental Systems	🟥 red	🟥 red	🟥 red	🟥 red	🟥 red	🟩 light green
Durability	🟩 light green	🟦 blue	🟦 blue	🟦 blue	🟦 blue	🟩 light green

Appendix 3

-Bedroom location and access : see plans in chapter six

-Layout and number of bedrooms   per floor: 13 see also plans in chapter six

-Structure: see plans in chapter six

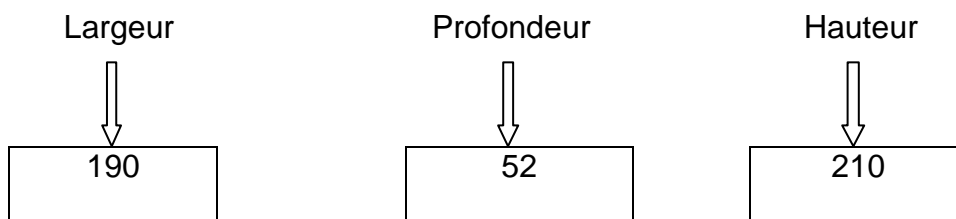**-Furniture and space requirement:**

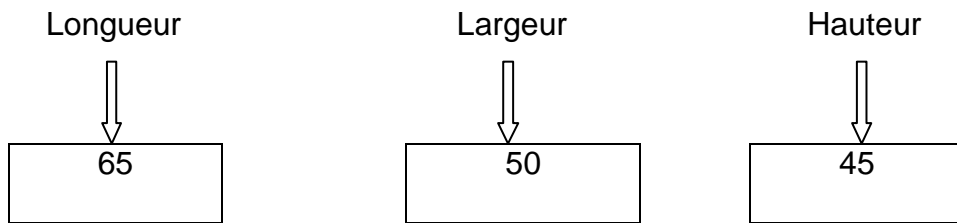**Beds**:

Single bed size (cm)

Longueur	Largeur	Hauteur
↓	↓	↓
200	90	60

Double bed size

Longueur	Largeur	Hauteur
↓	↓	↓
200	180	60

-Beds layout: see plans chapter six

-Clothes storage : (cm)

Largeur	Profondeur	Hauteur
↓	↓	↓
190	52	210

-Luggage rack : (cm)

Longueur	Largeur	Hauteur
65	50	45

-Writing and dressing table : (cm)

Longueur	Largeur	Hauteur
248	70	96

-Bedside tables   : (cm)

Logueur	Largeur	Hauteur
40	40	60

-Space requirements : (cm)

Longueur	Largeur	Hauteur
450	380	325

-Doors and openings : see plans chapter six

-Sound insulation :

-Heating ventilation and air conditioning :
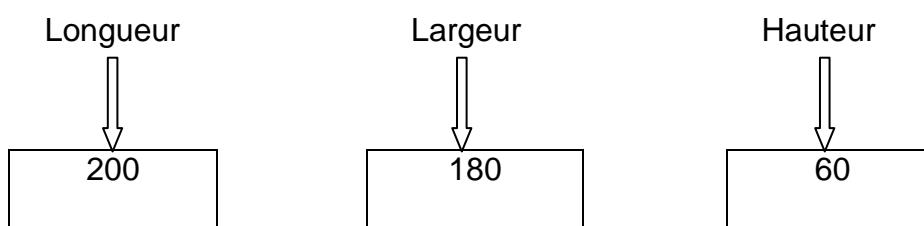
Appendix 4

-Bedroom location and access : see plans in chapter six

-Layout and number of bedrooms   per floor: 13 see also plans in chapter six

-Structure: see plans in chapter six

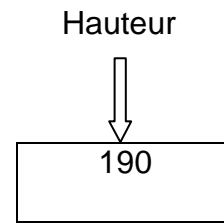**-Furniture and space requirement:**
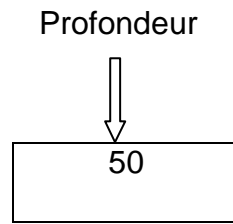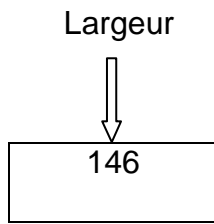
Beds:

Single bed size (cm)

Longueur	Largeur	Hauteur
200	90	60

Double bed size

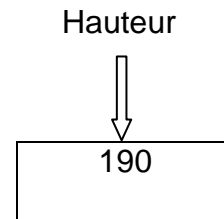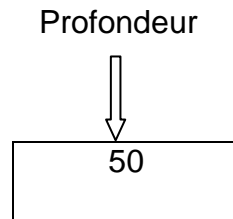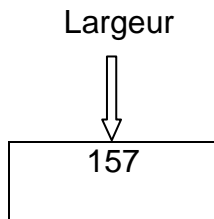| Longueur	Largeur	Hauteur
200	180	60
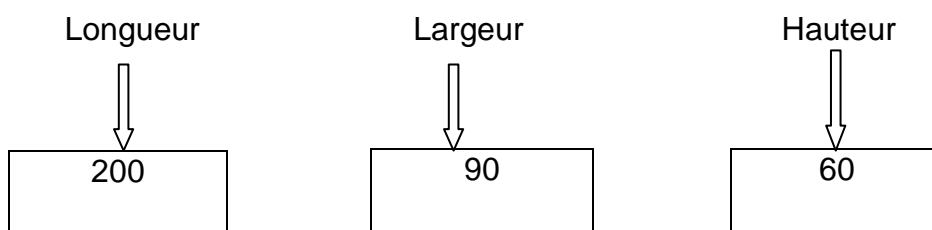
-Beds layout: see plans chapter six

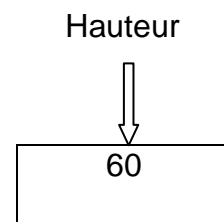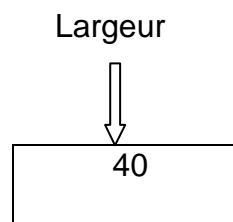**-Clothes storage : (cm)**

    a. Single room :

Largeur	Profondeur	Hauteur
↓	↓	↓
146	50	190

b. suite :

Largeur	Profondeur	Hauteur
↓	↓	↓
157	50	190

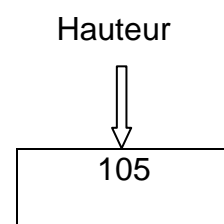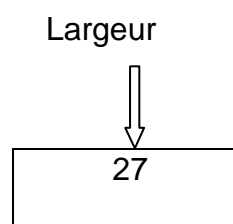**-Luggage rack : (cm)**

a. singe room :

Longueur	Largeur	Hauteur
↓	↓	↓
70	40	60

b. double room :

Longueur	Largeur	Hauteur
↓	↓	↓
57	27	105
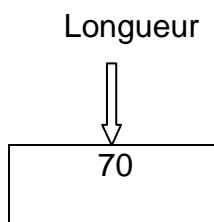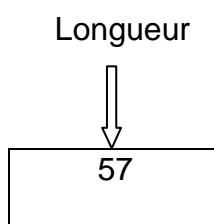
-Writing and dressing table : (cm)

a. single room:
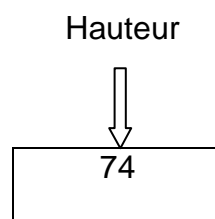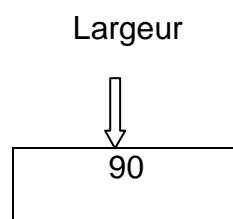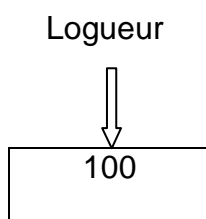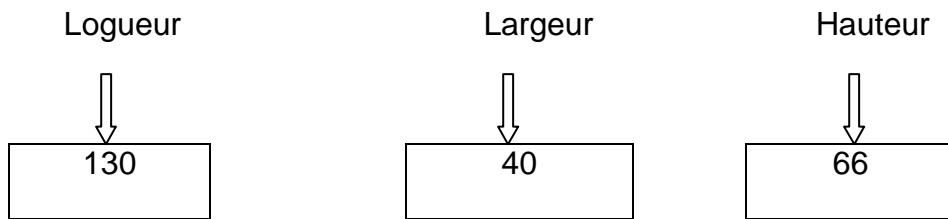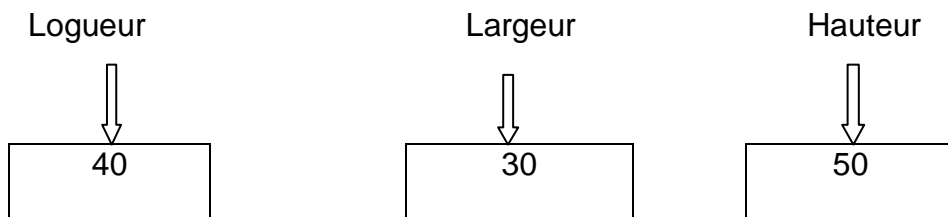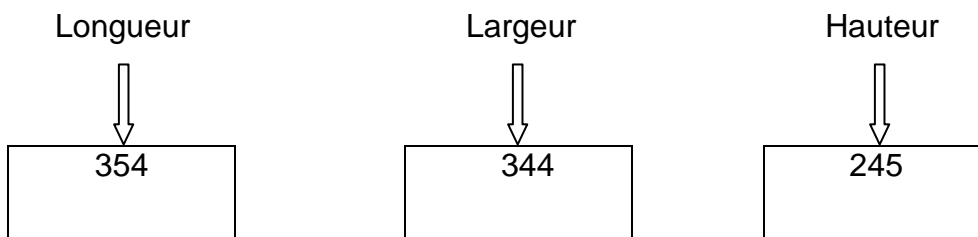
Logueur	Largeur	Hauteur
↓	↓	↓
100	90	74

b.double room :

Logueur	Largeur	Hauteur
⇩	⇩	⇩
130	40	66

-Bedside tables   : (cm)

Logueur	Largeur	Hauteur
⇩	⇩	⇩
40	30	50

-Space requirements : (cm)

Longueur	Largeur	Hauteur
⇩	⇩	⇩
354	344	245

-Doors and openings : see plans chapter six

-Sound insulation :

-Heating ventilation and air conditioning : centrally heated, and air conditioned.

Questionnaire N°	Code :

Veuillez nous aider en complétant ce questionnaire. Ce travail rentre dans le cadre d'un travail de recherche en Architecture. Toutes les informations seront traitées dans la confidence.   Merci.

Section 1 : Planning considérations et attitude des utilisateurs

Veuillez cocher la réponse qui vous convient.

1.1.   Quelles sont les raisons de votre séjour à l'hôtel ?

   a- Vacances
   b- Travails
   c- Autres (précisez)…………………………

1.2.   Quels types de transport avez-vous   utilisé pour venir à l'hôtel ?

   a- Transport en commun
   b- Taxi
   c- Voiture personnelle
   d- A pied

1.3.   Combien comptez-vous rester à l'hôtel ?
   a- Une nuit
   b- Deux nuits
   c- Trois nuits
   d- Quatre nuits
   e- Cinq nuits
   f- Six nuits
   g- Une semaine et plus

1.4.   Quels types de chambres occupez-vous ?

      a- Chambre simple

      b- Chambre double

      c- Suites

1.5.   Pourquoi avez-vous choisi cet hôtel ? parce qu'il est :

      a- Bien situé

      b- Façade intéressante

      c- Prix intéressant

      d- Qualité de service

      e- Qualité architecturale (design de l'intérieur)

      f- Qualité des chambres

      g- Autres (précisez) …………………………

1.6 Es ce que se sont vos critères de choix par rapport à n'importe quel hôtel ?

     OUI   NON

1.7. Es ce que vous êtes satisfait de la situation de l'hôtel ?

     OUI   NON

1.8. Es ce que vous êtes satisfait de l'image (facade et decoration interieure) de l'hôtel ?

     OUI   NON

1.9. Es ce que vous êtes satisfait du prix de la chambre ?

     OUI   NON

1.10. Es ce que vous êtes satisfait de la qualité de service ?

     OUI   NON

1.11. Es ce que vous êtes satisfait de la qualité architectural des chambres ?

| Section 2. Design considérations / Attitudes des utilisateurs |

2.1. Comment trouvez-vous l'accès à l'hôtel à partir de la route principale ?

    a- Facile

    b- Difficile

2.1. Comment trouvez-vous l'accès à l'hôtel à partir du parking ?

    a- Facile

    b- Difficile

2.2. Vous accédez aux chambres en utilisant :

    a- l'Ascenseur

    b- l'Escalier

2.3. Comment trouvez-vous l'accès à la chambre à partir du hall principal :

    a- Facile

    b- Difficile

2.4. Quels sont les éléments qui affect le plus votre satisfaction de la chambre :

    a- l'Orientation de la chambre

    b- l'Aménagement de la chambre

    c- La surface de la chambre

    d- le mobilier :

- Le lit
- Les espaces de rangement
- Les tables à chevet
- Le bureau
- Les fauteuils
- Le téléviseur

e. L'éclairage naturel et ensoleillement

f.L'éclairage artificiel

g.Le confort acoustique

h. Le confort thermique

i.La qualité des matériaux utilisées

j.La couleur de la chambre

2.5.   Es ce que vous êtes satisfait de l'orientation de la chambre ?

OUI   NON

2.6. Es ce que vous êtes satisfait de l'aménagement (emplacement du mobilier dans la chambre) ?

OUI   NON

2.7. Es ce que vous êtes satisfait de la surface de la chambre ?

OUI   NON

2.8. Es ce que vous êtes satisfait de la qualité des lits (dimensions et confort) ?

OUI   NON

2.9. Es ce que vous êtes satisfait des gardes robes (dimensions et emplacement dans la chambre) ?

OUI   NON

2.10. Es ce que vous êtes satisfait des tables de nuit (dimensions et emplacement /aux lits) ?

OUI		NON

2.11. Es ce que vous êtes satisfait du meuble à bagage (dimensions et emplacement dans la chambre) ?

OUI		NON

2.12. Es ce que vous êtes satisfait du bureau et coiffeuse (dimensions et emplacement dans la chambre) ?

OUI		NON

2.13. Es ce que vous êtes satisfait de l'hôtel d'une manière générale ?

OUI		NON

Appendix 6

Normes et classification des hotels en Algerie

Résumé:

Cette étude tente de tirer profit de l'expérience des pays en avance dans le domaine de la conception des hôtels urbain. Une attentions particulière a été attribué à la conception de l'espace chambre. L'objectif est d'investiguer les recommandations théoriques ainsi que les normes et standards utilisé dans la conception de cet espace en vue d'assurer une bonne performance fonctionnelle de l'espace vécu, ainsi que les caractéristiques d'espace à inclure pouvant assurer une flexibilité dans l'utilisation. Ces informations vont combler le manque d'information flagrant dans les programmes d'hôtel en Algérie. Par conséquent, se programme de recherche a été divisé en deux parties. L'objectif de la première partie est purement théorique et consiste à procurer les critères de performance. L'objectif de la deuxième partie consiste à mener sur terrain une étude d'évaluation* de la performance de l'espace chambre. Deux cas d'hôtels ont été choisi pour mener cette étude d'évaluation.

En conclusion, cette étude a suggérer un ensemble de recommandations testé sur terrain pouvant servir de guide de conception concernant les caractéristiques et considération fonctionnelles pour la conception de l'espace chambre dans les hôtels urbain en Algérie. Les recommandations relatives à l'inclusion du concept d'adaptabilité restent sous forme théorique étant donné que ce concept n'est inclus dans les deux cas d'étude. Cette étude a également procuré une méthode d'approche pour les chercheures désirant investiguer dans l'évaluation post occupationnelle d'un espace vécu en vue de procurer ou d'enrichir les guides de conception dans le domaine de l'espace architectural.

*POE :Domaine de recherche spécialisé dans les études de performances des batiments en phase opérationnelle.

<u>ملخص</u>

هده الدراسة ثطمح الى ألأستفادة من الخبراث العالمية فى مجال الثصميم العمرانى للفنادة و بصفة خاصة تصميم الغرف. و بالثالى ثهدف هده الدراسة الى ألأستثمار فى مجال التؤجيهات النضرية والمقاييس العالمية فى مجال التصميم الهندسى الدى يضمن مردؤد و كفاءة عالية خلال مرحلة الإستعمال. بالإضافة الى دلك معرفة التوجيهات الخاصة بادخال مصطلح المرونة فى تصميم الغرف. هده المعلومات تكون لها فائدة من حيث نقص المعلومات الموجودة في البرنامج المخصص للفنادق كما يمكن استعمالها كمقاييس تقييمية فى مرحمة الإستعمال. و بالثالى فان هده الدراسة تنقسم الى قسمين. قسم نضري و قسم تجريبي. القسم التجريبي يهدف الى اجراء دراسة تقويمية* من خلال دراسة ميدانية لفندوقين لقياس مدى المردود الوظيفي للغرف في مرحلة الإستعمال. و بالتلي نتائج هده الدراسة هو تقديم مجموعة توصيات مدعومة بنتائج تجريبية تساهم في تحسين مستوى التصميم المعماري. بالإضافة الى دلك فان هده الدراسة قدمت بعض التوجيهات المتعلقة باسس البحث في مجال التقويم و مردود الفضاءات في المجال المعماري بصفة عامة.

<u>ألتقويم*</u> . هو مجال البحث العلمي المتخصص في مردود العمارات بعد مرحلة الأستعمال.

ABSTRACT

This research work tend to learn from advanced countries in the field of urban hotels' design. In this study, particular attention was given to the design of bedrooms facilities. It investigates the main theoretical design recommendation and standards likely to ensure good performance in use, and in agreeing the characteristics to be included in such space with regards to the concept of adaptability. Such information would be useful first, to fill in the lack of information in the Algerian design guidance, and second, to be used as a criteria to measure the architectural performance of bedrooms' urban hotels in Algeria. Accordingly, this research work was divided into two main parts. The objective of the first part is to assess the main theoretical recommendations with regards to bedroom flexibility, and the recommended space characteristics most likely to ensure a good performance in use of the space.

The objective of the second parts is a field work. It aims to evaluate* empirically the performance of bedrooms in urban hotels in Algeria, using design recommendations listed in the first part as performance criteria. Accordingly, two existing hotels were selected for this study.

The study has provided design guidance supported by empirical evidence for the design of bedrooms for future urban hotels in Algeria. It emphasizes on recommendations most likely to ensure functional performance of the space. However, since the concept of adaptability was not introduced in the design of the two hotels taken for the study, the recommendations given with regards to this concept remained theoretical. Also, the study has formulated a research approach which would be of use for both practicing architects and researchers in the field of post-occupancy evaluation and the provision of design guidance in the field of architecture.

*POE: Post occupancy evaluation, are terms describing research that focuses on completed building projects.