

DESIGN PERFORMANCE OF BEDROOMS IN URBAN HOTELS IN ALGERIA WITH PARTICULAR REFERENCE TO FURNITURE SUITABILITY

Reçu le 23/05/2007– Accepté le 26/02/2008

Résumé

L'évaluation des bâtiments est d'importance particulière dans un contexte tel que l'Algérie afin de mesurer à quel point les projets d'Architecture en cours d'utilisation répondent aux besoins des utilisateurs, et identifier les manières à utiliser pour améliorer la conception architecturale. D'un autre côté, il est nécessaire de procurer des guides de conception basée sur la recherche et l'évaluation des projets existants. Il existe beaucoup de bâtiment qui ont des directives pour la conception, mais peu sont basés sur la recherche et l'évaluation pour être utiles dans la conception d'un projet d'architecture. Une revue et une analyse des guide de conception fournies par le ministère du tourisme pour des bâtiments d'hôtel ne fournit pas les données nécessaires pour les architectes. Les guides et recommandations existants semblent être des guides standard. Ils traitent principalement des dimensions des espaces avec peu d'attention à d'autres aspects de conception. En conséquence, les problèmes opérationnels peuvent exister étant donné que le projet en service n'a pas été conçu sur la base d'une connaissance claire du marché et des guides détaillés de conception. Cet article vise à découvrir par l'évaluation comment l'espace réalisé et occupé performe dans la phase utilisation afin de cerner les erreurs commises lors de la phase conception, et accumuler l'information et les conseils nécessaires pour les futur projets. Il traite principalement l'étude de la performance des chambres à coucher dans les hôtels urbains en Algérie. Cet article, ne couvrira pas tous les aspects de la conception, mais évalue seulement la convenance du mobilier dans les hôtels urbains.

Mots clés: *Domaine de recherche spécialisé dans les études de performances des bâtiments en phase Opérationnelle*

Abstract

As far as the Algerian context is concerned, the importance of building post-occupancy evaluation (POE)* in architecture cannot be overstressed. Evaluation of buildings is of particular importance in order to assess how well buildings match users' needs, and identifies ways to improve building design. On the other hand, the provision of design guidance based on research and evaluation is of particular importance. Many building types have guidelines for design, but few are based on adequate research and evaluation; many are too general to be of sufficient use in architectural design. A review and analysis of design guidance about bedrooms in urban hotels provided by the Ministry of Tourism does not provide adequate data for Architects. The existing guidance seems to be a standard guide with mandatory facilities and spaces. It deals mainly with the dimension of spaces with little attention to other design requirements. Accordingly, operational problems may exist since the project in use has not been designed on the basis of a clear knowledge of the market and detailed design guidance. This article aims to discover through evaluation how the completed and occupied space performs in use; to determine possible misfits, mistakes, or omissions; and to accumulate information and guidance for future programming and design efforts. It deals mainly with the performance of bedrooms in urban hotels in Algeria. This article, will not cover all aspects of design requirements, but deals only with evaluating furniture suitability in urban hotels.

Keywords: Post occupancy evaluation, are terms describing research that focuses on completed building projects.

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ملخص

هو مجال البحث العلمي المتخصص في مردود العمارات بعد مرحلة الأستعمال

INTRODUCTION

Building evaluation, post occupancy evaluation, and building in use are terms describing research that focuses on completed building projects.(1) POE aims to discover how the completed and occupied building performs in use. A preliminary visits and analysis to some urban hotels in Algeria revealed the need to set up an evaluation study in order to assess how bedrooms in urban hotels performs in use. It is argued (2)(3) that operational problems may exist if the project has not been designed on the basis of a clear knowledge of the market and detailed design guidance. Such problems may in turn have an impact on users satisfaction and accordingly affect the project profit. Evaluation of bedrooms in urban hotels gives us an idea about the level of architectural performance of the space and possible associating problems. On the other hand, this study would give us a basis to provide design guidance for architects to use it as basis for their design in order to ensure a good performance of the space. We determine the value of our judgment on the basis of criteria that we can define. These criteria govern the direction of the evaluation and provide structure and justification for the judgments we make. (4)

2. PROBLEM IDENTIFICATION

A review of design guidance provided by the Ministry of Tourism does not provide adequate data for Algerian architects or designers . It was argued 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. The Algerian guidance lacks detailed data about different factors involved in the design of such facilities. The provided guidance, which is still in use, deals mainly with the dimension of spaces with little attention to other design requirements. Accordingly, it seems obvious that architects do not have a research bias and appropriate resources. One problem has been the small amount of information applicable to design. It is argued from evidence in the literature that it is necessary for the operator to have a clear knowledge of his intended users to determine the size, type of hotel and to meet the marketing objectives.(5) Many building types have guidelines for design, but few are based on adequate research and evaluation; many are too general to be of sufficient use in architectural design. Thus, 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 problems in use may in turn have an impact on users satisfaction and accordingly affect the project profit. Accordingly, this study aims to evaluate bedrooms in urban hotels building in Algeria through a case study in order to:

1. Assess how bedrooms in urban hotels incorporate design standards or recommended characteristics.(criteria)

2. To test empirically whether, and to what extent, a relationship between the inclusion of these recommendations and users satisfaction exist.

Therefore, this study addresses it self to the question of how and to what extent bedrooms in urban hotels in Algeria perform in use. In other words, this article aims to discover how the completed and occupied space performs in use; to determine possible misfits, mistakes, or omissions; and to accumulate information and guidance for future programming and design efforts.

3. THE RESEARCH APPROACH:

To achieve the objective outlined earlier, this study is divided into two main parts :

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

- The recommended characteristics on bedroom design from a large field of literature about hotels building. This will be used as criteria against which the performance of design features will be measured. Accordingly, the following design criteria are those used for assessing the performance of bedrooms in urban hotels in terms furniture suitability.

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

a. The theoretical recommendation isolated from the literature in the first part about the recommended characteristics are well founded.

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

In other words, the research is aiming to test in practice whether, and to what extent, a relationship between the inclusion of these recommendations and users satisfaction exist. The key variables to be measured are the recommendations, as independent 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 using users "satisfaction" as a measure of fit.

PART 1

4. Design recommendations related to functional aspect of design:

This group consists of recommendations relating to characteristics of bedrooms for which the space is being used. It aims to provide some necessary requirements recommended by literature to help in designing hotel bedrooms. This article will not cover all aspects of design, but deals only with some recommendations that are closely related to functional features of the space especially those related to furniture suitability.

4.1. 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. 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. Freestanding furniture has the advantage of providing flexibility and ease of maintenance. Furniture, such as beds clothes cupboards, bedside tables, luggage racks and writing desks is required in a bedroom, luggage racks and desks is required in a bedroom. 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; and a writing table is required by business customers. The requirements for each type of furniture are as follow: (6)

4.1.1. Beds : ERDI, Louis 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’.

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).

i. Bed size: Beds should, in principle, be standardized for international travelers, but there are no rigid rulers. There are many variations in bed sizes depending on many factors. They 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. (7)
- 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. ERDI Louis recommended that these should always be used in future.

For most situations twin beds are preferable, providing both single double occupation by addition, there is a strong case for using 200 cm x 150 cm beds in single rooms so that they can be used double beds if required.

ii. Beds height: There are many variations in bed height. For appearance, a height of 0.35 m to 0.40 (including mattress) is best, but 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. (8)

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, for a single bedded room, economy in width is gained by putting the bed parallel to the party wall. where it is turned and moved back against the wall to create a larger living space in the centre of the room. Twin beds are generally separated by a night table to allow a degree of individual privacy.

4.1.2. Clothes storage: Hanging space is provided in a wardrobe or closet, sometimes built into the entrance foyer to the bedroom. 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. The length of hanging space varies from a single to a double room. (9) The recommended length of hanging space is as follow:

Recommended length of clothes storage by types of bedroom

Requirement	modest tariff	high tariff
Hanging space length	mm	mm
Single	500	900
Double	900	1200

Source: ERDI, Louis; LAWSON, Fred; DOSWELL, Roger; PHILLIPS, Maurice, Information Sheet Hotel 3: Guest Bedrooms and Bathrooms, Article in the Book: “Principles of hotels Design”, by The Architects Journal, The Architectural Press Ltd, London 1999, p34.

4.1.3. Bedside tables: A night table stand should be provided adjacent to each bed space, between beds or on each side of a double bed. A bedside table should be large (0.375 m. by 0.45 m). (10)

For books, glasses, water and telephone. 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. (11)

4.1.4. Luggage rack : One luggage rack is adequate for most transient hotels, but two racks are usually recommended for resort hotels. Regarding the size of luggage rack, 0.750 m to 0.900 m long is required in all rooms. The recommended height of the luggage rack is 0.45 m. (12)

4.1.5. Writing and dressing tables: A dressing table at least 0.90 m long which can also double as writing desk is recommended. optimum table heights are 0.700 m -0.750 m with a corresponding stool height of 0.430 m-0.450m. In addition, the dressing table should contain at least one drawer, and a mirror above it. Table and furniture should be uniform in depth, between 0.400m-0.500m, to avoid wall damage.(13)

PART 2

5. The case study

5.1. General background: The ARC EN CIEL hotel is a four stars urban hotel built in 2002, designed by the Architect Haddouche Makhlof. This modern 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.

5.2. 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. (14) 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.

5.3. Checking the recommendations in the sample:

5.3.1. Furniture: 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 includes all the furniture recommended in chapter three. The requirements for each type of furniture are as follow:

a.Beds: 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).

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 confort, the questionnaire was used instead to measure user attitude concerning bed's confort.

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.

i. Bed size: 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.

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 does not 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.

ii.Beds height: The recommendations regarding beds height were outlined in chapter three, these are:

- 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. 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.

iii.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.

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.

b.Clothes storage: The recommendations regarding clothes storage were outlined in part one. 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 500 mm.

-The requirement of hanging space length for a single bedroom in a high tariff is 900 mm.

-The requirement of hanging space length for a double bedroom in a modest tariff is 900 mm.

-The requirement of hanging space length for a double bedroom in a high tariff is 900 mm.

In the Arc 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.

c. Bedside tables: 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 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.

d. Luggage rack: 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 0.900 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 provides a luggage rack with 0.50 m long 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.

e. Writing and dressing tables. The recommendations regarding writing and dressing tables were outlined in chapter three. These are:

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

- A dressing table at least 0.90 m long is required. The dressing table can also be used as a writing desk.

- Table heights varies between 0.700 m to 0.750 m with a corresponding stool height of 0.430 m to 0.450m.

- Table and furniture should be uniform in depth, between 0.400m-0.500m, to avoid wall damage.

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 0.50 m in height which is more than the recommended standards. Concerning the depth of the table, the Arc en Ciel hotel provides a table with 0.70m in depth witch 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.



Twin bedroom



Cloths storage



writing table

5.4. The view of users:

5.4.1. The suitability of furniture:

To assess the suitability of bedroom furniture, it was necessary to have a clear idea of the impact of furniture on user when choosing their hotels. 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.

a.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.

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

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

d.The suitability of Luggage rack: To assess the suitability of Luggage rack it was necessarily to measure the attitude of users with regard to bedides tables efficiency. Accordingly, users were asked about their feeling in terms of ease of use and dimentions. 32 % of users were satisfied with Luggage rack provided in the Arc en ciel hotel. 68 % of users were not satisfied with Luggage rack provided in the Arc en ciel hotel. Accordingly, and from these figure it seems that bedides tables are not suitable in the Arc en Ciel hotel.

e.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. Accordingly, users were asked about their feeling in terms of ease of use and dimentions. 76 % of users were satisfied with 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 Arc en ciel hotel. Accordingly, and from these figure it seems that writing and dressing tables are suitable in the Arc en Ciel hotel.

Users attitudes regarding the suitability of furniture are shown in table below:

Type of furniture	Users attitudes	
	Satisfied	Not satisfied
Beds confort	77%	33%
Clothes storage	95%	5%
Bedside tables	97%	3%
Luggage rack	32%	68%
Writing and dressing tables	76%	24%

5.5. The relationship between following the recommendations and the level of performance of design features in the Arc en Ciel hotel:

The aim of this part 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. 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 be satisfactory and the more these characteristics were included, the more satisfied the users. Thus, this part aims to investigate and describe to what extent the inclusion of the characteristics recommended in this article 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.

5.5.1. Furniture:

a.Beds: i. Through observation and measurements, it was found 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 Arc en ciel 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.

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 Arc en Ciel hotel was satisfactory. Therefore, although the recommendations were not followed, they seem to be satisfactory in meeting the users requirements.

i.Beds layout: 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 Arc en Ciel hotel was in general satisfactory. Therefore, the recommendations were followed and satisfactory in meeting the users requirements.

b.Clothes storage: i. Through observation and measurements, it was found in chapter six that recommendations related to the suitability of clothes storage were not included in the Arc en ciel hotel. The Arc en Ciel hotel does not include recommendations regarding clothes storage built into the entrance foyer to the bedroom. It does not include recommendations regarding clothes storage' length for double or twin bedded room. Therefore, in theory, the Arc en Ciel hotel should not be satisfactory in terms of clothes storage requirement in the bedroom.

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

-With regards to clothes storage requirements, the majority of users of the Arc en Ciel hotel indicated that clothes storage provided in the Arc en Ciel hotel was in general satisfactory. Therefore, although the recommendations regarding clothes storage were not followed, they seem to be satisfactory in meeting the users requirements.

c.Bedside tables : i. Through observation and measurements, it was found in chapter six 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' heightThe 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' 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 recommendations regarding bedside tables's dimensions are not included, : the majority of users of the Arc en Ciel hotel indicated that the design and height of bedside tables' dimensions was satisfactory. Therefore, although the recommendations regarding bedside tables' dimensions were not included, they seems to be satisfactory in meeting the users requirements.

d.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 the luggage rack recommended in chapter six was not included in the Arc en Ciel hotel. Also, the height of luggage rack recommended in chapter six 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.

e.Writing and dressing table:

i. Through observation and measurements,

it was found in chapter six 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 six was not included in the Arc en Ciel hotel. The writing and dressing tables' height considered suitable for writing and dressing tables outlined in chapter six was not included in the Arc en Ciel hotel. The writing and dressing tables' depth considered suitable for writing and dressing tables outlined in chapter six was not included in the Arc en Ciel hotel. 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.

CONCLUSION

It becomes clear that Post Occupancy Evaluation is a valuable tool for assessing building quality. In order to improve design for future urban hotels buildings it is necessary to measure how similar buildings perform in-use, mistakes can be avoided and successful design features capitalised upon. This conclusion outlined the results that have been drawn from this study:

Recommendations included and associated with users satisfaction:

When most the recommendations were included the level of inclusion is positively associated with the level of success with the space and users satisfaction. The recommendations which were included in the sample and associated with users satisfaction are:

-Suitability of beds in terms of 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) in the Arc en Ciel hotel: 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. Therefore, recommendations 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 is important and should be considered as a factor affecting the success of the building.

-Beds layout: there was high percentage of users that were satisfied regarding beds layout. Therefore, recommendations regarding beds layout are important and should be considered as a factor affecting the success of the building.

-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 . Therefore, these recommendations are important and should be considered as a factor affecting the success of the building.

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:

-Suitability of beds' width in the Arc en Ciel hotel: there was high percentage of users that were satisfied regarding beds' width . 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 in the Arc en ciel hotel: there was high percentage of users that were satisfied regarding cloths storage in general . 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 . Therefore, recommendations regarding bedside tables dimensions are not important since users are satisfied although the recommendations are not included.

Recommendations not included and users not satisfied:

-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 the Arc en Ciel hotel . Therefore, recommendations regarding size and height of the luggage rack are important and should be considered as a factor affecting the success of the building.

-The suitability of writing and dressing tables in terms of length, width and height in the Arc en Ciel hotel: there was high percentage of users that were not satisfied regarding length, width and height of writing and dressing tables in the Arc en Ciel hotel . Therefore, recommendations regarding length, width and height of the writing and dressing tables are important and should be considered as a factor affecting the success of the building.

Recommendations included and users not satisfied:

The case study revealed that there is no case where recommendations are not included and users satisfied.

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