

# The Visualization of the Dimensions of Interior Spaces of the Sudanese Architecture

Maysa Osman Khider Ahmed<sup>1</sup>

<sup>1</sup>B.Sc in architectiure and urban planning, M.Sc Student, Sudan University of Science & Technology, Sudan.  
Corresponding Author: Maysa Osman Khider Ahmed

**ABSTRACT:** The research discusses the dimensions of the interior space of the Sudanese architecture. It defines the elements of the interior space and the method of dealing with it, summarizing the interior design restrictions that define the interior designer how to create interior spaces of required value that would express the spatial function, the local heritage and idiocarcncy of the users in varied molds that bear different aspect of the said user, beside the overall vision of community, hence, the search would be enriched according to some restrictions through presenting three styles of different archaeological models, and analyzing them, plus showing how should them be delt with in accordance to the restrictions of the interior design to form a characterized interior space. Also, it defines the style that lays down the foundation for Sudanese interior architecture as a unique architectural school. Hence, this study presents the recommendations that support the desiner to habilitate traditional interior spaces toward new horizons of modernity and world-wide recognition.

Date of Submission: 17-02-2019

Date of acceptance: 03-03-2019

## I. INTRODUCTION

It is observed that the values and determiners of psychological, cultural and local identity of the interior spaces in the Sudanese architecture have been neglected by designers as a result of the designing restrictions which should be followed to realize the above-mentioned values so as to obtain an interior space of the required values. This paper visualizes the designers of the importance of interior spaces in making family and social, heritage and local entities to be more recognized and expressive ,and how designers have lessened such values in the nowadays in the light of modernity (sculpture etc ..), the thing that have made the space loose its Sudanese identity ,and how the Sudanese architecture needs to rehabilitate the interior spaces to enable reading the interior space features in a contemporary traditional style to enrich its national identity, bearing in mind that all this is done through visualizing the restrictions of interior design as actual unknown incidents highly needed to give the actual interior spaces. Also, the designers should abide to the required restrictions so as to be able to give the actual value of the interior spaces in a professional creative way.

### *1-1 Objective of the Research*

- 1 - Inspiring designers to work according to the restrictions of interior design, and , to stress on such restrictions due to their distinctive flexibility in order to bear all contemporary formulas and creative uniqueness.
- 2 - The possibility of reading the interior space in a contemporary traditional style.

### *1-2 Research Needs*

- 1 - For the lack of such a type of study in Sudan.
- 2 - The distortion of the image of the interior architecture of Sudan.
- 3 - The absence of local style in interior architecture.
- 4 - Minimizing the phenomenon of formation problems of interior spaces as a result of , non-oriented resemblance, by inspiring designers to work according to certain standards of intellectual orientation though being over-dominated by creative uniqueness.

### *1-3The research problem*

Only few references are available in this field of study, consequently, no documentary records are found.

**1-4 Expected Results**

- 1- Finding the best way to formulate interior design restrictions as a practical base for designers to carry on their work.
- 2 - Achieving a style that would lay a base for Sudanese interior architecture, and rehabilitate it so as to be known world-wide.

**II. METHODOLOGY OF RESEARCH**

The researcher adopted the following two methods:

**2-1 The Theoretical, Practical, Analytical and Descriptive method:**

This method defines the interior space elements, and how to deal with them so as to summarize the theoretical study (internal design restrictions) as a reference to direct the interior designer how to create highly appreciated internal spaces, and to reflect the Sudanese heritage style positively.

**2-2 Practical method:**

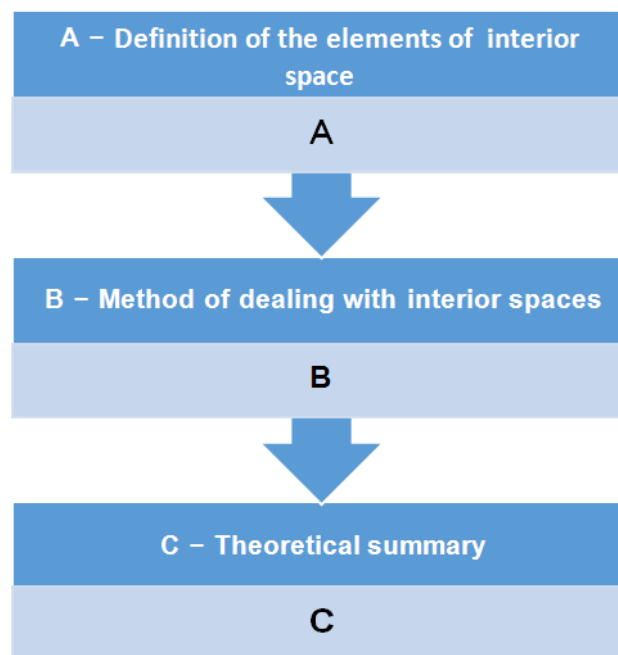
This approach validly assures the significance of theoretical summary above, consequently it presents three different archeological models and analyzes them along with showing how should they be treated according to the theoretical summary of the study. Hence, coming out with the derived recommendations that would help the interior designer to rehabilitate the traditional interior spaces by assimilating modernity and world-wide directives.

**III. THEORETICAL BACKGROUND**

In this paragraph, the researcher defines the interior space stating its elements and the method of dealing with it. as well as defining the theoretical summary of the study (internal design restrictions) which would show the interior designer how to create highly appreciated interior spaces that would reflect the Sudanese heritage positively regard to the interior spaces.

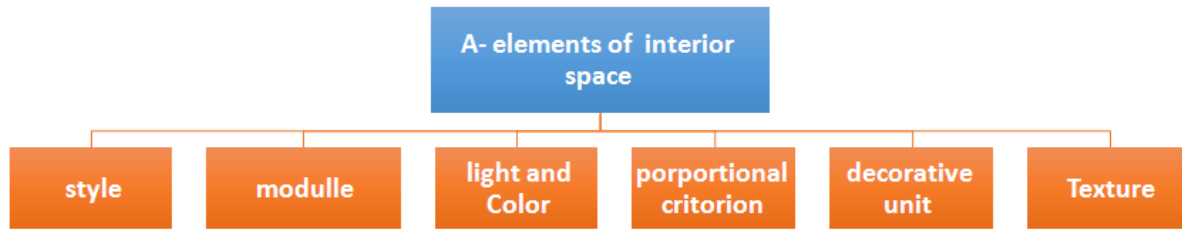
**3-1 Definition of interior space**

The interior space is four- dimensional : a roof, two walls and a floor. Perhaps. The restrictions of the interior spaces would take more than this number if the roofs are liable to take various geometric formations. But this is beyond the limits of the study. The formation of the interior space is but only one of the dimensions of the engineering unit of mass building formation. The objectivity of the study is crystallized an unknown elements that should be contained by these interior dimensions as necessary restrictions to create an appreciated interior space ,as well as identifying such restrictions. It worth mentioning that the researcher has used the following three steps as shown in the following figure (1) which reflects the theoretical content of the study:



**Figure (1) Theoretical framework source by: the researcher**

**A - Definition of the elements of interior space**



**Figure (2) elements of interior space**  
source by: the researcher

In order to create any interior space, the designer should rely on the above elements so as to be shown as follows:

**A - Diversity:**

The above elements can be employed in varied ways to give different effects .

**B - Flexibility**

The application options should not be subject to the criteria of error and right .

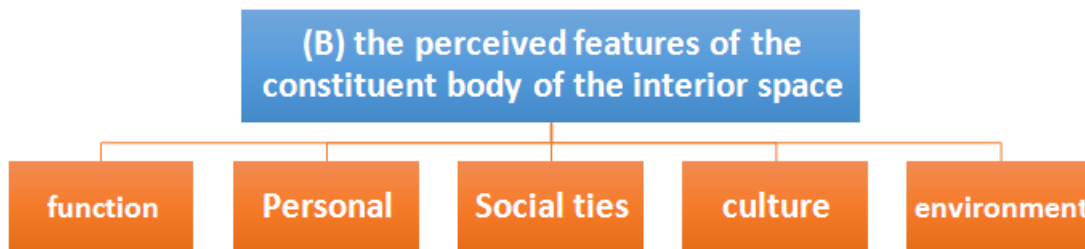
The designer should follow these steps to make the design flexible:

1. The study should be in accordance with the functional purposes of the design.
2. All modern schools and practices of interior design should be as matching as the local style.

**B - Method of dealing with interior spaces**

Having identified the necessary elements of the interior space in the previous paragraph, we will recognize in this paragraph the method of dealing with the interior space accordingly.

Also, According to the researcher's references, sources and field visits, the researcher has come to know that dealing with interior spaces is as follows:



**Figure (3) Perceived features of the constituent body of the interior space**  
Source: by the researcher

The above features constitute the basic idea behind the apparent entities (i.e. the current model of the interior spaces), which would reflect the psychological and cultural determinants necessary to create the proper formation of interior spaces.

**3 - 2- Theoretical Conclusion:**

The traditional formations of the architectural form, which are basically the beginning of the formations of interior space, which are currently regarded out of date and underestimated with regard to modern architecture. Thus, the shape and content have become controversial so far as the literature of forming the interior space.

In other words, such controversy between shape and content had been dealt with by designers in the external architecture in Sudan, leaving the interior spaces appear the title of Environment, Function and Climate, and photographed as follows.



**Photo No. (1) Sudanese construction of the old kitchen**  
**Source: by the researcher**

It is not surprising that designers and users are currently influenced by the international model of modernity in interior design. Such schools of designing interior spaces of buildings are associated with simplicity, beauty, modernity and innovation regard to intellectual modeling. Surprisingly, a question rises about why the interior designers in Sudan haven't thought of creating interior spaces according to heritage features which display Sudanese identity as a modern international school of interior designing. So, this would not neglect the engineer's trials to create marvelous architectural buildings with valid reflection that would express the Sudanese identity so far as interior spaces are concerned. However, this study tries to limitize the over-dominance of Western modernity on the interior design in Sudan, and would lay restrictions that would create interior spaces that would reflect the space functions, the Sudanese heritage and the idiosyncrasy of the users in an ideal way.

#### ***Internal design restrictions***

- 1 - Relying on the elements of interior space as a base for the formation of interior spaces.
- 2 - Relying on flexibility and diversity basically for restricting the elements of the interior space.
- 3 - Confirming the domestic and traditional style to cope with modernity and international interior design.
- 4 - The interior designer should rely on the objective criterion on the user's self-criterion in interior design.
- 5 - Interior designers should be qualified to change problematic designs as to qualify them in smoothness change reasons relating on the above.
- 6 - Many studies should be conducted to clarify the extent of the changes that should be carried out on the interior spaces so far as the current qualification is concerned.

### **IV. PRESENTATION AND ANALYSIS OF MODELS**

In this paragraph, this study presents three different archeological styles, analyzes and summarizes them according to the restrictions of interior design to identify the style that would confirm the value of the interior architecture of Sudan, and coming up with recommendations that would help the interior designer to rehabilitate the traditional interior spaces towards modernity and international aspects.

#### ***4-1-Model of the Nubian style -Nubian Rest House Resort, at krime, Sudan***

It is a Nubian-style resort based on the principle of "making delight instinctively", illustrated by the photos below. These photos illustrate how the designers expressed the Nubian culture and made it the dominant style of the interior spaces of the resort, so far as the domestic wooden furniture laid in with Nubian ornaments, with arched windows laid in with Nubian ornaments too, symbolizing the privacy of place, and the structure integrated with the surrounding environment wherein the designer purely uses the natural elements of earth.



**Photo No. (2) An interior perspective of the main hall of Nubian Rest House Resort**  
Source: <http://www.viaggilevi.com/itinerario/sudan-nubia-meroe/>

Photo No. (2) shows that the designer built the structure of the building to be an integrated unit with the surrounding environment. He used local building materials in colors that reflect and complement the surrounding desert area. Moreover, he used arches which are essential in Nubian style to show the structure skelton of the building, so as to emphasize the Nubian architectural style. Also, he used the arches to distinguish the interior spaces as separate as should be. Additionally, he further supported the interior arches with other elements such as: the wooden furniture of Nubian style and large windows of Nubian symbols, that would noticeably inspire the privacy of the place.



**Photo No. (3) An interior perspective of a bathroom of a Nubian Rest House**  
Source <http://www.italtoursudan.com/struttura/nubian-rest-house/>

We can see the Nubian style shown in the wall colored-drawings. We can also see, on the right hand of the photo, some of the Nubian style resembled in a cupboard on the wall as the Nubians used to make spaces in the walls as openings for storage and decoration laid in with inscriptions that would inspire privacy to preserve their things.





**Photo No. (4) An interior perspective of the Nubian Rest House lounge**

Source <https://www.corinthiantravel.co.uk/destination/sudan-holidays/karima/preferred-hotels/nubian-rest-house-karima>



**Photo No (5) A Table of Nubian style with shapes and ornaments**

Source <https://madrastourist.wordpress.com/2013/04/25/nubian-rest-house-in-karima-2>



**Photo No. (6) ANubian bedroom in Nubian Rest House**  
Source <http://www.italtoursudan.com/struttura/nubian-rest-house/>

Photos No (4-5-6) identify how the designer expressed the highest value of the Nubian style of the resort, namely, the colors and the design movement of light. we can observe the interaction of colors with the movement of light during the day: clearly seen statues and furniture in photo (4).Apparently, the designer in photo (5) had made the statues more visible by being lightened on their tops in a way that the Nubian style overdominates the interior space, lofty and resisting. In photo No. (6) , the designer used light To show more visible the bedroom dome.



**Photo No. 7 shows the Nubian lounge chairs at the Nubian Rest House.**  
Source <https://www.corinthiantravel.co.uk/destination/sudan-holidays/karima/preferred-hotels/nubian-rest-house-karima>

#### ***4-2 An African style model***

Is an African tribal model that expresses strength, comfort and stability. The interior designer works by means of craftsmanship transfer and photography them timely of the African heritage to occupy the interior spaces, as this style spreads in the State of Khartoum at the present time. The following model photos shows such an African style model .



**Photo No (8) An African Bathroom style**

Source <https://www.decoist.com/2014-01-24/african-inspired-interior-design-ideas/>

We can observe that Photo (8) shows that the designer had used various African tribal masks, wooden furniture and earth colors to reflect real African style.



**Photo No (9) African style bedroom**

Source <https://www.pinterest.com/kennidavis/african-themed-bedroom/?lp=true/>

It is observed that photo (9) shows that the designer had used different furniture items: a curtain, a photograph, a carpet and two seats- that reflect the style of the African forest and lifestyle, as well as the over-dominance and African tribal power symbolized in solid wooden furniture and earth colors.

#### **4-3 Bohemian style model**

This style is characterized from other ones by its liability in forming the interior spaces according to the user's idiosyncrasy, self-expression and tribal identity. All this is associated with traditional, contemporary styles. The following photos are a collection of different models illustrating the Bohemian style.





**Photo No. (10) A style of a Bohemian Bedroom**  
Source <https://www.pinterest.fr/pin/638737159623250887/>

Photo (10), we can see that the Bohemian style through is carried out in the interior space of the room, in accordance with the user's personal and tribal tendencies by using mats and blankets adorned with tribal drawings, and a guitar hanged on the wall. All these are clearly shown in a modern style through furniture , walls and the urban design style of nature.



**Photo No. (11) A style of a Bohemian sitting-room**  
Source <https://haraj.com.sa/1131468611/>

Photo No (11) shows that the designer expressed the Bohemian style by highlighting the drawings on carpets and pillows with bright colors on the floor, together with abstract backgrounds of pale color.



**Photo No (12) A style of a Bohemian bed-room**  
Source edited by author/

photo (12), We can see that the designer reflected the Bohemian style by highlighting traditional drawings of the Sudanese architecture through the pride's cover hanged on the wall, laid tables and beds in Sudanese style through crystallizing with modern abstract backgrounds.



**Photo No. 13 A style of Bohemian seating area**  
Source edited by author

Photo (13) shows the other side of the room where the designer carried out the Bohemian style of drawings in a different manner, as simple and void of any decorations on the walls, so as to lay the table - cloth with local Sudanese drawings, and the carpet on the floor be the focus of sight. All this is done as an attempt to enrich the traditional style of modernity and the international interior design.

## **V. FINDINGS AND RECOMMENDATIONS**

### **5-1 Internal design restrictions**

- 1 - Relying on the elements of interior space as a base for the formation of interior spaces.
- 2 - Relying on flexibility and diversity basically for restricting the elements of the interior space.
- 3 - Confirming the domestic and traditional style to cope with modernity and international interior design.
- 4 - The interior designer should rely on the objective criterion on the user's self-criterion in interior design.
- 5 - Interior designers should be qualified to change problematic designs as to qualify them in smoothness change reasons relating on the above.
- 6 - Many studies should be conducted to clarify the extent of the changes that should be carried out on the interior spaces so far as the current qualification is concerned.

### **5-2 Analysis of Nubian style of interior architecture**

The study concludes that it is necessary to focus on the colors and the movement of light in the interior design mainly since the addition of colors to the elements of heritage adds excitement and breaks up the image of old interior architecture and turns it into a modern one.

### **5-3 Analysis of African style of interior architecture**

The study concludes that it is a must that flexibility and uniqueness in reflecting the interior space are essential so far as the objectivity of style is concerned.

### **5-4 Analysis of Bohemian style of interior architecture**

The study concludes that the Bohemian style of interior architecture assures that the interior architecture of Sudan is qualified as a means of modernity and international recognition.

The researcher suggests that if the traditional models are consistent with the Bohemian style, we will be able to obtain modern interior spaces that would reflect the tribal identity of Sudanese architecture .

### **5-5 Recommendations**

1- It is necessary to know the function of interior spaces regard to the consequences of design such as the services required for the interior space and structural style as a first step to start designing.

2- Assurance of the Sudanese style of interior architecture by creating traditional formations (drawings and statues..etc..)that are accepted by people in the light of the public vision of individuals ,community and the State.

3- Taking into account that the formulas of change and acceptance of interior spaces express the Sudanese tribal identity of the interior design within the framework of rationality of individuals and the objectivity of the design to be acceptable for all those who are concerned , despite the fact that such a design is dominated by the creativity and the idiosyncrasy of the user.

4- Qualification of design for possible, functional smoothness of expansions.

5-The interior designer should refer to the above points of recommendations so as to make models of interior space, using architectural drawings or BIM programs or minor-models of cartons, in order to explain his idea to the client so that the client will choose the form or model that suits him best, which it in turn will give the designer the signal to start work.

6- Rehabilitation of interior spaces that would arise any problems bearing in mind the above recommendations supported by the reality of the fifth dimension (imagination), because degrading such a situation may not bear practical assumptions under the dominance of modernity, and it may also need innovative forms and statues etc.

## **REFERENCES**

- [1]. Sharif, Abdul Aziz, The System Trace and Contemporary Construction Materials on the Functional and Aesthetic performance of the Architectural Spaces -Restaurants case study, (2017), Faculty of Engineering, Islamic University of Gaza.
- [2]. Altheiwe, Mohamed -, Nur,Wallaa, Architectural Space as a Tool for Energy Preservation, a study of the Evaluation of the Spaces of the New Housing Groups, Department of Architecture, Modern Academy of Engineering and Technology, Cairo
- [3]. Barbakh, Seed - Naeim, Waleed - Bashbash, Mohammed, Access to Creativity in theArchitectural Design of Contemporary Architecture, University of Palestine, Faculty of Applied Engineering and Architecture Planning.
- [4]. Gargis, Saad, Psychology of Perception and its Impact on the Design of Interior Spaces, (2006), Faculty of Applied Arts.
- [5]. Khalifa, Amal, The Traditional Nubian House in the Third Cataract, its Design and Function, A case study of Al-Mahas Area (2006), Institute of African and Ethpian Studies, Department of Folklore.
- [6]. Sami, Lamese, What You Should Know about African Decoration, (2015), Riyadh Magazine.
- [7]. Sulaiman, Ula, Organism and its Impact on Interior Architecture, (2005) Faculty of Fine Arts and Decoration
- [8]. Shahadah, Najat, Bohemian Style, Beyond Decorative Fixities and its Borders, (2016) Paris.
- [9]. Alkadera Interior Design Engineering Services, UAE, The Bohemian Style, (2018).
- [10]. Abdulrahman, Asil, Alimam, Alaa, Interior Design between Subjectivity and Objectivity, (2009) Journal of the Academic (No. 52).
- [11]. Abdulwahab, Ghada, Design of an Innovative Saudi Furniture Model Through the Concept of the Bauhaus School, (2008), Umm Al-Qura University.
- [12]. Ghraibh, Ruyiat, Colors in Design, company seventh dimension
- [13]. Mahjoub, Hashim, History of the Urban House in Sudan, the Section on Architect Jacques Ashkhanis, and Architect Abdel Moneim Mustafa, (2018), Omdurman.
- [14]. Mando, Hala, The Interrelationship between the Structural Form and the Architectural Form in Free Curved Formations, (2011), Al-Baath University, Syria, Faculty of Architecture, Department of Construction and Execution Sciences

Maysa Osman Khider Ahmed, " The Visualization of the Dimensions of Interior Spaces of the Sudanese Architecture " International Journal of Modern Engineering Research (IJMER), vol. 09, no. 1, 2019, pp 38-48