



Sudan University of Science & Technology
College of Graduate Studies



**Interior Design .. and its Importance to Improvement
and Success the Architectural Space
(The Case of Residential Buildings at Khartoum City)**

التصميم الداخلي واهميته في تحسين وانجاح محتوى الفضاء المعماري
(حالة المباني السكنية في مدينة الخرطوم)

**A Thesis Submitted for the Partial Fulfillment for the
Requirement of M.Sc Degree in Architecture Design**

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(وَإِلَىٰ تَمُودَ أَخَاهُمْ صَالِحًا قَالَ يَا قَوْمِ اعْبُدُوا اللَّهَ مَا لَكُمْ
مِنْ إِلَهٍ غَيْرُهُ ۖ هُوَ أَنشَأَكُمْ مِنَ الْأَرْضِ
وَاسْتَعْمَرَكُمْ فِيهَا فَاسْتَغْفِرُوا لَهُ ثُمَّ تَوْبُوا إِلَيْهِ ۚ إِنَّ رَبِّي قَرِيبٌ مُّجِيبٌ)
صَدَقَ اللَّهُ الْعَظِيمُ

" سورة هود - الآية 61 "

Dedication

TO HIM ... WHO WAS OUR LIFE, LOVE AND HAPPINESS WE ALL LIVE HAPPY
LIVES OF HIS EXISTENCE ... WORDS FAIL IN YOUR DESCRIPTION AND FOR
REFUSES TO EXPRESS FEAR THAT YOU DO NOT GIVE YOU WHAT YOU
DESERVE .. PERHAPS GIFTING UP TO YOU ..

MY FATHER

TO HER ... INTO THE PARADISE IT WILL BE ONE DAY UNDER HER FEET ...
PERHAPS GIFTING IS NOT WORTHY OF YOUR STATURE UNFURLED FOR YOU TO
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THEM .. BLOOD BALLS LOVERS TAKING PLACE INSIDE OF ME ... YOU ARE AN
INTEGRAL PART OF MY PERSONALITY THAT I AM WITHOUT YOU ALL FULL
BODY EMPTY SOUL ..

MY BRETHREN

AND TO MY GRAN FATHER- GRANDMOTHER- RELATIVES - LOVERS -
MY COLLEAGUES ..

.. WE ALL DEDICATE THIS HUMBLE WORK ..

Acknowledgement

ABSOLUTE THANKS TO MY LORD FOR SUCCESS THE COMPLETION OF MY RESEARCH.. AND THEN PHRASES REFUSE TO BE MANIFESTED TO THE PEOPLE WHO SUPPORTED ME ON WAY OR ANOTHER IN THE OUTPUT OF THIS ...WORK THAT HIS IMAGE IN YOUR HANDS

" كن عالما .. فإن لم تستطع فكن متعلما .. فإن لم تستطع فأحب العلماء .. فإن لم تستطع لا تبغضهم "

DEEPEST THANKS AND GRATITUDE MIXED WITH THE APPRECIATION AND RESPECT FOR DR. VIRTUOUS :

AWAD SA'AD HASSAN

WHO PREFER TO SUPERVISE THE SEARCH AND STINGY WITH HIS TIME AND EFFORT TO EVEN OUT THE BEST SEARCH IN THIS IMAGE .. THANKS TO THE GUIDANCE VALUE AND WISE ... AND TO ALL WHO SUPPORTED ME AND STOOD BY MY SIDE

THANK YOU VERY MUCH FOR THIS PROMINENTIA CASTLE .. SO GREAT SCIENTIFIC EDIFICE.. (SUDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY)

RESEARCHER ... FATIMA MAKAWI ELSAYED NESIR ...

Abstract

The study is considering at interior and exterior architectural spaces, containing elements of the basics and determinants are the most important architectural studies. It is study that human simulates to try to form an understandable language between human and his environment or the space occupied by. The aesthetic appearance is the pot which it reacts the humanity to form the civilization, which is supremely and finest magnum opus humanity. From this standpoint the study was, In the interior design and its importance to improvement and success of architectural Space at residential buildings at khartoum city.

The studying aims to highlight and emphasize the importance of interior design in the promotion and success of the interior spaces of residential buildings, as well as to develop guidelines to help the architect for good preparation, planning and familiarity with the design requirements, and regulate the relationship between interior designer and architect to get to the new methods of designs and joint creative ideas contemporary, satisfy the user and the owner's needs.

Then the study descriptive approach followed under which applied through interviews to identify the opinions of sample of owners at separate residential units in the city of Khartoum, then analyze the results of the interview questions with numbers and tables easy to read and understand.

The study concluded that a set of results, highlighted by: emphasizing the importance of interior design in the promotion of architectural space as the results back to the user on the physical and psychological 2 levels. Based on those results, the study has invited as a recommendation to the need for interaction between the designer and the user during the internal design process or in the implementation phase, in order to get a comfortable house keeping pace recent developments have identity and address of the line with the spirit of the place and achieves authenticity and urban belonging.

تعتبر دراسة الفراغات المعمارية الداخلية والخارجية بما تحويه من عناصر وأسس ومحددات من أهم الدراسات المعمارية، فهي دراسة تحاكي الإنسان في محاولة لتشكيل لغة مفهومة بين الإنسان وبين المحيط أو الحيز الذي يسكنه. فمظهره الجمالي هو الوعاء الذي يتفاعل فيه البشرية لتكوين الحضارة التي تعتبر أسمى وأرقى ما أبدعته الإنسانية، ومن هذا المنطلق كانت الدراسة عن التصميم الداخلي وأهميته في تحسين محتوى الفضاء المعماري للمباني السكنية في مدينة الخرطوم.

وتهدف الدراسة إلى القاء الضوء والتأكيد على أهمية التصميم الداخلي في تعزيز وانجاح الفراغات الداخلية للمباني السكنية، بالإضافة إلى وضع خطوط إرشادية تساعد المهندس المعماري على الإعداد الجيد والتخطيط والإلمام بمتطلبات التصميم، وتنظيم العلاقة بين المصمم الداخلي والمعماري للوصول إلى أساليب تصاميم جديدة وأفكار إبداعية معاصرة مشتركة ترضي احتياجات المستخدم والمالك.

وقد تبعت الدراسة المنهج الوصفي في أطاره التطبيقي من خلال إجراء مقابلات للتعرف على آراء عينة من أصحاب الوحدات السكنية المنفصلة في مدينة الخرطوم وصولاً إلى تحليل نتائج أسئلة المقابلة بأرقام وجداول يسهل قراءتها.

وقد خلصت الدراسة جملة من النتائج كان من أبرزها: التأكيد على أهمية التصميم الداخلي في تعزيز الفضاء المعماري وإثرائه بما يعود على المستخدم بنتائج على المستويين المادي والنفسي. وبناءً على تلك النتائج فقد دعت الدراسة كتوصية إلى ضرورة التفاعل بين المصمم والمستخدم لثناء عملية التصميم الداخلي أو في مرحلة التنفيذ، وذلك بهدف الحصول على مسكن مريح مواكب للتطورات الحديثة له هوية وعنوان يتماشى مع روح المكان ويحقق الأصالة والانتماء العمراني.

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Chapter 1 ..

General Introduction ..

Chapter 1

General Introduction

(1.1) Introduction.

Since God created human in a constant search for what makes him live in comfort and peace. Where he was able to take advantage and exploit everything around him ... clothing, housing, human was able to search for what even benefit around to him and hire him well for his comfort and pleasure. Since long time ago was able to practice painting and sculpture in the first cave, which began the art of interior decorating in the beginnings of the Islamic civilization that built walls of stone and mud.

A housing in the Arab community basic assistance substrate in the formation of the family and the safety of its growth because it positively affects the safety and stability of society, housing is still in their view that combines beauty and comfort, simplicity and the need to achieve a visual fun elements, and psychological comfort and career investigation provided by the apartment building.

And here lies the role of the architect essential in line with the interior designer in securing those elements that will provide the residents all their needs, which includes individual and community identity requirements, including beliefs, relationships and habits, with the knowledge that the internal and external design share in the benefit considerations aesthetic requested and architectural composition which contains which provides psychological comfort.

Interior Designer is the one who is interested in studying the space and development of solutions and perceptions that can exploit the best space in order to perform fully and objectively his job, and this is according to the guidelines take into account the nature of the space and the geometry and function of the climate that surrounds it, also take into account a certain taste of the house owner, his wishes, inclinations, culture, and these elements are considered the most important key controls in interior design, the interior designer must be aware and understanding of all the architectural components in all its details, especially internal ones, especially raw materials and various materials used.

(1.2) Problem of the Study

The Research Problems are as Follow;

- I. Stand on the implications of the relationship between design pillars: the designer, the owner, the law. The interior designer is suffering from problems of the internal spaces resulting from the stereotypical architectural works, which may be the result of multiple conditions where the architect and the owner and the law may participate.
- II. Interruption of Interior Architecture from the surrounding atmosphere of external architecture, which in turn must be an extension of the nature and depth of the internal space.
- III. Randomness followed in the implementation of the inner workings of the building and go back to the design study or without a philosophy or followed correct reference which will lead to the failure of architectural space.
- IV. It is known that the role of the interior designer begins after the end of the actual construction of the building, although the importance of the role of the interior designer is when standing side by side with the architect in developing initial ideas to avoid making mistakes that lead to the lifting of construction costs.
- V. Appearance interest and luxury at the expense of utility and function whether materials or techniques used or supplements, furniture and other.

(1.3) Hypothesis of the study.

- I. There is a need and importance of interior design to create a distinct architectural residential buildings and suitable internal environment in terms of product design for a complete study of the architectural spaces of the interior and exterior are in line with the humanitarian and psychological needs of the user for the best life
- II. Collaboration continuous between the architect designer and interior designer during the interior design phases of the building and the involvement of the owner or the user during the design process leads to the unity of poise and integration of design configuration, which works to reduce the time it takes and reducing implementation costs and get the status of General satisfaction of all parties.

(1.4) Importance of the Study.

The importance of the study posed by the major role of interior design in providing the appropriate environment for the provision of all appropriate conditions and in tune with the technical design aesthetic, making a significant impact in improving the quality of life and increase productivity, and protect the health, safety and welfare of the living. Also, the internal design of the building study in the initial stages of the establishment to prevent the occurrence of errors that could lead to the lifting effort and costs.

(1.5) Objectives of the Study.

- I. The purpose of this study to highlight and emphasize the importance of interior design in the promotion and success of the interior spaces of residential buildings
- II. Develop guidelines to help the architect to good preparation and planning and knowledge of the requirements of the design for the interior spaces of residential buildings, to avoid errors that resulting from a lack of available information at planning.
- III. Develop proposals for organizing relationship between interior designer and architect to get to the methods of new designs and creative ideas of contemporary joint satisfy the needs of the user and the owner

(1.6) Methodology of the Study.

(1.6.1) Descriptive analytical method

The methodology of the study is taken a sample of residential units separate in order to gather first-hand information and list the exact description of the personal experience of the owners for these units, then analyze that information and expression it by numbers makes it easier for the reader to understand.

Chapter 2 ..

Architectural Spaces

Chapter 2

Architectural Spaces

(2.1) Introduction

Architecture can be defined as the art of application gives socially and humanly productive, achieve function and beauty, and is produced by the architect who is considered a central part of his art and his knowledge and his familiarity with all engineering sciences. The social dimension also plays an important role in guiding the architect so that he can get the architectural product that provides humanitarian needs.

The design is a formula to reconcile the demands of individuals in the form of architectural solutions satisfactory and the balance of intellectual and practical so that the project's success is achieved, and the first steps of action designed to identify and understand the requirements and tastes of all people.

The architectural space is the essence of architecture and its final destination, the essence of architecture is not the space itself, but it contains

(2.2) Definitions..

(2.2.1) Architecture

Architecture definition for **Le Corbusier**: Architecture is the masterly playing with the visible blocks

Dr. Irfan Sami architecture describes it:

Scientific art of the establishment of the buildings where the utility, durability and beauty, and economics are available and meet the needs of people's Physical and spiritual, in a wider potential limits and the best available means in the age we are in, it is a way of working and thinking and common logic

(2.2.2) Architectural Design

The design is the process mentality of the organization can handle multiple types of information and integrate them into a single set of ideas and finished with a clear vision of

those ideas. Usually this vision appear in the form of drawings and maquettes, or any means of directorial contemporary or schedule.

(2.3) The variables affecting at architectural formation

Victor Papanke (1971) That architecture should not isolate himself from the requirements and real needs of individuals from the built environment, and in order to realize the architecture of these needs in order to be met by emphasizing the following :

- I. Diagnosis term or dimensions that can be realize the human desires, or in other words, what are the limits of architecture that responds to the desires of the beneficiary
- II. Locate this desires and their impact on decision-making design as these desires are subject to many different interpretations example, the relationship between the principle of proximity and distance and privacy principle of proximity and distance depends on the distance between individuals in order to be the social interaction process naturally they range from a few of centimeters to several meters depending on the interaction type and degree, while the privacy it has a moral content underline the social interaction process between individuals so exercised certain efficacy based on generally accepted controls socially so the work of design deals with this problem so that it provides the appropriate spaces to practice the behavior of each type of two phenomena mentioned and it can identify the most important variables that affect and are affected by the design process, according to the following:

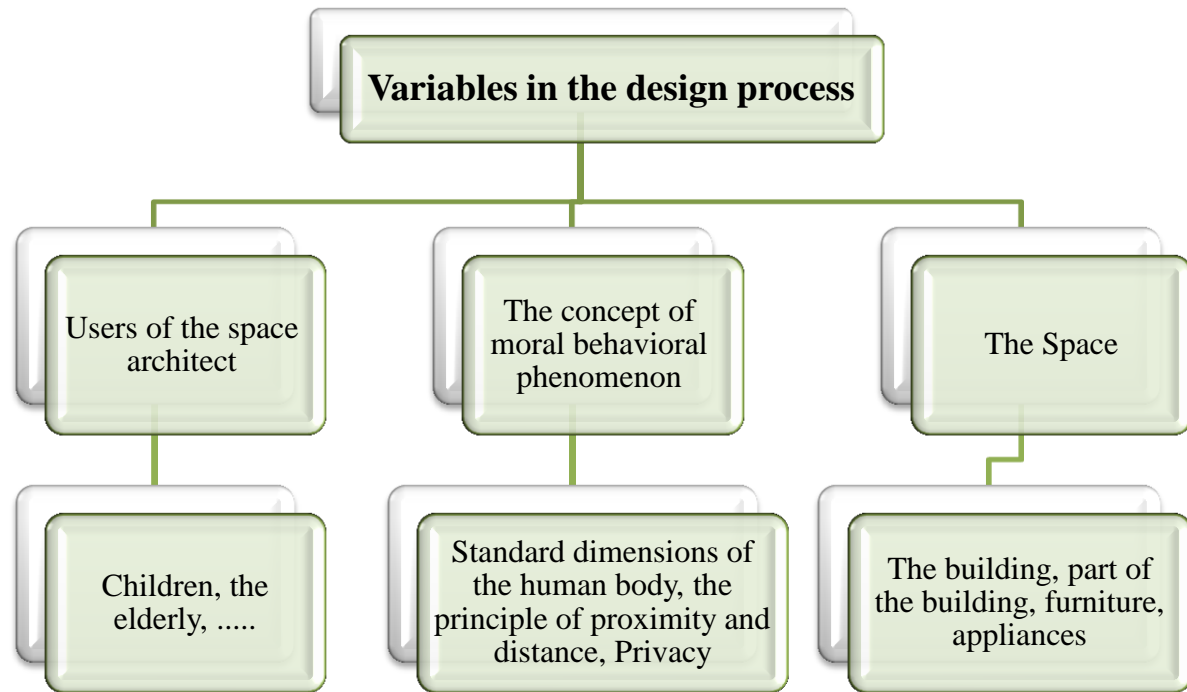


Figure (2-1) Variables in the design process

(Source Abu za'aror Rawnd - 2013 - pp14)

(2.4) Architectural Character

Saied Bassiouni known, Architectural character or the so-called style or architectural pattern - is the natural result of several common and interacting factors with each molten in the crucible of full utilization of the building, construction methods and materials of construction, and the nature of the regions or area and traditions and customs, in addition to social and economic factors and cultural, spiritual, and the level of local wealth.

(2.4.1) Architectural space and emptiness

Enabled the architectural space definition, as part of the overall space, has been deducted specifications private and determinants, to make it fit for human exercise in which private life activities, these activities and way their performance depend on the nature of the truncated and size of its body design and its relationship to the surrounding public emptiness. That is the definition that is fundamentally related statement in architectural emptiness components and the method of its design and the formation of the

internal body and a reflection of all that on the external architectural body of the building, or its reflection is also a sense of emptiness

Emptiness is the core architectural formations, and he expressed that some of the pioneers of architecture, including "**Frank Lloyd Wright**", who said "The interior space is the fact that building." We also find that the concept of "the fact that the internal architecture in her spare" apparent in principles and concepts of international style.

(2.4.2) Architectural Space Varieties

Classified (Ching, 1987, pp.12-14) architectural space into three categories:

1. Exterior space
2. Transitional space
3. Interior space

(2.4.3) Human and architectural design space

To perform any function has to be space for a specific activity or performance of a specific purpose, the home is place consists of a set of rooms and all are into a specific space or to perform a specific function there is a place to receive guests to sit for the family room, There are bedrooms and rest.... etc., and this applies to all the facilities that a person needs in his own life, or the public whether of workplace and manufactory offices or in the rest area and recreation, sport and clubs. The architectural space varies from job to another, and the room as space that the architect view consists of three dimensions: two horizontal and one vertical, and is expressed in a horizontal section and two vertical, one longitudinal and the other weadth.

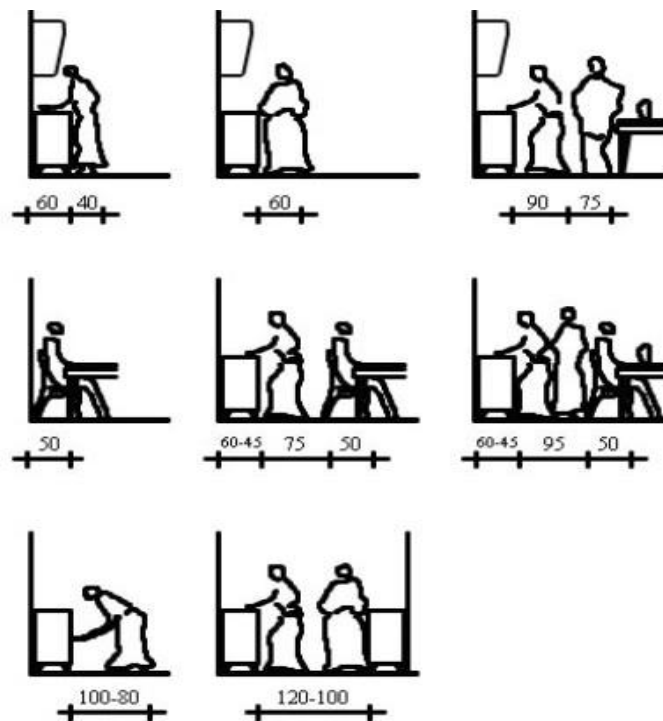


Figure (2-2) the space areas are the result of a measure put into furniture with human traffic between Furniture

(Source: Salem- Abed al Rahim –1991- pp18)

In accordance with the design of human behavior is an integral part of the design process for residential buildings, especially, and this process includes the following:

- I. The spatial program of the building, which includes several elements, including the architectural department and other division of engineering.
- II. Setup program meets the requirements of the users of the space.
- III. preparation of the new design alternatives or the possibility of altering the really existing building to accommodate the new requirements and are done through the following:
 1. Delete the existing services.
 2. Creation of new spaces
 3. Provide the building of new services and add them in the same location.” (Source : Shehab- Mohammed - 1995 –pp120).

(2.5) Interior architectural space

Definition and determinants

- **The concept of internal space means** a truncated part of the space external public as specifications and special determinants make it valid for the exercise of all human life activities, these activities stop and the way her performance on the nature of the part was truncated, size, and the design structure and its relationship to the external public space around him.
- **The concept of the architectural identity of the internal space:** can be defined in physical terms as internal boundaries that determine internal space, and the sensual can be defined as a moral framework that felt by the human led his presence in this space
- **Determinants of internal space:** can be identified by set determinants which are the floor, vertical member, walls and ceiling.

(2.6) Interior spaces varieties

- **(Interior Architectural):** “The development of the third dimension and increasing the sensitivity of the architectural experience to realize meaning and importance of the attention through color, light and materials, furniture and other aesthetic elements.” (Kurtich and Eakin, 1993).
- **(Interior Design):** “ the process of the completion of the internal spaces of the building to become qualified to perform the work, and interior design focuses on the sense of creativity” (Ball, 1982)
- **(Decoration):** “extra process includes something for the original body for the virtual goal to increase the aesthetic quality and creative” (Ball, 1982) (Effectiveness)

(2.7) Exterior architectural space (the surrounding environment and its impact)

Include the environment all these surrounding conditions and variables: location, border services, climate (General in the region and the site) neighboring buildings, geology, and the arrival of cars, construction laws and regulations.

- Urban Environment: buildings surrounding the site

- The human environment: people and neighbors
- Natural environment: climate, wind, rain, sun

(2.7.1) Environmental Impacts

A study place exploiter of the work for project by a study spaces surrounding it as follows:

- **Public Location:** by identifying characteristics and its services through (Topography), as well as plants and trees on the site, and different elements of them.
- The following example illustrates in **Figure (2-3)** General characteristics of the site to help designer the visually remember the most important qualities of the site, and through these graphics can accommodate other things, such as wind, privacy and better places for construction on the site.

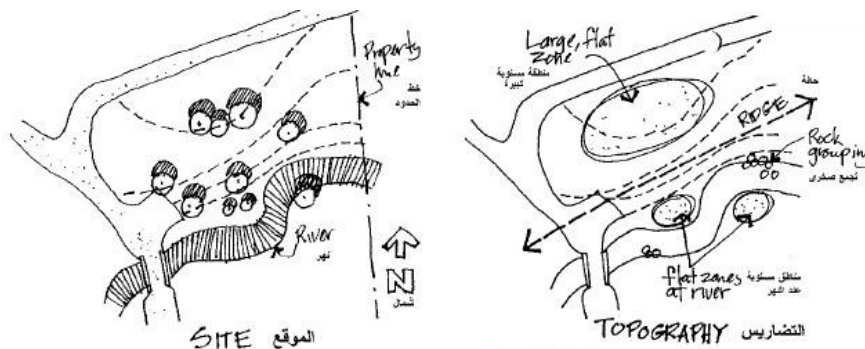


Figure (2-3) General characteristics of the site and it is designed

(Source: Mahjoub -Yasier - 1990)

- **Environmental Control:** The drainage systems in buildings and export influences drainage and erosion, and which also enters the study of various plants, trees and walkways and coordination, as well as a study control the influence of heat and noise in the project.
- **Climate:** You must analyze the climatic effects on the land of the location and orientation of the building must also be care by organized spaces for the project to learn about the natural environment, which will be inside or outside in addition to creating the building environmentally air and natural light with the study of control in the sun and rain effect

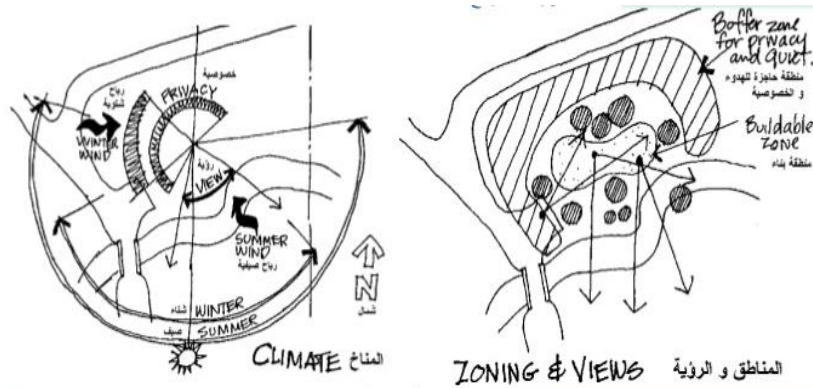


Figure (2-4) a statement of the analysis of the project site for climatic factors and for the vision and areas of development

(Source: Mahjoub -Yasier - 1990)

(2.8) The exterior of the building (the building coating and its surroundings)

Building coating can be defined as the interval between the internal and external environment of the building, and consists of the ceiling, walls, windows and doors to protect the building and its users and the organization of the internal environment, also controls the operation of energy. And the effective design of the building coating dramatically reduces heating and cooling overheads, (Hussein hind - pp2)

It includes the exterior of the building following variables: the border, movement, construction system, the type of construction, the process of construction, energy, environmental control and public perception.

The form is one of design problem variables, a variable that designer is control, we must remember the fact of design problems solutions is an agreement between the need and the environment, form, and add the costs.

The space and composition: There a great diversity among the methods of organizing building blocks to confirm the spatial dimension between them. It is possible to study the organization of the blocks and relationship between the solid spaces to get the goals of desired design.

Figure (2-5) describes the forms of some methods of spatial organization of the blocks in order to reach the desired.

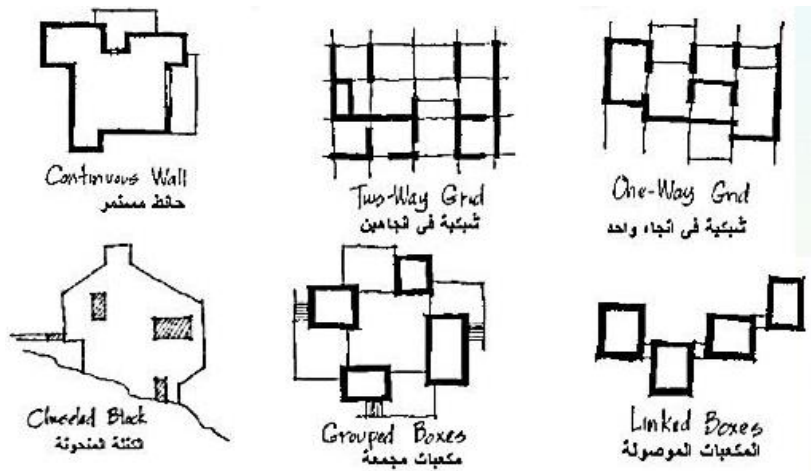


Figure (2-5) the spatial organization of the blocks

(Source: Mahjoub -Yasier - 1990)

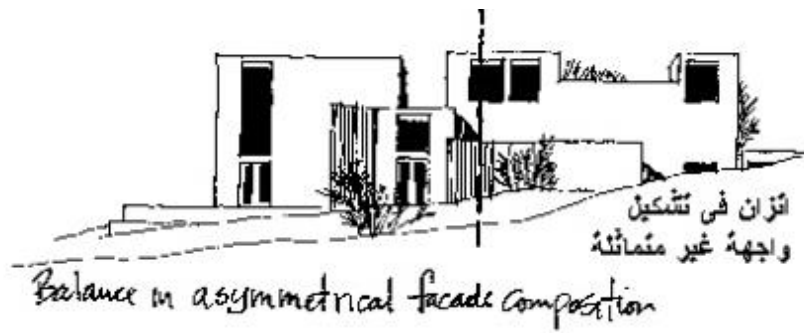


Figure (2-6) poise at the elevation is not similar

(Source: Mahjoub -Yasier - 1990)

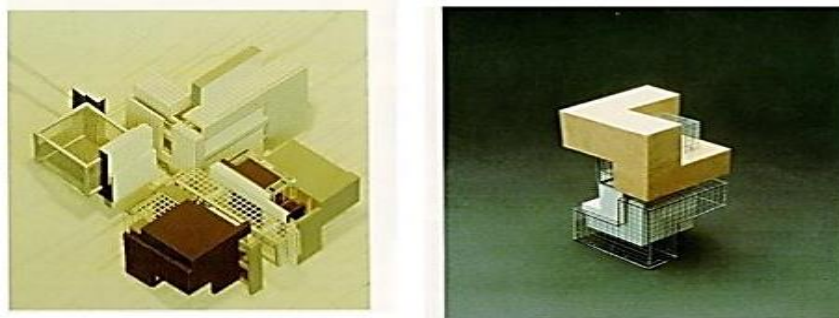


Figure (2-7) formation of the third dimension

(Source: Mahjoub -Yasier - 1990)

(2.8.1) The introductory space

The formation of the open front garden that are of a technical character in terms of furniture and architectural composition area.



Figure (2-8) the introductory space for residential building

(Source: Facebook- Arch Activity page)

(2.8.2) The front garden as a space preliminary

Home garden remains vivid interface and image of expressive personal tastes and residents, an important and an essential requirement in the construction map interpreted by the widespread use of these gardens and interesting individuals' vegetation as they have a positive psychological effect on the individual. The exist corridors is importance of linking parts of the park together are basic way to move from one place to another, a basic principle must when choosing a building material walkers and take into account the consistency with the construction of buildings materials and must be comfortable corridors are not obstructive when roaming between the parts of the park.



Figure (2-9) the front garden that space preliminary

(Source: <https://www.facebook.com/archiarts2000/>)

(2.8.3) The preliminary space to the housing entrance

The purpose of which decorate front of the house and re-breached the main road to the entrance of the house and grown at roadside the flowers in ponds bordered by green areas and ornamental trees appropriate.



Figure (2-10) the introductory space for residential building

(Source: <https://www.facebook.com/Arch.concep/?pnref=story>)

(2.9) Building criteria a relationship with its surroundings.

- Taking into account the climatic and environmental factors such as the appropriate orientation of the buildings as well as sun angles and relationships structural blocks internal and external spaces and provide shadows through the protrusions and relationship building height in the streets, squares and spaces also taking into account the nature of the soil and the topography of the site.
- Provide the building security factors and flexible movement of pedestrian traffic especially from to into public services.
- Buildings are guaranteed moisture proofing and heat insulation design, through the quality of building materials and construction and the use of techniques to help reduce energy consumption.
- To achieve efficiency and ease of design inside the unit in terms of the proportion of communication and services elements to the ratio of spaces used and reduce wastage of interior spaces and be decorations and protrusions aesthetic ornaments with clear functions and complementary to the construction elements.
- Taking into account the interest in landscaping and greening and overall coordination (Landscape), and the provision of green spaces and places to plant appropriate trees to the local environment that is agree with the temperatures and landscaping of roads and roundabouts Islands and provide suitable corridors planted.
- Taking into account the cultural factors and social structure, customs and traditions of the community.
- Those are the colors of the buildings and heights of harmony and achieve the visual beauty to the perimeter of the building.
- That is the architectural design should be flexibility and the possibility of expansion while ensuring the extend the age of the facility.
- Appropriate laws and organizational determinants of the building to the need of the user as much as possible, or appropriate user needs in the design with the architectural character.

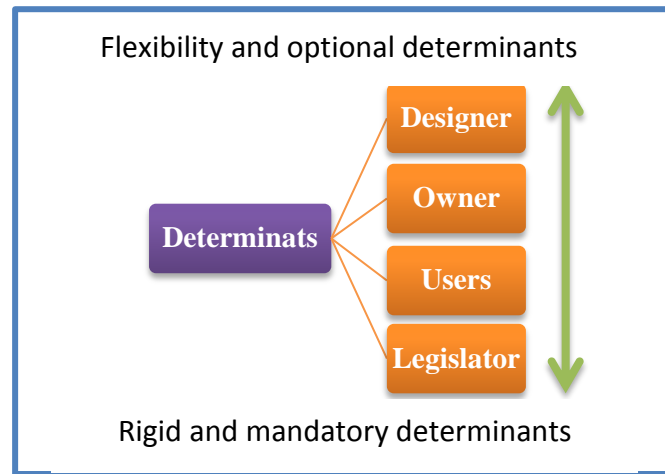


Figure (2-11) organizational determinants of the building
(Source: Mahjoub -Yasier - 1990)

(2.9.1) Natural ventilation

The architectural principle logical General to start providing natural and architectural comfort wherever possible, and has been complemented by industrial means to achieve the greatest possible comfort frugal in the use of industrial energy and its economic efficiency of the costs hand, the natural ventilation and air movement check three functions, namely:

- Supply fresh and health air.
- Cooling and heating of buildings from the inside streams carrier and this comes when there is a temperature difference between inside and outside to cooling the unit of building from the inside should be the outside temperature is less cooler than the inside or vice versa that is, if we are heating the building from the inside must to be the outside temperature is higher than at home and the difference in temperature depends on the temperature change during the day
- Cooling the residents or living in certain conditions and that cools the body and remove moisture from the human body and as the ventilation increases the loss of body heat by process of convection as a result of the fast movement of air in the presence of air currents.

(2.9.2) Natural lighting and sunlight

The sun is the main source natural light on the globe, and the light is spread from the electromagnetic waves, and to learn about the importance of amount of lighting to human

life, the **Dr. Sheard** confirms that the vision process consumes a quarter of total energy necessary for the body in the case of health lighting and proper consideration, and that any this lack of lighting meant drain the energy of the body to compensate for this deficiency,

And it can provide indoor lighting two basic ways: first by the coming of the sun and natural lighting, and the second by industrial lighting.

(2.9.3) Designing acoustic and avoid noise

Sound like a light has tangible effects on physical and mental health of human, the accepted voices has psychological effects, good, and the loud sounds or noise have adverse effects, and there are three main sources for creating and the presence of noise inside the buildings:

1. The first is the noise coming from the outside of the building and the resulting transportation and different cars, workshops and nearby factories the noise air carries and enter the building through the windows and opening doors or even some cracks openings,
2. The other source is the result of the fall of any object on the ground or as a result of vibrations some electrical appliances (such as for example refrigerators and washing machines).
3. The third source is produced from the internal noise transmission whatever caused through walls and floors of apartments and nearby spaces.

Thus, the efficiency of the walls to prevent the transmission of sound or noise depends on its mass, The thicker walls and heavy construction be better to preventing noise transmission, while the effect of floor noise transmission does not depend on mass, but depends on the degree of absorption of the surfaces of these floors, so I preferred to use the flooring or finishes or a sound absorbing foams (such as carpets, for example).

And is considered the best defense against the noise of access to the inside of the building is to increase the distance as possible between the noise source and the building to be protected or set of rooms that are not affected by noise functionally (such as chambers of services, for example) on the side near the building of the noise source and is often the street.

These rooms and the protection of rooms and important spaces, which are affected by the noise, but if this is not possible it can taking into account the some of the basic of simple design to reduce the noise the hyphen of the building, for example, the planting of trees at the point of the source of noise (street for example).

(2.9.4) Safety design of the building

There is no doubt that it must provide for the building safety factor so that it can be called that, (environmentally friendly), and because of human settlements and buildings could be affected by natural disasters in some areas, such as floods, earthquakes, hurricanes, danger fire and others, so you should examine each area or site so as to avoid natural hazards, which can reside.

(2.9.5) Privacy

Which is to isolate the housing from external environment surrounding it, using different separation means, among which are insulating glass or curtains, and others.

Many planning authorities also seeks to block views construction of the nearby housing or road junction and taking into account the privacy, without being affected by this and other factors (light blocking The Sun-dielectric types of windows

(2.9.6) The building orientation

It means the appropriate orientation of the building for basic views. The building site is in the area concerned should take into account the shape and height of the surrounding buildings for the path of the sun in winter and summer, in order to determine the shaded and sunny areas. In of Equatorial climates preferred direction is toward the north-south, the weather and other weather can be a useful orientation different.

(2.9.7) Rooms status

Must as far as possible be directed the sitting and sleeping area to the point of the sun areas, and places service along side street and must room (except in special cases) to be sunny in the basic clocks and using solar tables can be specifically and accurately per day, per hour and per year of any parts of the rooms "or even about their status" be lit from the

sun, which can directed the construction, and also to remove him from the neighboring buildings, trees etc.

(2.9.8) Proportions of the building for the surrounding area and his location

It is a percentage of land area covered by residential buildings to the total area allocated for residential purposes of land that, don't taking rising into account, but we refer to occupancy rates, for example, when the buildings cover 20% of the allocated housing land area it means that 60% of the land area is open and intended for use external, and is considered a barometer initially population density, (Hamd Allah - Rawnd- pp47)

(2.9.9) The materials used in construction

Added to the importance of shape and three-dimensional mass openings flats, glass comes from three very important elements in the building external elevations design, a choice of materials, colors and texture, because each material texture and also each unique texture to the building between soft when using glass, marble, aluminum and warmth when using brick and stone and wood..etc.

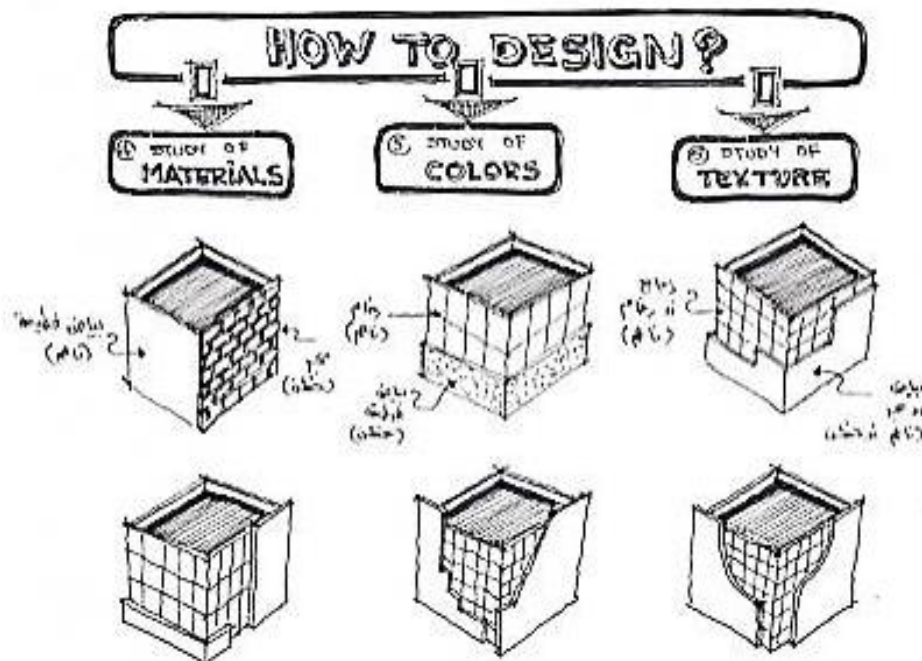


Figure (2-12) facade material

(source : http://mohandseen.blogspot.com/2012/02/blog-post_6992.html-)

The facade of the building is considered an important factor of building design work. They are the visible part of the architectural work and therefore first factor to judge the success or failure of the building.

Not true in any way to express facade for the artificial beauty or trying to cover design flaws deceptive colors or decorations false. It must reflect the building facade explicit expression to check the shape sincere simple of the architectural work.



Figure (2-13) image showing diversity in the use of colors and building materials in the exterior of the building housing

(Source: <http://www.shmok3.net/vb/shmok25999/>)



Figure (2-14) the equilibrium and proportionality when use of building materials

(Source: <https://www.facebook.com/be.creative2arch/?fref=ts>)

(2.9.10) Connection the outside space with residential building

Building a connection with nature is creating a balance and attraction between the natural environment, and mass-built, natural harmony, whether in the form of the building,

and building materials, or the colors of the building, as though both are complementary. This can be achieved through:

- Minimizing internal architecture division of air, light, and must permeate whole architectural construction.
- Create harmony between the building and the external environment, such as an emphasis and highlighting the surfaces and home basements.
- make the building more freely
- Give suitable dimensions of the internal and external openings throughout the building area.
- Avoid mixing between the different materials, and uses maximum of natural materials to reflect their function in the building.
- The inclusion of the various devices like organic components interacting with the structure of the building.
- Indoor furniture also needs to be a part of the organic environment of the building.
- Architecture to move away from the rigidity of natural connotations examples include: the contrast between the shape of the building and the land on which any traditional contrast between the construction of structure and aesthetics of decoration.
- Trying to invent a different building materials and used in a way to highlight the beauty of the blocks and structural protrusions.
- Depend on the manipulation of complex geometric configurations of points, lines, surfaces and blocks.
- Indifference to the surrounding environment or the function of the building. Also can we include contrast the nature with the building under the famous philosophies in the world of architecture who is the functional architecture that he was famous pioneers of Le Corbusier, through the character of the famous apartment building in Marseille, "the use of the bare concrete and repeat elements

- Change the size of the holes in the windows of the building, "The Church in France Ronchan reflect some recipes contrast with nature, although some say they are unique and special way.

(2.10) Summary.

- ✓ Architecture is one who provide to humans the suitable interior and exterior spaces for uses, deals with nature, existing environment and appropriate construction material and who most important a good work which gives a visual and physical and moral comfort elements.
- ✓ Must take into account the space area to measure the furniture position with human traffic between Furniture.
- ✓ Should be known what the external architectural space, environmental criteria and their surrounding and impact.

Chapter 3 ..

Interior Architecture Concept

Chapter 3

Interior Architecture Concept

(3.1) Introduction

All of us live in a place, whether a dedicated sleeping or living or working wants, of course, to feel the comfort and satisfaction, it is trying to create this place for the performance of his job and the purpose, it was based some of us develop a vision, the choice of materials and colors used by itself, but there are who turn to specialists in this field who have efficient and experienced to work of the required designs and implementation of this design.



Figure (3-1) shows the Interior concept

(Source: design by researcher)

The following highlight the interior design process and related components, materials and colors and their different effects as we mention of fundamentals and basic principles of the process of interior design as simplified.

(3.2) Interior Design

The design is an invention savior that meets the demands of human life as covers positives who shall hiring is to be in effect to be doing, or is the creative work that achieves its purpose is also a translation of a particular subject or idea .The design is the configuration and the innovation process, mean the collection of elements from the environment and put them in a specific configuration to give function or meaning.

Thus, the design more precisely, "**is the process of planning to form something and making by satisfactory way saturation human need utilitarian and aesthetically pleasing at the same time**".

- The interior design is defined as a study of spaces and put the right solutions for their elements and configured to function efficiently by using different materials and choose suitable colors and cost
- Is the art of processing and solving the difficulties that we face in the field of movement in the space so as to facilitate the use of its inclusion this spaces of furniture and equipment becomes comfortable satisfactory source of joy and 0pleasure.
- It is the ability to create a place dedicated to perform the function for which little effort as possible.
- Is the art of processing place to exploit all available items in a way to help feeling comfortable and help to work.
- is the ability to innovate unconventional solutions to fit the place and the appropriate choice of materials, colors, and whatever the different interior design process definitions, all of them are in one pot and lead us to the same goal
- include interior design process as contain spaces study and develop appropriate solutions for their elements, **and the following are the most important elements** :
 - Floors
 - Walls
 - Ceilings
 - Lighting
 - Furniture

- Cornices and motifs and gypsum works
- Carpentry, aluminum works (windows – doors)
- Wrought iron work
- sanitary devices

(3.3) The most important bases Interior Design, namely:-

(3.3.1) The concept of unity in the Interior

In interior design means that the unit holds the space general sense of continuity in the sense that all parts of the spatial content (design, furniture, color scheme, the raw materials used ..) have been coordinated to create the effect Synergetic interesting aesthetically and functionally effective

(3.3.2) The concept of the scale and proportionality in Interior Design

The scale and proportionality in interior design related to each other, and the scale is indicative of the size of the elements of furniture or elements of furnishing and its relationship to the space and the user's location, especially if they are related to each other within the spatial content one. As of proportionality is an expression compared to the relations between the part or parts with the system spatial all

(3.3.3) The concept of color in interior design

The way the Interior dealing with the colors on the psychological effects used and the dimensions of the the space as it acts as a tool in the hands of the interior designer to serve the function type and the specific activity of each interstitial content

(3.3.4) The concept of balance in the interior design:

Is a spatial arrangement and coordination of content elements a way that gives a sense of comfort and a satisfying and motivates activities to do and the most important images and forms of balance interior design symmetrical balance, the balance of non-symmetric

(3.3.5) The concept of rhythm in interior design:

Rhythm is scope for movement in the formations silent when the designer is trying to achieve rhythm it lends vitality and dynamism and variation within the diverse spatial content.

(3.3.6) The concept of texture in interior design:

Texture refers to the surface of the material properties are those for which there is case Exterior surfaces of various objects (smooth, rough, shiny, matte)

Interior Design can defined collectively as the art of dealing with the internal spaces to create the right atmosphere for spaces and achieve psychological comfort by distributing and hiring interior design elements that include color, furniture, light and form and spare, and raw materials and formative works and reconstructive material was interior design has a role a great and effective in early civilizations like Egyptian and Greek, Romanian and Islamic civilization and others. (Mahjoub Othman - 1990)

(3.4) The History of Interior Design and the emergence of Interior Architecture

Human life begins when God writes and souls has breathed life into the body, the first land sleeps is the land of the hospital, and then be transferred to his home which will eliminate old who wrote to him, which creates memories around this house. However, memories of what life we live. So God created for our souls recipes.. They fill up love and hate that you see in front of her. But her love for us God Glorified and Exalted beauty; it is beautiful and loves beauty. So the beauty flourish soul and mind drain, and the beauty of life lies in the place and the colors, even in the smallest details. So for thousands of times and old times and fifty thousand years ago in the age of the pharaohs who were in Egypt, North Africa. They love the decorations and colors, and all breathtaking and refreshing for the soul before the eye. They care about the smallest details in the giant doors, towering walls, high ceilings and huge columns. All of which he was decorated and carved, and that was reflecting their wealth obscenity.

Human residence first caves in the mountains and began their beauty transfer features of nature colors and elements by drawing animals and plants and the colors bright or dirt on the inner walls of the caves, then this concept evolved in the draw of victories then gradually release man from the mountains residence begin to build their home by himself from leather, stone and wood .

The emergence of interior design ... The attempts of man to improve and decorate space internal which he lives an old attempt, and it was the first serious attempts to study the specialty interior design and furniture in the Academy when saw the post-World War II shifts and changes on the level of humanitarian need,



Figure (3-2) shows the sample of old Interior Architecture

(Source: sahaery – Raya'an - 2013- pp5)

(3.5) The contemporary trends in architecture and interior design

The twentieth century was characterized by the diversity of trends in architecture and interior design. I can observe the major trends in architecture and interior design as follows:

(3.5.1) Modernity Direction:

This trend is based on the output expresses for its dedicated function.

(3.5.2) Postmodern Direction:

This trend depends on the output carries a message using the elements of historic and known previously vocabulary and using them well.

(3.6) Modernism Direction in architecture and interior design

It classifies the product modernism direction in architecture and interior design to three entries:

- 1. Abstraction Modernist Thought**
- 2. Formative Modernist Thought**
- 3. Hi Tech Modernist Thought**

(3.6.1) Abstraction Modernist Thought

(3.6.1.1) MINIMAL ART direction expressing abstraction modernist thought:

- Its approach that aims to achieve a function away from the details and decoration in order to achieve simplicity.
- LESS IS MORE
- characterized this trend repetitive and away from excess detail



Figure (3-3) shows the sample of MINIMAL ART_ abstraction modernist thought

(Source: saahery - Raya'an - 2013)

(3.6.1.2) Abstraction geometric trend reflects the abstract modernist thought:

- Pioneers Mondrian
- Based on geometric shapes

- Depends on strong rationality, is the movement (DE STYLE) more movements expressing abstract geometric trend.

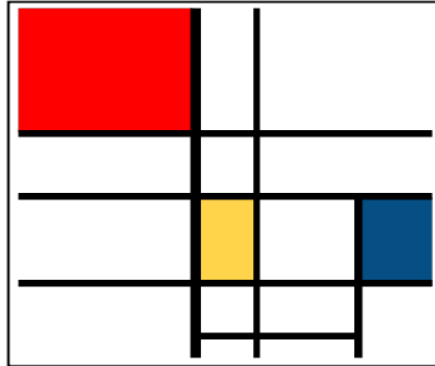


Figure (3-4) shows a painting by Mondrian

(Source: saahery - Raya'an - 2013)



Figure (3-5) shows red and blue mood of architectural design Gerrit Rietveld

(Source: saahery - Raya'an - 2013)

(3.6.2) Direction expresses thought and Modernist Formative:

(3.6.2.1) ART NOUVEAU:

- New art movement emerged in 1980; it has resisted this movement excessive and exaggeration of architecture and interior design through the use of unnecessary decoration.

- Direct inspiration for the leaves of plants, flowers and cruise lines curved.
- This movement confirmed that the beauty of the tools comes from nature with simplicity and proper industry.
- Of the most famous pioneers of this trend **Antonio Gaudi**.



Figure (3-6) shown the sample of ART NOUVEAU formative modernist thought

(Source: saahery –Raya’an – 2013)

(3.6.2.2) ART DECO:

- trend emerged art decorative in Paris in 1925
- became dominant the twenties and thirties of the twentieth century
- Characterized by wealth, multiple form and simulation form at ancient trend Egyptian model and Roman of the Maya art, but more simply.
- This trend is dominated by the philosophy of a sense of luxury and precision craft using plastic, metal and glass



Figure (3-7) shown the sample of ART DECO formative modernist thought

(Source: Raya'an saahery – 2013)

(3.6.2.3) ORGANIC DESIGN

- Since the beginning of 1887
- Simulates all the characteristics of natural elements which create harmony between nature and design.
- simulations in this direction, either directly or abstraction

- Frank Lloyd Wright, one of the pioneers of organic architecture



Figure (3-8) Guggenheim museum designed by frank lloyd right ORGANIC DESIGN

(Source: saahery - Raya'an - 2013)



Figure (3-9) Design by antti lovag

(Source: saahery - Raya'an - 2013)

(3.6.3) HI TECH Direction

- Trend depends on the structural formations technological elements and try to show it clearly
- Directed away from classical motifs and exaggerated
- Characterized technical direction of technological development in all fields, especially in the field of construction

- Characterize the technical direction by using bright colors and transparent glass or half transparent

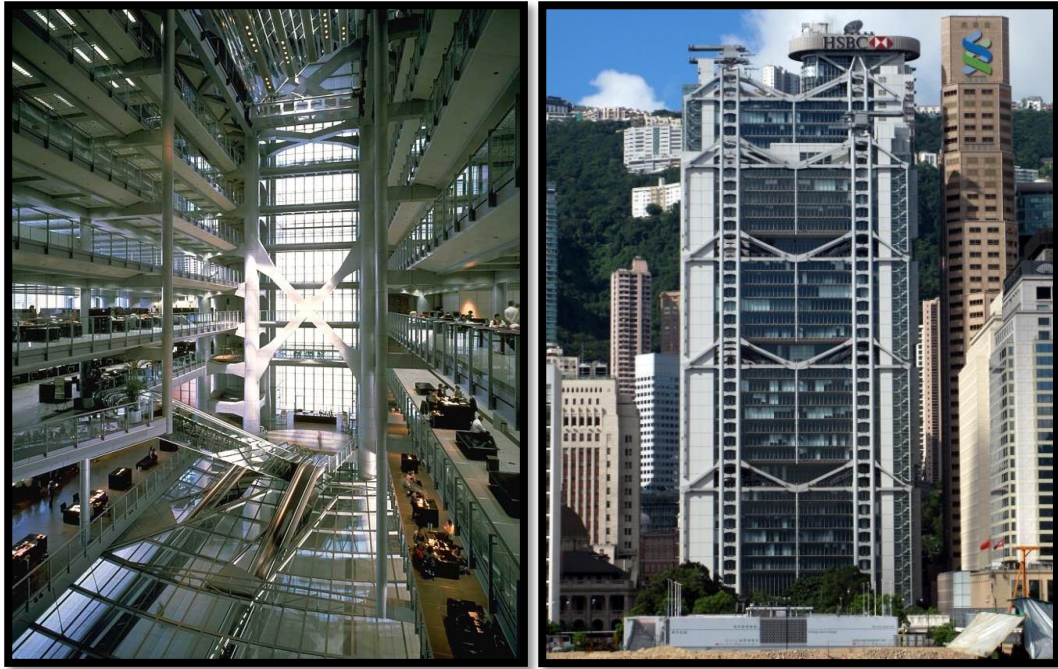


Figure (3-10) Hong Kong bank design by Norman .foster

(Source: sahaery - Raya'an - 2013)

(3.7) Postmodern Direction

- Use this trend for the first time in 1934
- Came postmodern stage as a rejection of what was common ideas of modernity stage
- Were considered more movements in support of the Heritage

(3.8) Trends that express the direction of postmodernism in architecture and interior design

1. Historical Direction
2. Local Direction
3. Deconstruction Direction
4. Out of the ordinary Direction
5. New Naturalism Direction
6. Smart architecture Direction

(3.8.1) Historical trend in architecture and interior design

- depends on dealing with the heritage elements
- Find the sources of history

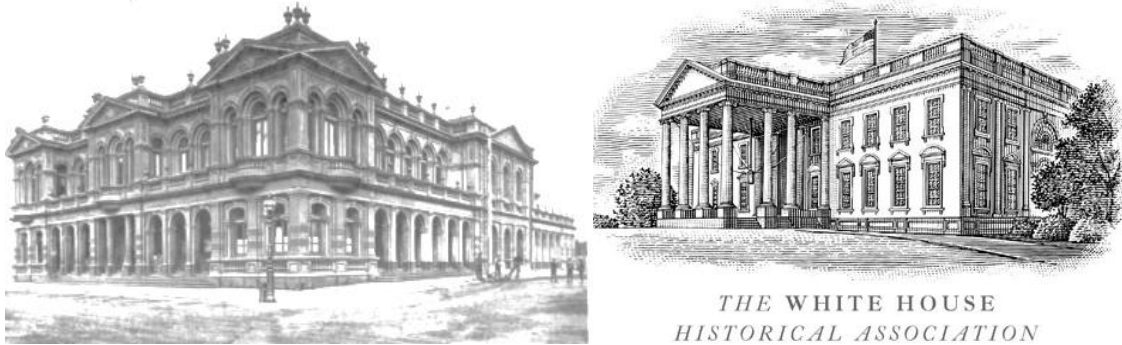


Figure (3-11) samples of historical trend

(Source: saahery - Raya'an - 2013)

(3.8.2) Local Direction In architecture and interior design

Aims to search for local architecture that reflect the national identity of the communities and meet social and environmental requirements

- **Steven holl** (the architecture boast of Stability and inability to transport from one place to another as opposed from other arts)
- **Kenneth yeang** (The success of the popular architectural production developer lies in the use of appropriate technological tools, materials, combined with the spatial environment for the work of the architect).
- The main direction of the local direction (the popular trend) depends on the Pacific balance that characterizes the traditional solutions of the most important pioneers of this trend **Hassan Fathy**.



Figure (3-12) shown the local direction

(Source: saahery – Raya'an – 2013)

(3.8.3) Out of the ordinary Direction In architecture and interior design

- This trend aims to devise new theories and methods in the design.
- Aims to achieve communication with the receiver are unfamiliar.
- Supports this trend to show self-ability of the designer to be creative and create the formation of a distinct and different.

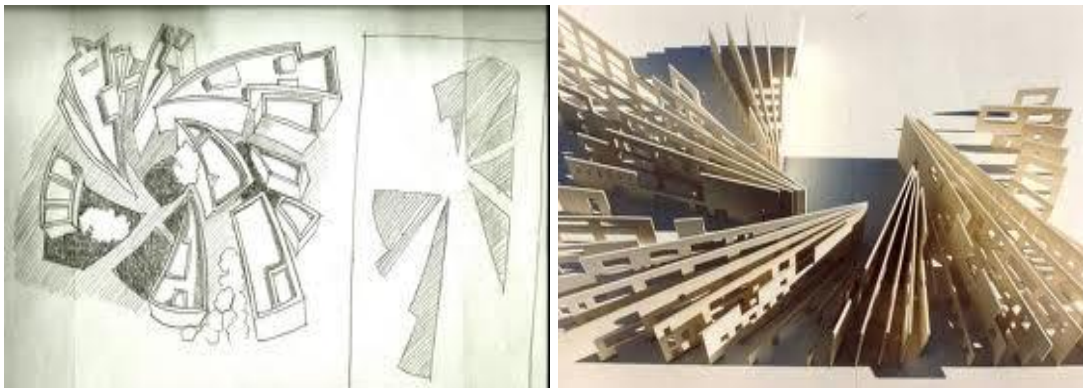


Figure (3-13) samples of out of the ordinary direction

(Source: saahery - Raya'an - 2013)

(3.8.4) Deconstruction Direction In architecture and interior design

- Called this trend the direction of deconstruction and interdependence.
- This represents a trend in architecture cracker methods and asymmetry and imbalance.
- Supports this trend to dismantle the blocks into pieces and re-installed a non-traditional artistic style.
- Architect **Frank Gehry** is considered the most important pioneers of this trend.

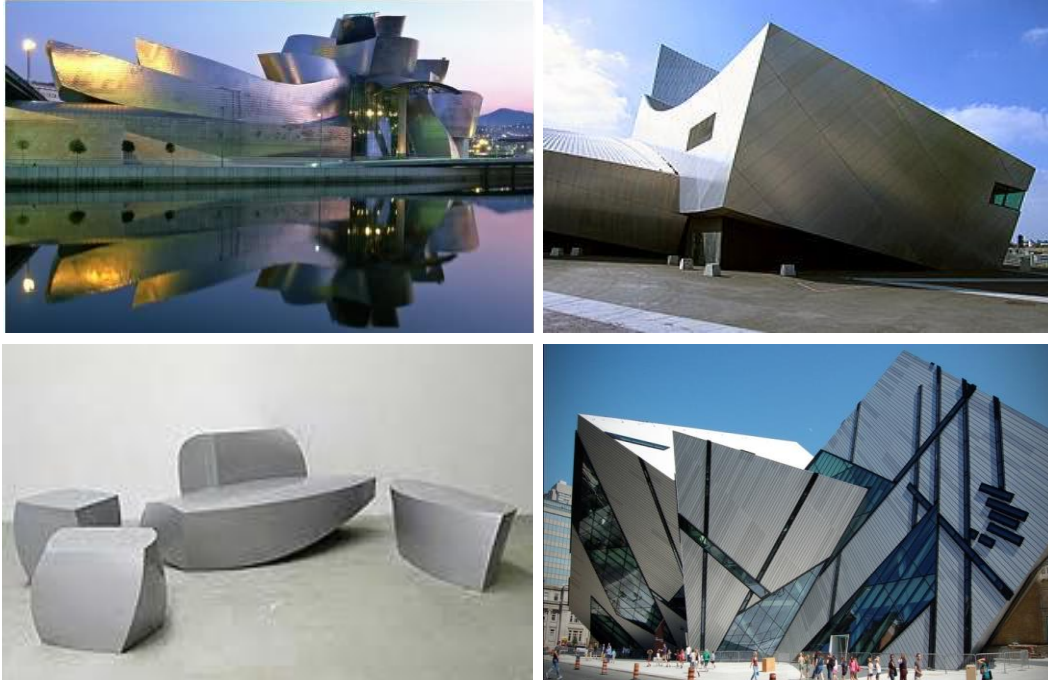


Figure (3-14) samples of out of the deconstruction direction by **Frank Gehry**

(Source: saahery - Raya'an - 2013)

(3.8.5) New Naturalism Direction In architecture and interior design

- The new natural of the latest trends in architecture and interior design.
- The new natural as an explicit return to romantic.
- It does not carry this trend symmetric and not central to liberation of the design expresses of the typical limitations of form, function and methods of production.



Figure (3-15) samples of new naturalism direction

(Source: saahery - Raya'an - 2013)

(3.8.6) Smart Architecture Direction In architecture and interior design

- Is a term that means the preparation of the design model that mimics nature to seem like contains all the requirements that must be met .
- supports this trend to design structures internally and externally, in a manner consistent with the environment and technologically High

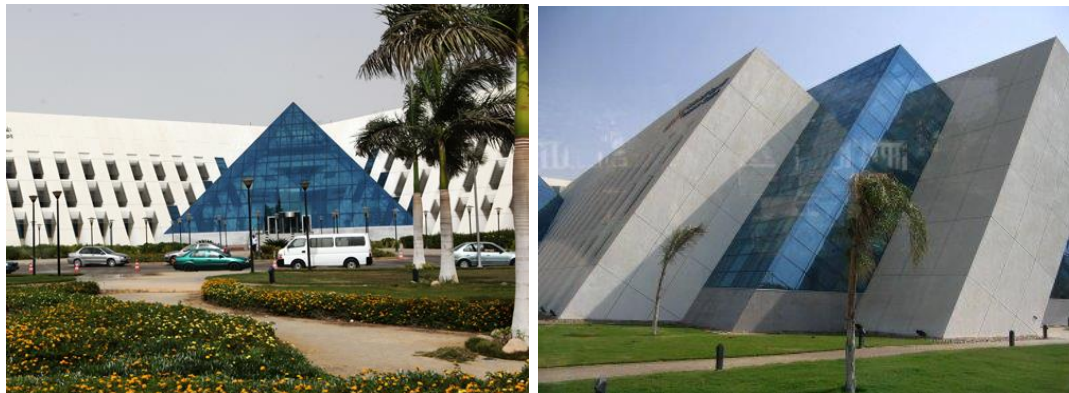


Figure (3-16) samples of smart architecture direction

(Source: saahery - Raya'an - 2013)

The interior design evolution and furniture was still subject to the process of the evolution of human thought in different aspects of life, and interior design and the design process passed several stages within historical periods called each stage, by a certain name expressed, many factors led to the excellence and the development of each stage among these factors are:

1. **Intellectual and cultural factors** such as technical and architectural movements (style and currents).
2. **Technological factors** (scientific and industrial), where the impact of recent developments in the manufacturing of all components of the internal space, materials and colors and furniture systems of service etc.
3. **Social factors** and how the variables that occur to human thought and way of understanding human life in every time period
4. **Economic factors** and their impact on technological development.

(3.9) The interior designer function

- Initial idea for functional and the aesthetic and appropriate to the standards.
- Achieve the principle of unity ,the ratio, balance, rhythm... etc in the design subject
- Health Study and the study of lighting and ventilation
- Choose the right colors in the right places
- Give economic terms of great importance when design
- Analysis of the client's needs and objectives and the needs of safety.
- Develop and submit a final proposed design by means of appropriate presentation.
- Working drawings and specifications for building materials and various details of finishes, materials, furniture and constants, such as the bathroom and prepare equipment and conforms to the system and scientific approval.
- Cooperation with professional services to access technical licenses, electromechanical fields, loads of special approval requirements.
- preparation of tenders and contracts for the customer
- Review and evaluate design through implementation after the completion of the project.

(3.10) Summary.

From this we conclude that the great development witnessed by the world in all areas of technology and the availability of materials and techniques, as well as specialized studies and research and technical schools multiplicity have a great effects in the interaction or increased interest in studying in the field of interior design and their development.

Chapter 4 ..

Residential Buildings .. and their Architecture

Chapter 4

Residential Buildings ... and their Architecture

(4.1) Introduction

The housing is the most important needs of basis in the human life has been called the designer (**Le corbusie**), describing him as a machine for living (Living Machine), housing is a place and space which spend the Human in most of his time, and to take shelter from the elements, and needs to spend daily out of the scope of his work, also uses it to rest, sleep, food preparation, eating, families social gatherings and the practice of some of the activities of literary, artistic or hobbies ,Sports , entertainment or productivity.

The House represents a tool for the protection and safety as well as being a beauty and independence appearance, which creates an intimacy atmosphere between them and the user, God said **(وَاللَّهُ جَعَلَ لَكُمْ مِّنْ بُيُوتِكُمْ سَكَنًا وَجَعَلَ لَكُمْ مِّنْ جُلُودِ الْأَنْعَامِ بُيُوتًا تَسْتَخِفُّونَهَا يَوْمَ ظَعْنِكُمْ وَيَوْمَ إِقَامَتِكُمْ وَمِنْ أَصْوَابِهَا وَأَوْبَارِهَا وَأَشْعَارِهَا أَثَاثًا وَمَتَاعًا إِلَىٰ حِينٍ)** (سورة النحل- اية

(80

(4.2) Classification of Residential Buildings

Take housing and residential buildings different forms, in which the clusters, residential quarters include multiple forms of houses and buildings, so with available public services and utilities all are as follows:

- a. Separate housing (villas): a single-storey or more, usually surrounded by a garden.
- b. Floor of housing (floor multi): within the buildings consist of several floors, each floor includes two apartments or more, surrounded by green spaces paved or separated from the neighboring housing for ventilation and lighting.
- c. Housing-related (stripe): where residential buildings are detached, and multiple entrances and floors, to include two apartments per entrance or more, and usually reaches a height to five floors.

(4.3) Housing Architecture Identity

Three most important basic elements in the formation of this identity, namely:

1. Architectural features and appearance.
2. Events and prevailing functions
3. Meanings and symbols aware.

Abraham Maslow pointed out that each individual needs within the overlapping interconnected priorities seeks to achieve it and these can be arranged under the following hierarchy:

1. Physical Needs
2. Safety Security and Protection
3. The provision of belonging to the environment and to achieve social communication
4. Achieve the entity and appropriate impression a good Image, (Reputation and Prestige) through by achieving independence and self-sufficiency
5. The possibility of creativity and knowledge needs
6. The need for self- realization and the satisfaction of the full abilities of the individual

Although this **model of Maslow** did not attempt to link the humanitarian needs of the idea of the place or space clearly, but he can be considered as a preliminary indication of the understanding of the priorities of needs within the built environment (Seba Ibrahim Taha - 2009).

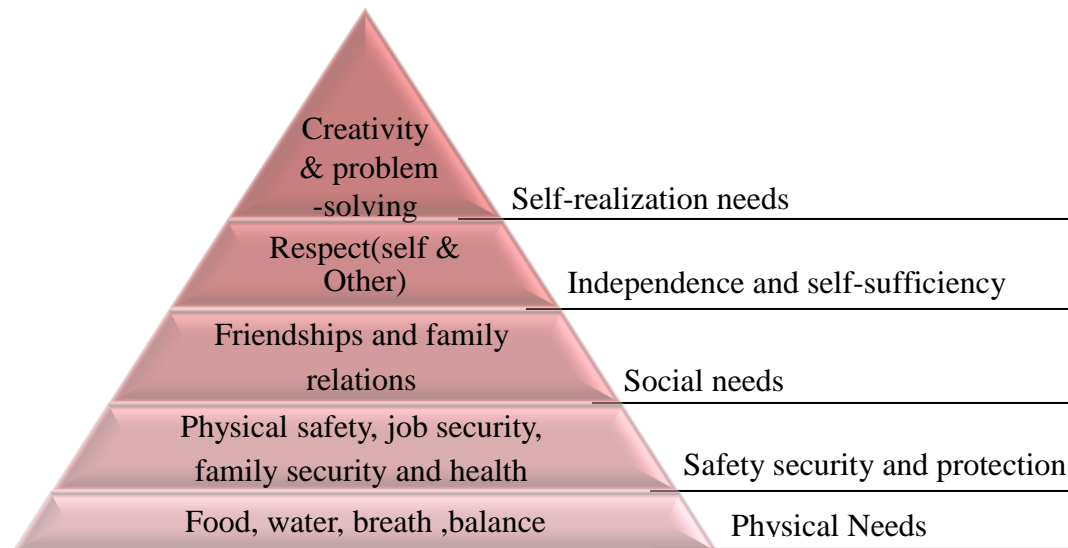


Figure (4-1) shows the humanitarian needs in Maslow included and their corresponding needs of housing as general.

(Source :www.wata.cc/up/2012/09/files/w-41a237d854.docx)

(4.4) Basics that must be followed when housing furnishing

1. The possibility of future expansion
2. Benefit from the exploitation of space
3. Away from inertia and boredom
4. Determine those activities in each room as possible to do their jobs
5. Determine the amount of space occupied by the furniture in every room as a comfortable style, beautiful and effective
6. Determine the desired model furniture according to personal taste, space and compatibility of harmony in terms
 - a. Furniture style linked with architectural model homes
 - b. Furniture harmony with accessories and with each piece of furniture
 - c. To be suitable in the room space and furnishings
 - d. Furniture Harmony of with the walls
 - e. Do not use materials unrelated old furniture like the walls coated with plastic materials
 - f. Curtains be modern style , (Ibtasam el.zoom & Samia Al. mousa- 2008)

(4.5) The basic of design and furnishing the interior spaces at the

Separate residential units:

(4.5.1) First: The Entrance:

- a. For every home one entrance at least
- b. Due importance that determines the appearance of housing, the first element located by eye
- c. Not necessarily to be huge, but enough to be creativity by the use of materials
- d. The size of the space depends on the amount of movement in and out of the house and the number of people without disability the movement
- e. It must be characterized by privacy and independence from the street
- f. Leads to the reception sections and the living, dining and kitchen of the shortest direct route, bedrooms and workrooms
- g. Usually the entrance contains a cabinet kept shoes , mirror hanging
- h. Its size depends on the space.



Figure (4-2) shows main entrance style

(Source: <http://www.imagesbnat.com/furniture-and-home-furnishings>)

(4.5.2) Second: The Living Room:

Is a place that spend family members most of the day, the television and video devices, and must take this room by a possible north-east direction. Living room, stay out during the day serves as a place for the meeting of the family near the fireplace around a table of tea or coffee, or reading after work.

- a. Preferred orientation of the north and the east to help deliver a sufficient amount of sunlight at all times throughout the year.
- b. Preferred Orientation of outdoor views.

(4.5.2.1) Living room decoration

The living it's the important areas of the home where family members spend most of their time out and more places to use the area and is often the biggest housing rooms

- a. must be comfortable, attractive and best appearance
- b. subject to furnishing on the following:
 1. The number of people
 2. Needs major Furniture as possible functions to do this in a space
- c. furnished mostly from the seats mild, central desk and other side
- d. Preferred curtains be more luxury and grandeur
- e. but flooring furnished into account to achieve consistency color and consistent with the general pattern of the room
- f. be comfortable furniture achieves aesthetic and utilitarian together



The figure (4-3) samples of living rooms

(Source: design by researcher)

(4.5.3) Third: Bedrooms:

Special considerations for the external environment, the preferred orientation of the north and east.

(4.5.3.1) Special considerations for the internal environment

- a. Preferred bedrooms combine in one suite.
- b. Prefer to be the entrance to the bedrooms away from the main entrance.
- c. The bathroom must be near the bedrooms.
- d. Not prefer to enter to the bedrooms from the living and the opposite.
- e. Does not favor the distribution of the bedrooms from the entrance hall.
- f. Must not intersect the route between the bathroom and bedrooms
- g. Can move the kitchen and the bathroom next to the bedroom and cannot be the opposite.
- h. Enter the contemporary house in some spaces assistance and functionally associated with clothing as a room, bathroom and sometimes a seating area

(4.5.3.2) Bedrooms Decoration

- a. The wall paint colors will help us relax and sleep
- b. Suitable the color of the floors with the walls color
- c. The lighting is an important component can be used side Lampshades even gives a relaxed atmosphere
- d. When the distribution of furniture should pay attention to the location of the window and arrange the furniture, the bed position is far from the door
- e. Harmony of room content of furniture, blankets, curtains and accessories sufficiency necessarily to facilitate free movement



Figure (4-4) samples of bedrooms

(Source: <http://www.aqarcity.com/t2288536.html>)

(4.5.4) Fourth: Dining room:

Have to be a dining room in direct contact with the kitchen and it is not necessary that there be a direct relationship between them and the rest of the housing parts either traditional dining table, they are placed in the middle of the rooms and eating is not the only purpose of the dining room, but could be exploited so that gives us a space a storage capacity large accommodate any possible needs inside the house.

(4.5.4.1) Special Considerations for the Internal Environment

Orientation: Breakfast times should be directed to the east as for the lunch time west direction is better.

Widening: in the past was the dining room is relatively large room, but today its abbreviation minimum.

(4.5.4.2) Dining Rooms Decoration

Consider the following points in the dining room:

- a. Are consistent with or decorative dining room with the rest of the house, especially the living room
- b. Colors contribute to lend atmosphere of luxury to the place
- c. Distances lead a major role in the beauty of the place and comfort him
- d. Pieces of furniture out of the dining table, chairs and buffet consists proportional to the distance, and a height suitable for users
- e. Furniture style taking into account and choice of curtains and walls materials.



The figure (4-5) samples of dining rooms

(Source: <http://www.aqarcity.com/t2288536.html>)

(4.5.5) Fifth: The kitchen:

The kitchen is directed to the east or west of the kitchen should be possible to get to see the Garden and the entrance door and children's playgrounds. And it must have a minimum area of kitchen 5 square meters, and should be well connected to the dining room and service areas.

There are five basic designs can adopt one of them on the basis of data of each case and by geographical the kitchen and the area



Straight line



Two lines parallel



"L" shape



"U" shape



Island shape

The figure (4-6) samples of kitchen shapes

(Source: <https://www.decorpad.com/photo.htm?photoId=109142>)

(4.5.6) Sixth: Bathrooms:

When starting a new house must choose the right places to bathrooms on the planned construction sites and determine bathrooms area

Guest bathroom: It must be in a suitable location close to the dining room and usually should not be in front of the house.

Bath Bedrooms: preferably be inside the room or close to the bedrooms, but do not have the bathroom door facing the door of the room

(4.5.6.1) Special considerations for the external environment

- a. Do not prefer to put the bathroom in the prevailing wind direction and the best position to them in the direction of the sun to reduce the moisture
- b. No preferably with a bathroom views however, if necessary, so it can work (DUCT) where he covered up the drain pipes and let their maintenance.

(4.5.6.2) Bathrooms decoration

- a. Furniture which varies between motifs such as the toilet, face basin, bathtub, and between units for storing furniture, towels, toiletries, and has a mirror on the basin, hanger
- b. There are different types of ceramics in terms of texture and views, there are glossy and there matt, safe ceramic non-slip.



The figure (4-7) samples of bathrooms

(Source: design by researcher)

(4.5.7) Seventh: Terraces:

Terrace extension is the vital area and constitute necessary element for housing, and be comfortable for the balconies on the facade, so we must protect the last by the volatility of weather. Must be careful to ensure protection against the looks and the air

(4.5.7.1) Special considerations for the external environment

- a. good Orientation for the sun and natural views, the correct location in the homes and surrounding housing, and relationships distance for neighboring rooms, and the possibility of work or rest, and enough size, and protection from the looks, and the noise and climatic influences.
- b. It can be implemented railing of dark glass and plastic materials and lists of wood or iron plates formed on the base construction.



The figure (4-8) samples of terraces

(Source: <http://www.images7.com/furniture-and-home-furnishings>)

(4.5.8) Eighth: Garages

The status of the garage not far from the entrance of the house, with easy access, and the distance from the house depending on the number and size cars, it is for buildings isolated calculated larger or equal to (5m) and larger or equal to (10m), and ceilings is anti-burning "exceptionally" We can under certain conditions, put garage under the insulated surface, in a simple or double.



The figure (4-9) samples of garages

(Source: <http://www.almrsal.com/post/184877>)

(4.5.9) Ninth: indoor gardening

Lends a rich sense of inner gardens to neighboring rooms where the plants will revive the surrounding air and increases the moisture, and incite hobbies and educate children.

Either perfect repositioning that conform to the most types of weather, so most of the plants are from the south to the southeast where we exposed to daylight or the provision of Special plant industrial lights and hard Control of the sun light from the west must therefore provide industrial light to plants only.



The figure (4-10) samples of indoor gardening

(Source: <http://88designbox.com/home-design/green-nature-villa-in-singapore-65.html>)

(4.5.10) Tenth: Swimming Pool

The availability of the swimming pool at home transmitted to another level of luxury, it provides family members a wonderful view for recreation and keeps the lovely atmosphere, fresh air and natural moisture in the house, and it also provides the privacy for family members to use it.



The figure (4-11) samples Swimming pool

(Source: <http://beetcom.com/3144/>)

(4.6) The Housing elements of Interior Design

(4.6.1) Color Scheme

One of the roles assigned to internal designer is organizing the colors that achieve good design and that by providing the following:

- a. Organization is attracts to the attention through color value photovoltaic contrast, contrast intensity and contrast spacers between the colors.
- a. affects color to identify the general appearance and giving character of the building
- b. highlight the features of the local character by using colors of the traditional accepted



The figure (4-12) Color Scheme

(Source: <http://dornob.com/6-color-palettes-based-on-early-1900s-vintage-bedrooms/>)

(4.6.2) Lighting

The lighting is the main elements in the interior design is the most important configuration data in architectural space, because of its ability to highlight the architectural design elements, and by controlling the degree of lighting, color and distribution by time and the need for control degrees shade be giving priority to spaces without the other.



The figure (4-13) Lighting design

(Source: <http://www.hometrendesign.com>)

(4.6.3) Walls

Wall or internal wall at home may be one of the most matters affecting the decor because it occupies a large area of the space and fall upon the eye when you enter the place, and different ways of cladding and interior walls of the house to deal with it and renew it the following means:

1. Paint various techniques
2. Freehand drawing
3. Gypsum board.
4. Printing
5. Wall paper
6. Mirrors
7. Stone x
8. Ceramics
9. Wood
10. Leather



(Source: <http://interiorhomedecoration.net>)

(4.6.4) Falls ceiling

The roof is the upper inner surface which determines the upper limit of the space may not be a construction element but supplementing surface that hides the underside of the elements above it.



(Source: <http://www.ongsono.com/go>)

(4.6.5) Floorings

Considers floors first pillar of the Decoration works, they are placed on various pieces of furniture and practiced in many activities during the day, in addition to the ground gives the aesthetic and artistic values required for housing

Floors is important element of the internal architecture, which is a flat horizontal surfaces that make up the base of internal space should be built in a good way and tested to resist friction and loads easily and fully safely.



The figure (4-16) Flooring design

(Source: <http://www.albeet.com/>)

(4.7) Interior Design supplementation (decorative elements)

Curtains , lighting units, photographs, mirrors, sculptures, accessories, plants, are all integral DECORATIVE which is very important in interior design elements, where it is difficult presence into without the use of these supplements are they integrated with the rest of the elements in terms of function, raw material , color and texture, and play an important role in enriching and rich place her where technician link if it lost any element of which has had a negative impact on the rest of the other elements in the design of the interior spaces

And others known as "parts and things that combine function and art for the benefit and aesthetic beauty and enrich the financially and morally place in order to achieve a suitable environment" and types:

- **Functional supplementation:** are fixed or moving objects needed to perform functions or to complement another function Examples include: fireplace, clock, electrical switches, lamps coverings, curtains.
- **Non-functional supplementation:** They are pieces of un used parts but it is necessary to achieve the technical aspects in order to get the aesthetic aspect, including: plants and flower beds, paintings, lighting, sculptures, accessories.

(4.8) Raw materials in interior design

Varies the types of materials used in the interior design is the raw materials in supplementary elements of the various buildings there are raw materials that are used to finish internal and external floors, walls and ceilings as well as their use in the furniture pieces, the following are some of the raw materials used in interior design spaces

(4.8.1) Stone

Easily formation is characterized in the construction process, such as a brick when used in the work of stairs or in the interior or exterior walls to add color and decoration



The figure (4-17) sample of stones

(Source: <https://www.google.com/search?q=stone/>)

(4.8.2) Ceramics

It was used in the old Islamic art, it is characterized by the multiplicity of colors, forms, decoration, durability, isolate sound, lack of water affected or Moisture, firming their colors and easy to clean, so now widely used in the tiles used in interior design, such as walls and floors of bathrooms and kitchens.



The figure (4-18) sample of Ceramics

(Source: <https://www.google.com/search?q=ceramics/>)

(4.8.3) Mosaic tile

It is widely used, such as ceramic flooring and walls in bathrooms, kitchens and toilets, as is used in places where frequent movement such as halls and corridors as well as in the manufacture of furniture for the beauty of colors and different forms and easy to clean.



The figure (4-19) sample of mosaic tile

(Source: <https://www.google.com/search?q=moasictile/>)

(4.8.4) Wood

There are different kinds of wood and multiple forms and specifications there are a natural extracts from the trees and some of it is used in the factory use at walls or floors or furnitures.



The figure (4-20) sample of wood

(Source: <https://www.google.com/search?q=wood/>)

(4.8.5) Gypsum

Gypsum from solid metal which are extracted from the earth and is one of the materials used for sound and heat insulation is reflective photovoltaic ray.



The figure (4-21) Gypsum board

(Source: <https://www.google.com/search?q=gypsum/>)

(4.8.6) Aluminum

It is one of the types of minerals such as iron, copper, and is the most important element in the internal parts industry in houses such as windows and exterior doors and enters.

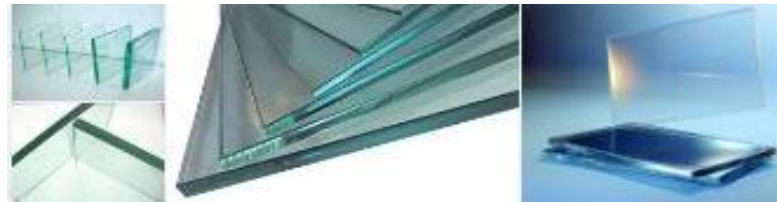


The figure (4-22) sample of doors & windows made by aluminum

(Source: <https://www.google.com/search?q=aluminum/>)

(4.8.7) Glass

There are multiple types of glass there are some that is transparent and some of it is semi-transparent and has a luster and formed by heat and colored and covered with aluminum.



The figure (4-23) sample of glasses

(Source: <https://www.google.com/search?q=glass/>)

(4.8.8) Mirror

Much intervene in the modern interior designs because of their role in increasing distinctive effects and visual nature of which gives a reflection of the larger sizes place

(4.9) Technical foundations in the distribution and arrangement of furniture housing

1. Balance
2. Proportionality
3. Continuity and rhythm
4. Confirmation and focus

(4.10) Summary.

- ✓ I see at the end of this chapter that the definitions and theoretical foundations that received can't be collected and listed in one design that meets the user's needs and approves the idea of design.
- ✓ We must to know the elements, raw materials, technical bases, the design and furnishing of interior spaces in housing and special considerations for internal and external environment to achieve desired objective, a psychological and moral comfort to the user.

A model for a separate residential building

(4.11) Case Study

It was selected a separate residential building (Villa) of two story in one of the residential neighborhoods in the city of Khartoum (Omak Street intersection with the Nile Street) with an area about of 1200 square meters, the built-up area of 517 square meters, that means about 43% of the total area were either outdoor space of 683 square meters is about 57% of the site area

(Iskan architect) company is the designer of the project and implemented for all exterior construction and finishing works, interior design was the luck of the foreign companies from Italy, design and implementation until the end of the entire project, and i have a set of illustrations for this project.

(4.11.1) The exterior works



The figure (4-24) main entrance

(Source: taken by researcher)



The figure (4-25) the exterior lighting
(Source: take by researcher)



The figure (4-26) the elevations finishing
(Source: take by researcher)



The figure (4-27) the outdoor garden

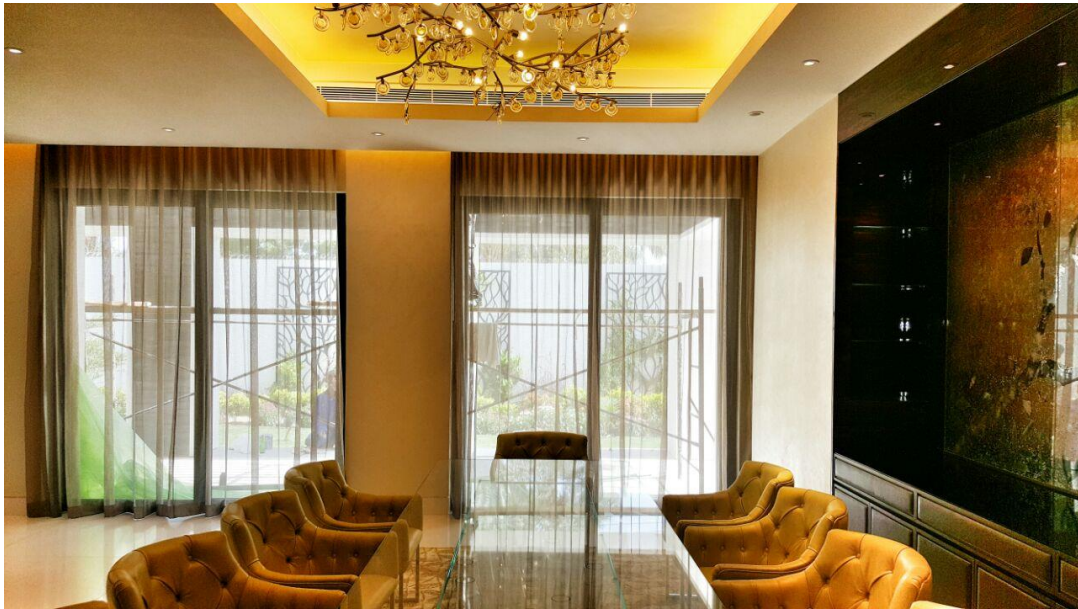
(Source: taken by researcher)



The figure (4-28) design of the outer fence

(Source: taken by researcher)

(4.11.2) The interior works



The figure (4-29) dining sitting
(Source: taken by researcher)



The figure (4-30) guest sitting
(Source: taken by researcher)



The figure (4-31) family sitting
(Source: taken by researcher)



The figure (4-32) partition between guest sitting and family sitting
(Source: taken by researcher)



The figure (4-33) opening kitchen and family dining
(Source: taken by researcher)



The figure (4-34) materials of furniture
(Source: taken by researcher)

Chapter 5 ..

Presentation and analysis of field study

Chapter 5

Presentation and Analysis of Field Study

(5.1) Introduction

This section of the study the procedures applied, the study by which the characterization of the field study tool (**questionnaire**) : conducting field interviews with a sample of the population of housing units separate in order to gather first-hand information in Khartoum to test hypotheses, and then comes the analysis of the results of phase interview questions access to the goal of the procedure or method.

(5.2) The Interview goal

The interview is one of the most common and widely used, non-contradictory information which contained therein methods, the interview aims to identify a sample of residential units opinion on the importance of interior design and its relationship with the exterior design of each housing unit, in addition to improving the environment and living conditions in order to develop and activate the role of the internal designer at the process of the design and implementation of buildings, and thus how to develop them to suit the activities that practiced to satisfy the needs of its users.

(5.3) study Tool

Has been selected questionnaire as a tool for the study, and aims to collect information on scientific research, which is made up of a series of questions for all sample members .that researcher drafted very carefully and in a clear and easy to fit all the sample.

The questionnaire consists of three sections: data or preliminary respondents, and the second includes questions phases and allows for the identification the opinion of the respondents their suggestions towards the content of the search.

And the 3rd part of questionnaire about the level of satisfaction or implementation mechanism in the housing unit.

The research community: the research community represents residents of central of Khartoum city.

(5.4) Study Sample

The study sample has been randomly selected within the study population only, this sample was reflective of the overall study because of the difficulty to covering the whole of society, and this study has targeted a number of residents of the center of the Khartoum city.

It was conducted interviews with residents of this sample and answer questions from the study during these visits directly, increasing the realistic and logical private answers, that residents of Khartoum appeared their awareness and understanding of the subject and this was clear in the expression of their views neutrality and full serious, and appreciation for the concept of interior design and its impact the psychological comfort of living for the population.

I have distributed the number of 65 questionnaires were compiled 62 which exclude a number 2 for non-validity of the analysis, meaning that 60 questionnaire have been analyzed.

(5.5) Statistical data processing

Has been used the computer to shorten the time and effort to accomplish statistical operations, so choosing to analyze the Statistical Package for Social Sciences program (SPSS).

A statistical programs used in the fields of social sciences and application and engineering to conduct statistical analyzes necessary, and find percentages and frequencies to answer the questionnaire questions, and then display the results in the form of charts showing percentages of variables study, using Microsoft's Excel program (MS Excel).

(5.6) Statistical analysis of the data

(5.6.1) First: Analysis for the Preliminary data for sample study :

A. Male-female ratio of the respondents at the study:

It turns out from the sample, the number of females increased than males, reaching 42 the number of females person by 70% and reached 18 and the number of males person by 30%, which, shows that the focus of the interior design process more females than in males.

Statement	Recurrence	Percentage
Male	18	30%
Female	42	70%
Total	60	100%

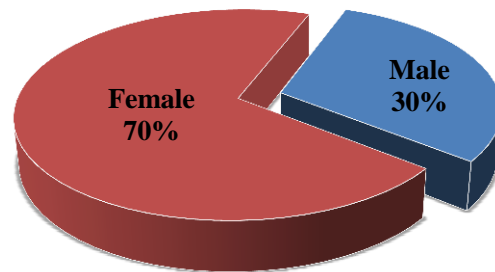


Table no (5-1) Male and Female ratio

Figure (5-1) Male and Female ratio

B. The age composition of the respondents at the study:

Turned out from the sample that the age composition of the members sample are convergent, and more existing categories are the age group (20-30), followed by age group (31-40), and finally a class of 40 or above, with a first rate of 38.33%, and the second rate about 33.33% and last about 28.33%.

Statement	Recurrence	Percentage
Less than 20	0	0%
20 – 30	23	38.33%
30 – 40	20	33.33%
More than 40	17	28.33%
Total	60	100%

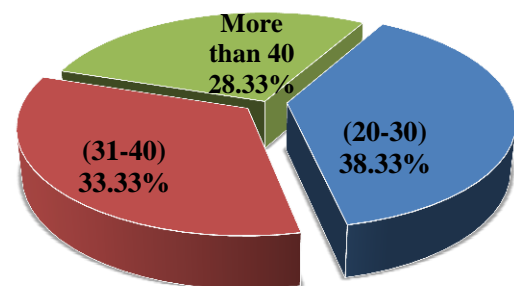


Table no (5-2) the age composition of the respondents at the study

Figure (5-2) the age composition of the respondents at the study

C. Education level of the respondents at the study:

Table indicates (5-3) and shape (5-3) to the level of education for members of the study sample, and we find that people with university level, representing the largest proportion of 50%, while the level above the university of about 41.66%, the simple luck was below the university and was rate approximately 8.33%

Statement	Recurrence	Percentage
Secondary level	5	8.33%
University level	30	50 %
Above University	25	41.66%
Total	60	100%

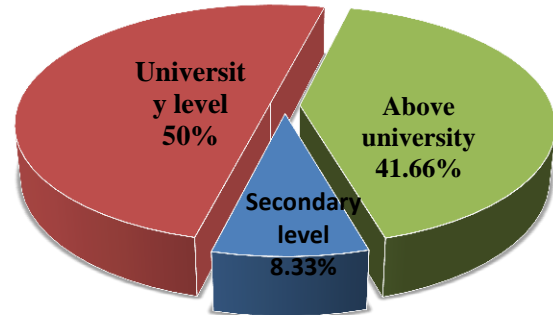


Table no (5-3) the level of education

Figure no (5-3) the level of education

D. Annual Income of the respondents at the study:

Table indicates (5-4) and shape (5-4) to the level of annual income for the study sample, and we find that who live in high-income level about 20%, while who live in average-income level about 63.33 %, and who live in low-income level approximately 16.66 %

Statement	Recurrence	Percentage
High	12	20 %
Average	38	63.33 %
Low	10	16.66 %
Total	60	100%

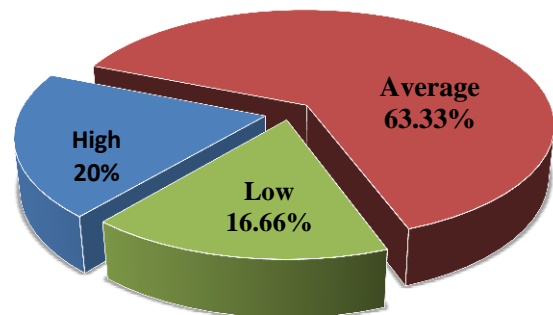


Table no (5-4) annual income level

Figure (5-4) annual income level

E. Family Size of the respondents at the study:

Table indicates (5-5) and shape (5-5) for the family size for the study sample, and we find that who number of family members are 2-4 about 13.33 %, while who number of family members are 5-8 about 25 %, and who number of family members are more than 8 about 61.66 %

Statement	Recurrence	Percentage
Small (2-4)	8	13.33 %
Average (5-8)	15	25 %
More than 8	37	61.66 %
Total	60	100%

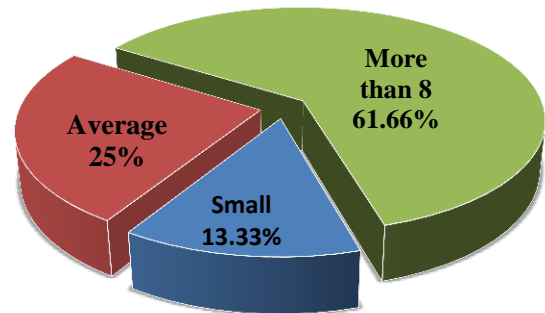


Table no (5-5) the family size

Figure (5-5) the family size

(5.6.2) Second: Analysis of interview data and interpretations of results:

In this part of the study will analyze and interpret the results of the interview questions, which included a sample of the population of the city of Khartoum in order to highlight the interior design and its relationship to the outer design in residential units.

The questions a simple and direct character, in order to get a clear and understandable answer that revolves around the following central question: **Interior Design and Its Importance In The Improvement And Success Of Architectural Space Content** the topics and issues contained in the interview questions are as follows:

1. The use of an internal designer in the design stages and the creation of housing:

Table (5-6) and shape (5-6) indicate that 15% of respondents are getting help the interior designer in all stages of design, and 85% of respondents did not getting help the interior designer in the process of the house.

Statement	Recurrence	Percentage
Yes	9	15 %
No	51	85 %
Total	60	100%

Table no. (5-6) the internal
Designer at the design stages

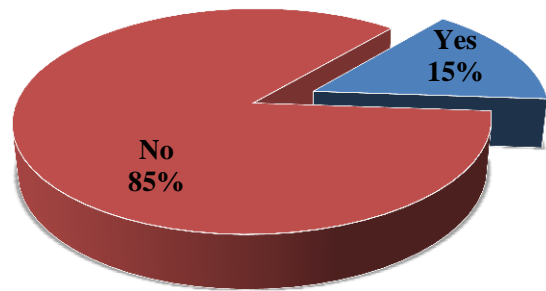


Figure no (5-6) the internal
Designer at the design stages

2. Did preliminary design stage or final finishing stage is the appropriate time to make the necessary designs and follow-up the implementation phases:

Table (5-7) and shape (5-7) to indicate that the percentage of 56.66 % of respondents confirm that the preliminary design stage is the most appropriate stage for the intervention of the interior designer in the design process, and 43.33 % of respondents said their opinion the finishing stage is the best stage for the intervention of the interior designer .

Statement	Recurrence	Percentage
preliminary design	34	56.66%
finishing stage	25	43.33%
Total	60	100%

Table no (5-7) preliminary design stage or final finishing stage are the appropriate time to do interior design

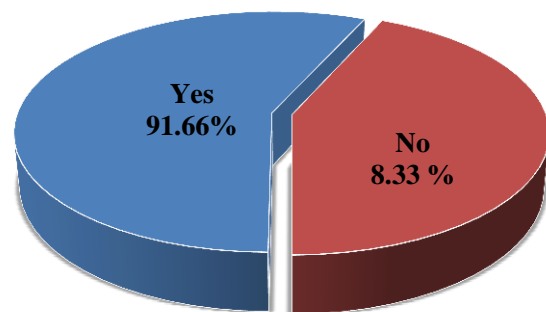


Figure no (5-7) preliminary design stage or final finishing stage are the appropriate time to do interior design

3. The owner who impose their role and their personality than the interior designer

Table (5-8) and shape (5-8) indicate that proportion 58.33 % of respondents believe that the owner who impose his role and his opinion than the interior designer roles in the process of design, 16.66% of respondents believe the opposite, and the 25% are their opinion that they both him his opinion should be taken into account and must respect their opinion to complete the process of design.

Statement	Recurrence	Percentage
Yes	35	58.33 %
No	10	16.66 %
Other	15	25%
Total	60	100%

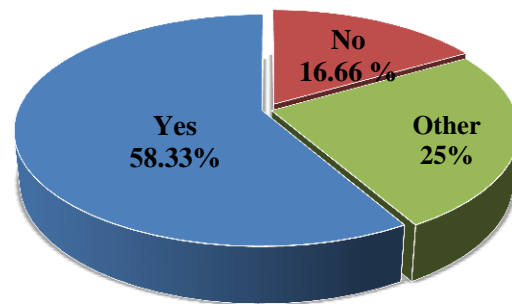


Table no (5-8) the owner or interior designer who impose his personality

Figure (5-8) the owner or interior designer who impose his personality

4. The Architect who is doing interior designer works

Table (5-9) and shape (5-9) to indicate that the percentage of 61.66 % of respondents believe that is preferred that the architect who is doing interior designer works in all interior designs phases , while 21.33 % of respondents believe exactly the opposite.

Statement	Recurrence	Percentage
Yes	37	61.66 %
No	13	21.33 %
Total	60	100%

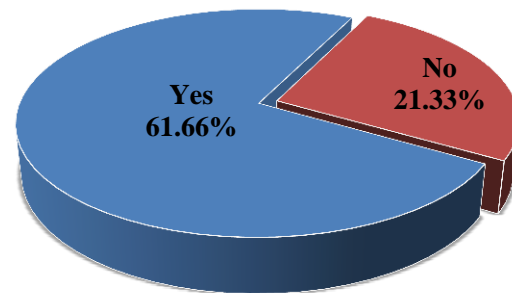


Table no (5-9) The Architect who is doing interior designer works

Figure (5-9) The Architect who is doing interior designer works

5. The reason for the use of internal designer

Table (5-10) and shape (5-10) indicate that ratio 33.33% of respondents believe that the reason for the using of interior designer is functional and utilitarian, while 45% of respondents see them as aesthetically decorative, and 21.66% for aesthetic reasons and functional at the same time.

Statement	Recurrence	Percentage
Functional	20	33.33%
Aesthetic	27	45%
Other	13	21.66%
Total	60	100%

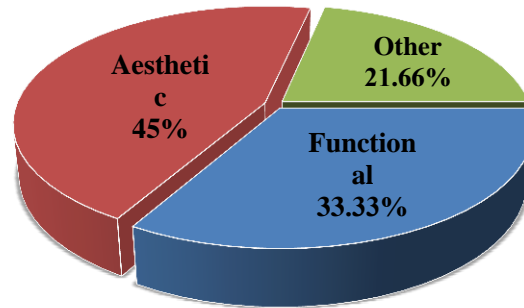


Table no (5-10) reason for the using of internal designer

Figure (5-10) reason for the using of internal designer

6. The timing of entered interior designer at any phase of the design phases related to the construction cost of the building

Table (5-11) and shape (5-11) indicate that 33.39% ratio of respondents believe the time of entering the interior designer has a very strong relationship at cost of construction of the building, while 6.66% of respondents believe that it has nothing to do with cost of construction .

Statement	Recurrence	Percentage
Yes	56	93.33%
No	4	6.66%
Total	60	100%

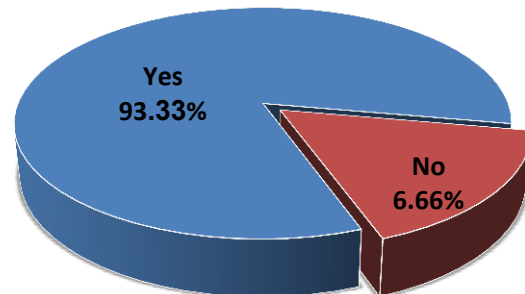


Table no (5-11) the interior Designer entering and building cost

Figure (5-11) the interior Designer entering and building cost

7. Interior designer's ability to achieve and provide Family needs "comfort - calm - vitality - safety - Health - Privacy"

Table (5-12) and shape (5-12) indicate that the percentage of 86.67% of respondents believe that the interior designer is able to provide all the needs of the family in the building, while 13.33% of respondents said they see is not able to provide all the needs of the family.

Statement	Recurrence	Percentage
Yes	52	86.67 %
No	8	13.33 %
Total	60	100%

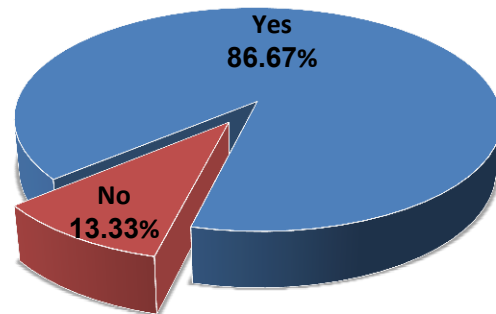


Table no. (5-12) Interior designer's ability to achieve and provide Family needs needs

Figure (5-12) Interior designer's ability to achieve and provide Family needs Family needs

8. The complementary relationship between the architect and interior designer in the design process

Table (5-13) and shape (5-13) indicate that 95% of respondents believe that there is a complementary relationship between the interior designer and architect in the design process, while 5% of respondents said they see the opposite.

Statement	Recurrence	Percentage
Yes	57	95 %
No	3	5 %
Total	60	100 %

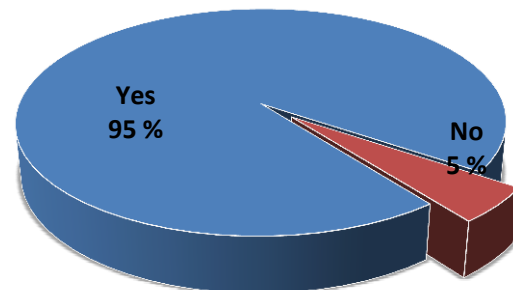


Table no (5-13) the complementary relationship between the architect and interior designer

Figure (5-13) the complementary relationship between the architect and interior designer

- We conclude from the previous answers the growing awareness of the importance of the role of interior design in the improvement of the level of performance of architectural residential spaces, make it vital and suitable spaces convenient for user morally and financially meet their specific requirements, which necessarily led to state of general satisfaction and greater effectiveness of those spaces, and support a sense of place.
- The importance of the presence of the interior designer when initiate preliminary design or follow-up during the implementation phase, in order to avoid falling into the errors that may lead to a space failure or lifting construction costs or an increase in time lead to an increase in costs also delay would be harmful the user, it has been emphasizing the need for the designer collaboration with owner and submit alternatives design is especially important to perform better level and satisfaction of the user

(5.6.3) Third: The level of satisfaction or implementation mechanism in the housing unit:

The following is the third part of the questions which I was asked for the same sample they were owners of residential units, and in this section we find professional and specialized questions more, have included questions about the architectural spaces, as well as elements of the implementation mechanisms and others, and in the percentage of user satisfaction of all those variables or question vocabulary.

Questions	Excellent	Good	Week
The level of satisfaction with the following changes or implementation mechanism in the housing unit			
1. The beauty of the exterior of the building	40%	40%	20%
2. The beauty of the interior of the building	50%	30%	20%
3. The areas of the internal spaces	70%	30%	-

Questions	Excellent	Good	Week
4. Spaces relationships and movement flow inside the building or its surroundings	60%	40%	-
5. Movement space, corridors, entrances and stairways	40%	40%	20%
6. Natural lighting	75%	15%	10%
7. Industrial lighting	80%	10%	10%
8. Thermal insulation and heating	40%	30%	30%
9. Heating, cooling and ventilation	70%	10%	20%
10. Sound insulation	70%	25%	5%
11. Sanitary and electrical Installation	75%	15%	10%
12. The total efficiency of the space ratio compared to customizable space	50%	35%	15%
13. Security and public safety	30%	50%	30%
14. Relationship spaces with public distribution	40%	60%	-
15. The quality of raw materials			
a. Flooring	30%	20%	50%
b. Walls	40%	40%	20%
c. Ceiling	20%	30%	50%
16. Flexibility use	30%	55%	15%
17. Provide spaces for activity and hobbies	30%	30%	40%
18. Spaces for Garages	60%	20%	-
19. The discomfort of the surrounding environment	30%	40%	30%
20. Views on the surrounding	40%	40%	40%
21. Landscaping	60%	30%	10%
22. Access to the building	35%	30%	35%

Table no (5-15) show the level of satisfaction or implementation mechanism in the housing unit

(5.7) Summary

- We conclude from the answers to the population in the third section of the questions that the level of satisfaction they have from their homes are generally good, and we find that the level of belonging is distinctive a fairly, which clear by their exact description her and of making contact with smallest details and they provide aspire to him from internal spaces of life.
- Finally, when was asked the owners of residential units for their proposals for similar housing has answer they need to provide central air conditioning, the use of solar energy and seeking technological developments at each stage of construction and to keep step and take advantage of them.
- As for their proposals in other domains. Some of them prefer to add some other facilities as a room like washing clothes, or work to provide a private bathroom each bedroom separately to achieve the privacy of all family members, without exception, and some of them suggested that having a large store within the internal facilities of the house, including emphasized the necessity of compiling a private rooms who did not have available to achieve the principle of privacy and comfort for life, the need to study the kitchen distribution carefully and focus on traffic triangle, focus on the study of the functional relationship between the living rooms with the main facilities of the building. focus on the guest room where views and good orientation, in addition to providing for the dressing room for the master bedroom, interest in functional relationships and ease of access movement and communication without Offend the principle of provide privacy for the user in general, with their emphasis on the interior designer considerate requirements and functional needs of the population or the moral and behavioral more, in order to get a psychological comfort to them as residents.

Chapter 6 ..

Conclusion and Recommendations

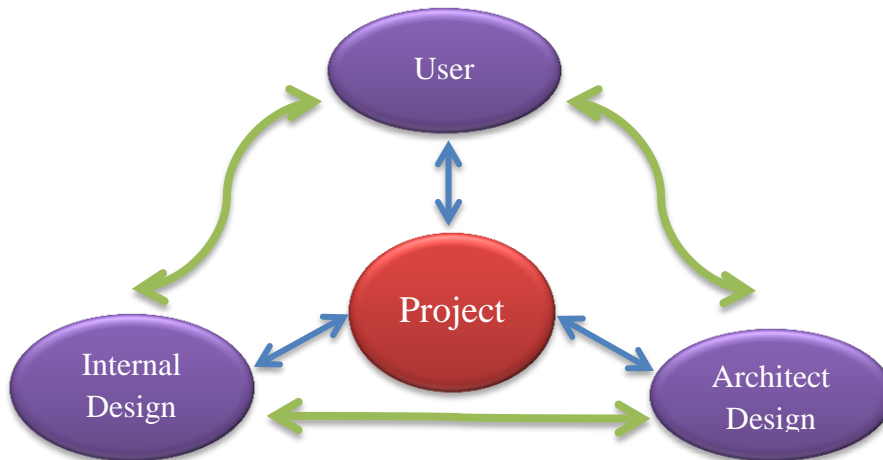
Chapter 6

Conclusion and Recommendations

(6.1) Introduction

During the study of scientific research approaches used and the most important descriptive approach and tools (interview), it turns out that there is important and accurate relationship between the basic of the design : the Interior designer, the architect, the user or owner, the project whether in the design phase or supervising the implementation phase, or both, then the law or the professional, institutional determinants and other.

We point that there is a relationship between the basic of the design process, it is a positive relationship leads to clarity and simplicity to the success of the design and implementation process, resulting in getting the best engineering solutions, user satisfaction, reduce the cost and effort.



Shape (6-1) Diagram show the relationship between the basic of the Design process and trends (Design by researcher)

Certainly, the melting of the relationship and its obscurity will lead to negative process results it return on all sides, these negatives may be financially or morally lead to the results of negatives behavioral and psychological.

(6.2) Conclusion.

- ✓ Consider the interior design and its foundations, its forms and its elements, is the identity of the persons who performed it. The interior design may be the identity of the designer if the owner or the user does not intervene. It may be the identity of the user if the designer implements the user's wishes without a touch of the house, but the best design that represents the identity of the positive interaction between the user and the designer.
- ✓ Experiences of designer and cumulative expertise designer and follow-ups renewable of modern technologies for materials and components design or the necessary equipment in interior design operations and benefit from it, lead to the positive benefit and direct on any project or design process, and the user's experience and knowledge of the needs and express most direct route and appreciation for the measurements they want accurate, It is of extreme importance save time, effort and lead to psychological satisfaction and comfort for the user or owner.
- ✓ Architectural space is one of the most important images and successes architectural creativity or humanitarian, is subject to the creation of designer and the practical expression of its ability to create a beautiful and multiple images of a group of intellectual and creative fantasies, and even the practical embodiment of the spirit of the architectural idea.
- ✓ The feedback and assessment processes, benefit from continuous, follow-up techniques and modern technology of the most important success factors of architectural design and interior design.

(6.3) Recommendations.

This study concluded after presenting the most important findings in this study to the following recommendations:

1. Need for clarification all corners of the design process
 - Architect and interior design
 - User or owner
 - Building or project
 - laws or professional institutional determinants

To know the responsibility and duties and limits of each person or each team

1. The positive interaction between the pillars in a harmonious form and responsible has been confirmed, It will be attached to the positive value of the project during the design by reducing the time and effort or during the implementation process to reduce costs or after the completion of the project by achieving aesthetic and functional value in addition to the psychological satisfaction to the user and together.
2. If the housing is need of the necessities of life, according to the Quran verse (وَاللَّهُ جَعَلَ لَكُمْ مِنْ بُيُوتِكُمْ سَكَنًا ...) (سورة النحل . الآية 80) I considered that the interior design of the house is the need for humanitarian pure, and therefore the interior design must be residential units all, because it is important functionally aesthetic and achieve psychological comfort for the user of this housing and its impact on the rest and his behavior in the family and society.
3. This study suggests the interior design is not meant lifting material value or cost of the process of interior design, and versa, it also invites for a simpler interior design and is easy to read and the need to pay attention to the material cost of this design and its suitability with the user's ability, in line with the need for communities and culture, and in line with it's environment, surroundings and to ensure that the achievement of urban alienation in time we live in the cultural and moral alienation.
4. Must for designers of architectural and interior to interaction and integration together, directing their relationship between them or in their relationship with the user, which

serves the project. And the user or owner of the final decision-making and direct with the interaction or to consult with all the family members or opinion of owners, thus achieving the collective decision and not take individual decision of a single person of them, or frequency, because it would distort the design process on track and that leads to the best results, and confirms the study said plurality of opinions by the owner or frequency due to the large number of participants, often the opposite effect not serve the project on several levels.

5. The architectural designers and interior must be bring out the project at the best image and interest to the fullest in accordance with the content of the hadith Sharif which says: "ان الله يحب اذا عمل احدكم عملا ان يتقنه" may be a project of this design or that one of the multiple projects, but for the user or owner may be the age project, is important in all its details. As the engineers in general should by follow up and keep up with new and modern technologies.
6. As the design is the identity of the people who do it, for the design to have an expressive identity. Identity to interact and integrated designer and user together. To take account of the first determinants and second needs. Any design - the identity of the spirit of the place stems from it , tune with it, and the identity of a culture of dwelling, to achieve their needs and takes into account the social and religious guidance.
7. In the light of globalization and communication revolution, it has easy to become the access information and image and accessible to everyone, which boosted the user role and easy to express his needs and strengthening pictures or even an initial layout, this means that the institutions or design engineer must be supports the user's role and interacts with him and even considered a him as a full designer discuss with him the idea and analyzes the limits of knowledge and culture of the user, which achieves the idea of participation collective in the design process and working to strengthen individuals and achieve architectural renaissance or civilization.
8. Must be the interior design or more precisely the interior designer to achieve the design balance of the relationship between inside and outside, they are two complementary

system achieve each other jewel rotation or presence for each space in terms of functional or formal interdependence, the interior design elements and composition in tune with the visual extension of the outside circumference, It is a physical and sensory extension and vice versa.

9. I invite the law which regulates the relationship between the basic of the design process to have a role in controlling urban development and its shape. In this I call for reducing the proportion of construction allowed for 60% of the allocated for residential buildings land area, the plan seeks to reach 53% in the future, knowing that the proportion of construction allowed in Khartoum locality currently residential buildings (75% of the land area) so as to allow for creating architectural spaces extended achieve Visual Communication and physical sensual
10. I invite the Ministry of Urban Planning and municipalities and relevant institutions of the need to force the owner of the construction planted 6 fruitful trees and trees of aesthetic ornamental in the home garden to take the costs of planting a tree for each apartment or shop or commercial office and planted in public places, so to enrich the outer architectural space surrounding villas and residential buildings in general, and create a healthy and useful urban environment.

Appendices ..

Questionnaire

2nd Part : Survey's Questions :

1. **Do you used interior designer in the design stages and establish your home?**
Yes No Other
2. **Does the stage of finishing was the right time to use an internal designer to make the necessary designs and follow-up phases of its implementation?**
Yes No Other
3. **Does the client is impose his personality on the interior designer. or vice versa?**
Yes No Other
4. **Does preferable that the architect role of the interior designer?**
Yes No Other
5. **The reason for the use of an internal designer?**
Functional Aesthetic Other
6. **Does the timing of entering interior designer at any phase of the design phases related to the construction cost of the building?**
Yes No Other
7. **Does the interior designer is able to achieve and provide the needs of "Family, comfort, the calm, vitality, safety, health, the privacy"?**
Yes No Other
8. **Is there a complementary relationship between the architect and interior designer in the design process?**
Yes No Other

3rd Part :The level of satisfaction or implementation mechanism in the housing unit:

Questions	Excellent	Good	Weak
1. The beauty of the exterior of the building	%	%	%
2. The beauty of the interior of the building	%	%	%
3. The areas of the internal spaces	%	%	%
4. Spaces relationships and movement flow inside the building or its surroundings	%	%	%
5. Movement space, corridors, entrances and stairways	%	%	%
6. Natural lighting	%	%	%
7. Industrial lighting	%	%	%
8. Thermal insulation and heating	%	%	%
9. Heating, cooling and ventilation	%	%	%
10. Sound insulation	%	%	%
11. Sanitary and electrical Installation	%	%	%
12. The total efficiency of the space ratio compared to customizable space	%	%	%
13. Security and public safety	%	%	%
14. Relationship spaces with public distribution	%	%	%
15. The quality of raw materials			
a. Flooring	%	%	%
b. Walls	%	%	%
c. Ceiling	%	%	%
16. Flexibility use	%	%	%
17. Provide spaces for activity and hobbies	%	%	%
18. Spaces for Garages	%	%	%
19. The discomfort of the surrounding environment	%	%	%
20. Views on the surrounding	%	%	%
21. Landscaping	%	%	%
22. Access to the building	%	%	%

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