

Minimalism as concept in interior architecture design

Case study North coast villa

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Abstract:

The research investigates the concept of Minimalism as one of effective trends in contemporary architecture and interior architecture domain. Minimalism proves notable implementation in many countries especially in the field of interior architecture. The research aims to realize more understanding about the concept and its trends as inspiring style and to demonstrate its theoretical and practical aspect through three Axes:

The first axis: Focuses on minimalism terminology, concept and its architecture language, the main aspects of the concepts and how designers understand its trends and objectives. Some famous opinion from professionals about minimalism included. In addition the project consults a well-known dictionaries about the exact meaning of minimalism.

The second axis: looking forward to Minimalism main features and practical using of interior architecture elements, concepts and tools. This axis demonstrates the most effective principles and elements minimalism concept used. The axis demonstrates function priority, materials, focal point, color implementation, light, furniture, adequate empty areas, surfaces and textures, objective cost as elective elements and factors in minimalism concept.

The third axis: A case study of villa at Telal village in Egyptian north coast, Sidi Abdel Rahman bay, Alexandria Marsa Matrouh road, kilo 143. The design of project mainly depended on Minimalism concepts and features with some modification due to customer desires and requirements.

Keywords:

Minimalism; Interior Architecture; Simplicity

Introduction

In spite of the short period of minimalism as movement (about 80 years) since 1960. Minimalism considered one of the dominant approaches in the field of interior architecture design with less existence in the entire field of architecture. Contemporary life in both interior spaces and outdoor spaces almost in every environment loaded with many unnecessary items, confused with many lights and colors and noisy sounds. These circumstances forced people, architecture designers and interior architecture designers to expand using concepts and approaches that realized calm, quiet, clear and organized spaces. Actually, some features and characteristics of minimalism like using simplicity with plain design trends, limited number colour scheme, flat surfaces with clean lines and clear geometric patterns are employed by modern and contemporary interior architecture with different degrees, but minimalism still have its personality and own entity.

Research Problem:

The coverage of minimalism as interior architecture trend and concept in our national studies and researches is insufficient comparatively with its success and existence in the international domain.

Research Objective:

The purpose of this research is to participate in presenting minimalism as recognized concept with more understanding of its history, tendency, principles and features in both academic and practical fields in order to utilize its advantages with more feasible manner.

Research limits:

- Minimalism concept within the international domain in interior architecture field.
- Case study demonstrate the actual output of minimalism, how the designer compromises between initial principles and features of the style and the user needs and requirements.

Research Methodology:

The first axis of the research depended on the descriptive approaches that concentrate about preliminary investigation to explore the historical and conceptional vision about minimalism, its architecture language and roots. The second axis and the third axis used the analytical approach to demonstrate the features and principles of minimalism implementations in interior architecture by breaking the concept down into its main principles and tendencies, how it treats (function - circulation - color - light - materials - furniture - empty areas - surfaces and textures – cost management).

First Axis: minimalism as concept:

Through the attempts of the project to explore minimalism movement and style, there are some differences about the actual date of its origin, the exact meaning, roots and concept. These differences appear due to the backgrounds, beliefs and tendencies adopted by writers, artists and interested designers, in addition to the differences of their priorities and evaluation of (functional side – aesthetic side – financial side) as main components of minimalism. " Minimalism in the early 1960s varied from artist to artist, at times revolving around the situation in which the work of art was placed", (Julie 1999). The project consults a well-known dictionary about the exact definition of minimalism:

Webster dictionary: defines Minimalism as " a style or technique as in music, literature, or design that is characterized by extreme spareness and simplicity".

Oxford dictionary: defines Minimalism as "a style of art, music or design that uses very simple ideas or a very small number of simple elements

Cambridge dictionary: defines Minimalism " a style in art, design, and theatre that uses the smallest range of materials and colours possible, and only very simple shapes or forms.

Some studies define minimalism as type of abstraction design, these opinions depend on the existence of some similarities between minimalism and other styles in several features. In fact, many trend and concepts sharing minimalism in common features as simplicity, material with high standard quality, psychological comfort, spatial design, color usage philosophy, cost feasibility. The concept of minimalism is so difficult to define through one side or domain.

Minimalism has some similarities with several aspects, parallelly it has a lot of variation that give minimalism its own personality. "Make it pure and simple - this brief sentence could have served as the motto for Minimalism, an art movement that really began in the 1960s, although there were some earlier manifestations. The movement has been variously described as minimalist" (Strickland, 2000). "Minimalism, nature became architecturalized through clear spaces and simple geometries. It creates a strong dialogue between elements of architecture and elements of nature". (Yosswf 2014). Looking up to its roots the majority of opinions indicates that minimalism started in 1960s as artworks movement depending on using rectangles and squares to produce forms and works of art with simple and abstract geometrical lines. "Minimalism first appeared in the New York of 1929 when David Burlyuk used it in a catalogue for an exhibition at the Dudensing Gallery of John Graham's paintings as described on the Worldwide Art Resources web page Art History: Minimalism (1960 to 1975), but was largely unheard outside the small world of art and design circles until the late 20th century". (VanEenoo 2011).

(Less is more) is a very well-known phrase frequently used phrase by writers and professionals, this phrase said by the famous designer (Van de Rohe) ¹ about the basic tendency of minimalism in spite of he wasn't directly belong to minimalism movement. "The phrase (Less is More) for modernists is a defined concept and it is clear that they are permanently are trying to lessen the details. The purpose of minimalists in design, is the display of only the intrinsic essence of all things. Minimalist architecture became popular in the late '80s in London and New York. A place like boutique that architects and fashion designers worked together to achieve simplicity in by using white elements, cold light, large space and minimum objects and furniture. Minimalist architecture tries to show basic quality of building and simplicity transmission in attitude towards life by simplifying life space". (Cerver 1997). Gradually this style began to grow and extend taking many shapes especially in the field of interior architecture filed.

Second Axis: minimalism features and trends

Minimalism concept rapidly spread out over recent decades in the filed of interior architecture. The main target of minimalism is to make space more comfortable, available with direct expression, clear environment through simplicity and calmness. Many factors belongs to forms, materials, and other details used as tools in order to achieve this target. The Second axis will deomonstrate the factors that consider a key component of minimalism as seen in current interior architecture design.

Function is the first priority:

Most architecture and interior architecture design styles assign adequate attention to function, this concern with function expressed as first priority in minimalism style. Minimalism designers think thoroughly about each element of space to regulate functional situation (figure 1), (figure 2). Essential questions must be responded about entire design and each item. What design consideration must be taken to allow function performed perfectly? Is the function of that item necessity? what are the users need? how designers employ function to maximize saving space value through adapting function characteristics. Information technology, communication infrastructure, several contemporary devices need to selected and organized

through creating a balanced with space simplicity, clearness and calmness at the primary phase of the project. The limitation of using function with minimalism concept must consider aesthetics features and factors.



Figure1,unrealengine 2022



Figure2,polyart.design 2020

function as first priority

High quality materials:

In spite of minimalism general tendency that oriented to control costs as one of its concept, minimalism aware about the importance of quality of all elements and items. The principle of quality over quantity powerfully presented in minimalism environment (figure 3), (figure 4) . The performance of high quality materials required accurate and itemized specification for each material used as wood, glass , furniture, extra. Avoid using harmful items like chemical, biological and physical dangers considered with great concern. High quality materials produce durable, clean, sustain and easy to fix, items. “Finishing materials have to be resistant to mechanical effects and the selection has to be done according to the material's strength properties. In order to protect surface properties and user's safety, finishing materials must have a sufficient compressive strength, impact resistance and walking safety. It has to be non-flammable and it shouldn't emit toxic gas during fire”, (Binggeli 2008). High quality materials directly affect our life to be in safe and comfortable circumstances, as example high quality furniture normaly will be fit, convenient, compatible with human anthropometric measurements and smart aesthetic form.



Figure 3, pinterest 2021



Figure 4,polyart.design 2020

high quality materials

Keep a focal point as main view:

Keeping focal point as main view provides some type of space balance. Appropriate focal point helping to obtain the space with organized visual seen elements. It is preferable to give each room one focal point especially spaces with dominant position as reception (figure 5), (figure 6). Focal point attracts the sight of the eye to particular point of the space aiming to increase the feeling of design aesthetics and promoting personal pleasure. Focal point prespective should be determine at the starting phase of the any interior architectuere design in order to avoid the inconsistency with other space element and its essential aspects. Focal point in minimalism concept can be a fireplace with good-looking able to tie surrounding elemnts to the core of space, or window located in suitable place overlooking natural outside view with beautiful seen, may be a outstanding painting with suitable color ,size and content.



Figure 5, mansionglobal 2022



Figure 6, home. tarkett 2022

focal point

Color implementation:

In interior architecture, colors do not appear separated from other element and items or human responses. A satisfying feeling of user always one of the main targets of color implementation. Minimalism tendency of using color depending on some limitation related to number of color used, the basic palette normally composed of two to three colors. A combination of white, black and different variety of gray degrees, in some cases designers use tight range of natural colors as supplementary colors (figure7). In other cases monochromatic scheme of color design used. Originally, minimalism color usage philosophy aims to produce a space without noisy scenes or interrupted vision through reasonable implementation of color range.



figure7, designs. spacejoy 2020 - color example

Furniture simplicity:

Light weight, reasonable size and limited number of furniture items as less as possible are some basic concepts about furniture in minimalism aspect. These factors make modification of space very easy once pieces can move or replace without hard effort. The minimalism vision about furniture is to be simple in appearance and functional in design with comfortable characteristics, (figure 8). Minimalist designers prefer furniture shape to be in clear lines and simple geometrical form. The tendency of using little amount of furniture increasing indoor open space portion and let the overall design easy to be used with pure and calm looking. Feasible cost as one of minimalism aims can be performed through reasonable selection of furniture pieces, as long as furniture functions and aesthetics doing their mission effectively. The color selection of furniture should be in consistent with the entire space color pallet as minimalism limitation and consideration.



Figure 8, extraspace 2020 - furniture simplicity

Minimalism Light style:

Light as known consider one of the most important elements of interior architecture in all styles and concepts. Light presents the sense of the space , layers and components of interior architecture items. Minimalism style concern about the natural light more than artificial light, this tendency requires the need to design windows with comparatively massive size. Whatever the plenty of natural light exists the need of artificial light still essential. Consequently minimalism cares about the suitable mixture of artificial light and natural light according to situation of each space. The wide usage of white and light color maximize the sensation with light as minimalism vision with consideration to adapt the level of color hues, value, and chroma (figure 9). Many cases with minimalism interior architecture design use interior light items as space focal point specially when these items matching the sense and desire of customers, one of common practical case is the use of attractive LED chandelier with simple design and appropriate size.



Figure 9, home-designing 2022 - light style

Adequate space around each item:

Almost everyone keep a lot of items without any reasonable benefit from these items. In order to save space as minimalism concept we need to get rid of any item without realistic benefit. Obtain more free space with adequate distance around each item is important to gain design easy to be organize and configure. Many interior architecture professionals and desiners call this concept (**Breathing Room**) to indicate how this feature is important to space as the importance of air for individuals. Open areas provide spaces to have clear access, paths and enhance the functionally of furniture and other item (figure 10). Accessories should be located in certain areas organized in number and size. Items that used occasionally with wide gap of time need to be stored in cabinets or any other types of storage like cupboards, shelving and hidden storage design. Some studies calculate more than hundred item can simply reduced in our space. The type and the size of furniture one of the main factors to increase the availability to obtain adequate space around each item.



Figure 10, porcelanosa 2020 - items free space

Texture and surface:

Minimalism aims to extend the use of pure textures and surfaces without many details, free from excessive ornamentation and aesthetical figures (figure 11). Simple finishing of walls, floors and ceiling with neutral and limited color pallet. Most types of textures and surfaces like wood, marble, furniture, textile in minimalism policy selected from simple natural element without excessive additions. Small variety of texture keep the space free of vision interruption. A lot of various texture collection is not the accurate solution to add visual

interest, it produces overcrowding view, the clear and flat surfaces display space to appear with clean and obvious view. Interior architecture designer uses the combination of textile and surface with form as one factor in harmonic planning to control the appearance of shadows, lights. The main tendency here depends on straight, strong lines and sharp angles of form associated with the appropriate texture degree of smoothness or roughness with flat and clean surfaces.



Figure 11, archi-living - texture and surface

Objective Cost

Minimalism provide remarkable concern about the interaction between design components, elements, items with its costs. Reasonable and objective spending through the appropriate selection of components, elements and items decrease financial costs as minimalism policies to achieve this target. Controlling costing done under certain consideration without interfere integrity, functionality and aesthetical aspects of the design. Logically this concept varies from case to another, according to the budget allocation, financial condition, space size, location and other circumstances in addition to the customer demands. Minimalism put the long run maintenance and the daily operation of elements and devices in mind.

Third axis: project design(case study):

The case study demonstrates the interior architecture design of villa in (Telal village) located in egyptian north coast kilo 143 at Sidi Abdel Rahman bay. The design of the Villa mainly depended on minimalism concepts and features with some modification according to customer desire and requirements, The project make its effort to compromise the gap between customer needs and project initial goal in implementing minimalism concepts and features.

Project architecture design:

The ground floor consisted of (the entrance-reception - kitchen-dining room- guest room-guest bathroom - bathroom - maid room - maid bathroom - terrace), total area (150 m²) Figure (12). The first floor consisted of (master bedroom with bathroom1-bedroom2- bedroom3 - bedroom4 - bathroom2 – bathroom3 - balcony) Figure (13), total area(140 m²).

Fortunately, the villa architecture design plan with many appropriate features and concepts that support the interior architecture minimalism aspects. simple design , straight lines, rooms in rectangle shape , clear composition, direct entrance, adequate opening in term of shape,size and number, flat floors, compartivley big terrace and balcony.

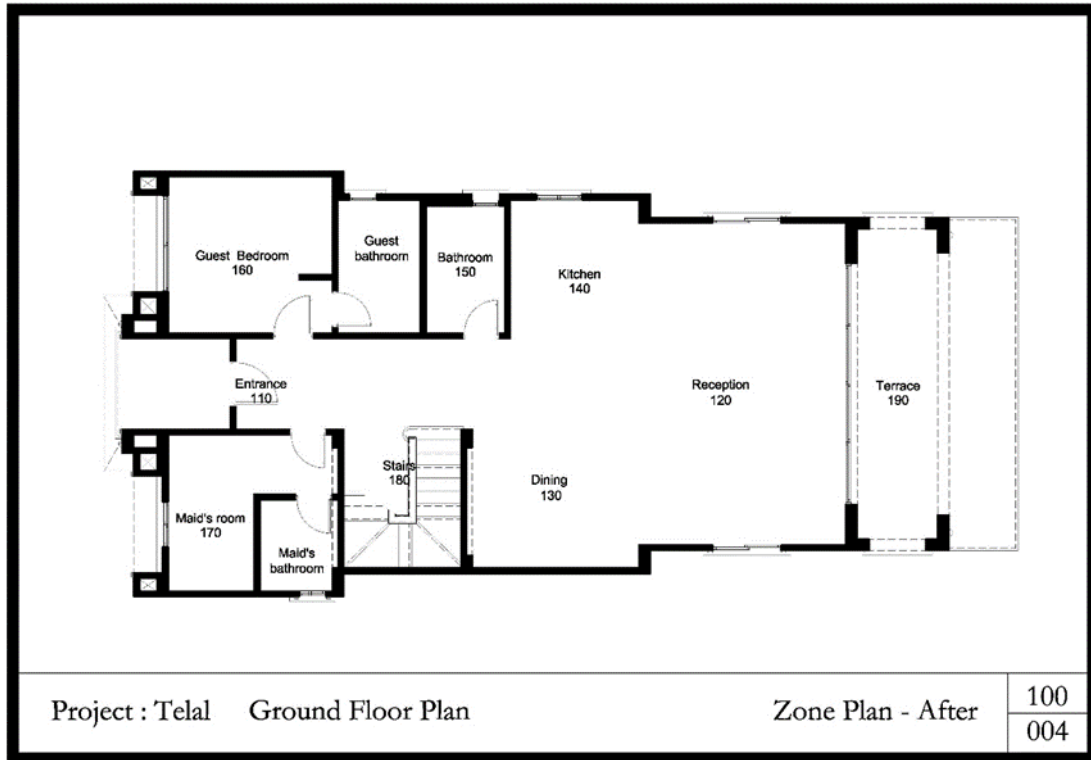


Figure 12, ground floor plan

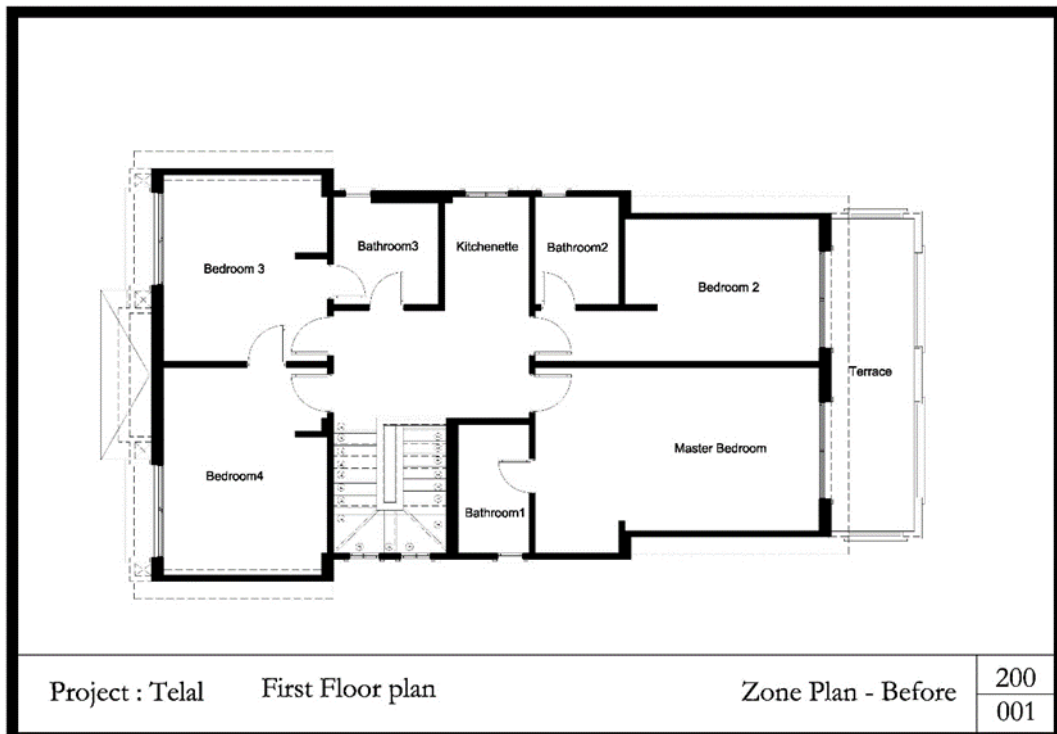


Figure 13, first floor plan

Project interior architecture design:

- **Space functionality:**

The project design treatment toward space functions focusses on the implementation of minimalism concepts that matching carefully with customer requirements through analyzing the lifestyle type of egyptian families, their behavior, customer safety insurance, spatial circulation comfortability, function. The design reply to the suitable arrangement of space parts with its to fit activities. Most basic activities like (Sleeping - eating- living), bathrooms and kitchen setting are performed to be easy to use. Figure (14) demonstrates a part of the interior architecture functionality of the space.



Figure 14, functionality

Minimalism impacts:

- Function performed perfectly to fulfill user requirements and minimalism principles.
- All items of the design has useful task there is no item with useless function.

- **High quality materials:**

Project strategy is to depend on natural material as possible like wood and natural stone, in most cases the use of natural material is safe , durable, strong and aesthetical. Beside the use of natural material many items and elements required the usage of artificial material such as parts of wall, floor and ceiling finishing layer. Many factors impact the project selection of material, (environmental conditions such as heat, sunlight and moisture - other elements within the overall interior architectuer design as texture and color). Using high quality material support the project to introduce elements and items more durable, easy to fix, clean and sustain. Project vision of using high quality matrial include the measurements and caution to avoid using harmful items with chemical, biological and physical dangers. Figure (15), Figure (16)



Figure 15, high quality materials



Figure 16, high quality materials

Minimalism impacts:

- The materials used are durable, easy to fix, clean in shape and sustain.
- The majority of items from natural elements.
- More awareness about the avoidance of using harmful materials.

▪ Focal point usage:

Keeping focal point as main view provides some type of space balance. Appropriate focal point helping to obtain the visual seen of space elements organized. It is preferable to give each room one focal point especially spaces with dominant position as reception. Focal point attracts the sight of the eye to particular point of the space aiming to increase the feeling of design aesthetics and personal pleasure. Focal point perspective should be determine at the starting phase of the any interior architecture design in order to avoid the inconsistency with other element and space aspects. Focal point in minimalism concept can be a fireplace with good-looking able to tie surrounding elements to the core of space, or opening located in suitable place overlooking natural outside view with beautiful seen Figure (17) , or may be a outstanding pictures with suitable color ,size and content. Figure (18).



Figure 17, natural view focal point

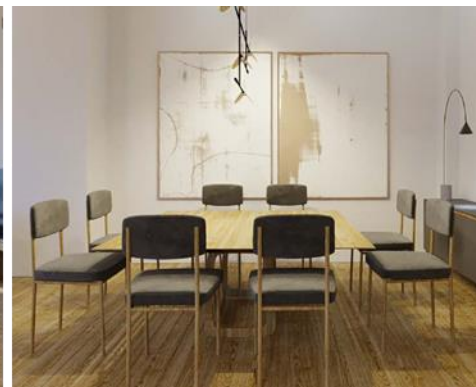


Figure 18, picture focal point

Minimalism impacts:

- The main door looking over the beach used as focal point, figure (17).

-Painting artwork with suitable color, size and content used as focal point, figure (18).

-Focal points provide balance to villa space and organize the overall seen.

▪ **Color implementation:**

The project color selection concentrate about using black and white with different variety of gray degrees and tight range of natural colors as supplementary colors. Once the basic palette is black and white, it was important for the project to coordinate the proportion between black and white parallelly with other selection of colors. The project coordinated the color of the space according to the designer aim, client preferences and minimalism color usage, Figure (19).



Figure 19, color within client choice & minimalism concept

Minimalism impacts:

-The white color used to be the favorite color as minimalism concept, figure 19.

-Neutral colors with limited color pallet.

-The client preferences and opinion considered and taken into account.

▪ **Furniture plan:**

The project selection of furniture items through minimalism vision influenced by more than factor: Beach climates in order to ensure that selected items can resist beaches impacts. “One of the common approaches used by architects is the matching of furniture in space. In connection with large projects, such as Villa houses and office buildings, well-known architects, have designed special furniture” (Soleimani 2011). Adequate free space areas around each item are important to enhance furniture functionality, facilitate spatial movement, help to match financial capability. The project selection of furniture also concerned with the light weight, reasonable size, decreasing the number of furniture items as less as possible in order to ensure simple content and easy movement. Furniture color and texture selected to be consistent with overall style concept. Figure (20), Figure (21)



Figure 20, first floor furniture plan

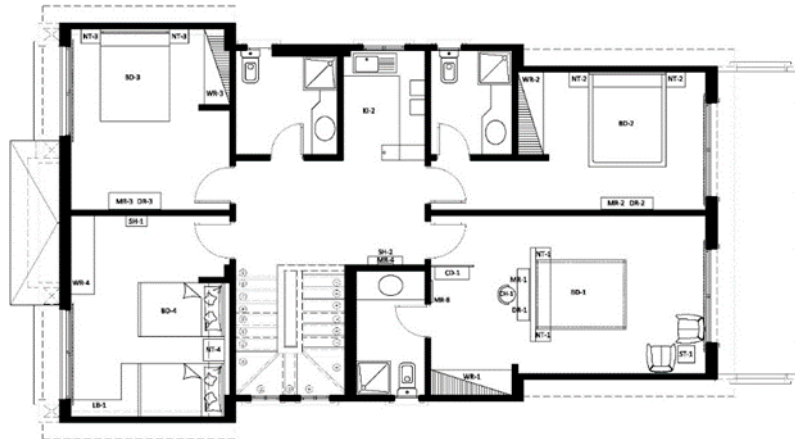


Figure 21, first floor furniture plan

Minimalism impacts:

- Furniture items shaped in clear lines and simple geometrical form as minimalism concept.
- Limited number of furniture items to save space and money figure 20, figure 21 .
- Light weight and reasonable size to save space and to be easy to use, clean and move.

▪ Adequate space around each item:

The feature of adequate space around each item produces a visual relaxation, calm and balanced space. This feature gives the eye a chance to see a clear status of space without vision interruption due to the excessive number of objects. Villa design successfully realized the feature of adequate distance around each item through several means through increasing the capacity of storage, the appropriate selection of furniture items in regard to size, type and number, the accurate location and the exact orientation of space components Figure (22).



Figure 22, adequate space around each item

Minimalism impacts:

- Adequate space around each item produces a space visual relaxation, figure 22.
- Introduce easy and functional orientation as result of adequate space.
- Adequate distance around each item enhanced space circulation.

▪ Light adaptation:

One of the clear advantages of the project location is the sufficient amount of natural lighting. Generally natural light has a distinguish impact on human daily achievement and productivity, minimize the artificial light and energy use, enhance the degree of concentration. Natural light has a share in space calmness, wellness and the overall residential environment. Telal villa design through minimalism guidance utilizes the advantages of natural light characteristics, the space owns many tangible openings with suitable size. Design adjusts space orientation with maximum benefit from natural light. Artificial light planed within minimalism features, the project give concern to the type, size and location of light items that matching rooms size and function. Bright surfaces, white color as a dominant minimalism component of space color composition maximizes the sensation with light, improve the space climate Figure (23).



Figure 23, light adaptation

Minimalism impacts:

- The design support natural light usage more than artificial light, Figure 23.
- The wide usage of white color maximizes the sensation of light as minimalism vision.
- Simple design, appropriate size and limited number of light units.

▪ Texture and surface:

The majority of finishing layer of the project as floors, walls, ceiling and furniture items designed to be flat and smooth with high quality materials which protect surfaces from negative impacts of moisture and heat . Neutral and limited color pallet used as minimalism



Figure 24, texture and surface

tendency within user the of user requirements demand.The appropriate appearance of textures and surfaces free from excessive ornamentation and aesthetical figures let the space displayed with clean and obvious view Figure (24).

Minimalism impacts:

- Textures and surfaces selected to be in flat and smooth type, figure 11.
- Textures and surfaces without excessive ornamentation and aesthetical.
- Items designed to control the appearance of shadows and the reflection of light.
- Items designed with straight, strong lines and sharp angles.

- **Objective Cost:**

As mentioned, before in the section of objective cost within second axis, the operation of cost management to be objective and reasonable varies from case to another, according to the budget allocation, financial condition, space size, location and other circumstances in addition to the customer demands.

Minimalism impacts:

- The Simplisty vision of the entire interior architecture design in both form and function with less details.
- Material with high quality standard reduce cost of manitenance and lasting for a long time, as example the selection of hight quality paint produce wall and ceiling painting that last for longer time and afford durable use.
- The appropriate selection of components, elements and items through extended and precise review of the market decrease financial costs.
- Eliminating unnecessary items and elements without redundancy like unnecessary furniture items and excessive ornamentation.

- **Minimalism flexibility and user needs:**

The interior architecture design of Telal villa mainly planned to follow minimalism principles and features, this tendency treated with some type of flexibility in order to match the user requirements. Many of minimalism designer, writers and internet professional sites indicate to the important of the user's opinion. (Parker Hill) one of the minimalist writers indicates in his book (**Minimalist Living Decluttering for Joy, Health, and Creativity**) to this approach by saying "Minimalism means clean lines, white space, simplicity, and a less-is-more mentality. But that conventional definition of minimalism won't necessarily apply to everyone as they think about what kind of place, they want their home to be or what they want their life to look like. Minimalist living is really just a starting point for authentic living. We need open spaces - blank canvases - upon which we can occupy ourselves more deeply with the art of living. Minimalism is intentional life design. By removing distractions, obstacles, and buildup, we live life as we truly desire, with the values that we select, not those selected for us by convention, copywriters or trend setters" (Hill 2013). Another writer (Joshua Becker) indicates in his book (**A Room by Room Gide, The Minimalist Home**) to some basic questions must be taken in consideration when plan to our minimalist home design. "Does this space highlight what is important to our family. Does this space encourage my family to live life to the fullest? Does this space promote our family's values?" (BECKER 2018).

Recommendation:

- Motivational steps recommended to enhance minimalism concepts to be more flexible and compatible with the overall mode and style of local and regional interior architecture characteristics.
- particular studies with clear limitation need to be done about the sustainable design and minimalism concept.
- The balance between cost effectiveness as one of minimalism concepts and space functionality, aesthetics must be compromised and guided with specific indication.
- Storage should be well planned, it one of high effective impact for comfortability and cleanness to realize minimalism targets.
- Interior architecture designers need to be aware about the up-to-date materials in term of durability, quality and cost.
- Material selection need a special concern once many of interior architecture deficiency reported in cause of materials.

Results:

- Minimalism proves continues success, its attitude rises specially in united states, Europe and Japan.
- In spite of minimalism explicit principles and characteristics it has flexible dealing with what required for user's opinions and needs.
- The implementation of minimalism concept in interior architecture confirms more value for interior architecture aesthetical side through its usage of simplicity.
- Many studies and researches conclude the active relation between minimalism features, characteristics and the state of calmness, relaxation and psychological condition.
- Minimalism tends to minimize financial cost to be as less as can, but in the same time it cares about the functional and aesthetic sides and the quality of all elements and items.
- In spite of the success of minimalism with its main principle there are a remarkable trend that describe minimalism with inflexibility.

Conclusion

Slight difference diversities found about the meaning of minimalism. Generally, the majority of opinions within architecture and interior architecture field accepted the main trends of minimalism with positive attitude like simplicity, adequate empty space, controlling the use of colors through number and tone, limited or prevented use of ornaments and element with flat and straight surface. minimalism concepts capable to combine functional and aesthetic features in harmonic style. There are clear similarities and intersection between minimalism trends and both modern and contemporary architecture and interior architecture. Statistics results and actual evidences indicate gradually spreading of minimalism usage specially in USA, Europe and Japan. The major challenge facing minimalism related to how to keep going in the face of the contemporary technological requirements without impact on its concept and features. Minimalism concept give particular attention to information technology and communication

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¹ Van de Rohe: one of the leading designers of modern architecture, with American nationality, born in Germany (1886–1969), joined to Bauhaus movement, he created significant works of abstract and modern design.