

## Formal Mechanisms Affecting the uniqueness of urban context Architectural Products in –Mosul as a case study-

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**Abstract.** The production of unique architecture is an important trend for designers in the current era, as it is a way to show the superiority and development of the country and the city in general and the designer in particular by adding a distinctive feature within the urban context, and with the increase in the products of this trend appeared with it the different formal methods and mechanisms that were used to reach a Unique Building.

This paper deals with the most important formal mechanisms that play a major role in the uniqueness of architectural Buildings and tests it throws application on the most important architectural features in the urban context of the city of Mosul.

As a result of the foregoing, the research problem was identified with (the absence of a clear holistic conception showing the knowledge related to the aspects affecting the production of unique shapes, which enables the designer to follow clear mechanisms to reach a unique building s with its context, this knowledge is able to demonstrate the formal mechanisms used in achieving uniqueness building in an urban context among diverse design practices).

The goal of this work is (to explore Mechanisms of formal uniqueness and steps followed within the different design practices that impact the extent of achieving a unique building). To achieve this goal, the research was defined by the construction of the theoretical framework to represented by the mechanisms of formal Unique to achieve uniqueness in the urban context, which included three Secondary vocabularies:

The first vocabulary is the physical characteristics of the formal uniqueness, the Second is the intellectual characteristics of the formal uniqueness and the last one is the technical characteristic of the formal uniqueness.

Then a practical study was conducted on the application of the mechanisms of formal uniqueness on the nominated buildings. Which showed a great discrepancy of vocabulary in its impact on the uniqueness of the building, between the level of the general shape and the level of the part of the product and the repetition of unique blocks and the scale of shape in terms of height and size and to the extent of the impact of the building envelope and the repetition of unique elements and the type of materials used, the nature of the source of the formal metaphor and the diversity of formal techniques used to influence the uniqueness output.

**Keywords:** Urban context, uniqueness, Formal Mechanisms, Mosul.

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### Introduction

Aldo Rossi states that it is architecture that gives a form of exclusivity to a place and gives it the advantage of a sense of survival and development[1]. It expands the feelings, thoughts, and imaginations of human beings. [2] Hence,

the process of producing the form depends mainly on the duality of the form and the meaning associated with it, where the meaning is understood through the success of its representation in the form of the building by following the formal foundations and rules

prevailing in society to achieve communication between the recipient and the meaning. This harmony between the two parties (form and meaning) leads to the achievement of a conceptual product for the recipient that has meaning and reflects values and ideas that express the peculiarity of the stage to which it belongs. (Al-Youssef and Khalaf, 2012, [3] to have his own identity that defines him and distinguishes him from other things and gives him a separate entity of his own and does not resemble anything else but is unique in meaning [4].

The study of Yunis (2004) considers that the unique product is the product that has the attribute of (comprehensiveness), which is the common language, both intellectual and formal characteristics that are linked to the comprehensiveness of thought to achieve understanding of the surrounding structure and this understanding is reflected on the product, which is an evaluation indicator of the level of understanding achieved by the designer down to Achieving a unique and inherent product different from its predecessor and interacting with its context in order to achieve what is known as the concept of innovation that results from the relationship between the idea and the tool that expresses it. Out of the ordinary in expressing his idea. [5] This creativity and innovation is achieved through the means, tools and technical trends that help and influence the process of producing the unique shape.

### **1- Mechanisms of the formal individual:**

Many architectural studies have confirmed that one of the most important mechanisms for producing the architectural form within the urban environment is the one that transforms an idea into a physical product. These mechanisms may overlap with each other and affect one on the other. It is in two forms (intellectual and practical), the physical form represents the apparent part, which is produced through objective laws. The designer, who gives it a distinctive character, and that the formulation of these effects on the shape is subject to many, complex and mutually influencing factors [5].

The intellectual value (meaning) that is clear in the form of the building to achieve communication between the recipient and the meaning, this relationship between (form and meaning) leads to the achievement of a unique product understandable to the recipient distinct from what is around it. [3]

From here, it can be considered that the production of the unique form as an architectural phenomenon is on two levels that complement each other, the first is the physical level represented by exceptional formal, structural or functional design decisions and treatments that attract attention in the physical environment of the architectural product. The second is the intellectual level, which represents the intellectual and philosophical trends and propositions adopted by the architect [6].

#### **2.1 The physical characteristics of the formal uniqueness**

One of the formal sources of unique product design is to be influenced and benefit from the surrounding context of the product, which can be the reference that helps in the formation of the new product. This is done through a dialogue with the physical aspect of the existing existence and what is embodied in a formal physical presence, which is classified into the iconic formal references and the analytical references.

Where the formal physical dialogue depends on the form of the pictorial composition of the components of the fabric, by looking at it as vocabulary and elements as a direct reflection of the urban image of the place. It is affected by the components of the texture of the configurations and formal elements such as facades, plans, scale, dimensions, materials, construction technology, color and texture. While the analytical material dialogue is based on a review of the previous rules and principles to produce new formulas that help to show the strength and possibilities of the pre-existence in its many aspects [7].

At the level of the whole, distinction and difference can be produced through the total form of the product, as it plays a key role in the uniqueness of the product, making it distinct and prominent from its surroundings because of the clear difference that the recipient in the urban environment perceives. An example of this is The Opus Hotel in Dubai, located in an area near the Burj Khalifa, which is a reflective glass building occupied by a hotel, offices and apartments. Melts under the summer sun. The UV-coated double-glazed insulating facade of the cube acts as a reflector to reduce solar gain. [8] The result gives the impression of being composed of two blocks on the second side of the building. We note here that the designer distinguished his product from its context through the multiplicity of blocks as well.

Another example of the effect of the shape of the production is the unique design of the Library of Alexandria, which is almost timeless and with a bold uniqueness in contrast to its context through its form in the form of a simple circle inclined towards the sea, partially submerged in the earth, symbolizing the cultural sunshine. It consists of a reading room spread over 14 floors. [8]

We mentioned above that the distinction of the output is not limited to its output form only, but rather to the number of blocks and their frequency in producing the unique shape within the urban environment, an example of this is the residential building (The Iceberg), which was established in Denmark in 2013, located in a privileged location and consists of 208 apartments. The output was characterized by the repetitive, varied and

amazing triangular blocks derived from a simple algorithm that resulted in the production of a variety of different housing types within the complex. (Resource web:17]



Figure (1): The Opus Unique Building (Resource web:16]



Figure (2): The Bibliotheca Alexandrina Building-Uniqueness of Form [8]



Figure (3) The Iceberg Building (Resource web:17]

The form can be unique within its context by using the feature of formal interpolation, where a product is forced into a previously existing system, in which the designer ignores the

components of the urban context, considering that the new product must express the spirit of the age, and the formal insertion can be done through The form of a product whose components are manipulated by using the concept of layers for several products and coming up with a new innovative and irrelevant product, or by mixing the basic components of context products to form a new product combined in those components into a new one. [9] That is, the formal interpolation is the production of a unique form that contradicts the system and the productive relations of the structure of the urban context.

One of the common characteristics in the scale of the output is the distinction of the output by the feature of the dominance of the scale over its neighbors, which includes the size and height of the output. Where the urban scale determines the nature of the urban context at the level of the whole in terms of the size and height of the buildings that make up it. [10]

Therefore, the difference in the scale ratio, whether in the height or size of the building, to the surrounding urban scale (the context) makes it a unique building, so the output is the tallest building within the neighborhoods or even in the world. [11] It can also be unique to the dominance of its size, as the difference in size for buildings is more aware of the recipient because of its uniqueness and specialization from the surrounding elements in volume, as it has an individual aspect that can be easily distinguished from its context, which makes it easier to identify them within context the value of this feature increases and becomes more close to being a unique product when it enjoys its large size or visibility within the urban landscape through its contrast with its background and the prominence of its location. [4]

As for the part, the production can be unique in the building's facade details, the repetition of the unique elements, in addition to the use of ornament. Using the building envelope to create a kind of distinction of the production from its urban surroundings is a successful mechanism, and this is what was done when designing the Esplanade Theater in Singapore, a theater designed by DP Architects office The theater was created and wanted to be an iconic and timeless landmark through its façade where a metal canopy envelope of the building was added in two circular shapes over the main performance venue, containing lightweight glass formations that slope on top of each other to provide an exchange of sun shading and beautiful outdoor panoramic views. (Resource web:18]



Figure (4) Esplanade Theater – Singularity with Covers (Resource web:18]

As for the level of details, the design can be unique in the type and shape of details that it enjoys, as in the design of what is known as the unique Malay homes. Because of the social and cultural requirements, the design of the house has gained a strong advantage that made it a unique and locally distinct building, as its formal design depends on the uniqueness of its details. Designed as a gable roof in the form of a saddle, it is a distinctive element that extends with the line of the ridges down to the end of the gable sloping outward. [12]

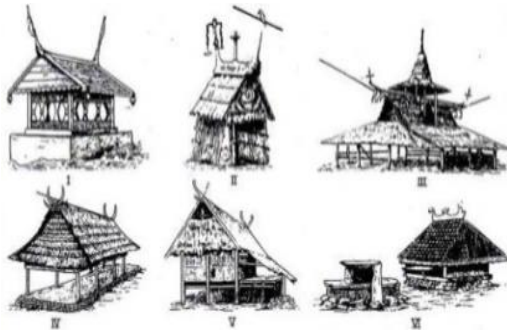


Figure (5) Unique Malay Homes [12,p.24]

The uniqueness of the product was not limited to the above, but could be due to the nature and properties of the finishing material used. In the SFMOMA Museum Expansion project, the distinctive eastern facade was covered with more than 700 panels made of fiberglass-reinforced polymer wavy in shape to give the impression of borrowing the shape of the physical terrain and urbanization of San Francisco that characterized the output and made it unique. (Resource web:19]



Figure(6): SFMOMA Building-Uniqueness of Nature of the Material (Resource web:19]

Through the examples presented above, we note that the unique products use more than one mechanism and a feature of uniqueness. In the Museum of the Future, on the other hand, the processes of controlling the shape of the production or its details were not possible or sufficient without that product having a meaning or a formal reference. Taken from fields outside architecture or from architecture itself. Examples of these buildings are the Sydney Opera House, which relied on sculptural forms, and the Louvre Museum, which relied on expressive forms from outside the architecture field. [3]

The iconic building is a building with a unique design, as it carries a symbolic and intellectual value. One of the most important criteria for producing the iconic building is the criterion of uniqueness in its architectural design. This criterion can be measured through the distinctive design idea, symbolic value, and architectural formation, which are closer to perception by the recipient. [11]

The historical formal metaphor, for example, can produce unique and distinctive forms that indicate an era that represents a symbol and identity for society. Thus, it will be the basis for generating an authentic and new iconic architecture that gives the shape multiple and influential values of originality and distinction. [9] An example of this is the building of the Turkish Historical Society in Ankara, where the shape of the historical castle was borrowed and metaphorically linked to the function of the castle by protecting historical documents inside the building, where the metaphor was expressed through the huge roofs and columns on the ground floor And the upper ends that resemble forts. [2]



Figure (7) The Historical Society Building in Ankara - Historical Borrow (Resource web:20]

From the foregoing, it is clear that the formal characteristics of the material uniqueness range from the level of the total form of the product, which includes the form of the product, the product blocks and the characteristics of the product, and the level of the part, such as the building envelope, facade details, and the finishing material, and the source of the formal metaphor of the product, such as borrowing from the imagination and the innovative self, borrowing from the nature of the site, symbolic metaphor, historical, cultural and social metaphor.

## 2.2 The intellectual characteristics of the formal uniqueness

Architectural products must contain characteristics that qualify them to be a long-term architecture from an intellectual point of view. The design must fulfill the identity of the environment and the incubating context of the production so that it is not just a consumer product, but rather contributes in turn to showing the historical and cultural value of its environment.

The architects of the modern era have moved away from the use of symbolic signs in the production of the form due to the consumption of those symbols by the designers, which led to the weakness of creativity in architectural designs, so they resorted to the interest in function as a formal icon that replaces the form itself. It relied on the internal meaning (function), as the shape was depreciated as a result of the repetition of box buildings at the time. [3]

It is also possible to rely on the expressive dialogue between the product and the context as a design reference in the formation of the unique product due to the multiplicity and diversity of those references between references based on religious, cultural, historical, scientific and philosophical principles, and between special references that belong to a particular style, fabric or context. According to (Alexander), the traditional designs possessed an expressive and timeless property, through their adaptation to the specific requirements of the design, which gives the

possibility to create an endless variety of new buildings. [7]

It is possible that the building is prominent because of the nature of the functional activity associated with it, which makes it a unique building because of the type of functionality established in it. Which is characterized by simplicity. Where it contrasted with it and emerged because of its distinctive function (Lynch, 1960, p81), it is possible to produce a unique building that is distinguished and differs within the urban composition and is more attractive to attention through the function it enjoys. [9]

There are urban strategies and policies that use culture as a catalyst for investments and increase the importance of cities, whether through the preservation and re-establishment of historical sites or the construction of cultural projects, and this is what is called (Cultural Urbanization). Where the cultural factor is used as a main feature to enhance the urban image required to promote the city, as these strategies have been used in some contemporary cities such as Barcelona, Bilbao and Lisbon. [13]

From the foregoing, it is clear that the intellectual characteristics of the intangible formal uniqueness range from the subjectivity of the designer such as design and functional decisions, and the impact of architectural trends and propositions such as architectural theories, economic trends, social and cultural trends, and with semantic meanings such as a product with a clear significance or a multi-meaning connotation.

## 2.3 The Technical characteristics of formal uniqueness:

Scientific development in the current era has contributed to the emergence of many theories and trends, which have become important criteria for meeting human needs. This scientific progress has affected architectural theories and trends in particular and has become an important factor not only for the success of building design, but also a major reason for its uniqueness and distinction because of the changes it requires. A formality carried out by the designer to achieve those goals. It could be addressed four levels here as follow:

### 1- The level of environmental exclusivity:

The use of the sustainability approach as one of the strategies for the formation of unique buildings in contemporary architectural projects aims to make the building environmentally efficient to achieve the optimum situation in terms of preserving renewable energy. In addition to improving the environmental image, it is working to achieve building forms with high attractiveness.

Attractive buildings that have wide acceptance in society in addition to the economic profits they generate. It is of a creative nature first, then famous and then of an aesthetic nature, an example of this is Masdar City in the UAE. [14]



Figure (8) Masdar City in Abu Dhabi (Source21: Internet)

## 2- The level of structural exclusivity:

The structural systems also play their role in imparting the spirit of the place and generating integration with the surrounding context by drawing inspiration from the structural systems and developing them to keep pace with the neighborhoods of traditional buildings. [7] Here, we may achieve harmony and integration with the context, but to distinguish the product and its uniqueness, it must have its own unique structural structure.

As in the Leonard Tower project (56 Leonard Street), one of the most distinctive and unique features that characterizes the Manhattan skyline in New York, the building is a staggered series of irregular boxes, with protrusions ranging from 10 feet to 25 feet, the structure contains the 831-foot reinforced concrete over 145 housing units has an aspect ratio of about (1:10.5) designed by Swiss architects (Herzog & de Meuron). The design started as a relatively straight shape and then developed in a way that does not result in two similar floors, each floor capable of supporting itself structurally, as each layer was dealt with in an innovative and creative way. As a result, the set of classes emerged in a carefully balanced way, becoming a state of equilibrium rather than being on the verge of overturning. (Source: Internet) The project is designed as a pile of individual houses, where each house is unique and recognizable within the total pile. [15]



Figure (9) Leonard Tower (56 Leonard Street) USA  
(Source 22: Internet)

## 3- The level of technological exclusivity:

Man tries to search for everything that is new and developed in his architecture through what is available to him from advanced or old technological methods. The process of change in architecture is not only to satisfy human needs, but to make that need a catalyst for the production of innovative and creative architecture. [3]

Technological development has played a major role in the emergence of the unique iconic trend of designs through a trend in designing buildings that are efficient in energy protection and the use of non-traditional building technology such as nanotechnology materials, in addition to the designers' use of technology related to computer development and simulation inspired by the environment, which showed a set of iconic products resulting from Bio-mimicry, which may produce forms that may be unconvincing, but is sufficient to be a strange, new and noticeable movement, and thus be an attractive and new architecture. [14]

## 4- The level of preservation and reuse:

In some urban environments, there are unique, prominent buildings that are different from their context, but they have lost some of their luster due to the great development taking place in our time, which has led to the product being unfit for the function assigned to it.

Hence the need for what is known as the conservation and adaptive reuse of those unique elements and products to keep pace with the development taking place and thus be able to extend the life span of the building. However, the advantage of preserving these unique elements is the most difficult mechanism. It is difficult for something to remain unique, especially since the uniqueness may be at other levels in the production, such as the intellectual, formal, structural, or functional level...etc. [9] The

vocabularies dealing with uniqueness can be summonsed as in table (1) which will be used measure the selected examples in the study.

**Table 1.** Vocabulary, its variables and possible values (prepared by the researcher)

	main variables	secondary variables	Possible values	
Mechanisms of formal uniqueness	Formal characteristics of physical uniqueness	overall shape level	body shape	
			Shape mass	one mass
				Multi-mass
			Shape properties	contradiction
				insertion
		scale		Height size
		part level	building envelope	
			facade details	Unique Architectural Details
				Repetition of a unique item
			finishing material	Use the decoration
	material shape			
	Material properties			
	The source of the formal metaphor	A metaphor of imagination and the innovative self		
		metaphor from the nature of the site		
		figurative metaphor		
		Historical metaphor		
		cultural and social metaphor		
	Intellectual properties of immaterial formal uniqueness	personality designer	design decisions	
			functional requirements	
		The impact of architectural trends and proposals	Architectural Theories	
Economic trends				
semantic meanings		social and cultural trends		
Technical characteristics of formal uniqueness	Environmental uniqueness level	clear signal		
	structural uniqueness level	multi-meaning		
	Technological uniqueness level	smart systems technology		
		material technology used		
	Level of preservation and reuse	The structural techniques used		
		Uses of renewable energy		

### 3- Research problem:

The research problem revolves around the lack of a clear conception about the formal mechanisms that most influence the production of unique buildings in the urban context of the city of Mosul.

#### 3-1 Research objective:

Explore the formal mechanisms most used in the production of unique buildings in the city of Mosul.

#### 3-2 Research Hypothesis:

The research assumes that the specificity of the unique product design process according to the formal mechanisms is as follows:

- The characteristics affecting the formal mechanisms that produce uniqueness vary in terms of being physical formal properties or intellectual formal properties.
- The shape of the figure as a single block at the level of the overall shape overcomes the multiplicity of blocks in the individual products.

- The large scale of the product, whether it is high or large, helps to a large extent in its dominance over its context and thus its uniqueness.
- Unique elements and their repetition play a major role in the uniqueness of the production within the level of facade detail, in addition to a major role for the use of decoration within the production facades.
- The color and shape of the material dominate the properties of the material, rather than distinguishing the product from its surroundings.
- The formal metaphor of imagination and the innovative self is the most dominant among the mechanisms of physical uniqueness, and it overcomes the rest of the formal metaphors.
- In the intellectual mechanisms of formal uniqueness, the variables affecting the production of the unique form varied between the subjectivity of the designer and his decisions, and between the influence of different architectural trends and proposals.
- The design variables related to the technical characteristics of the formal uniqueness are the most common in the strategies of producing uniqueness through the different levels of uniqueness.
- Within the characteristics of technical exclusivity, the level of environmental and technological exclusivity prevails over each of the other levels of exclusivity, such as the structural level or the level of preservation.

### 4- The case study, The city of Mosul

To reveal the specificity of the formal mechanisms most used within the strategy of designing the unique product in the urban context of the city of Mosul, the selected products will be subjected to the stages of the practical study, as shown in the diagram below:



4-1 The selection buildings:

For the purpose of neutralizing the designer's subjectivity in choosing the unique products for the purpose of the study, a questionnaire will be adopted for the opinions of the users of this urban environment through the collective awareness of the community, where (10) unique buildings were selected According to a survey of more than (200) respondents from (20 unique buildings The Researcher was choosing it depended on Previous local studies) Figure No. (10)

Where the best products were: The Great State Mosque, the Prophet Yunus Mosque, the Nineveh Hotel, the Mosul Hotel, the Al-Nuri Mosque, the Assyrian Library, the Central Library, the dominican Church, the Mosul Museum, and Al-Sharqia Preparatory School. Figure No. (11) shows the percentage obtained for each product.

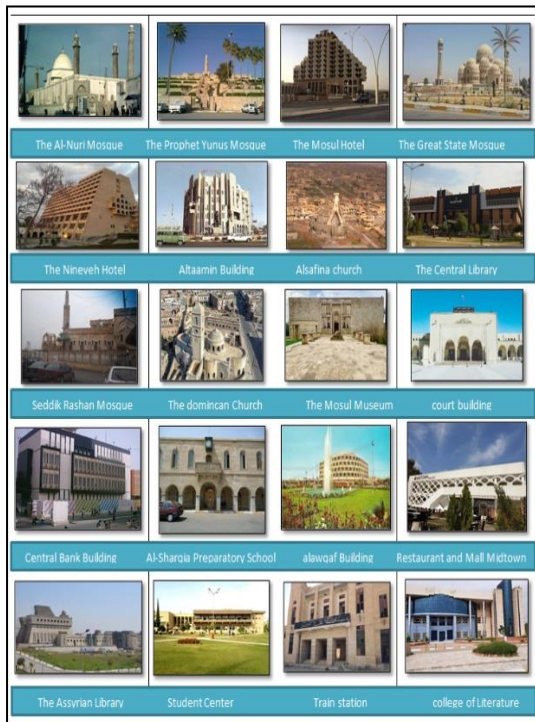


Figure (10) shows the 20 unique buildings

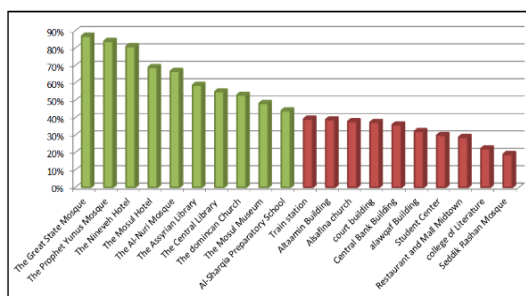


Figure (11) shows the percentage obtained for each Building

Submitting the selected results to the analysis tables, the analysis process was carried out for the values of the product for each one.

After subjecting the results of the variable values of the formal uniqueness mechanisms to the previously nominated products according to the uniqueness awareness mechanisms included in the measurement form, the research reached a set of results as follows in table 2.

Table 2. Measuring the possible values for the formal Uniqueness mechanisms for all the selected building (researcher)

Analysis of Possible Values of Mechanisms of Forma Uniqueness			exist = 1										None = 0	percentage		
Key variables	Secondary variables	Possible values	exist = 1										None = 0	percentage		
			The Great State Mosque	Assyrian Library	Mosul Museum	Central Library	The Prophet Yunus Mosque	Mosul Hotel	The dominican Church	Al-Sharqia Preparatory School	The Al-Nuri Mosque	The Nineveh Hotel				
1	Formal characteristics of physical uniqueness	overall shape level	one mass	0	0	1	1	0	0	0	0	1	0	0	0	30%
			Multi-mass	0	0	0	0	0	0	0	0	0	0	0	1	10%
		Repeating mass unique	1	1	0	0	1	1	1	1	0	1	0	0	60%	
		Shape scale	High size	1	1	0	0	1	1	1	0	1	1	1	70%	
	Low size		1	1	0	0	1	1	1	0	1	1	1	70%		
	Part level	building envelope	0	0	0	0	0	0	0	0	0	0	0	0	0%	
		facade details	Duplicate unique items	1	1	1	1	1	1	1	1	1	1	1	100%	
			The use of decoration	1	0	0	0	1	0	0	0	1	0	0	30%	
		Finishing material	Form of material	0	0	0	0	0	0	0	0	0	0	0	0	0%
	Material color Properties of the material		1	0	0	0	0	1	1	0	0	0	0	30%		
Source of formal metaphor	From the nature of the site	0	0	0	0	0	0	0	0	0	0	0	0	0%		
	Symbolism	0	1	0	1	0	0	0	0	0	0	0	20%			
	Historical	1	1	1	1	1	1	1	1	1	1	1	100%			
	Cultural (Heritage)	0	1	0	1	1	1	0	1	0	1	1	60%			
2	personality designer	Design Decisions	1	1	1	1	0	1	1	0	1	1	80%			
		Functional requirements	0	1	0	0	1	1	0	0	1	1	50%			
	The impact of architectural trends and proposals	Architectural theories	0	0	0	0	0	0	0	0	0	0	0	0%		
		Economic Trends	0	0	1	0	1	1	0	0	0	1	40%			
		Social and cultural trends	1	1	1	1	1	1	1	1	1	1	1	100%		
		Clear signal	0	0	0	0	0	1	1	1	0	0	30%			
Semantic Meanings	Multi-meaning	1	1	1	1	0	0	0	0	1	1	60%				
	Environmental uniqueness level	0	0	0	0	0	0	0	0	0	0	0	0%			
3	Technical characteristics of morphological uniqueness	structural uniqueness level	1	0	0	0	0	0	1	1	0	1	40%			
		smart systems technology	0	0	0	0	0	0	0	0	0	0	0	0%		
	Technological uniqueness level	material technology used	0	0	0	0	0	0	0	0	0	0	0	0%		
		The structural techniques used	0	0	0	0	0	0	0	0	0	0	0	0%		
		Uses of renewable energy	0	0	0	0	0	0	0	0	0	0	0	0%		
	Level of preservation and reuse	0	0	1	1	1	0	1	0	1	1	1	60%			

5- Result

The results of the vocabulary variables values varied for the main vocabulary mechanisms of formal uniqueness, which included the formality characteristics of material uniqueness, intellectual properties of immaterial formal uniqueness, and technical characteristics of formal uniqueness. The results were as follows:

- Regarding the level of the overall shape and in the variable of the shape of the figure, the repetition of unique blocks had the highest percentage, which amounted to (60%), while the products achieved their uniqueness in a formal form of one block (30%), while only



- (10%) of the products recorded its use of two blocks in its formal form. The result does not correspond to the hypothesis of the research, which indicated that the single block prevailed over the rest of the other variables.
- 2- In the figure scale variable, the variables of the height of the output and the size of the output had both variables that achieved a high percentage of (70%). This result is consistent with the research hypothesis.
  - 3- As for the level of the part of the shape and in the variable of facade details, the frequency of unique elements had an absolute value (100%), while the process of using the decoration recorded a percentage of (30%), and the use of the building envelope level did not record any significant percentage, which amounted to (0%). This result is partially consistent with the hypothesis of the research, which indicated the great role of the repetition of unique elements on the uniqueness of the product, but the hypothesis gave importance to the presence of decorations as well.
  - 4- In the variable of the finishing material, the highest percentage was for both the shape of the material and the color of the material, reaching (60%). As for the properties of the material, no percentage was recorded. This result is consistent with the research hypothesis, which indicated the predominance of the color and shape of the material over the rest of the variables.
  - 5- Regarding the source of formal borrowing, historical borrowing achieved the absolute percentage, which amounted to (100%), while both cultural borrowing and borrowing from imagination or innovation achieved a rate of (60%), and the lowest percentage for symbolic borrowing was 20%. This result is inconsistent with the research hypothesis that supposes the predominance of borrowing from imagination and the creative self.
  - 6- In the singular of the intellectual characteristics of the immaterial formal uniqueness, the results were as follows:
  - 7- As for the subjectivity of the designer, the role of design decisions overtook the functional requirements, as the percentage reached (80%) and (50%), respectively. The result is consistent with the research hypothesis.
  - 8- As for the impact of architectural trends and propositions, social and cultural trends dominated the rest of the variables, reaching (60%), while the impact of economic trends reached (40%), while architectural theories had an effect (0%). This result does not agree with the research hypothesis that expected the

dominance of different architectural trends and propositions.

- 9- The results of a variable that the product has semantic meanings were distributed between (60%) for the multiplicity of meanings and (30%) for the clear indication. This result partially agrees with the research hypothesis that indicated.
- 10- Regarding the technical characteristics of the formal uniqueness, the results were as follows: The level of preservation and reuse dominated the rest of the levels, reaching (80%), followed by the level of structural exclusivity by (40%). The level of technological exclusivity was not recorded in terms of using smart systems technology, using materials technology, or using modern building techniques, and finally, using renewable energy, i.e. Rate. This result does not agree with the research hypothesis, which indicated to the diversity of levels of exclusivity in achieving exclusivity.

## 6- Conclusions:

In light of the results of the practical study, the following could be concluded:

- i. The results showed that the unique products varied in the use of formal exclusivity mechanisms, and this indicates the different trends and ideas among designers in the way of distinguishing their products, as follows:
- ii. The results showed that the selected unique products tend in their formal form to use more than one block and few of them were distinguished by using one block in the design.
- iii. According to the results, the height and volume of production are two main factors in the uniqueness of the products, which requires the designer to put them in the priorities of the mechanisms used.
- iv. The use of unique elements and their repetition within a part of the production that used to be in the product interfaces is a common thing used by designers, which may be caused by the dazzling they present to the person who is aware of them and because they are one of the methods that can show creativity, excellence and originality in them.
- v. The widespread use of (Al-Helan) material in the architectural products of the city of Mosul, as a result of its availability, has deprived it of the attribute of being a material with unique properties within its quality, this thing forced the designers to manipulate the shape and color of the material as a mechanism to achieve their goals in reaching a unique product.

- vi. The products are characterized by their adoption of the historical metaphor as an absolute source for the production of the form, which may be attributed to the great influence and connection of both the designer of the product and the person perceiving it, as it acts as a mechanism for transferring the unique qualities of the original unique product.
- vii. In a kind of distinction and in an attempt to produce a unique shape, most of the architects and designers of the selected unique products used the metaphor resulting from the imagination to create new and uninhibited block formations as much as possible.
- viii. Despite the importance of functional requirements in the architectural design process, the process of highlighting and distinguishing unique products in which the designer relied largely on formal design decisions.
- ix. The results showed the community's role in achieving the unique product. They showed the designers' great influence on the cultural and social trends when designing their unique products. They were not affected by architectural trends and theories, which may be caused by the modernity of these trends and their appearance after the design of the selected products.
- x. Despite the clarity of the selected architectural products, they had many semantic meanings in their folds.
- xi. As a result of the association of the unique products included in the measurement process with the city's heritage, the designers' use of the mechanism of preservation and reuse of unique elements within their design strategy was evident.
- xii. The design process to produce the unique shape is closely related to the extent of the uniqueness of its structural structure. Contrary to preconceptions, there was no significant impact on the level of technological exclusivity, such as the use of smart systems technology, technology and modern building techniques, due to the aging of the majority of products and the absence of awareness and the ability to use such techniques.
- xiii. The designer has a great role as an influential party within the architectural design process to achieve uniqueness, which can be achieved by sometimes moving away from the design standards in order to allow this process to create an original, new, innovative and distinctive form in order to achieve a unique product.

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