THE ROLE OF HERITAGE BUILDINGS IN CONSTRUCTING THE CONTINUITY OF ARCHITECTURAL IDENTITY IN ERBIL CITY

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A R T I C L E I N F O

A B S T R A C T

This paper is an empirical study for the concept of continuity in architectural identity. The aim of this paper is to measure the degree of continuity in commercial buildings design, in term of architectural identity. Furthermore the study will illustrate the influence of heritage buildings' in constructing the continuity of architectural identity in Erbil city. The construction of the theoretical framework will rely on a procedure of two directions, the first direction will establish a comprehensive theoretical framework (multi-dimensional model) for the concept of continuity in architecture, while the second part will analysis the role of heritage buildings in constructing architectural identity in commercial buildings in Erbil City. The finding of the study indicates that the heritage buildings visual elements and its architectural cues playing a tangible role in constructing architectural identity in buffer zones of the city but this effect is gradually decrease in other sectors due to adopting the hybrid approach by melting modern technology within architectural features of the city.

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1. Introduction

Academic researchers in the field of architectural design classify transformation in architectural identity into two directions, preservation and destruction. The first refers to stabilization forces (continuity) whereas the second (discontinuity) is related to changing forces Researchers (Atalan, 2016; Ginting, & Julaihi, 2015; Philokyprou, 2015; Uddin Khan, 2015; Kim, 2015; Ujang, 2012) shed the light on the issues of continuity and change as two contrast poles in the architectural identity phenomenon. They explain that the architectural identity in Erbil city passed through different eras which produced different stylistics features in the appearance of its building façades. In this context, Baper (2011) explains that the continuity of architectural identity in Erbil city

depends on stabilization forces which reflect, in most cases, the tradition and heritage of the city, whereas Salama (1999) clarifies that the architects and urban designers in developing countries trying to reassess the issue of architectural identity to create a meaningful environments through two different scenarios either by emphasize a locality or reflect an international trend.

2. Heritage Buildings as a Physical Reference

In Erbil City, as a result of the free economy, rapid changes in commercial street buildings become a visible phenomenon which merges between the desire toward traditions (the spirit of heritage) and the aspiration of new technology. This has led to a state of chaos of architectural appearance of commercial buildings and created various challenges in the architectural expression. It is interesting to note that in last decades, architecture in Erbil city (See Figure 1), passed through rapid transformations due to the conflict tension between the desire towards globalization and conserving approaches of the historical heritages (Baper 2011). In this regards, Salama (2014) stated that a productive land opportunities and an operating environment will liberate for new challenges in architectural forms due to plurality of schools of thoughts.

Figure 1: (Left) Modern construction (Source: Wikimedia, 2014);
(Right) Heritage values (Source: Phoenix, 2011).

In the other hand, scholars in the field of architectural design (Kermani & Alalhesabi, ,2016 ; Mansouri & Torabi,2015; Derya & Alkan,2015; Kiera,2011; Mansoori& Jahanbakhsh,2014;) focus on physical aspects of heritage buildings as evidence of past civilizations which have a significant architectural and historical value . In general, heritage is a term that is used to illustrate a set of values, and principles, of the past. It is a slippery term that includes a vast range of paradoxical meanings which is in fact a very difficult concept to define (Figure 2). It is basically traditions that get carried down generation to generation by sustaining the continuity of the social and cultural values. It is what creates a sense of identity and assures rootedness and continuity.

Heritage and historical buildings are the sources and physical references of past cultures and settlements. The Oxford English Dictionary identifies heritage as 'valued things such as historic buildings that have been passed down from previous generations'.

Figure 2: Erbil city heritage citadel (Courtesy of Getty Images, 2014).

3. Process of Continuity

The socio-cultural and socio-economic structures of different societies urge scholars in the field of architecture to study factors that have direct impact in constructing and expressing architectural identity. In this regards (Baper, 2012) studies the most crucial factors that affecting architectural continuity, the study proved statically that (mass and articulation, openings, architectural detail, materials) factors have a crucial impact on the continuity of architectural identity. The study results revealed that the "Mass & Articulation" factor and "Architectural details" factor are the most influential in interpreting the continuity of architectural Identity.

In parallel Torabi and Brahman (2013) investigate factors shaping the architecture identity in three sections: terminology of identity, architecture identity and comparative study of contemporary works of architecture. The study results show that seven factors of spatial organization, time organization, semantic organization, general design principles, building shape and form, building materials and relationship with context are considered as effective factors in creating architecture identity.

In this regards, KIM (2015) explains that the study of continuity in architecture can be done through two different strategies: firstly, it is the study of physical materials in terms of the articulated forms, the study of the physical settings which formed by materials that confine spaces, while the second is the study on the archaeological remain formed by the contexts of times. The study clarifies that the continuity of form is a significant design method to create the meaningful form for the spatial existence in the course of time. In this sense, Nooraddin (2012) clarifies that each nation has different approaches to produce its own architectural identity. These approaches

can be classified in three directions which are: an architectural movement, a particular local culture and way of life. The study explains that the issue of identity is a living process which mixing between desires towards new styles within the local identity traditions whereas Kim (2000) argue that the theoretical model of identity concentrate on five dimensions of identity of place which are: continuity, uniqueness, significance, compatibility, and cohesiveness.

Hence, Identity is a product of continuity. It can be achieved through common memories, traditions, and mutual feelings. For Welz (2005) identity is the sense of continuity; it is self-constancy in the route of life-changes. Hence, Atalan (2016) explains that the continuity of architectural elements preserves the identity of the city. This process will guide toward sustainable conservation as the traditional features of heritage buildings are tangible cultural components that emphasize the continuity of its architectural identity.

Based on the above, Identity can be defined as a process of continuity as Hall (1996) explains that identity is a production which is never complete, always in process, and always constituted within representation. Accordingly, Castells (2004) argues that cultural identity is the process by which social actors build their own meaning according to cultural attributes. Meanwhile Philokyprou (2016) clarifies that vernacular architecture is generally characterized by a continuous process over time.

Consequently, continuity in architecture is related to the conservation approach. This approach concretizes the need to certify continuity by preserving existing signs. In this sequence formation of identity relies on the idea of locality. It aims to bind the culture, the climate and the lifestyles together and use these as a basis for urban form.

4. Morphological Analysis

The term "morphology" (from the Greek means form) is used in a number of scientific disciplines to refer to the study of the structural relationships between different parts or aspects of the object of study. In this context, Kropf (2014) defines morphology as a study of the shapes and patterns of the built environment of human settlements in order to clarify the diversity and complexity of architectural forms. The study of the architectural morphology investigates the geometric structures and configuration of units through time. It seeks to understand the underlying structure of an object, by examining the patterns of the elements that compose it, as part of the process of their development.

In this study the morphological analysis focused on following aspects (the study of shape, size, texture, source of design, connectivity with architectural identity of the city, design strategies , types of change with the main source, process of continuity, identity achievement mechanism and connectivity with heritage buildings).

Figure 3: Commercial buildings in Erbil City.

5. Methodology

For the purpose of the study, the multi-dimensional model based on the theoretical framework (Table 1) establishes a sense of structure for a particular research problem. It provides the background that supports the concept of continuity in constructing the architectural identity. It includes the variables (source of design, connectivity with architectural identity of the city, design Strategy , process of Continuity , identity achievement mechanisms and connectivity with heritage buildings) that intend to measure the continuity of architectural identity. The theoretical framework is developed through a review of previously architectural knowledge as well as the literature review of the variables involved. The multi-dimensional model presents a conceptual framework to realize the role of heritage buildings in constructing architectural identity in commercial buildings in Erbil city. For the purpose of the study, 10 identified commercial streets on main axes in Erbil city have been selected. In each street, 12 cases samples were selected accordingly the total selected sample number is 120 cases (see Figure 4). The objectives of this paper intend to emphasize on the concept of continuity by studying the role of heritage buildings in constructing the architectural identity in Erbil city. It investigates the stylistic features of commercial buildings visual elements .The analytical methodology used in this paper relies on visual properties of a building facades. It discusses the building visual elements in terms of the continuity of architectural identity.

The study emphases on two types of analyses, the first is related to the Morphology analysis (the study of shape, size, texture and source of design, Connectivity with architectural identity of the city) while the second is syntax analyses (the study of design strategies, process of continuity, identity achievement mechanism and connectivity with heritage buildings).

Table 1: Multi-dimensional model/theoretical framework for the concept of continuity in architecture

Variables	Possible values		
Source of design	Historical values from Heritage buildings		
	Classical Architecture Approach		
	Modern Style Approach		
	Imitation of contemporary buildings		
	Dynamic environmental approach		
	Mixed styles		
	Unknown style(non defined style)		
	Others		
Connectivity with architectural identity of the city	No connectivity	Using modern approach	
		Using extraordinary materials	
		Different building Forms	
		Different building texture	
	Partial connectivity	Reshaping an object within the context	
		Changing pattern of element relationships	
		Imitation through Visual Shifts of elements	
		Adaptation of cultural structure	
	Entire connectivity	Copying of an existing feature from heritage	
		Using similar facade materials	
		Using similar vernacular architectural details	
		Juxtaposition of building masses	
		Human scale and unity of elements	
		Connectivity through roof shape of masses	
		Similarity of building Heights(skyline)	
		Others	
Design Strategy	Preserving local existing signs conservation approach		
	Environmental approach		
	Binding the culture with lifestyle		
	Search for roots to link the past with the present.		
	Mixing different approaches		
	Power of expression (Modernity approach)		
Type of change with the main Source	No change(Copy and paste)		
	Imitation(Partial change)		
	Total change (No connectivity)		
Process of Continuity	Continuity by Contiguity of units		
	Continuity by elements regularity		
	Continuity by mass heights		
	Continuity by Facade finishing materials		
	Continuity by repetition of elements		
	Continuity by Size of openings		
	Non-Continuity		
Policy /Identity achievement mechanisms	Reservation of Personal Boundaries		
	Preserving existing signs		
	Preserving existing architectural details		
	Preserving existing element relationships		
	Separation between inside and outside		
	Diversity of experiences		
	Self-expression/Cultural value		
Connectivity with heritage through	Using similar facade elements		
	Facade elements relationships		
	Unity and human scale		
	Juxtaposition of building masses		
	Similarity of building Heights(skylight)		
	Continuity of Roof shapes		
	Using similar facade materials		
	Using vernacular Architectural details		

6. Findings

The second objective of this study is to examine the influence of heritage buildings' in creating the continuity of architectural identity in Erbil city through following parameters (factors):
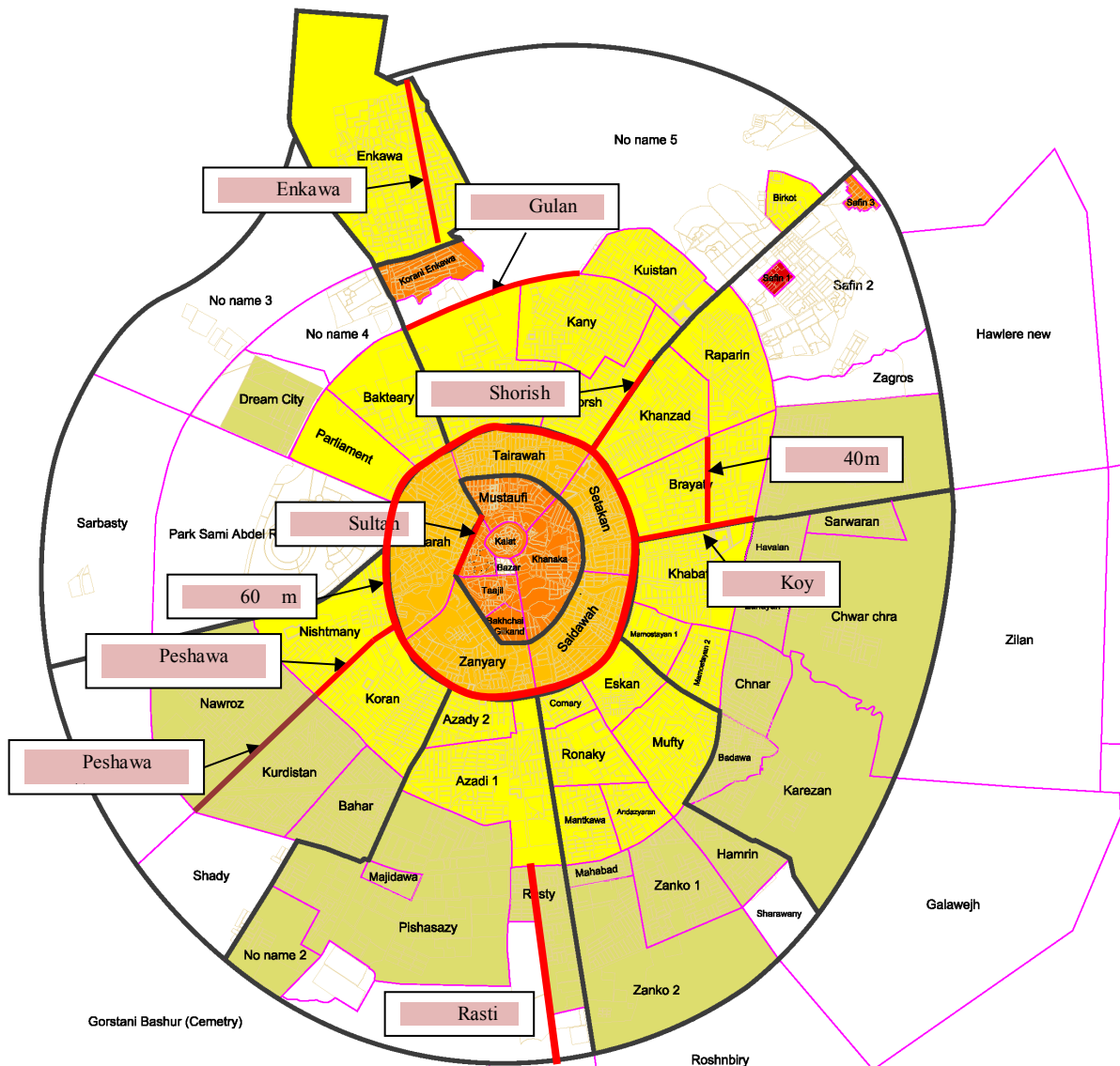
Figure 4: Commercial streets in Erbil city (Erbil Municipality, 2017)

6.1 Source of Design:

Results in Table 2 illustrate that heritage building with historical values is the source of design in 21.67% of the cases, while 35% of cases have modern style approach, only one case out of 120 have classical architectural style, 26.6% of cases are mixed styles, Moreover, there are no indications for   dynamic environmental approach or classical architectural approach and only 8.33% of the cases have imitation of contemporary buildings whereas only two of the cases is listed under unknown style (non defined style).

Table 2: Sources of design.

Parameter	Values	No. of cases	Percentage
	Historical values from Heritage buildings	26	21.67%
	Modern Style Approach	42	35 %
Sources of	Mixed styles	39	32.5 %
Design	Imitation of contemporary buildings	10	8.33%
	classical architectural style	1	0.83%
	Unknown style(non defined style)	2	1.67 %
	Total	120	100%

6.2   Connectivity with architectural identity of the city

Quantitative results show that most of cases (as an average of 81.4%) in erbil city commercial buildings have partial connectivity with architectural identity of the city. In general the overall results are as follow:

6.2.1   No connectivity

Results indicate that 25 of cases (as an average of 20.83%) are out of any connectivity with architectural identity of Erbil city. The non-connectivity of these case is related to following sub variables:19 cases are using modern approach without any attention to the architectural values of the city, 5 cases using different building forms within the context of the city streets, and only two cases have no connectivity by using different building textures. It is interesting to note, that the main reason behind this factor (no connectivity) is the problem of tightness of time during implementation process, where   cases used readymade solutions based on advanced technological solutions

6.2.2   Partial Connectivity

Results indicate that 85 (as an average of 70.83%) of cases are merging between modernity and identity through one of the following approaches: reshaping an object within the context ,changing pattern of element relationships, Imitation through visual shifts of elements or adaptation of cultural structure. At this point, it is significant to designate that most of the commercial buildings within erbil city main streets adopted the hybrid approach by melting modern technology within architectural features of the city. The contribution of new technology is effected positively to enhance the rapid growth of commercial buildings within the body of traditions.

6.2.3   Entire Connectivity

Results indicate that only 10 cases (as an average of 8.33%) have entire connectivity through one of the following measures: copying of an existing feature from heritage building directly, using similar vernacular architectural details, Juxtaposition of building masses, human scale and unity of elements, connectivity through roof shape of masses or similarity of building heights(skyline).The results from this sub variable is matching with Atlan (2016) perspectives, that each region represent a particular culture through its components .The entire connectivity will create a symbolic feature to make continuity in architecture due to the role of heritage buildings in constructing architectural identity in commercial buildings in Erbil city.

6.3   Design Strategy

The third parameter of the study is studied through six values which are :preserving local existing signs conservation approach, environmental approach, binding the culture with lifestyle, search for roots to link the past with the present, mixing different approaches, Power of expression (Modernity approach). The quantitative results indicate that the most popular design strategy is related to mixing different approaches as a rate of 62.50%) meanwhile only 10% of the cases are searching for roots to link the past with the present.

6.4 Type of Change with the Main Source

The fourth parameter of the study is designed to measure the type of change with the main source, for the purpose of the study the main sources is clarified through the analysis of first parameter. Scholars in the field of architectural design studies classified three type of changes namely: no change(Copy and paste), imitation(Partial change) and total change (No connectivity) .Qualitative results illustrate that partial change is the most common strategy for designer (as an average of 79.16%) of cases. rarely the strategy of copy and paste where noticed.

6.5 Process of Continuity

The fifth parameter assess the continuity of buildings within selected streets .this parameter includes following values: continuity by contiguity of units, continuity by elements regularity, continuity by mass heights, continuity by facade finishing materials, continuity by repetition of elements, continuity by size of openings, and finally non-continuity. Quantitative results in Table 3 show that the (continuity by contiguity of units) is the most popular values in measuring this parameter. The study recorded 33 cases as an average of 27.5 %.

Table 3: Process of Continuity

Parameter	Values	No. of cases	percentage
Process of continuity	Continuity by contiguity of units	33	27.5%
	Continuity by elements regularity	11	9.16 %
	Continuity by mass heights	21	17.5 %
	Continuity by facade finishing materials	10	8.33%
	Continuity by repetition of elements	8	6.67%
	Continuity by size of openings	12	10%
	Non-continuity	25	20.8 %
	Total	120	100%

6.6 Identity Achievement Mechanisms

The sixth parameter of the study is intended to study identity achievements mechanism through following values: reservation of personal boundaries, preserving existing signs, preserving existing architectural details, preserving existing element relationships, separation between inside and outside, diversity of experiences, and self-expression/cultural value.

For the purpose of the study only cases which have entire connectivity or partial connectivity with architectural identity of the city is deliberated. Hence non connectivity results from item (1-a) are extracted from analysis and recorded as non connectivity cases. Quantitative results (Table 4) show that (preserving existing architectural details) is the well-liked value in assessing this parameter as an average of 19%.

Table 4: Identity achievement mechanisms

Parameter	Values	No. of cases	Percentage
Identity achievement mechanisms	Reservation of Personal Boundaries	8	6.6 %
	Preserving existing signs	12	10 %
	Preserving existing architectural details	23	19.1 %
	Preserving existing element relationships	17	14.1 %
	Separation between inside and outside	12	10 %
	Diversity of experiences	10	8.3 %
	Self-expression/Cultural value	13	10.8%
	Non connectivity	25	20.8 %
	Total	120	100%

6.7 Connectivity with Heritage

The results specify that connectivity with heritage buildings (heritage building with historical values) in 26 cases. These cases where connected with heritage building through following values: using similar facade elements, facade elements relationships, unity and human scale, Juxtaposition of building masses, similarity of building heights(skylight), continuity of roof shapes, using similar facade materials, using vernacular architectural details. Figure 7, the study find out that the most popular value for this parameter is using similar facade elements due to special regulation of buffer zone regulations from Erbil city municipality.

Figure 7: (Left) Sultan M. Street; (Right) Rasti district

Table 5: Connectivity with Heritage.

Parameter	Values	No. of cases
Connectivity with heritage	Using similar facade elements	2
	Facade elements relationships	11
	Unity and human scale	1
	Juxtaposition of building masses	3
	Similarity of building Heights(skylight)	1
	Continuity of roof shapes	3
	Using similar facade materials	5
	Using vernacular Architectural details	0
	Total	26

7. Conclusions

Despite theoretical claims that heritage is the one of the most important sources of architectural

identity which connects man to his origins through the process of continuity, the research findings discovered that only one fifth of commercial buildings in erbil city is connected to the heritage buildings (as source of design). In other words, modernity as globalization force made several architectural forms within commercial streets in Erbil City. The generation of these forms is related to lack of special regulations for commercial building in Erbil city municipality. This dialectic relationships and contradictions between the desire toward modernity and belonging to local traditions lead to a state of chaos of architectural forms. The study indicates that the heritage buildings visual elements and its architectural cues playing a tangible role in constructing architectural identity in buffer zone of the Erbil city. The municipality building regulations within these zones affected positively the overall feature of commercial buildings in term of continuity of architectural identity. Hence it is strongly recommended to apply these regulations in other sectors of the city.

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