

Emergence of New Place Identities through Architecture

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Received September 15, 2021; Revised March 15, 2022; Accepted April 19, 2022

Cite This Paper in the following Citation Styles

(a): [1] Leena Al-Mohammedy, Njoud Al-Nashmi, Renad Baabdullah, Abdel-Moniem El-Shorbagy, "Emergence of New Place Identities through Architecture," *Civil Engineering and Architecture*, Vol. 10, No. 4, pp. 1590-1598, 2022. DOI: 10.13189/cea.2022.100428.

(b): Leena Al-Mohammedy, Njoud Al-Nashmi, Renad Baabdullah, Abdel-Moniem El-Shorbagy (2022). *Emergence of New Place Identities through Architecture*. *Civil Engineering and Architecture*, 10(4), 1590-1598. DOI: 10.13189/cea.2022.100428.

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Abstract Place identity has become a significant issue in the last 25 years in urban planning and design. However, identity of a place is a phenomenon that has been present for as long as man used physical and psychological elements to recognize places. Human's identification to a place presupposes that places have a unique character, that is, attributes which distinguish each place from any other. The relation between a human and space is not merely that of being able to orientate himself in his surroundings, but it also has a deeper process of identification, which was described by Norberg-Schulz as "to become 'friends' with a particular environment". In the twenty first century, the rapid emergence of contemporary played a major key role in the fluctuating of many place identities globally, some of which accepted and absorbed new identities, whereas others valued identities were lost. Typically, the physical environment's contribution to form the unique character of place dominates psychological elements. Thus, this research paper deals with architecture as a main drive for analyzing place identity. Particularly, the research aims at defining clear elements of emerging new identities through discussing the causes, process, and outturns of examples where identities evolved through architecture overtime.

Keywords Place Identity, Architecture, New Place Identity

1. Introduction

The identity of place comprises the unique features that distinguish a place regardless of its scale. Typically, identities are influenced by changing factors; thus, an

identity is not a constant. Essentially, the term "place identity" has to be identified thoroughly to study the phenomena of emerging new place identities. Place identity, is a term formed of the two key words, place and identity. According to Oxford dictionary, the physical identification of the noun place is described to be "a particular position, point, or area in space; a location" [1]. Many intellectuals contributed to the numerous definitions of "place", usually using the word "particular". However, philosophers' approach to defining place extends to a further depth. Philosopher Jeff Malpas, described place as "gathering of people and things", that interpretation is simultaneously adjoining physical and psychological aspects [2].

The architectural sense of the word place is an ongoing dialogue among architects, interpreted physically, as built spaces, and psychologically, tackling the feelings of place users. For the sake of this research, place is going to indicate specific fragments of built environments, that are experienced by individuals. In this era, the way to protect historic identity is similar to that of the international community, from protecting individual monuments to larger historic districts, including historic urban landscapes.

Each place has an identity, whether is it recognized by a wide range of individuals or not, its existence impose identity. Identity alone can be used to describe people, objects, and natural life. Also, identity can take either a systematic, or a philosophical approach. Systematic approaches can be seen in identifying facts and statistics of specific figures. On the contrary, philosophy is reflected in how a specific figure is viewed by others, or by its self. That sort of identity is not tangible and varies in

perspective. Also, identity can be about a person's "self-concept", which regularly identifies a person among others through what makes them similar and dissimilar to each other. According to Hatch, and Shultz, the process of self-understanding continues as long a person live, "seen in relation to what other people are like, and how other people perceive us" [3]. Clearly, self-recognition is not valid in the case of built environment. Places with a high sense of identity refer to those that share somewhat analogous perspectives among a wide range of people that observe and experience them.

The origin of both words is foreign. Place comes from plateau and it is a Greek word that describes a place, or a piazza. Identity is a Latin word that originated from idem and later on it changed to identitas. When these two words are adjoined, they form a philosophical concept that occurred to researchers to conduct studies of human behavior. Therefore, Barker concluded "behavior setting", which depicts "bounded standing pattern of human and non-human"[4].

2. Identity of Place Definition

Since the late 1970s, the term place identity has been used in literature describing the result of monitoring the environment and interpreting it [5]. Place identity has been discussed in two framework intervals. Firstly, relationship between the different frames of built environment like home, neighborhood, city and etc. An expressive example occurs when recognizing buildings as part of a certain culture, such as, relating horseshoe arches or zellige tiles to Andalusia. The other framework of place identity tackled human intrinsic values, memories, idea, and thought, that can be justified through explaining place identity in the context of environmental psychology theories, especially that people are essential in shaping the place identity.

2.1. Identity of Place in the Context of Environmental Psychology

Understanding the interaction between place and people can be done through not only examining a certain environment's influence on one's behavior, but also the other way around. A field of psychological studies called environmental psychology can facilitate understanding the nature of these phenomena in relation to place identity. Environmental psychology developed theories that tackled different perspectives of place. Existing theories have been criticized, leading to further research and development of new theories. Frank [6] said that "The perspective on place has gone from "physical determinism" to where the environment was seen as having direct effects on behavior". Environmental psychology focuses on providing a model of human nature that predicts the environmental conditions under which humans will respond in a certain manner.

Physical environment in particular, has been described

using many terms, the word "place" had the most poetic and philosophical meaning [7]. Wicker criticized the idea and developed it to be a social constructs [8]. Psychology of place is an idea about "where place is seen as product of physical attributes and human" an opinion by Canter [9, 10], inspired by behavior sittings as social constructs.

2.2. Identity of Place in the Context of Place Attachment

Sense of place can occur in many ways. Sometime it refers to the physical characteristics of a place through identifying geographic areas. Other times it is about the feelings of users towards a place. A strong identity of place enables individuals to reinforce the feeling of imagining, expressing, experiencing, and finding their way. Building relationships between environment and human is the result of a certain feeling which is place attachment. This relationship between human and environment that place attachment depicts includes the development of human activity and impact of the natural and built environment on the human. All factors contribute to shaping an identity of place.

For example, place attachment is perceived through people expressing their feeling towards a place. When a person moves from one neighborhood to another, they lose the atmosphere of the place they are used to, stating that the new place does not feel like home. Simple examples like this provide proof that place identity is not just a matter of observance of the tangible, but also feelings such as nostalgia. Eventually, researchers shed lights on the importance of recognizing "place identity" as a study issue; thus, examining the element that fashion it.

3. Architectural Identity

As previously discussed, physical environment is the dominating element of place identity over psychological environment. Architecture design and urban planning play the prime role in shaping the physical environment that gives a place its identity; thus, this section dedicated to comprehending architecture's disposition in developing place identities, as well as the characteristics that convey architectural identity in particular.

Architecture defines the identity of every community, city, or country and it conceptualizes place; depending on manners, traditions, geography, insight, and knowledge of the place including its history. Exteriors, interiors, and layouts of buildings, form a key representative of cultures, which is architecture.

As Rappaport stated, "Identity is the ability to distinguish and identify an element from another. It is a feature of environment that does not change in different situations" [11, 12]. Features can be understood as physical (such as decoration, size, shape, construction style and etc.), environmental practice, or specific activities. Architecture

is the mean of which a culture's knowledge, ideas, perception of beauty, and traditions are featured in buildings, resulting unique identities.

Through time, an architectural identity either sustains or be dynamic in accordance to societies' activity and motivation. The developing needs of a society cause change to several essences of architectural identity, mainly related to rest, motion, and stability. The change of those elements is bounded by historical features and new thoughts; causing new architectural identity products. Accordingly, different societies in distant areas of the globe are likely to show higher dissimilarities in architectural identity and what gives a place its meaning.

3.1. Characteristics of Architectural Identity

A meaningful and understandable place is suitable for exhibiting feelings, values, and creating memories. Actually, the functions of architectural identity are both emotional and recognition related. A study conducted by Torabi and Brahman in 2013 [13], defined the characteristics that fulfill the functions of architectural identity. Characteristics of architectural identity composed of spatial organization, time organization, semantic organization, general design principles, buildings' forms, materials, and relationship with context. It is important to note that the characteristics can be interlaced with one another, and that examples are likely to be connected to all or most of the characteristics of architectural identity. However, examples were selected for what they best portray.

3.1.1. Spatial Organization

Aristotle defined space as "an empty container that should be enclosed to exist". Space is actually divided into life space, geographical space, and architectural space. Architecturally, a place is a space that is organized and enclosed by architecture elements and the relation between elements is formed to give a space its meaning.

Spatial organization refers to the arrangement of spaces in a layout and the relationship between the elements of space. Every region around the globe organizes its empty spaces according to their culture. For example, in Persia, social structure and importance of segregating public network lines from private lines typically resulted in introvert urban spatial organization. The dead-end passage ways open into the smaller series of the wider passage ways. This hierarchy continues toward the urban center of the texture, which is the most public space. Layout of spaces can be a semantic feature for a specific place. However, spatial organization in general is different to semantic organization; whereas semantic features typically refer to what an individual easily observes when experiencing spaces.

3.1.2. Time Organization

Mankind lives in spaces associated with timeframes. As

mankind ages and develops; spaces change accordingly. Thus, many architectural styles easily depict a certain age rather than a concept or other architectural elements. Such as, gothic architecture; whereas the style directly portrays European middle (or dark) ages when church was the core of the city; whereas gothic architecture was mainly used by cathedrals to reinforce their power through the gothic identity that ensured dominating city skyline with spiral towers and excessive ornament generally. Given that cathedrals of the middle ages were usually centers of learning and social connectivity; a gothic cathedral is an expressive example of time associated identity, which imposes that buildings reflect a social and physical structure of a certain time period. As mankind continued to need spaces for inhabitation, he played a large role in changing the natural environment through activities like building dams and deforestation. The change of a community's surrounding natural environment changes their social structure overtime, which as a result changes the identity of a place.

3.1.3. Semantic Organization

Ideologies of cultures in distant regions differ according to many factors like history, religion, surrounding natural environment, and linguistics. Semantic organization as part of the architectural identity refers to symbols or other references that indicate a particular place, and give its architectural pieces a unique identity. Apart from uses or functions of buildings, there could be an apparent or a semantic dimension into them that could be shown in architecture such as size, form, landmark, color, materials, symbols and etc. For example, a fundamental semantic aspect of using marble and gold in architecture is that they represent wealth, while wood may represent warmth. On a larger scale, domes and minarets are likely to represent mosques, hence, Islamic architecture. A clear example is the national emblem of the Afghanistani flag consisted of a mosque with all its typical essential components, a dome, minarets, mihrab, and minbar. Another form of apparent features in architecture can be seen in building layouts as previously mentioned; whereas certain layouts directly signify different places and cultures. In the Middle East and North Africa, traditional houses were central courtyard houses. Despite the environmental benefits of the courtyard, "the courtyard house is suitably adapted to what is considered an Islamic social order" [14].

3.1.4. General Design Principles

General design principles are those that are included in the development of a design concept and the application of it. Architecture that is based on strong concepts is more likely to display a significant identity over architecture that is not; due to the lack of value. Therefore, architects need to constantly find new and fresh ideas to respond to the culture of the period.

Design approaches are driven by either form orientation like parametric architecture, or concept orientation like

biomimicry approaches. Successful architecture design approach is the one with original thought that is able to achieve architectural identity. In the case of parametric architecture, its identity is evident in the complexity in the fluidity of its forms (Figure 1), achieved through manipulating the parameters of a single unit; which is the main concept of parametric design. Concept Oriented design approaches usually incorporates more valuable design principles since their ultimate goal is serving the people in the most effective and efficient way. An approach where the people are served through design solutions that are learnt from nature is a biomimicry approach.

3.1.5. Building Form

Imagination of architecture cannot be realized without seeing shapes. Regular or irregular lines create shapes that can compose three dimensional forms. A building form can be seen as a piece of art, a functional mass, or a compromise of both. A proper form has a suitable size, proportion, scale, and harmony. Building forms reflect culture (Figure 2), and that can be clearly noted in the entry of a foreign element that refuses cultural adaptation; whereas it does not signify any identity because its form does not make any logical connections to the audience. A successful example of architectural forms with unique identities can be seen in classical Chinese architecture, particularly in the roofs. The massive roof volume (in proportion to the rest of the building), the functional aspects, and the distinct form model the intrinsic cultural philosophy of China. Roof style is the highlight of Taoist Culture. Therefore, it contains both rational "ritual", and emotional "music".

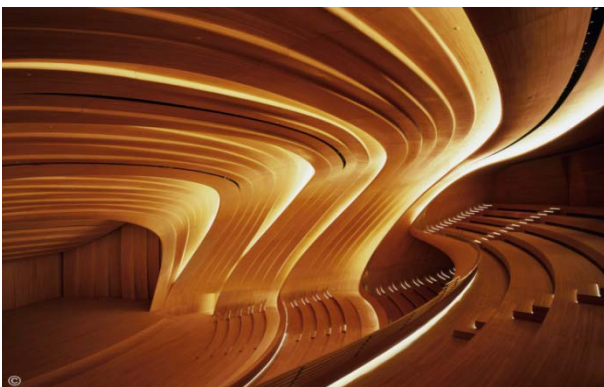


Figure 1. Courtesy of Zaha Hadid, an example of complex fluidity in parametric architecture [15]



Figure 2. The Forbidden City in china demonstrating unique form that reflects Chinese culture [16]

3.1.6. Building Materials

Materials are essential elements that help in understanding places. Features of the material that people are usually relate to include hardness, softness, roughness, flexibility and etc. Historically, using stone in palaces represented strength and stability. Therefore, ornament was not the only reason for selecting materials, but materials were also selected for the sake of delivering concepts and showing values and meanings. Sometimes, materials are actually the main drive of architectural identity. Such as ancient houses of Siwa town in Egypt, distinct for being built with mud (Figure 3). Architectural identity can also be related to material when the material is unusual to the surrounding. For example, if the Eiffel Tower was made of bricks, it probably would not give Paris the particular place identity that it has because of the tower.

3.1.7. Relationship with Context

Another aspect that is able to convey high architectural identity is the relationship with the context, whether it is as a harmonious or discordant relationship, despite the acceptance of discordance. Buildings are typically built in respect to their surroundings, and when architecture is taken from one place to another it might lose its meaning. For example, taking Persian ceremonial capital Persepolis to France will make it lose its meaning fully. Therefore, it is important to understand the environment and the surroundings of buildings prior to design.

There are three ways for architectural spaces and building to interact with each other. First is congenial relationship, which is the compatible relationship between buildings and their surroundings. On the contrary, confliction relationship, helps recognizing places due to its distinguishable appearance among its context, such as the legal/illegal building in Cologne, Germany (Figure 4). Lastly, opposition relationship, occurs when a building is located in the opposite side of the surroundings.



Figure 3. Mud houses of Siwa town in Egypt [17]



Figure 4. Legal/illegal building (middle), having a confliction relationship with its context of design in Cologne, Germany [18]

4. Causes of Emerging New Place Identities through Architecture

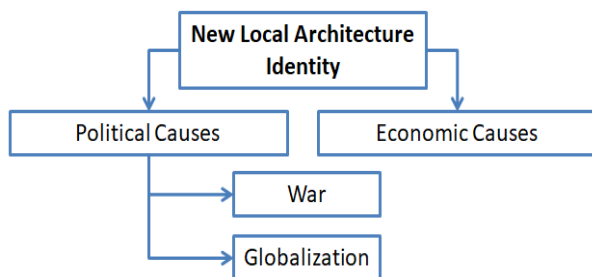


Figure 5. Reasons for creating a new local identity through architecture

This section discusses the causes and processes that lead to change of places identities; concluded from case studies where a place identity emerged over an existing identity (Figure 5). As time goes by, numerous core aspects of human life evolve. Having unique place identities are only a natural result that comes along those evolving aspects; thus, place identities are expected to adapt, hence, change, accordingly. The changes reflected in human life, thought, and culture causing emergence of new place identities have been traced back to be mainly derived from political or economic/industrial causes. Political causes may be as peaceful as effect of cross boarder admiration, or as crucial as war. However, industrial causes are what are driven by economic incentives that aim at developing a country.

4.1. Political Causes

Politics play a largely influential role in enabling the discussed elements of place identity; whereas it is directly and indirectly connected to a community's culture and built environment. Many countries and cities went through globally recognized shifts of place identities as result of the country's adopted political regime, or major political events. The political interference can scale from being amicable to being subjugation. Germany is a country that forcibly changed on many levels after World War II, including its place identity. On the other hand, a country or city can go through the process of a place identity change without drastic measures. Political admiration can be a root cause of shift of place identity as result of a phenomenon like globalization. For example, an international architect's involved in the design of a local landmark, as a straight forward contribution to a shift in a place identity.

4.1.1. War

War is an extreme way of changing a country's identity. Regardless the global damage that follows wars, countries loses what signifies them, and a few are able to create a new strong identity of place. One of the most significant identities that emerged was Germany. Germany lost so much intrinsic value embedded in its historical buildings, civilian houses, workplaces, and many culturally valued sites. After the World War II, the people wanted to rapidly build the country and enable it to stand on its feet, and they used the opportunity of starting over to adjust the country's urban scale and expand it. Problems faced Germans were numerous, including the absence of a clear national government, lack of labors and shortage of financial revenues, which initially resulted in beautiful portrayal of community architecture where women were engaged. However, after discovering diamonds resources in the nineteenth century, Germany's economy thrived. Throughout economic growth, Germany continued to shape a highly defined identity through building each city in steady steps. Germany took full advantage of a place that has been bombed and almost completely erased, and designed it to be as a place of skyscrapers with wide streets (Figure 6). World war is perhaps a key contributor to shaping many place identities known today. Japan (Figure 7) was affected by the growing presence of the United States of America in Eastern Asia. The United States, long a source of many imported goods and loans needed for Japanese development, was seen as becoming a major impediment to this goal because of its policies of containing Japanese imperialism. However, United States presence eventually reflected on the modernization of Japan [19] (Figure 8).



Figure 6. Germany before and after World War II

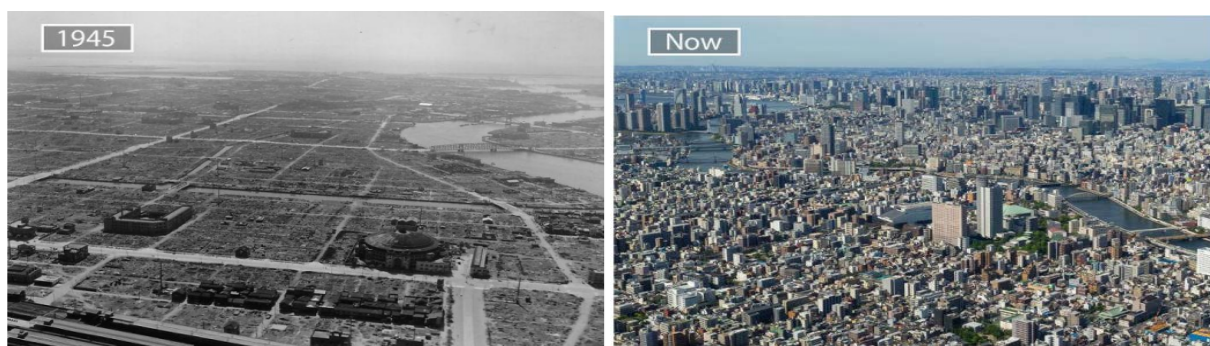


Figure 7. Japan before and after World War II



Figure 8. New York Times Square vs. Tokyo City Center

4.1.2. Globalization

Globalization is majorly evident in architectural identity. Effects of globalization can appear on the short and long term as result of cross boarder cultural admiration. For an architect to go beyond their country borders and carry their design principles, it is considered short term globalization effect, such as when an architect from Europe work in the United States, or vice versa. Most well-known global architects like Zaha Hadid, Renzo, Rem koolhaas, and Frank Loyed, carry a significant trace wherever they design; thus, it is an excitement for countries to involve them in designing important architectural pieces, as part of enhancing their economy. Even through it is hard to claim that one iconic building changes a place's identity; it is important to note that the building usually influences

spaces around it, intensifying its architectural style. Also, the iconic building in this case has a major needed role in achieving interesting architecture; because resulting new identities of the discussed situation are highly similar, falling under the international style.

Long term effects of globalization refer to a level of cross boarder cultural admiration that is built on a strong foundation of acceptance and respect; resulting in local communities acting in foreign manners without a direct interference of foreign activity.

4.2. Economic Causes

Economy of countries can influence built environment by orienting the mentality of design, typically towards profit incentives. As a result of economic demand,

architects may not design to deliver ideas and messages imbedded in their philosophies, but merely design to maximize a country's revenues. Many recognized place identities around the world emerged after the oil boom and industrial revolution. For example, the island of Singapore was known to mariners since the third century A.D. By the seventh century, when a succession of maritime states arose throughout the Malay Archipelago, Singapore probably was one of the many trading outposts serving as a warehouse and supply point for Malay, Thai, Javanese, Chinese, Indian, and Arab traders, which made it a well-known place to a larger domain of people. After

Singapore been independent from the Malaysia, the economy grew (Figure 9).

Singapore is now considered one of the “four tigers of Asia” because of the economic success that it has gone through. There is no doubt that the economic success is the main drive of Singapore's emerged identity. With a strong background of ethnic and cultural diversity as a result of commercial activity; architecture in Singapore is a result of varied influences. Contemporary appeal of Singapore has a strong focus on the issue of sustainability, with many examples of vegetated landscapes introduced to towers (Figure 10).

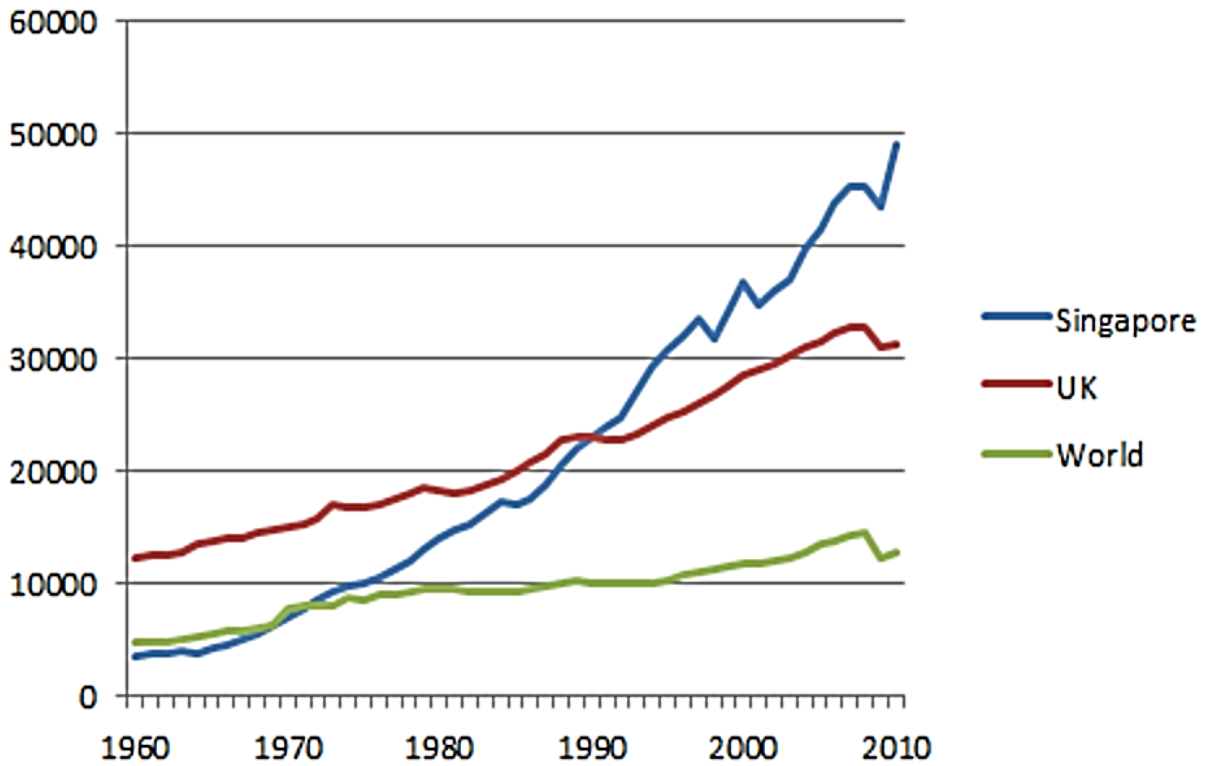


Figure 9. GDP per capita in Singapore, the UK and the world [20]



Figure 10. Singapore before and after Economic Thrive [21]



Figure 11. Dubai in the 90s vs. Dubai in 2017 [22]

The oil boom caused emergence of place identities to many countries in the Middle East, particularly in the Arabian Gulf. Perhaps Dubai city, the international enterprise, is among the most recognizable places in the twenty first century known now as a well-developed country with the tallest skyscraper and the largest mall, competing global developed countries. However, Dubai was originally a desert (Figure 11). Dubai revolution started after the discovery of oil in the 1966, before that Dubai was marketing the natural pearl, which has weakened after Japan invented the culture pearl. Dubai started exporting oil after three years of discovering it; which made Dubai grow again. “Dubai’s vision is to do your best of what you have”, accordingly, Dubai process of success began with trading, followed by manufacturing, followed by enhancing tourism sector; which is highly related to shaping Dubai’s modern-day architecture. After that, Dubai started plans of building “catalyst megastructures” which are Khalifa Tower, Burj Alarab, Palm Island, and world island Dubai.

5. Conclusions

A nation’s concern in its country’s improvement and development always abides by methods that do not apply high risk for the economy or, for the least, harm to the nation itself. However, several circumstances that come along development requirements may result in affecting a place’s identity. Effects on place identity do not necessarily impose negative impacts, even though the process of which a place’s identity got affected itself may be harmful. The impacts of an affected place identity differ from being highly beneficial to drastic; whereas the effects could result in establishment of a solid identity, changing an existing identity, or erasing a place’s identity. For instance, Germany and Japan were massively harmed after World War II, but the newly emerged identities had great economic and cultural outcomes to the countries. As for Singapore, it faced mass poverty after the separation from Malaysia. Nonetheless, in the end it turned out to be a

vastly developed country as a result of the independence. Taking Dubai into consideration as well, it failed in trading with pearl after Japan’s invention and faced several difficulties, but after the discovery of oil, Dubai enhanced both economy and tourism by developing the architectural identity and that caused Dubai to be globally recognized. On the other hand, typical emergence of new identities has been vastly criticized; claiming that it usually contributes to forming international identities with minimal reference to traditional place identities, as it contributes to the phenomena of globalization.

Acknowledgments

The authors would like to thank the Department of Architecture, Effat University for its unconditional support.

REFERENCES

- [1] Definition of place in English. Online available from <https://www.lexico.com/en/definition/place>
- [2] Lounela, E. Berglund, and T. Kallinen. *Dwelling in Political Landscapes: Contemporary Anthropological Perspectives*, (Studia Fennica Anthropologica), (Studia Fennica), Helsinki: Finnish Literature Society, 2017, DOI=10.21435/sfa.4
- [3] M. J. Hatch, and M. Shultz. The dynamics of organizational identity, *Human Relations*, Vol. 55, 989-1017, 2002.
- [4] R. G. Barker. *Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior*, Stanford, CA: Stanford University Press, 1968.
- [5] S. Qazimi. Sense of place identity. *European Journal of Social Science Education and Research*, 2014, Online available from http://journals.euser.org/files/articles/ejser_may_aug_14/ShukranQ.pdf
- [6] K. Franck. Exorcising the ghost of physical determinism.

- Environment and Behavior, Vol. 16, No. 4, 411-435, 1984.
- [7] G. Speller. A community in transition: a longitudinal study of place attachment and identity process in the context of an enforced relocation, Unpublished Dissertation of Doctor of Philosophy, Guildford: University of Surrey, 2000.
- [8] W. Wicker. An introduction to ecological psychology, Monterey, CA: Brooks/Cole, 1979.
- [9] D. Canter. The psychology of place, London: The Architectural Press, 1977.
- [10] D. Canter. The facets of place, In G. T. Moore and R. W. Marans, Advances in environment, behavior and design: towards an integration of theory, methods, research and utilization, New York: Plenum Press, 1997.
- [11] R. A. Rappaport. Ritual Regulation of Environmental Relations among a New Guinea People, Ethnology, Vol. 6, No. 1, 17-30, 1967.
- [12] R. A. Rappaport. Pigs for the ancestors: Ritual in the ecology of a New Guinea people, New Haven: Yale University Press, 1968.
- [13] Z. Torabi, and S. Brahman. Effective Factors in Shaping the Identity of Architecture, Middle- East Journal of Scientific Research, Vol. 15, No. 1, 106-113, 2013, Online available from [https://www.idosi.org/mejsr/mejsr15\(1\)13/14.pdf](https://www.idosi.org/mejsr/mejsr15(1)13/14.pdf)
- [14] T. Kotnik. The Mirrored Public: Architecture and Gender Relationship in Yemen, Space and Culture, Vol. 8, 472-483, 2005, DOI=10.1177/1206331205274790.
- [15] T. Schielke. Fluid Luminosity: The Architectural Lighting of Zaha Hadid, 2017, Online available from <https://www.archdaily.com/868157/fluid-luminosity-the-architectural-lighting-of-zaha-hadid>
- [16] Dearsley. 15 Top-Rated Tourist Attractions in China, 2021, Online available from <https://www.planetware.com/tourist-attractions/china-chn.htm>
- [17] S. Khalil. Ancient Egypt & Oasis Adventure: Cairo, Alexandria, & Siwa - 10 days, 2021, Online available from <https://www.kimkim.com/c/discover-cairo-alexandria-and-siwa-10-days>
- [18] Legal / Illegal Architecture: A small building in a suburb of Cologne. Online available from <http://www.manuelherz.com/legal-illegal-cologne>
- [19] An interview with Diefendorf. J, specialist in writing about japan and Germany after war, October, 15, 2015.
- [20] Gay. Political economy and development, 2012, Online available from <https://emergenteconomics.com/2012/03/12/718/>
- [21] M. Bergsteijn. How globalization changed Singapore, 2019, Online available from <https://www.diggitmagazine.com/articles/singapore-globalization>
- [22] Then and Now: Check out photos of Dubai in 1991 vs 2017, 2017, Online available from <https://shedyblis.blogspot.com/2017/01/then-and-now-check-out-photos-of-dubai.html>