Visual Perception of Cities Centers Between Globalization and Nationalisation

Associ. Prof. Dr. Mohamed M. Abdelaziz Farid

Associate Professor, Architecture Department, Faculty of Fine Arts, Helwan University m.farid@f-arts.helwan.edu.eg

Researcher. Ayman M. Abdel-fattah Elsheshtawy
Master student, Faculty of fine arts Helwan University, Egypt
gm@newlinesgroup.com

Abstract:

Over the past few decades, cities' identities have been subjected to dramatic global influences, the rapid modernization have transformed and internationalized cultures, and planning ideologies which affected the spatial development and consequence, the urban visual identity. However, within the need of homogeneity, and the "call to difference", globalization / nationalism discourse is becoming the difficult dialectical synthesis of national identity and modernity.

whereas architecture does not operate only on the local level, but also on the global through the work and creations of celebrity architects among other factors, thus, those architects or architects who seek to have such status through iconic designs tend to have global rather than local perspectives. As a result, architecture is increasingly becoming a message of global abstract culture rather than being cultural element of stability for the local.

The aim of this paper is to look at the visual identity of urban in new capital cities and how they change under the impact of globalization, city centers of Dubai, Brasilia, Doha, and New Capital Cairo have been chosen as cases to be studied because they have been significantly shaped particularly with regard to contemporary planning policies, reflecting the needs and modern outlook of contemporary architecture.

Moreover, this research paper focuses on the problems of urban/architecture visual identity and the trends of its expression by urban/architectural tools, examines the formation of identity as a construct and indirect form of architecture, the phenomena of globalization and pastiche of local styles, and analyzes the discourses of identity between globalization and nationalism.

Keywords:

visual perception, city center, globalization, nationalism.

Introduction

Architecture is an object representing a country, city, and locality that embraces many creative issues; urban / architecture of any city determines the understanding of local identity, reflects the economic and political aspects of a given time, and can be considered an indicator of social life and thinking.

Thus, constructing new capital cities is a great opportunity to develop new national identities based on certain aspects and vision, fueled by the engine of government's desire and ambition to be at the forefront of developments worldwide.

In the second half of the 20th century, the world has witnessed the emergence of a preplanned capital cities trend. "From 1950 till now, many countries in Latin America, Africa, and MENA

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region developed new capitals. Among many plausible reasons, capital relocation is one of the more innovative tools for building states and national identity."

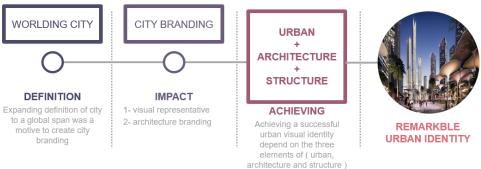


Figure 01: Development diagram of global identity

Although most capital cities contain substantial traces of architecture from previous eras, new capital cities have the opportunity to convey expressions of the current ideology and identity. The Modern Age of preplanned capitals may have commenced with the resolution of building Brasilia to be the new capital of Brazil. Since then, many countries in the MENA region, such as Emirates, Qatar, and Egypt, had created and developed their capitals and remodeled their identity within a contemporary image and modern style. Consequently, a new visual identity was manifested based mostly on the government's vision.

This vision is expressed through a series of design principles, project goals, an illustrative physical plan, mobility diagrams, and an action list of public projects, forming the downtown identity as a symbol of national identity.

Due to the recent revolution in communication, the tension between global similarity and national difference has been growing; therefore, the identity of local architecture is beginning to merge into that of new urban development and becoming fragile against globalization.

This paper analyzes examples of contemporary architecture in selected case studies representing the expression of visual identity in the 21st century. The analysis covers the vision of the government, design principles, and psychology of urban elements to understand how the visual identity was shaped based on this vision, how the crowd perceived it, and how they are influenced by it.

1. Importance of the Thesis

This work focuses on the problems of visual architectural identity between globalization and localization and examines the formation of identity as a construct and indirect form of architecture, based consciously on design elements & design principles psychology.

Thus, the importance of this study may be listed as follows:

For the decision-maker:

The role of the decision-maker is defined, in terms of visualizing the national vision and setting the required acts, such as enacting laws, constructing keystone projects, and setting guidelines for developers and architects.

For urbanism:

How urbanization forges the visual identity of the city is understood by assessing design methodology in case studies and electing a theoretical method to create a successful visual identity.

For the community:

A successful visual identity should consider psychology; it shapes crowd behaviors and may lead to the attitude of feeling of being free, at peace, active, and creative or struggling and aggressive.

2. Visual Perception and Psychology

This field examines the relationships between physical attributes and their psychological response in the form of sensations. Psychology of form perception is based on seeking correlations between the information received through retinal projection and perception of the environment.

The elements and principles of design are the language of urban design (Landry, 2006, 228). It seems impossible to understand visual perception, specifically the experience of urbanity, without knowledge of its psychological foundation elements.



FIGURE 02: DIAGRAM OF URBAN IDENTITY ELEMENTS,
By Authors

2.1. Psychology of Design Elements and Their Perception:

Design elements are applied in all visual arts, from the graphic to the spatial arts (Ignatius 2014), varying from seven to ten elements (Rombough, 2013). The elements are as follows: dots, lines, shapes, spaces, sizes, values, colors, texture, forms, and direction.

Each element has a psychological meaning.

Lines:

- **Horizontal lines** create a sense of crouching and being grounded.
- **Vertical lines** provide an enhanced sense of height, soaring upwards, and balance, contributing to the overall solution.
- **Curved lines** are perceived to be more correlated with natural elements, establishing a connection between us (the viewers) and the natural world.
- Straight lines are perceived to be hard and rigid.

Shapes:

- Squares and rectangles convey discipline, strength, courage, and security.
- **Triangles** create a sense of excitement, risk, danger, balance, and stability.
- **Circles, ovals, and ellipses** symbolize eternity, female, universe, magic, and mystery.
- **Spirals** denote growth, creativity, calmness, and intelligence.

All visual objects can be analyzed in terms of these elements. People may not always notice what figures and shapes surround them; however, they greatly impact our consciousness and behavior (tubik, 2017).

2.2. Principles of Design and Its Psychology

The principles of design organize and control the design elements. A designer must follow a set of rules to create an effective composition that clearly delivers a message to the audience. The most important fundamental principles of design include balance, symbolism, alignment, rhythm, proportion, and unity and diversity.

Balance:

Balance occurs when opposing forces or visual weights appear to be equal and harmonious through careful use of design elements and principles.

Meaning (Symbolism and Imagery):

Symbolism establishes a form of communication by merging abstract ideas into the form using design elements and principles.

Rhythm:

Rhythm implies a melodic response incorporated into the urban architectural solution.

DESIGN DESIGN DESIGN PROPORTION PROPORTION PSYCHOLOGY OF DESIGN PRINCIPLES PSYCHOLOGY OF DESIGN PRINCIPLES PSYCHOLOGY OF DESIGN PRINCIPLES COLORS CITY CENTER VISUAL IDENTITY

SOURCE: COPYRIGHTS TO THE AUTHORS. FIG. 1

Proportion:

Proportion relates to the ratio between elements of urban architectural design.

It establishes visual relationships between the building's individual components and the whole composition

Unity and Variety:

Unity and variety principle is the use of harmonic characteristics of unifying elements to maintain a sense of the whole, keeping the balance between harmony and opposition (Dietrich, 2021)

FIGURE 03: DIAGRAM OF DESIGN ELEMENTS/PRINCIPLES AND THEIR ROLE FORMING CITY CENTER' VISUAL IDENTITY

By authors

2.3. Gestalt Laws of Perception

In 1920, Wertheimer, Koffka, and Khöler, three German psychologists, applied their visual perception theories, where elements could be interpreted as a whole unit when distinctive principles were employed (**Gestalt theory of perception**).

Gestalt theory is based on the concept that the human brain will attempt to simplify and organize complex images or designs that comprise many elements by subconsciously arranging the parts into an organized system that create a whole, rather than just a series of disparate elements

2.3.1. Gestalt and Architecture/Urban Design

In reality, the crowds cannot perceive urban characteristics as separated elements. They perceive them as an interacting complete composition that creates a sense of a place, as

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identified by Schulz, who addressed place, based on this approach, as "genius loci" (Norberg-Schulz, 1980, 5).

2.3.2. Principles of Gestalt Theory

The classic principles of Gestalt theory of visual perception include the following topics: similarity, continuation, closure, proximity, figure/ground, and symmetry and order. Other principles such as "common fate" have been introduced in recent years.

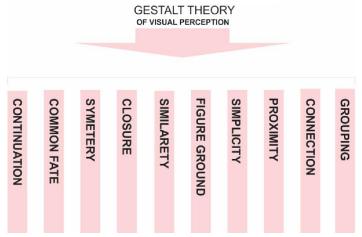


Figure 04: The principles of gestalt theory of visual perception, by authors.

The key idea behind Gestalt theory is that "the whole is other than the sum of the parts" (Kurt Koffka).

3. The Capital City

Capital cities are most commonly defined as the seat of a country's government and administrative center. They are generally the showcase of nations and a source of pride for citizens.

The unique role of a capital city is not absolute. A capital city may be termed a "global city" even though not all the city operates on a global scale; also, "capital cities" activities are clearly not restricted to governmental functions (Abdelwahab, 2018).

3.1. New Capital City

The history of planning and designing capitals had begun before the emergence of town planning as an established discipline when Haussmann embarked on redesigning Paris as the French nation capital.

The late 19th century witnessed the emergence of new terminology, which ushered in the modern era of urban planning and sparked a rethinking of capital design and planning.

In the second half of the 20th century, planning and architecture and the principles and methods applied in urban planning have evolved, especially in capital cities.

Moreover, in the second half of the 20th century, the world has witnessed the emergence of preplanned capital cities. "From 1950 till now, many countries in Latin America, Africa, and the former USSR moved their capitals. Among many plausible reasons, capital relocation is one of the more innovative tools for building states and national identity."

3.2. The Capital City Center

City center tends to evoke meaning; rather than thinking of the building as elements, we should consider the space created on the surrounding ground. These urban rooms are basically defined by the buildings adjacent to them, spaces where people can interact with and be a part of urban life.

However, capital city centers are not typical urban centers. Their purpose is far more significant than population agglomeration with an elaborate and sophisticated infrastructure. Capital city centers convey the nation's identity formed by appropriate architecture and urban elements and principles design.

3.3. Concept of City Center's Identity among Urban Planners

In this section, we demonstrate the concepts and point of views of some of the eminent urban planners for the city identity (Lynch, Violich, Relph, and Tankuy):

- **Lynch** defined identity as a person recognizing or recalling a place of being distinct from other places by having a vivid or unique character of its own.
- **Violich** also focused on the physical environment with our involvement and interaction in establishing the identity of a place by considering the phenomenological perspective.
- **Relph** considered the essence of the place. According to him, places are sensed in a setting of landscape, ritual, other people, individual appearance, the observable activities or functions, and meanings or symbols.
- **Tankuletal** (and others) stated that identity issues should be considered not only as a physical feature but also as a reflection of lifestyles. He defined urban identity as a significant complexity in his internationally acclaimed book "Genius Loci: Towards a Phenomenology of Architecture" (1979).

3.4. The Visual Identity of New Capital City Center

As the designed capital always has a vision, architecture and urban design are a physical expression of this vision, defining, among other factors, the visual identity of the city.

Therefore, the capital city center is the ideal physical location of national identity; the accumulation of all its institutions and iconic buildings can be seen as the personification of the nation and ideals that constitute it.

This visual image of the city originated from a specific vision and evolved through formation and structuring and is perceived as a physical manifestation of its formal and structural elements, buildings, landmarks, activities, festivals, events, heritage, and architecture.

4. Globalization and Nationalism

Despite many obvious and significant benefits of globalization, it also threatens to replace local distinctness with global sameness.

GLOBALIZATION VS NATIONALIZM



Figure 05 : Globalization vs Nationalization, by authors.

4.1. Globalization Visual Identity in Capital City Center:

With the rapid increase in communication technologies and dissemination of glossy periodicals, it is difficult for architects to design a large public building without being aware of global trends and preferences, especially since these may be their own.

With such global architectural consciousness, a purely "local" design solution seems increasingly unlikely.



Figure 06: Diagram of the impact of globalization thinking on new city center visual identity, by *authors*. Another key aspect of international architectural culture is that the demands of capital city center complexes in developing nations often exceed the capabilities of indigenous firms to implement them. Thus, although a local architect may be found, architectural, engineering, and managerial expertise must be often imported from abroad in the case of new capital cities.

4.2. Nationalism Visual Identity in Capital City Center

National identity is defined as the identity of a group of people with common affiliations and a sense of belonging to very specific notions. Moreover, the identity of a nation takes time and generations to establish itself through constant care and renewal, and the ruling regime implements it. Therefore, national identity emerges as a dynamic conglomeration of affiliations and particular (propagated) notions and ideas.

When employed as national symbols and explicitly understood as ideological monuments, architecture and urbanism will help strengthen national identity.

5. Cases Studied

The case studies demonstrate the practical application of how visual identity is forged using architecture and urban design principles and how far it tends to express the global and local elements. In each case study, a basic summary is included regarding the government's vision of national identity and the action plan for its implementation and a description of the design principles. Urban elements are analyzed according to Lynch, and the weight of globalization and nationalism on each element is indicated.

Four cities were chosen to evaluate the visual perception from the aspects of globalization and nationalism: Dubai, Doha, Brasilia, and the New Administrative Capital. These cities were constructed based on the tabula rasa concept, with various visions behind their development, and demonstrate different understanding of globalization and nationalism regionally and internationally, since 1960 till now.

5.1. Assessment Approach

Assessment of visual identity and visual perception for urban space is multidimensional. It is designed to apply Gestalt and other psychology studies of visual perception on urban elements; refer to (Lynch, 1960).

Therefore, the visual perception analysis and assessment are based on a certain process of scientific evaluation methodologies developed to provide references of visual perception or impact prediction and, consequently, assess the weight of globalization and nationalism.

5.2. Procedures of Assessment:

- Define the **urban elements** of a city center (case study) according to Lynch, which include path, edge, district, landmarks, and nodes.
- Analyze each urban element in terms of its **design elements** (lines, shapes, form, color, and texture) and understand the psychology of the selected design elements.
- Analyze and understand the **principle of design** used with those design elements and figure out its psychological meaning.
- Apply **Gestalt law of perception** on each urban element to define how crowds perceive it.
- Refer to globalization and nationalism visual criteria and assess each case study accordingly.

DESIGN PRINCIPLES GESTALT globalization impact nationalization impact nationalization impact

Figure 07: Urban design principles/perception between globalization and nationalization, by authors.

5.3. Case Study No. 1: Dubai

Dubai is a city that hit overnight development.

Today, Dubai is a business hub of Western Asia and a major global transport hub for passengers and cargo; with its location in the eastern part of the Arabian Peninsula on the Persian Gulf coast, the city was already a major mercantile hub.

5.3.1. Design Principles

The project promotes a vibrant and competent city center, flexible and responsive land use, and quality-built environment, taking into account the principles of sustainability and considering a wide range of issues related to the geographic context, the natural and built environments, socioeconomic dimensions, cultural aspects, mobility and accessibility, infrastructure, and economic competency (Binno, 2012).

5.3.2. Spatial Relation

The project is located in the heart of the city and is easily accessible from everywhere, with direct access to Dubai Metro via the Burj Khalifa and Dubai Mall station extending to all ends of the city.

A 1 1912 A 1915

Figure 08: Dubai map, Source: Google maps, edited by authors.

5.3.3. Urban Planning

The project has a non-modular organic urban planning with God no rigid grid that achieves a dynamic visual track and enriches intuitive perception.

Surrounding the world's tallest building, Burj Khalifa Tower, the project was developed on 168 hectares of land next to the existing high-rise residential and office districts, linking all these elements to a 9.3-hectare lake that provides a visual, recreational, and transportation element to this iconic development (Abu Figure Dhabi, 2021).



FIGURE 09: DUBAI CITY CENTER MAP, SOURCE: BY AUTHORS.

5.3.4. City Center Elements

This city center is designed to be an acknowledgment of the more traditional building forms of the culture, featuring a major urban lake and park.

- Burj Khalifa: the tallest building with the highest number of stories
- Dubai Mall: large retail shopping center
- Dubai Opera: the creative heart of the city
- Old Town: residential and retail center
- High-rise towers: residential towers

Moreover, the world's largest dancing fountain system is set on the lake, Dubai Fountain, drawing more attention to this established iconic community.

Features:

- Planning: non-modular organic planning
- Human scale: the relative scale reflecting the power of urban elements
- Water elements: the major organizing element of the master plan

Perception of planning in regard to globalization and nationalism:

National aspect: it is achieved due to the planning response to the geography of the site.

Globalization: the planning density respects huge open spaces for crowd gathering from all over the world and setting element for global activity.

5.3.5. Analyzing Lynth' elements of Dubai' city center:

5.3.5.1. PATH:

Vehicles path : Vehicles are not allowed to cross the project.

Pedestrian path : It is an irregular path, which enriches a sense of expectation and creates a diversity of visual track, which contributes to forging the visual identity, increasing safety, improving the quality of the environment, and encouraging social interactions in the urban fabric of the district.





Figure 10: Study of Dubai city center paths, by authors.

Perception of path in regard to globalization & nationalism:

National aspect: Paths profile is similar to those in vernacular urban architecture, which supports the localization perception.

Globalization: Globalization is achieved through highest technology and common materials worldwide.

5.3.5.2. EDGE:

Outer Edge: The development along the outer edge of Downtown Dubai has a curved profile surrounded by residences and mixed-use commercial development.

Inner Edge: The lakes with irregular profile form the inner edge mainly oriented towards the inside, gardens,

shopping, dining, and entertainment facilities are on the internal edge, all within a short walking distance.





Figure 11: Study of Dubai city center edges, *Source: by authors.*

Profile:

Curved line which gives a sense of smoothness and allows a diversity of a visual track

Design principle:

Loop design with no regular rhythm, perceived as continuous and infinite.

-Profile:

Shapeless and winding profile, no rhythm, and no grid, giving a sense of spontaneity

Design principle:

Organic design

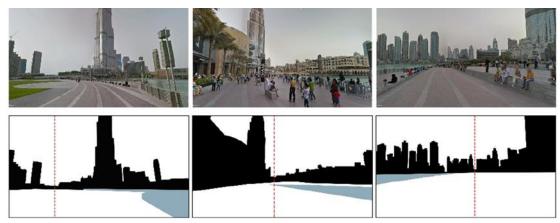


Figure 12 : Study of Dubai city center skylines, Source: by authors.

Skyline: Skyline is irregular with the main vertical feature (Burj Khalifa) visible from anywhere due to its huge scale.

-Profile:

Irregular line gives a sense of dynamism and is oriented up, which enriches thesense of glory.

-Human scale:

The skyline is extremely high compared to the human scale, supporting the glory perception.

-Design principle:

It evokes asymmetric balance.

Perception of edge in regard to globalization & nationalism:

National aspect: -The unique skyline becomes a distinguished profile identifying Dubai.

Plot of inner/outer edge reflects the localization aspect of site geography.
 Globalization: - As the skyscraper is a global trend, this skyline reflects the globalization image.

5.3.5.3. NODE:

Node 1: Burj Khalifa Node: The main node surrounding Burj Khalifa includes the viewing deck, Lakefront Promenade, water feature, recreational area, and children play area.





Node 2: The Fountain Boardwalk: A floating platform is located within the lake. The Boardwalk allows visitors to get closer than ever, giving a different perspective of the captivating performance. The closest point is only 9 meters away from the fountains.

Figure 13: Study of Dubai city center nodes, by authors.

-Profile: Irregular shape with soft edge
-Design principle: Organic design
Design elements: Promenades, greenery,
water, plus the massive landmark BurjKhalifa.

-Profile: Irregular shape with soft edge
-Design principle: Organic design
-Design elements: Promenades, greenery,
and water

Perception of node in regard to globalization & nationalism:

National aspect: Nationalization is achieved due to the uniqueness of this spot, which make it only belong to Dubai.

Globalization: These nodes are considered assembling locations for people from all over the world, giving it a global image.

5.3.5.4. LANDMARKS:





Figure 14

: Dubai city center, (a)Burj Khalifa, (b)Dancing fountain.

Burj Khalifa: A massive skyscraper. At the height of 828 meters, this super structure alone holds many world records such as the tallest building, the highest number of stairs, tallest upper outdoor observation deck, tallest towering elevator service, and much more, it's an outstanding example of modernism and symbolism and an emblem of the new, dynamic, and prosperous Dubai.

FEATURES

- -Profile: Vertical element sloped with a sharp head expresses stability and giving orientation to heaven that enriches the feeling of dignity and glory
- -Design principle: A symmetric form, sloping gradually with a rigid rhythm.
- -Material: Metal and glass reflect modernity & high tech.
- **-Human scale:** The massive monumental scale, compared to human scale, emphasizes glory, dignity, and modernity.

Dancing Fountain: Dubai Fountain is the world's tallest performing fountain. The fountain has a powerful water nozzles that shoot water up to impressive heights, designed to sway and dance to the rhythm of music.

-Profile: Dynamic profile
-Rhythm: Synchronization between
movement rhythm and musical rhythm
Human scale: The huge scale of this
feature inspiring an amazing feeling

Perception of landmarks in regard to globalization & nationalism:

National aspect: These landmarks are distinguished elements of Dubai. Globalization: These features attract tourists from all over the world.

5.3.5.5. DISTRICT:









FIG. 15: (A) OPERA DUBAI, (B) OLD TOWN ISLAND, (C) DUBAI MALL, (D) SOUK ELBAHR

Dubai city center project is flanked by superlative structures, such as Dubai Mall and the inspiring Dubai Opera resting on the other side of Burj Khalifa, the tallest residential tower in the world mounting up to 800 meters high into the sky. Opulent hotels line the carriageway, with multiple commercial, shopping, and leisure venues scattered throughout open green spaces dotted with lakes and fountains. Statues, sculptures, and other works of art abound the pedestrian walkways embroidering the neighborhoods.

Dubai Opera is the radiant center of culture and arts in Dubai and the shining pearl of the district, Dubai Opera represents the role of a creative heart of the city and engages in performing arts experiences from Dubai and the world.

The Old Town Island is a village-inspired development in Downtown Dubai. Low-rise buildings hide a market square, quiet alleyways, and inner courtyards that represent traditional Arabic architecture.

Dubai Mall is the world's largest and most-visited retail and entertainment destination, which welcomes more than 80 million visitors annually, the flagship megaproject has over 1,300 retail outlets and over 200 food and beverage outlets.

Souk Elbahr, the marketplace is inspired by traditional Arabian heritage. Blending the classic with the contemporary, it is a lively marketplace that offers the city's residents and tourists an enthralling experience of shopping, entertainment, and dining in intriguing contrast to Dubai Mall.

Perception of district in regard to globalization & nationalism:

National aspect: Souk Al Bahar and Old Town Island are inspired by traditional and urban architecture.

Globalization: Dubai Mall is a global commercial hub, whereas the opera house represents western art.

5.4. Case Study No. 2: Doha City Center

The city of Doha aimed to reposition itself on the map of international architecture and urbanism. However, Msheireb Downtown is a planned city center that examines how discourses around physical and cultural heritage approach urban planning, environmental and social sustainability, and architectural preservation in the rapid and substantial transformation.

5.4.1. Design Principles

Seven principles guide the design of the master plan: timelessness, diversity and unity, form and geometry, aspect of home, aspect of street, designing for climate, and elements of architecture.

These principles intend to provide a new urban identity inspired by but not copied from the past (Elsayed, 2019) (Law, 2012).

5.4.2. **Spatial Relations:**

As Doha is radially planned along the crescent bay, **Msherieb** is located in its center and bordered by Msheireb Street to the south; Al Rayan Street to the north; Jassim bin Mohamed Street to the east; Al Diwan Road to the west. The location offers the project the following benefits:

- Possibility of spreading in all directions and reflecting the infinite aspect
- Well accessible center from all over the city



Figure 16: Doha map, Source: Google maps, edited by authors.

5.4.3. Urban Planning:

Unlike regular planning, which is relatively modern, Msheireb planning was evolved organically inspired from vernacular urban no modular planning. The layout has different morphology with random, irregular patterns, which produced irregular (organic) environments.

The compact layout offers many advantages in terms of creating shaded streets that encourage inhabitants to walk. In addition, it encourages social interaction between neighbors, which will eventually increase the sense of place and identity (Elsayed, 2019)



FIGURE 17: SOURCE: COPYRIGHTS TO THE SUSTAINABILITY, 2018.

Perception of planning in regard of globalization and nationalism:

National aspect: irregular urban structure of Msheireb, with its unsystematically generated patterns, emphasizes the localization value. Globalization: it is hardly perceived.

5.4.4. City Center Elements

Msherieb neighborhood is comprised of 100 new buildings and encompasses 310,000 square of land.

The master plan divided the neighborhood into five quarters that contain retail, hospitality, commercial, and civic areas:

- Diwan Amiri Quarter
- Heritage Quarter
- Retail Quarter
- Mixed-Use and Residential Quarter
- Business Gateway



FIGURE 18: SOURCE: COPYRIGHTS TO SUSTAINABILITY, 2018.

5.4.5. Analyzing Lynth' elements of Doha' city center:

5.4.5.1. PATH:

Vehicles paths: Streets is an effective paths with a visual character that lets people sense the old downtown structure and recognize the direction through project elements.

Pedestrian paths: the pavement and sidewalks were developed into a network of shaded Sikas with four- to seven-meter wide lanes.

Vehicles paths: Non-straight paths provide a sense of expectation -Street curvature creates a diversity of visual tracks, Pedestrian paths: Structures, materials, systems, and lighting can reflect the sense of traditional and local identity. Non-straight paths cause closed visual axes when paths turn, affecting visual perception.
-Human scale is respected, which enriches the sense of belonging.



Figure 19: Study of Doha city center' paths, by authors.

Perception of path in regard to globalization & nationalism:

National aspect: Paths design is inspired by vernacular traditional architect with total respect of environment and humane scales, which reinforce the national identity.

Globalization: It is hardly perceived

5.4.5.2. **EDGE**:

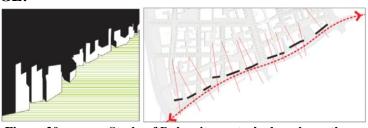


Figure 20 : Study of Doha city center' edges, by authors.

The study of Msherieb city center edge shows that surrounded buildings have irregular arrangements along the street, giving a different meridian point for each buildings that weakens the sense of boredom.

Skyline provides recognizable landmarks that can promote the town.

Perception of edge in regard to globalization & nationalism:

National aspect: The edge was designed with non-module irregular planning and tends to look like vernacular urban design serving the national identity more.

Globalization: It is hardly perceived.

5.4.5.3. NODE:

Al Baraha: The biggest open spaces in the project was planned to host occasional events, the elements that distinguish the open spaces are the presence of landscape features, adequate shaded areas, cafes, and outdoor furniture, this is to fulfill people's needs and enhance social engagement.

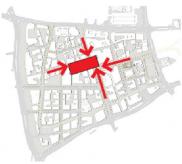


Figure 21: Study of Doha city center' nodes, by authors.

Regular within irregular:

Msheireb is characterized by a formal geometric design, a 7000 m² rectangle with 1:3 proportion, with defined orientation and a sense of balance and stability. Symmetry along the longitudinal axe enrich a sense of balance

FEATURES

Perception of node in regard to globalization & nationalism:

National aspect: Nodes reflect the national identity with respect to local culture.

Global aspect: Nodes are gathering places for citizens and tourists, which give a little bit sense of globalism.

5.4.5.4. LANDMARKS:



Figure 22 : Study of Doha city center landmarks

Mosque minaret shows how uses a landmark in terms of its urban location and meaning value in addition it serves as a reference point that determines the localization of other points. Also as visual objects, they are perceived and remembered because of their shape and structure and socio-cultural significance.

FEATURES

-Mosque minaret is located on an inter-urban axis and at a location harmonizing with the urban. With its connections to vehicles and pedestrians, it is highly perceivable.

Pedestrian motions within city center define several visual axes and demonstrate differences in terms of visibility of the landmark and visual quality.

Going away from the minaret, the depth effect provided by the urbanization in the front/background of theminaret is evoked.

The mosque minaret in urban views is depicted as visually effective, supportive of the meaning dimension of the area, and aesthetic as perceived by the viewer.

Perception of landmarks in regard to globalization & nationalism:

National aspect: Landmarks in Msheireb like minaret give a positive dimension in regard to national identity.

Globalization: nil

5.4.5.5. DISTRICT:

City center is structured around five main districts that encourage social interaction; these districts consist of the Emiri Diwan Quarter, which will host the National Guard and other services supporting the Emiri Diwan.

The Mixed-Use and Residential Quarter, adjacent to the commercial quarter, contains the main plaza (Baraha) to be the main breathing element for the entire Msheireb area, residential buildings, offices, and other dynamic activities. The Retail Quarter is



FIGURE 23, SOURCE: NATIONAL ARCHIVE.

the largest district, which comprises the most luxurious spaces in the project and city of Doha. The Business Gateway Quarter is a business-oriented quarter full of business opportunities and governmental representatives to facilitate future investments in the city. The heritage Quarter, which escaped miraculously from decimation, forms the fifth part and stands as the only physical witness of the past. It is the main gateway to Msheireb and acts as the catalyst to create a new urban identity for the entire district.

FEATURES

The design of Islamic tradition was applied for family privacy.

The local climate was respected as applying freej in design allows winding alleys between building complexes within neighborhoods. Freej served as corridors to access homes.

The high density of the built area was influenced by the hot climate and the necessity to shade walkways and exposed walls.

Like other Islamic port cities. The center of Doha's pre-oil settlement was formed by the traditional market, the palace and the Friday mosque. (University, 2019)

Perception of district in regard to globalization & nationalism:

National aspect: National identity is achieved through a design on the same line of traditional architecture and urbanism.

Globalization: The project reflects up-to-date technology globally.

5.5. Case Study No. 3: Brasilia City Center

Brasilia was designated a UNESCO World Heritage site in <u>1987</u> due to its unique urban and architecture and its unprecedented role in the development of Brazil.

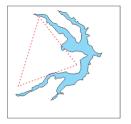
In response to Former President Juscelino Kubitschek's invitation for Brazilian architects and urbanists to present projects for the new capital, Lúcio Costa won the contest and was the main urban planner in 1957, against 5550 people competing. Oscar Niemeyer was the chief architect of most public buildings and Roberto Brule Marx was the landscape designer.

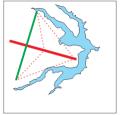
5.5.1. Design Principles

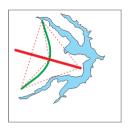
The master plan of Brasilia follows the automobile era urban design principles; the urban pattern is dominated by automobiles as the only mode of transport, with less attention paid to pedestrians and bicycles.

As a result, contrary to most common planning principles, the master plan is concerned with distinctively low densities, which reflects the sense of physical isolation and fragmentation (Alwehab, 2018).

5.5.2. **Spatial Relations:**







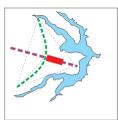


Figure 24

: Spatial study of Brasilia city center, by authors.

- Brasilia's urban planning is based on two axes: the first one (Monumental Axis) is straight ahead to the head of the triangle shape, while the other (Residential Axis) is curved in response to the topography of the site, the base of the triangle.
- The Monumental Axis intersects in the city center with the Residential Axis, where the city center lies.

Due to the central location of the city center, it is well connected to the surrounding neighborhoods by a vibrant transportation network connected to three major highways.



Figure 25 : Brasilia map, Source: Google maps.

5.5.3. Urban Planning:

the national congress building."

The plan is designed as a monumental axis intended to provide Brasilia with the dignity of a capital city; the unity of the master plan depended on the grid along the main axis.

Despite the "rigid discipline of the grid-iron plan," Oscar Niemeyer displayed dynamic quality where "the repetitive module of the regular rectangular blocks" gave way for the "composition of the public parts of the city, the Cathedral, the national theatre and the public park and out toward

Figure 26: Brasilia, master plan of city center, by authors.

Features:

Axial planning: The planning is based on an axial concept, which was respected all over the master plan around the longitude axis (Monumental axis), within a modular pattern.

Symmetry: Symmetry principle was followed in the administration zone, although it was hardly perceived due to the long distance between opposite buildings, whereas the asymmetrical balance principle was embraced in the governmental zone and entertainment area.

Rhythm: Rhythm is achieved in the administration zone, unlike the entertainment zone and governmental zone.

Human scale: The urban scale gives Brasilia the characteristics of a "Park City," with huge free spaces destined for landscaping and leisure, composed of extensive lawns, squares, gardens, and public parks.

Generally, Brasilia was not designed on a pedestrian scale, which was not taken much into consideration during the advent of the motor age,

Perception of planning in regard of globalization and nationalism:

National aspect: master plan reflects national vision by locating the National Congress building within Plaza of Three Powers axial with monumental axe. Globalization: globalization theme is achieved by applying up-to-date theories and technology.

5.5.4. City Center Elements

Brasilia city center is planned to house the typical three zones:

- Governmental zone
- Administration zone
- Entertainment zone

The entertainment center for the city lies at the intersection of the axes, with cinemas, theatres, and restaurants, followed by administrative centers with their typical blocks placed along the monumental axis, ending with the plaza of three power.

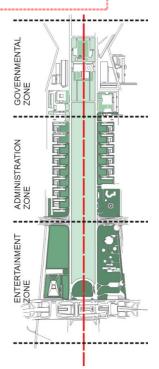


Figure 27: Brasilia, master plan of city center, urban zones, by authors.

5.5.5. Analyzing Lynth' elements of Brasilia city center:

5.5.5.1. PATH:

Vehicle Path: The planning technique of eliminating intersections was applied, which achieved a thorough main artery, with fast central lanes and side lanes for local traffic. In the original plan, there were no traffic lights, all cars traveled over overpasses and through tunnels to avoid intersecting traffic.

Pedestrian Path:Pedestrians were not taken into consideration during the advent of the motor age, wikipedia, 2007

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Symmetry is used in the path elements themselves, achieving a sort of visual balance and emphasizing the axis orientation.

Human scale: as a city designed for vehicles, the human scale was impalpable due to the city's large open lawns, plazas.

Building block arraignment parallel to main axe, that reinforces the rhythm of a design, creating a consistent pattern and promoting visual unity.

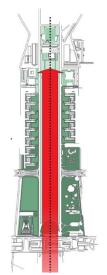


Figure 28: Study of Brasilia city center paths, by authors.

Perception of path in regard to globalization & nationalism:

National aspect: The nature open space represents more than 80% of the scene.

Globalization: It follows global architecture and structure standards.

5.5.5.2. EDGE

Brasília city center lies in between two main roads, paralleled along the administration zone and slightly diverges into the entertainment area.

Along the administration zone, the edge is a straight road facing the central park, in another way, the composition of public parts, such as the cathedral and the national theater, is not what we can call setback line due to the huge scale of the park.

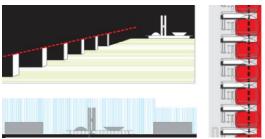


Figure 29 : Study of Brasilia city center edges, by authors.

Skyline: the administration zone has a horizontal static line, which turned to be a feature skyline lately considered an abstract mark for Brasília.

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Profile: The setback line is straight along the administration zone, which has been turned into a distinguished dynamic line for the National Congress building. Rhythm: The repetitive module of the regular rectangular blocks implies a sense of rhythm.

Perception of edge in regard to globalization & nationalism:

National aspect: edge line as straight and flat as site typography, following the modular pattern which reflect order and balance, while sky line has a distinguish dynamic profile as a feature of Brasilia.

Globalization: following the global trend of high rise building, setting a zone of high rise buildings, the national congress building with 100 m height expresses the modernization and globalization image of the city.

5.5.5.3. **NODE**:

The Plaza of the Three Powers: The Brazilian Congress is at the bottom, the seat of the Executive Power is at the top left side, where the president and his closest advisors work, the smaller building at the right of the image is the Supreme Federal Court.

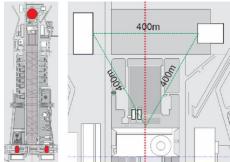


Figure 30: Study of Brasilia city center nodes, by authors.

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-Visually defined as the Three Powers building (National Congress, Supreme Court, and the president office are placed at the equilateral triangle heads, representing the balance between those powers)

-Human and relative scale reinforcing the sense of the power of these three elements

Perception of node in regard to globalization & nationalism:

National aspect: The presence of political system reflects nationalism in the node of Plaza of the Three Powers.

Globalization: The nodes are visually similar to anywhere in the world.

5.5.5.4. LANDMARKS:







Figure 31, Brasilia, (A) National Congress, (B) National Theater, (C) Cathedral

National congress: Horizontal lines parallel the horizon lying down, suggesting calm and quiet and conveying an absence of conflict, a restful peace.

Vertical lines are perpendicular to the horizon, filled with potential energy, conveying a sense of being strong and rigid and suggesting stability; the tallness and formality may give the impression of dignity.

Curved lines are softer than straight lines, graceful, and less definite and predictable than straight lines.

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National theater: Plan with trapezoidal shape has one axis and is symmetrically sloped to the east, giving it orientation with balance perception.

The sequenced arrangement of structure elements in front/back elevation gives rhythm.

Cutting the top of the pyramid form surpasses the expectations.

The blind elevations are treated as monumental murals, as a symbolic sense.

Cathedral: Plan has a circle shape, balance with no orientation.

The form is sloped up to create a neck before reversing the direction, which gives a sense of endlessness.

Skyline, it is defined by the structure elements intertwined with the sky, reflects the connection with heaven.

The blue glass ceiling reinforces the sense of relation with heaven.

The curved structure element is repeated with a sense of rhythm.

Perception of landmarks in regard to globalization & nationalism:

National aspect: National congress reflects the national vision with a lack of affiliation to the place.

National theater inspired from Aztec architecture (Aztec civilization from Latin America), reflecting the national roots and long history.

Cathedral reflects the national beliefs and the role of religion with a lack of affiliation to the place.

Globalization: unique and unprecedented forms makes it as a global icon.

5.5.5.5. DISTRICT:

City center district is considered an open-air museum. The axial urbanism, the iconic monumental building, within a huge scale landscaping, and urban visual art with many valuable works which all give the district attributes that are worthy of the first modern city to be recognized by UNESCO as Cultural Heritage of Humanity.

City center with its monumental structure attracts attention and reflects the image of Brazil. For that, iconic forms were used and did create a modern outlook for the city, nevertheless without respecting the cultural context.

Another important concern is the virtual absence of street corners, which is a noticeable feature of the district; the pedestrian became a nonentity in the new order, which gave an inhuman feel lacking human warmth.

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The Governmental District is comprised of a typical block repeated in a modular system, which gives a sense of order and stability.

Building blocks are aligned with a rhythm.

Human scale: The two components of the district, roads & the iconic and monumental buildings, leave the pedestrian trying to relate the scale.

Perception of district in regard to globalization & nationalism:

National aspect: nil.

Globalization: Wide roads are flanked by massive high-rise structures.

Therefore, the project lacks a local identity and could be anywhere in the world.

5.6. Case Study No. 4: New Administrative Capital (NAC) City Center

Due to the rapid population growth, the government decided to relocate the capital from Cairo to a new capital built from scratch in the desert 45 km east of Cairo, where city center is laid out within confined boundaries and comprises three zones ranging in functions between business and administrative, cultural and innovative, to governmental districts. It is a distinctive sign for its architectural and urban design, providing convenience and comfort.

5.6.1. Design Principles

NAC city center will be built on core principles that achieve harmony with nature to showcase the environmentally sensitive development guided by the following seven principles: being sustainable, green, smart, walkable, livable, connected, and business hub.

5.6.2. **Spatial Relations:**

The unique site is defined by a valley and a unique topography, which is preserved and enhanced, where development districts are concentrated, including central business, government administrative, and cultural districts

The site is bound on three of its sides by high-speed highways. The south border

The Capital Master

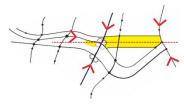


Figure 32: New administration capital (a) map, (b) diagram, by authors.

of NAC city center is defined by a natural valley called the green river that defines the southern edges of NAC city center.

5.6.3. **Urban Planning:**

NAC city center planning combines modernity with locality and moves towards a more advanced and brighter future, so at all stages, smart and sustainable urban principles were adopted to maintain best practices.

Features:

Axial planning: modular pattern within organic planning fabric integrates the "regular within irregular." **Symmetry:** the symmetry principle is respected all over the master plan around the longitude axis.

Rhythm: rhythm is achieved in the governmental district where order and discipline are required, whereas it is missed in the business district and culture zone where spontaneity is preferred.

Human scale: regarding the human scale, it is well considered to give a sense of glory and dignity.



Figure 33: New administration capital, master plan, by authors.

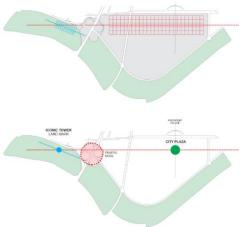


Figure 34: New administration capital, master plan analysis, by authors.

Perception of planning in regard of globalization and nationalism:

National aspect: urban planning reflects the vision of national identity. Globalization: globalization theme is achieved through up-to-date theories and technology.

5.6.4. City Center Elements

The development is expected to accommodate the presidential palace, a new parliament, 34 government ministries, central bank, a financial district, and a number of the biggest and tallest buildings, including the tallest tower in Africa. It is divided into three zones:

- Government administrative zone
- Business district
- Cultural district.

5.6.5. Analyzing Lynth' elements of Brasilia city center:

5.6.5.1. PATH:

The city center scheme includes an effective functional road network. The scheme has taken into consideration the hierarchy of the roads within the city center to increase the accessibility internally and with the surroundings.

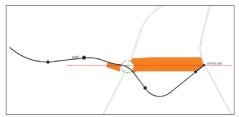


Figure 35: Study of NAC city center' paths, by authors.

An integrated network of pedestrian and bicycle paths will allow people to enjoy the parks.

__FEATURES__

Profile: Vehicle path profile influenced by site typography with curvature profile

Pedestrian path profile is straight and axial

Rhythm: Achieving rhythm with consecutive nodes Visual track: Irregular profile dynamic visual track

Perception of path in regard to globalization & nationalism:

National aspect: Path profile, which is influenced by torrent line, emphasizes localization with its exclusive attributes, also adding nodes with regular rhythm.

Globalization: Paths with all technologies uses reflects the globalization image (material, lighting, traffic light system, surveillance system, etc.) and dynamic visual track is reflected by high-rise buildings and gradient skyline.



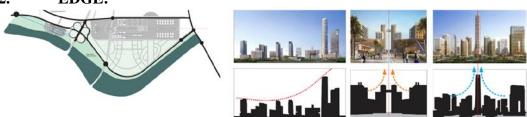


Figure 36&37: Study of NAC city center' Edge, by authors.

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Southern Edge: Along the southern edge, the boundary is a curvedly line aligned with the natural torrent line, which will be enhanced and developed to be the central park.

Northern Edge: Set back line profile is a straight line parallel to the planned avenue.

Rhythm: Governmental district: multiple typical buildings with regular rhythm.

Business district: irregular rhythm, following (unity with variety) principle.

Skyline: Profile in the governmental district, the skyline is an extended horizontally static line consistent with the required and intended theme of balance and stability, whereas it becomes more dynamic, gradually moving up, in the business district corresponding to the urban vitality nature.

Symmetry: It is symmetrical along the visual axis (pedestrian axis).

Perception of edge in regard to globalization & nationalism:

National aspect: National identity values (glory, dignity, and modernism) are achieved by following the design principles, such as symmetry, axial planning, and rhythm.

The presence of the country exists by setting governmental district.

One important factor that is conserving the typography nature with enhancement distinguishes the city and reflects its localization image.

Globalization: Setting a zone of high-rise buildings reflect the globalization with its technology side in modern theme, while the culture and art zone including all type of arts from all over the world represents globalization with common classic theme (renaissance architecture).

5.6.5.3. NODE:

The City Plaza: The City Plaza lies at the heart of the new capital at the center of the governmental zone, one of the main squares for the Egyptian state, which will be the location for the official national celebrations and the organization of military marches.



Figure 38: Study of NAC city center' nodes, by authors.

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Shape: Rectangular shape with two axes, north/south axis extended between the memorial and grand mosque, East/west axis extended between the cabinet and House of Representatives

A landmark lies at the intersection of the two axes.

Principles: Symbolism: The Obelisks landmarksSymbol are inspired by the pharaonic civilization.

Symmetry: The two axes at the sides and the landmark in the center reflect balance and stability

Perception of node in regard to globalization & nationalism:

National aspect: Nationalization is visually perceived through each detail in this area, Glory and dignity as the nation values are expressed by geometry shape and axial arrangement among other design principles; setting the parliament at the opposite of ministry prime council reflects the democracy regime; at the other axis, the mosque with its high minaret laying on the southern hill reflects the Islamic culture, and memorial in the north symbolizes the role of Egyptian military to protect this country.

Global aspect: The presence of globalization is almost nil in this area.

5.6.5.4. LANDMARKS:

Iconic tower: The super tall skyscraper known as the Iconic Tower will be the city's crowning glory; this elegantly proportioned structure will serve as an instant landmark and a focal point for the city, it will stand at 385 m, meaning it will reign as Africa's tallest tower.

Shape: The plan consists of two half-circles facing each other beside the same axis of the business district, so its axis is displayed vertically.

Form: The form is sloped when up, which emphasizes vertical orientation.

Scale: Being 385 m high conveys a sense of strength & stability.



Figure 39: New administration capital, Iconic tower.

Perception of node in regard to globalization & nationalism:

National aspect: Nation vision's value is achieved via form and design principles, while architecture identity still forming its modern image in accordance to guidelines by authorities.

Globalization: The building theme as high-rise building is a global trend and tend to be perceived as a global theme.

5.6.5.5. DISTRICT:







Figure 40: Nac, (A) Governmental District, (B) Business District, (C) Opera House

Governmental district: "a typical cluster," repeated in a modular system that gives order and stability.

Building clusters are oriented to internal court, giving a sense of privacy and enriching the feeling of mystery.

The skyline is almost horizontal, enhancing the sense of peace and stability.

Human scale: 8:10 floor respects the common scale in cities and considers visually comfortable. Architecture features inspired from pharaonic architecture with edifice theme

Business district: Axial planning is based on a modular grid, unlike the governmental zone, they are not repeated as typical blocks but the unity with variation principle is emphasized.

Architecture features using modern theme reflect a global identity.

Dynamic skyline up to 385 m gives a sense of globalization, achieving a distinguished skyline for the new capital.

Human scale within high-rise building creates a sense of glory and strength.

Opera house: The symmetrical composition reflects balance and stability.

The architecture was inspired by the renaissance age with its rich ornamental and aesthetics. Rhythm was achieved via landscape features and pattern.

Human scale in court and facade arcs gives a feeling of glory and greatness.

Perception of district in regard to globalization & nationalism:

National aspect: governmental zone architecture is inspired from pharaonic style which reflects the national identity.

Globalization: business district architecture reflects globalization identity with its modern and highest technology.

Regarding culture area, although the facade design applies classic architecture features, it does not reflect the national identity, as the origin of this architecture was Rome, which spread all over the world, reflecting global identity with legacy.

Discussion

The studied cases illustrated that in a new capital city, the government is the main engine that drives the visual identity based on understanding the national vision and expressing it through the keystone projects that present the city's main core image.

Along the selected timeline, since 1960 till now, a notable development of understanding the localization/globalization concept is observed; it goes through four phases:

Phase One: The dazzle of globalization glints and an attempt to catch up with the globalization theme is made to present a civilized image and create an attraction for the city worldwide. That is typically what happened in the case of Brasilia

Phase Two: The influence of globalization reaches the limit; that is, creating a global city becomes the goal. The case of Dubai represents the ultimate sample of global city, by beating the globalization trend and giving up the traditional legacy.

Phase Three: The importance of local/national identity and the phenomena of commitment to expressing the national identity is realized, as in the case of Qatar.

Phase Four: The concept of achieving balance is reached to develop the national identity within contemporary context, as in case of NAC, which represents the maturity by trying to connect the modern face of globalization with the long legacy.

Dubai:

- The modern national identity of Dubai is based on superiority globally, with little attention paid to spatial belonging or eastern and Islamic roots that shaped the urban identity in this area.
- Dubai city center seeks to express the Vision of Dubai's leadership and adopts a competitive approach to achieve a city of excellence and promote a modern Arab city and vibrant regional gateway to the world.
- Downtown Dubai's pulse is an underlying communal spirit, a sense of togetherness nourished by events, festivals, and celebrations held over the year.
- The project achieved nationalism by coalescing a global icon and through uniqueness and excellence in globalization.

Doha:

- Qatar's National Vision determined the urban planning principles to construct a modern state while conserving culture, heritage, and traditional values.
- The urban Msheireb Downtown, Doha, is based on enhancing the public realm and building a connection between heritage and modernization (contemporary architectural language).

- The project considers the impact of globalization on the urban development and preservation of the national built cultural heritage and identity, which can be noticed among all urban elements in Msheireb.
- Msheireb's urban planning can be defined as having both monumental and human scales at the same time.
- Msheireb project proves that urban identity does not mean blind copying from the past but requires deep investigation of its principles. Identity cannot be a set of styles but should rather be considered as a dynamic process like life itself.
- The project achieves globalism by building an impressive national identity.

Brasilia:

- The project is trying to create and develop a fresh and modern image for the new capital of Brazil, expressing a national vision of glory and dignity.
- The project draws attention to architectural ensembles, monuments, buildings, and sculptures. The works of Niemeyer and the sculpture of Bruno Giorgi, for example, are symbols of the capital, were inspired by Brazilian culture, and reflect national identity.
- The master plan was carefully laid out to avoid intersections and segregate high-speed transit and local traffic. It was built for the automobile. Transit to all places was designed according to vehicular circulation. The project, from an urban view, close to the global theme, does not respect locality or human scale, not to mention the social and cultural dimensions.

New Administrative Capital:

- The city center's context in the new capital translates the "urban relationship" by creating a connection between nationalism and globalization.
- The project utilizes the latest technologies to become an internationally recognized smart city, contributing to identity perception.
- The visual perception of the new capital city center is achieved through a modern Egyptian architectural language that connects national identity with modernity/globalization, considering the natural typography and environment.
- In a struggle to emerge and compete globally while maintaining the image of national identity, the current urban patterns are used to portray a change in design principle strategy of a perceived modernity.

Conclusion

Studies and analysis of the studied cases show the following:

- Visual perception of the city center is an intricate system with urbanism seeking coherence and coordination between several elements to achieve the intended visual identity.
- In visual perception science, planning is consistently identified as a political driver.
- The new capital city center represents a rare opportunity to envision and develop the national visual identity from a blank slate.
- The urban planning of the city center plays an important role in visual perception and architecture identity, emerging from both design principles and spontaneous circumstances.
- Studies used design principles and analyzed the impact of their visual perception.

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- Understanding the concept of globalization was attempted since the second half of the 20th century, reflecting the vision regarding globalization and nationalism.

Recommendations

Thus, this thesis recommended a set of guiding principles derived from the research.

Governmental aspects:

Setting a clear vision about national identity is very important with a good understanding of the issue of globalization invasion that will help present the required acts, such as enactment of laws, constructing keystone projects, and setting guidelines for developers and architects.

Architecture and urban aspect:

A successful design that achieves the national vision comes from using the right design principles; therefore, the designer must understand design elements, principles of psychology, and perception theories.

Social aspect:

The awareness of the community of the national vision is crucial, which may help being on the same wavelength and orient crowd activity towards supporting this vision.

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