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GOOD ARCHITECTURAL DESIGN AS A CATALYST FOR IMPROVING THE QUALITY OF LIFE IN CITIES

Raghad Ahmed Fadhil[1]✉, Samar K. Hinthel[2]✉

[1] ORCID: 0000-0003-4723-5643
[2] ORCID: 0000-0002-9209-4504
[1] Mustansiriyah University
Palastine Street, P.O. Box: 14022, Baghdad, **Iraq**
[2] Al-Nahrain University
Al Jadriya, 10072, Baghdad, **Iraq**

ABSTRACT

The growth of cities has led to multiple transformations that have changed the urban fabric; for this reason, many locations in urban areas remain neglected. The present study was undertaken to search for solutions that would minimize adverse changes in the urban fabric, buildings, and urban spaces. The aim of the study was to present examples of good architectural design that can be considered catalysts that improve the quality of life in cities. Architectural design contributes to urban development not only at the level of individual buildings, but also at the level of the overall quality of urban life. The research methodology involved developing a theoretical framework for the research topic, and applying selected indicators to analyse several international examples and investigate the strategies deployed in various countries around the world. The study demonstrated that good architectural design must be inspired by a city's history, and that the urban context should be considered in order to integrate new urban development with the surrounding environment through catalytic mechanisms and their indicators. Sustainability, health, education, safety, psychology, material sourcing, and building materials are the most important quality of life (QoL) factors for developing a good architectural project.

Keywords: city, quality of life, local environments, catalytic mechanisms, urban catalyst, good design

INTRODUCTION

In recent years, the world has witnessed multiple transformations that have impacted our everyday lives. Such as urbanization, industrialization, and globalization. These changes have affected the ecosystem, human settlements, environment, public health, and economy. Which has led societies to act as governments or as individuals to provide any kind of solutions, to improve the quality of life (Muhammed & Abubakar, 2019). One of the solutions is the urban catalyst as a sort of improving quality of life.

The concept of improving the quality of life in cities is critical, as the growing population due to the rapid growth and urbanization processes, is changing the physical characteristics of cities to accommodate the new residents. That is, where the relationship between the built environment and the quality of life

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

in cities can occur as a catalytic role in shaping current and future urban development). Improving the quality of life in cities is a very important issue in design and urban planning and the rise of population (rapid population growth) and urbanization processes, makes urban quality of life relevant to more and more people (Mouratidis, 2021). The concept of quality of life illustrates the interrelationships that enable us to describe, understand and measure, The complexity of the social and economic reality and the improvement of the quality of life is the driving force in human activity (Cloutier et al., 2018). In the modern era, the cultural and environmental contexts were neglected to accomplish an ideal way of living, with the use of modern technology, therefore contemporary architecture is returning to the real way of living to accommodate society's needs and comfort (Boschi & Pagliughi, 2002). In his book, Ballas, deals with the concept of quality of life at the ecological level, the concept's relationship with happiness, and its connection to public policy (Ballas, 2013). Though these needs are sometimes against sustainability principles (Yusoff, 2020).

Catalyst mechanisms are widely discussed in urban and architectural studies, due to their important role in the city, as the current study will show in the literature review. However, these mechanisms are neither studied comprehensively nor according to their relation to the concept of quality of life. This leads to the current study that aims to shed light on the integrative relationship between catalytic mechanisms and quality of life in the city and the role of architectural design in achieving that. By showing a number of previous studies, and summarize the definitions and indicators of catalyst and quality of life concepts. Followed by an analysis of a group of international catalytic projects and extracting their used mechanisms. Cities, in all their details, are an environment of possibilities, creativity and invention through the new designs that are implemented within their framework (the role of architects) is to learn from the capabilities and basic mechanisms of those cities and catalyst its potential and looks for opportunities in the current circumstances (Eisenschmidt, 2012) the catalytic mechanisms in cities improve the quality of life and make it more creative, balanced and sustainable.

Research Methodology

1. Reviewing a number of studies on the concept of the quality of life and urban catalyst.
2. Clarifying the relationship between urban catalyst mechanisms and their role in improving the quality of life by Reviewing international examples of architectural catalysts projects in order to extract their approved mechanisms as good architectural designs.

Literature Review

The research aims to clarify some of the studies that are related to the concept of catalytic mechanisms, in the scale of the city in general (Attoe & Logan, 1988) have dealt with the importance of this concept in designing cities, as a part of urban rehabilitation of the existing and adding new elements to improve the context across the aesthetic, economic, and morphological aspects, by producing three strategies for transforming a building or group of buildings into a catalyst for urban development, which are (Attoe & Logan, 1989):

1. Reviving the inherent values of rehabilitation and employment.
2. Involvement within a unified urban structure.
3. Reorganization by adding new elements and links between buildings.

At the level of the ccenterntre, both (Sideroff, 2003) and (Bohannon, 2004) have focused on thealyst projects to revive the urban centcenterscities. Especially in the cities that possess distinctive and unique elements at the civilized and cultural level that distinguishes them from others, by producing three strategies (Bohannon, 2004; Sideroff, 2003):

1. Reviving a specific historical building;
2. Establishing a new building compatible with the context and local needs;
3. Rehabilitate the urban scene of the streets and the new buildings.

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

While Mai et al. (2014) have suggested reviving the economy of the city by transforming its activityintoo tourism, either in the cicenterre, or in its important district, despite the negative effect on its environmental and social life (Mai et al., 2014). However, Maria Cerreta mentioned the concept of green urban catalyst which can be achieved by applying the principles of sustainability at its various levels and creating relationships between its environmental, technical, economic, and financial parts, institutional, cultural and civic aspects, as well as taking into account the context to achieve a catalyst for positive urban values. The dissemination of the principles of sustainability in design is the dissemination and illustration of a set of experiences that can be defined as the "green urban catalyst", as it catalyst "green" urban development,

Table 1. The Extracted Indicators of catalyst mechanisms from Literature Review

No.	Previous Literatures	Catalyst Mechanisms	Catalyst Levels	Catalyst Strategies	Indicators
1.	Attoe & Logan, 1988	Catalysts in the design of cities	The aesthetic, economic, and morphvological	Reviving Inherent Values Unified urban structure Reorganization with new elements and links between buildings	Rebuilding the elements of the new and existing urban environment Creates urban formation and context
2.	Sideroff, 2003	Revitalization through catalyst projects	The reviving urban centres of cities	Creation of multiple forms of changes	Reviving a specific building. Establishing a new building with local context Rehabilitate the urban scene
3.	Bohannon, 2004	Civilization and culture catalyst	City's own cultural elements	Cultural elements improvement	Role in urban reviving Characteristic elements of cities Urban signs Distinctive urban areas
4.	Mai et al., 2014	Revitalization through catalyst projects	The reviving urban centres of cities	Tourism as a new function	Improve city's economy Improve the city's image
5.	Grodach, 2008	Adding cultural project	Cultural node	Flagship Cultural Strategy	Act as a catalyst for economic development. Symbiosis between the project and its surroundings Accessibility Revitalization of the city by tourism
6.	Kristo & Dhiamandi, 2016	Adding architectural projects	Public space	Pilot model Strategy	Location Architecture Program Aesthetic Effects Architectural Narratives
7.	Abdel-Ghani, 2017	Adding cultural project	Cultural node	Creative city strategy	Open cinema in public spaces Street Graffiti art
8.	Balvociene & Zaleckis, 2021	Place-making	Movement between multiple cultural nodes	Function Meaning Attraction	Using the surroundings Re-imagine and understand the identity of place Stimulate finding another such place in the city

Source: own preparation based on Authors (2022).

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

influencing the integration strategy of project and context (Cerreta & Salzano, 2009).

Other studies have mentioned (adding activity to improve the city) as an architectural catalyst, where Grodach (2008), Kristo and Dhiamandi (2016), and Abdel-Ghani (2017) note a cultural project's ability to improve the city's image and act as a catalyst for economic development. As it could be an important node, a pilot model strategy, or a flagship cultural strategy (Abdel-Ghani, 2017; Kristo & Dhiamandi, 2016). One example is the Guggenheim Museum Bilbao, which promises to be an instant catalyst for the revitalization of the city. Besides considering the integration of the added project with the urban context, such as in the examples of the Museum of Contemporary Art in Los Angeles and the San Jose Museum of Art in San Jose, California (Grodach, 2008). The mentioned studies are summarized to extract the indicators of catalyst mechanisms in Table 1.

URBAN CATALYST. THE CONCEPT AND THE MECHANISMS

The term "catalyst" is derived from the field of chemistry, according to the Oxford English Dictionary, the concept refers to: a substance that may be present in small quantities but acts to increase the reactivity of a chemical process but has not changed chemically; If it slows down the reaction, it is called a negative catalyst. The concept of urban catalytic has appeared in the eighties of the last century, and it was linked to the positive effects caused by individual buildings on the urban level, and it has expanded later to be within the context of urban design and cities.

The process of achieving positive changes requires focusing on the catalytic project in itself, as it is an attractive element within its urban environment and the creation of secondary uses that enhance development and the identity of the project. In addition to focusing on the surrounding context from several sides, including: morphology, perceptual, social, visual, temporal and place authenticity factors to be part of the surrounding environment (Bohannon, 2004). And in urban renewal, architectural projects are considered as urban catalyst and alternative process for cities to provide solutions and better tools that adapt to their surroundings (Kristo & Dhiamandi, 2016; Oswalt et al., 2004).

The study of (Balvočienė & Zaleckis, 2021) has focused on adding multiple cultural nodes as catalysts to make the city more vital, vibrant, sustainable, and creative (Balvočienė & Zaleckis, 2021). While Attoe and Logan (1988) have dealt with the importance catalyst characterized as follows:

1. The surrounding environment and its elements are affected by a new element (the catalyst).
2. Strengthening the urban elements or transforming them in positive ways without erasing the old elements or reducing their value.
3. Understanding the context and integrating with it without harming it is a positive motivator.
4. Not all catalytic reactions are the same.
5. Motivational design strategy.

A 6. product consisting of a group of components is the target of a catalytic reaction.

7. The catalyst is not consumed but remains renewable.

Whereas (Norton, 2009) has argued that Urban catalyst influence and change according to contexts, and catalyst projects. Whether in a single building or at the city level, these projects should be characterized by flexibility, attractiveness and ease of movement and transportation (Francin, 2015). Among the catalysts that support development: stadiums, museums, office buildings and other facilities. Urban designers and planners should design catalysts to create direct links between the catalyst and the commercial area it will serve to improve life in those areas and achieve a balance (Sternberg, 2002).

In addition to the mentioned above, community organizations, urban designers Planners and decision makers (government, developers). Attempts to implement urban interventions to achieve a broader vision, these interventions create new societal images and solve all their problems. This is done based on the values of those societies. As well as the participation of local people in shaping their city. Temporary urban interventions adopt and enhance community action

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

to bring about broad and long-term changes (Hinthel et al., 2020).

So, the catalyst mechanisms Re-imagining and understanding the identity of the place, improving the quality of life and making those areas (building or city), and make it more creative and balanced.

QUALITY OF LIFE

Quality concept is defined as the excellence, while Quality of life (QOL) is defined by the World Health Organization (WHO) as the perception of individual's life, culture, and value, that determines his standards and goals. It is related to multiple aspects such as: health, safety, identity, and well-being, etc. (Wikipedia, 2022). Quality of life is defined as the ability to improve the standards of living and satisfaction with life (Muhammed & Abubakar, 2019). The quality-of-life concept is not a new concept as it returns to Aristotle's' writings where it is defined as the good life, or living well. And it is related to the satisfaction of life due to good health, comfort, and clean environment (Serag El Din et al., 2013). As the concept is multi-dimensional and related to multiple aspects such as health, psychology, urban planning, urban design, and architectural design.

Architects have been interested in achieving the best quality of life since the work of Vitruvius and Palladio, as they aimed to accomplish the famous three principles (Convenience, Durability, and Beauty), where convenience deals with location, building's relation to the surroundings, ventilation, thermal comfort, and social well-being (Boschi & Pagliughi, 2002). However other architects consider these characteristics as essentials for the good design, besides being able to make positive contribution to the neighborhood and the city as well (Moore et al., 2015).

Quality of life has been studied in the city's scale as a whole, as in the studies of (Friant, 2020; Khalil, 2012; Mouratidis, 2021; Nour, 2018; Romice et al., 2017; Serag El Din et al., 2013) that have produced multiple strategies to improve the quality of life in the level of metropolitan city, neighbourhood, and pedestrian level (Friant, 2020; Khalil, 2012; Mouratidis, 2021; Nour, 2018; Romice et al., 2017; Serag El Din et al., 2013).

While other studies have related quality of life concept with the principles of sustainable development or sustainability, either on neighbourhood level or individual building level (Ayoobi, 2021; Yusoff, 2020).

However, others have been specific in the level of the individual building's good design either in the scale of the whole building and its relation to the urban context (Moore et al., 2015), or in the specific design of architectural spaces and their environmental quality (Boschi & Pagliughi, 2002; Majerska-Palubicka & Cibis, 2019). As shown in Table 2.

The current study is concerned in the role of good architectural design as a catalyst mechanism that improves the quality of life in the levels of city in general. So it suggests four catalyst mechanisms as urbanely which are: City's Catalyst, City Center's Catalyst, Civilization and Culture Catalyst, and Place making Catalyst. Besides the mechanism of Adding Architectural Project, that will be studied specifically. As shown in Table 3.

The current study aims to show the capability of an individual good architectural design as a catalyst project in improving the quality of life of the city and this is going to be produced by applying the extracted indicators of (Table 3) on the selected case study.

Case Study: International Examples

The research will show a number of international examples as catalyst projects in order to extract their adopted mechanisms and strategies as follows:

Busan Cinema Centre in South Korea

This project is an open public space where architecture, entertainment, technology, culture, and public spaces come together to form an urban valley. The project houses several functions: theaters, cinema, conference center, offices, studios, restaurants, etc. The design connects open and closed spaces, It counts as an urban catalyst for cultural transformation and

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

Table 2. The Extracted Indicators of catalyst mechanisms from Literature Review

No.	Previous Literatures	Quality of life level	Quality of life strategy	Indicators
1.	Serag El Din et al., 2013	Urban quality of life	Sustainability factors	Environmental dimension Physical dimension Mobility Social dimension Psychological dimension Economic dimension Political Dimension
2.	Friant, 2020			
3.	Khalil, 2012	Theories of urban design	New urbanism Smart growth Sustainable urbanism	
4.	Nour, 2018	Urban design	Metropolitan scale Neighbourhood scale Pedestrian scale	Material well-being Emotional and personal development Interpersonal relationships Physical well being
5.	Romice et al., 2017			
6.	Mouratidis, 2021			
7.	Yusoff, 2020	Sustainable development	Human needs Sustainable environment	Biological Needs Cultural Needs
8.	Ayoobi, 2021	Sustainable urban design	Sustainability factors	Land use Transportation Resources Health Well-being Safety Culture Education Comfort Accessibility
9.	Moore et al., 2015	Architectural design	Good design Design regulations Design review panels Design guidelines	Considering the character of context The interface between building and street Environmental performance Building's orientation flexibility and adaptability makes positive contribution to the context and to people health
10.	Boschi & Pagliughi, 2002	Architectural spaces	Durability Convenience Beauty	Maintainable Indoor Air Quality (AI) Pleasant air quality Support of social needs and productivity Human needs Human comfort Distinguished aesthetic qualities Relationship to context (site)
11.	Majerska-Palubicka & Cibis, 2019	Architectural spaces	Sustainable design Eco-tech design	Microclimate quality

Source: own preparation based on Authors (2022).

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

Table 3. Catalyst mechanisms integration with quality of life

Catalyst mechanisms	Levels		Strategies	
	Catalyst	Qol	Catalyst	Quality of life
City's catalyst	Aesthetic, economic, and morphological	Urban + sustainable development	Reviving inherent values Unified urban structure Reorganization with new elements and links between buildings	Sustainability factors New urbanism Smart growth Sustainable urbanism Metropolitan scale Neighbourhood scale Pedestrian scale
City centre's catalyst	Reviving urban centres of cities		Creation of multiple forms of changes Tourism as a new function	
Civilization and culture catalyst	City's own cultural elements		Cultural elements improvement	
Place-making catalyst	Movement between multiple cultural nodes		Function Meaning Attraction	
Adding architectural project catalyst	Cultural node Public space	Architectural design Architectural spaces	Flagship cultural strategy Pilot model strategy Creative city strategy	Good design Design regulations Design review panels Design guidelines Durability Convenience Beauty Sustainable design eco-tech design

Source: own preparation based on Authors (2022).

exchange "open architecture that becomes a catalyst for city culture" (Chousein, 2015). The project proposes a new intersection between public space, architecture, technology and cultural programs to achieve lively and vibrant landmarks that are considered a cultural icon within its urban surroundings. This intersection guarantees four overlapping areas: Urban Canal, Red Carpet District, Walk of Fame and BIFF Canal Park.

Project areas include Mountain Cinema, BIFF Hill, Concourse Double Cone and BOWL amphitheater. The roof and its elements are designed as a virtual sky that connects elements and areas in a continuous and multifunctional public urban space where media, technology, entertainment and leisure are integrated into an open architecture of mutable and custom-designed event experiences to result in a space that changes and responds to flows as a transforming cultural urban catalyst (Prix, 2012).

The basic concept of project was the overlapping of open and closed spaces and of public and private areas. While the movie theatres are located in a mountain-like building, the centre's public space is shared between an outdoor cinema and a huge public space (Jabakhanji et al., 2020).

Glasgow Riverside Museum of Transport in Scotland

The project is designed to create a dynamic relationship between the industrial district and the river (Glasgow River), the building is an urban catalyst being part of a broader development strategy in the city and a fine example of cultural development in a post-industrial city. This project also created an event in the urban context of the city (Chousein, 2015). The project included: 1) Building a project design that achieves access and more attention to interior design, presentation and organization; 2) Achieving a historical connection to the city; 3) That the project is a new iconic building.

The design of the project included several spaces around the building's curves that included green hills, symbolic sprinklers of children and silver birch trees embedded in a simple paving treatment. The project's gestures can be seen from the aesthetic of the project's exterior shell and the spontaneous landscaping common in the post-industrial Clyde Corridor. It establishes an important place on the river – even if it is separated from everything else.

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

Table 4. Applying The Extracted Indicators on Case Study

Adding Architectural Project Catalyst Strategies	Catalyst indicators	Case Study				Urban Catalyst Mechanism	Catalyst indicators	Case Study				QoL Indicators	Case Study			
		1	2	3	4			1	2	3	4		1	2	3	4
												Environmental dimension		✓	✓	✓
	Improve city's image		✓	✓	✓		Reviving Inherent Values	✓								
												Physical dimension	✓	✓	✓	✓
	Act as a catalyst for economic development	✓	✓	✓	✓	City's catalyst	Unified urban structure			✓	✓	Social dimension	✓			✓
	Symbiosis between the project and its surroundings	✓	✓	✓	✓		Reorganization with new elements	✓			✓	Psychological dimension	✓			✓
Flagship Cultural Strategy												Economic dimension	✓	✓	✓	✓
	Accessibility	✓		✓	✓		Links between buildings.				✓	Political Dimension	✓	✓	✓	✓
												Material well-being				
	Revitalization of the city by tourism	✓	✓	✓	✓	City centre's catalyst	Creation of multiple forms of changes	✓	✓	✓	✓	Emotional and personal development	✓			✓
												Interpersonal relationships	✓			✓
							Tourism as a new function	✓	✓	✓	✓	Biological Needs			✓	✓
	Location		✓		✓							Cultural Needs	✓	✓	✓	✓
	Architecture Program	✓	✓	✓	✓							Land use	✓	✓	✓	✓
Pilot model Strategy	Aesthetic Effects	✓	✓	✓		Civilization and culture catalyst	Cultural elements improvement	This mechanism does not contain adding new architectural project				Transportation	✓	✓		
												Resources				
	Architectural Narratives			✓								Health			✓	✓
												Comfort			✓	✓
	Open cinema in public spaces				✓	Place-making catalyst	Function	✓	✓	✓	✓	Safety			✓	✓
Creative city strategy							Meaning		✓	✓		Education		✓	✓	✓
	Street Graffiti art.						Attraction	✓	✓	✓	✓	Accessibility	✓		✓	✓

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✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

The building connects two streams, so it is a liquid and liquid design – a third mineral river (Murphy, 2011).

Euralille Youth Centre In France

The Euralille Center design goal is an "urban catalyst". It accommodates three stages (represented in the form of a triangle), as the design sets a special program at each point of the triangle that ensures privacy and continuity as well as revitalizing the neighboring places and achieving harmony with the urban context of the city. It's designed for all ages (stages of human development) and based on the history of Lille, as Lille is a European center for business, conference, study and living as well as tourism, as it is a medieval heritage city (Chousein, 2015).

Site selection and landscape design is the main goal of sustainable design, and effective land use is a prerequisite for good landscape design (2015, WBDG Sustainable Committee). In accordance with the principles of sustainability, the project included: Landscaping green spaces such as roofs, terraces and gardens. It takes into account the characteristics of the local ecosystem (Federal Ministry of Environment, Natural Resources, Buildings and Nuclear Safety, 2016).

The objective of this example is to create an atmosphere that enhances the lives of (children, and youth) positively influences their behavior through the design and purpose of the project within the city (Chinedu & Daminabo, 2022).

Mount Barker Centre in Australia

A catalyst project to achieve the goals sought within both the Council's 2012 Town Centre Strategy and the principles of their competitive Expression of Interest.

This project is expected to provide a true once in a generation opportunity to develop a placemaking and city-shaping project that elevates and transforms the Mount Barker City Centre, complementing and linking to the well-established activity bases in the center.

Activity day or night, throughout all Four Seasons. A new destination for locals, and a regional tourism attraction. Safe and comfortable streetscapes, promoting community gathering through interactive art and integrating areas for activity and engagement.

This project present its innovative and thoughtful masterplan and vision for the whole site. This significant "catalyst project" aims to set a new benchmark for the activation and public enjoyment of the public realm and the planned development of prime retail and commercial, health and residential land uses driving citywide economic activity and employment (Burke, 2022; Mount Barker, 2022) .

After describing the case study, the research will apply the extracted framework indicators on them, as shown in Table 4.

Results

After applying the extracted indicators in Table (4) on the selected case study, the results were as follows:

1. In the strategies of adding architectural project catalyst, all of the selected projects (case study) follow the flagship cultural strategy. And could be considered as pilot model strategies as well.
2. In the urban catalyst mechanisms, all of the selected projects (case study) follow the city center's catalyst and follows with fewer indicators both of city's and place-making catalysts.
3. In the quality of life (QoL) indicators, both the third (Euralille Youth Center) and the fourth (Mount Barker Center) case studies follow 16 of 19 indicators. The first case study (Busan Cinema Center) follows 11 of 19 indicators. While the second case study (Glasgow Riverside Museum) followed 8 of 19 indicators.

Discussion

1. Good Architectural Design Available in all catalyst projects related to improving the quality of life.
2. Improving the quality-of-life is available across all catalytic projects at the city level (eg. the Attoe & Logan study, 1988) or at the single building level (eg most of the literature review we describe).

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

3. All catalyst projects achieved an improvement in the quality of life, both at the city level and the individual building.
4. Civilization and culture catalyst achieve: aesthetic and economic goals and achieve sustainable urban development at the level of the city, urban space and the level of the individual building. As well as achieving each of: Function, Meaning, Attraction.
5. The flagship cultural strategy contains a number of indicators that were found in all of the case study projects, such as improving the city's image because most of them are considered icons in the city. And acting as economic and tourism catalysts, besides the symbiosis of these projects with their surroundings. These indicators were also referred to in each of the studies: Bohannon (2004), Grodach (2008), and Abdel-Ghani (2017).
6. From the indicators of the pilot model strategy, the second and the fourth case studies were concerned mostly with selecting the location (eg. Kristo & Dhiamandi study, 2016). While all of them emphasized the architectural program to be multi-function projects. Besides the aesthetic effects that could be found in the LED roof of Busan Cinema Center, the fluid form of Glasgow Museum, and the colored façades of Euralille center, with no mention of this feature in Mount Barker Center. However, the Euralille center is the only project that has architectural narratives due to its city's history as a medieval city.
7. From the indicators of the creative city strategy, the only case study that follows the open cinema indicator was Mount Barker Center due to the existence of urban open space within the project, which gave it the capability to be used by the community creatively ,also we can see this indicators in (Abdel-Ghani study, 2020). Despite the existence of urban spaces in both of Busan Center and Euralille Center, they were not public.
8. City center's catalyst has two indicators that were followed by all of the case studies, the first indicator is about the creation of multiple forms of change, which is the act of most of the newly added architectural projects, while the other is tourism as a new function, that could be noticed as a goal, especially in The catalytical projects, it was also covered in a study of (Mai et al., 2014).
9. The indicators of the city's catalyst mechanism were found in some of the projects. As the revival of inherent values, the indicator was found in the Busan center because of its structural concept to revive (cupola) from the structural values of Renaissance and Baroque from one side and reviving the modern roof from the works of Oscar Niemeyer and Le Corbusier on the other side. This indicator was found also in Eurolille Youth Center due to the concept of reviving the history of its medieval city. While the unified urban structure indicator was found in two of the case studies. As well as the indicator of reorganization with new elements. And barker center was the only project which links between buildings.
10. In the place-making catalyst mechanism, all of the projects follow the indicators of function and attraction. Because of their multi-functional architectural program and their attractive design either in the form or in the suggested uses respectively (this is also presented in the Balvočienė & Zaleckis study, 2021). However, meaning indicator was found in the concepts of Glasgow Museum and Euralille Center only.
11. The selected case studies followed most of the (QoL) indicators, all of them were found in the physical, economic, cultural, political, and land use indicators due to their importance in adding a new architectural project in the city. While the indicators of resources and material well-being indicators were the least important to the projects.
12. The best case study according to the availability of (QoL) indicators was Euralille Youth Center because of its design concept that is concerned with all of the sustainability aspects besides the city's history and integration with context. The other project was Mount Barker Center which follows the same indicators with an emphasis on community participation. Both of these projects contain an open space within the design of the architectural project.

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

13. The nearest case study was Busan Cinema Center, but its design did not pay attention to health, comfort, safety, and education indicators.
14. The last case study was Glasgow Museum, despite its creative design concept but it fails to connect with the city as it connects to the river, besides the lack of important (QoL) indicators such as the psychological, social, biological, health, and comfort indicators. However, this project emphasized new transportation methods more than other projects.

CONCLUSIONS

1. The mechanisms of catalytic intervention contribute to improving the quality of life and achieving good architectural design in interactive ways that serve the community, and achieving the level of sustainable development at the level of the city and architectural buildings.
2. Achievement of cultural projects and events (whether in the Place-making or the Reviving Inherent Values environments) improve the quality of life.
3. Catalyst mechanisms are related to the values of their local environments and include meaning, function and Attractiveness, aesthetic purposes, and economic growth in these environments.
4. Flagship Cultural and Pilot Model Strategies are more successful than Creative City Strategy in producing good catalytical architectural projects because they were either planned or suggested and won by compositions. While the projects of creative city strategy are spontaneous.
5. Tourism is an important aim to produce a good architectural project and to develop the city economically and culturally as well.
6. Good architectural design should inspire from city's history and respect the urban context, besides having an urban space within the design in order to achieve integration and reorganizing the new parts with the existing surroundings.
7. Place-making is achieved when the architectural project takes into consideration each city's architectural narratives to give meaning and attraction to the functions.
8. Sustainability, health, education, safety, psychology, sources, building materials, and community participation are the most important (QoL) factors to design a good architectural project.

REFERENCES

Abdel-Ghani, T. (2017). *Cinema as an Urban Catalyst for Creative Cities: The Case of Post-Revolution Cairo*. Paper presented at V International Congress Creative Cities. Madrid, Spain. https://dialnet.unirioja.es/servlet/articulo?codigo=6311799

Attoe, W., & Logan, D. (1989). *American urban architecture – Catalysts in the Design of Cities*. University of California Press. http://ark.cdlib.org/ark:/13030/ft5k4006v5/

Ayoobi, A. W. (2021). Relationship between the Indicators of Sustainable Urban Design and Quality of Life. *The 9th World Sustainability Forum_Virtual_ Switzerland*, *September*. https://doi.org/10.13140/RG.2.2.18807.55200/1

Ballas, D. (2013). What makes a 'happy city'? *Cities*, *32*, S39–S50. https://doi.org/10.1016/j.cities.2013.04.009

Balvočienė, V., & Zaleckis, K. (2021). Cultural Urban Catalysts as Meaning of the City. *Architecture and Urban Planning*, *17*(1), 16–28. https://doi.org/10.2478/aup-2021-0002

Bohannon, C. L. (2004). *The Urban Catalyst Concept*. University Libraries, Virginia Polytechnic Institute and State University.

Boschi, N., & Pagliughi, L. M. (2002). Quality of Life: Meditations on People and Architecture. *Indoor Air 2002*, 953–958.

Burke Urban (2022). *Mount Barker Catalyst Project – future announcement*. https://burkeurban.com.au/project/catalystcommunity/

Cerreta, M., & Salzano, I. (2009). 207 "Green Urban Catalyst": An Ex Post Evaluation of Sustainability Practices. *Proceedings REAL CORP 2009*. https://scholar.archive.org/work/onjncb6a5zc2velhpotu2au2oe

Chinedu, N. F., & Daminabo, F. (2022). An Analysis of Metropolitan Youth Center Services. *A Review of the Euralille Youth Centre*, *10*(4), 2217–2228. https://www.globalscientificjournal.com/researchpaper/

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

Metropolitan_Youth_Center_Services_A_Review_of_the_Euralille_Youth_Centre.pdf

Chousein, B. C. (2015). *Is urban catalyst theory legitimating "power" in architecture?* Designboom. Architecture & Design Magazine. https://www.designboom.com/architecture/berrin-chatzi-chousein-urban-catalyst-theory-power-contemporary-architecture-04-02-2015/

Cloutier, S., Berejnoi, E., Russell, S., Morrison, B. A., & Ross, A. (2018). Toward a holistic sustainable and happy neighborhood development assessment tool: A critical review of relevant literature. *Ecological Indicators*, *89*, 139–149. https://doi.org/https://doi.org/10.1016/j.ecolind.2018.01.055

Eisenschmidt, A. (2012). *City Catalyst: Architecture in the Age of Extreme Urbanisation*. Wiley.

Francin, K.-I. (2015). *Urban Catalyst* [Unpublished master thesis]. McGill University. https://escholarship.mcgill.ca/downloads/s4655g888

Friant, M. C. (2020). Multidimensional perspectives to improve quality of life. In J.-C. Dissart, & N. Seigneuret (Eds.), *Local Resources, Territorial Development and Well-being*. Edward Elgar Publishing, Cheltenham Glos. https://www.e-elgar.com/shop/gbp/local-resources-territorial-development-and-well-being-9781789908602.html

Grodach, C. (2008). Museums as urban catalysts: The role of urban design in flagship cultural development. *Journal of Urban Design*, *13*(2), 195–212. https://doi.org/10.1080/13574800801965742

Hinthel, S. K., Hussein, S. H., & Aldabbagh, J. A. (2020). The impact of the public good for the tactical urbanism practices on the contemporary urban scene. *IOP Conference Series: Materials Science and Engineering*, *870*(1). https://doi.org/10.1088/1757-899X/870/1/012008

Jabakhanji, D., Fekry, M., & Azab, N. Y. (2020). DI-cineplex: Entertainment and cinema complex. *Journal of Critical Reviews*, *7*(8), 196–199. https://doi.org/10.31838/jcr.07.08.40

Khalil, H. A. E. E. (2012). Enhancing quality of life through strategic urban planning. *Sustainable Cities and Society*, *5*(1), 77–86. https://doi.org/10.1016/j.scs.2012.06.002

Kristo, S., & Dhiamandi, J. (2016). Urban Catalyst as the tool for public space transformation. *1st International Scientific Conference on Professional Sciences*, *November 2016*. https://oiirj.org/oiirj/blog/2016/11/

Mai, N. T. T., Rahtz, D. R., & Shultz, C. J. (2014). Tourism as Catalyst for Quality of Life in Transitioning Subsistence Marketplaces: Perspectives from Ha Long, Vietnam. *Journal of Macromarketing*, *34*(1), 28–44. https://doi.org/10.1177/0276146713507281

Majerska-Palubicka, B., & Cibis, J. (2019). Microclimate in Buildings and the Quality of Life in the Context of Architectural Design. *IOP Conference Series: Materials Science and Engineering*, *471*(9), 1–8. https://doi.org/10.1088/1757-899X/471/9/092013

Moore, T., Alves, T., Horne, R., & Martel, A. (2015). Improving Design Outcomes in the Built Environment through Design Review Panels and Design Guidelines. *State of Australian Cities Conference, Gold Coast, Australia*. https://apo.org.au/node/63346

Mouratidis, K. (2021). Urban planning and quality of life: A review of pathways linking the built environment to subjective well-being. *Cities*, *115*(February), 103229. https://doi.org/10.1016/j.cities.2021.103229

Mount Barker. (2022). *City Centre Project*. https://www.mountbarker.sa.gov.au/infrastructure/major-projects/city-centre-project

Muhammed, Z., & Abubakar, I. R. (2019). Improving the Quality of Life of Urban Communities in Developing Countries. *Encyclopedia of the UN Sustainable Development Goals*, 1–14. https://doi.org/10.1007/978-3-319-71062-4_25-1

Murphy, D. (2011). *Riverside Museum by Zaha Hadid Architects, Glasgow, UK* – Architectural Review. https://www.architectural-review.com/today/riverside-museum-by-zaha-hadid-architects-glasgow-uk

Norton, J. (2009). *Hamilton Creative Catalyst Project Feasibility Study* [Unpublished study]. City of Hamilton. Ontario. https://www2.hamilton.ca/nr/rdonlyres/7823bed2-9ac5-4d55-a6ff-ed582135fb51/0/jan19ped08280a.pdf

Nour, W. (2018). Principles of Urban Quality of Life. *BAU Journal – Health and Welbeing*, *1*(3), 17. https://doi.org/10.54729/2789-8288.1069

Oswalt, P., Overmeyer, K., & Misselwitz, P. (2004). *Urban Catalyst – Strategies for Temporary Use* [Unpublished results of the european research project]. Studio Urban Catalyst. Berlin. http://www.urbancatalyst.net/downloads/2013_UC_Extract_eng.pdf

Prix, W. D. (2012). *Busan Cinema Center. Coop Himmelb(l)au*. Archilovers. https://www.archilovers.com/projects/45057/busan-cinema-center.html#info

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq

Romice, O., Thwaites, K., Porta, S., Greaves, M., Barbour, G., & Pasino, P. (2017). Urban Design and Quality of Life. In O. N. G. Fleury-Bahi, & E. Pol (Eds.), *Handbook of environmental psychology and quality of life research* (Issue December, pp. 241–273). Springer International Publishing/Springer Nature. https://doi.org/10.1007/978-3-319-31416-7_14

Serag El Din, H., Shalaby, A., Farouh, H. E., & Elariane, S. A. (2013). Principles of urban quality of life for a neighborhood. *HBRC Journal*, *9*(1), 86–92. https://doi.org/10.1016/j.hbrcj.2013.02.007

Sideroff, D. A. (2003). *Neighborhood Revitalization through Catalyst Projects: Capacity Building and Urban Design in the West Philadelphia Landscape Project and the Bronx River Project* [Unpublished master thesis]. Massachusetts Institute of Technology. https://dspace.mit.edu/handle/1721.1/70369

Sternberg, E. (2002). What makes buildings catalytic? How cultural facilities can be designed to spur surrounding development. *Journal of Architectural and Planning Research*, *19*(1), 30–43. https://www.jstor.org/stable/43030597

Wikipedia. (2022). *General well-being of individuals and societies*. Wikimedia Foundation, Inc. https://en.m.wikipedia.org/wiki/Quality_of_life

Yusoff, M. M. (2020). Improving the quality of life for sustainable development. *IOP Conference Series: Earth and Environmental Science*, *561*(1). https://doi.org/10.1088/1755-1315/561/1/012020

✉raf87arch@uomustansiriyah.edu.iq, ✉samar.kadhim@ced.nahrainuniv.edu.iq