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MEDIA FAÇADES AND PUBLIC SPACE RELATIONS IN CASE OF CITY IDENTITY "A STUDY IN THE DISTRICT OF LEVENT, ISTANBUL"

Master's Thesis

IMAN MUFTI

ISTANBUL, 2020

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ABSTRACT

Media Façades through Architectural Advertisement and City Identity

"A Study in the District of Levent, Istanbul"

Iman MUFTI

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Architectural Façades at the present time have many different approaches and styles that can outline a city, and they can define an entire city identity by the characteristics of the façade. Since Modern Architecture and Technology merged together and became part of the modern urban environments, the concept of façade and public space has a new meaning and new aspects. Meanwhile, contemporary city life is taking place in making modern urban cities more commercialized and public spaces profit oriented. Thus, additional qualities are added to them by economic and political power.

Therefore, the objective of this study is to discuss how architecture is evolving into branding tools to the sole use of advertisement rather than providing useful and comfortable spaces for inhabitants, which led to the transformation of the Public Spaces and Architectural façades in this modern media world around the developing global cities nowadays. The aim of this study is to focus on how culture, politics and economics stimulate media and advertisement which in its turn reflect these effects on architectural façades and Urban Cities. This study will specifically research how the capitalism, globalization and technology are interfering in Architectural façade designs and public spaces, and it will discuss the influences on the psychology of the social environment in modern cities and how the developing cities' memory and identity has been affected by that worldwide wise and in specific the Business district of Levent in the city of Istanbul, Turkey.

Keywords: Media Façade, Advertisement Architecture, City Identity, Public Spaces, Social Psychology.

ÖZET

MİMARİ REKLAM VE ŞEHİR KİMLİĞİ İLE MEDYA CEPHELERİ

"İSTANBUL, LEVENT BÖLGESİ'NDE BİR ARAŞTIRMA"

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Günümüzde mimari cepheler, bir şehri ana hatlarıyla belirleyebilecek birçok farklı yaklaşım ve stile sahiptir ve tüm şehir kimliğini cephenin özelliklerine göre tanımlayabilirler. Modern mimari ve teknoloji bir araya geldiklerinden ve modern kentsel ortamların bir parçası olduklarından, cephe ve kamusal alan kavramının yeni bir anlamı ve yeni yönleri oluşmaktadır. Bu arada, modern kentleri daha ticari hale getirmek ve kamusal alanları kar odaklı yapmak için çağdaş şehir hayatı yaşanmaktadır. Böylelikle kentlere ekonomik ve politik güçle ilave özellikler eklenmektedir.

Bu nedenle bu çalışmanın amacı, mimarlıkta kamuya açık alanların ve mimari cephelerin bu modern medya dünyasında dönüşümüne yol açan sakinler için kullanışlı ve konforlu mekanlar sağlamak yerine, reklamın tek kullanımına yönelik markalaşma araçlarına nasıl dönüştüğünü tartışmaktır. Diğer bir amacı ise, kültür, politika ve ekonominin medya ve reklamı nasıl teşvik ettiğini ve bunun da mimari cepheler ve kentsel şehirler üzerindeki bu etkileri yansıttığına odaklanmaktır. Bu çalışma, özellikle kapitalizmin, küreselleşmenin ve teknolojinin Mimari cephe tasarımlarına ve kamusal alanlara nasıl müdahale ettiğini araştıracak ve modern şehirlerdeki sosyal çevrenin psikolojisine etkilerini tartışacaktır ve gelişmekte olan şehirlerin hafızasının ve kimliğinin nasıl etkilendiğini tartışacaktır. Dünya çapındaki olarak ve özellikle İstanbul'un Levent ilçesindeki iş bölgesinde.

Anahtar Kelimeler: Medya Cephesi, Reklam Mimarisi, Şehir Kimliği, Kamusal Alanlar, Sosyal Psikoloji.

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ABBREVIATIONS

CBS	:	Color Wheel
CRT	:	Cathode-ray tube
DLP	:	Digital Light Processing
DSE	:	Digital Signage Expo
EPD	:	Electronic paper display
FED	:	Field emission display
IMOD	:	Interferometric modular display
LCD	:	Liquid-crystal display
LCoS	:	Liquid crystal on silicon
LED	:	Light-emitting diode
NASA	:	The National Aeronautics and Space Administration
OLED	:	Organic light emitting diode
PSM	:	Performans Sanat Merkezi
QNB	:	Qatar National Bank
RGB	:	Red, green, and blue light
SMD	:	Surface mounted device
TOKI	:	Toplu Konut İdaresi Başkanlığı
UNESCO	:	The United Nations Educational, Scientific and Cultural Organization
WOHA	:	Singapore-based architecture practice

1. INTRODUCTION

“Cities are no longer just built; they are imaged” (Vale & Warner, 2001, p. 23).

Cities and cultures have been defined by several characteristics over the years, each city had its own uniqueness and it developed over the years to became known for their identity. Some cities are defined of their religious history, others for political dominance and touristic reasons and architectural landmarks. The architectural style of these cities gave architecture a huge role to determine the identity of cities and social environments throughout the years. They shape the lives of the people living in it. Correspondingly, the Culture of the city and the psychology of the inhabitants is also affected by a city’s urban and architectural design, Therefore the recent development and urbanization of cities around the world has multiple consequences on the people and on the environment of the cites.

As an architect you design for the present with an awareness of the past for a future which is essentially unknown (Foster, 2007).

Nowadays, towns everywhere are having aspirations and branding themselves with a city status, with terms like "Global City" or "City of Culture" to be used. Likewise, the Architectural style recently have been affected and dominated by some influences like political thought, economic and contemporary living style. Where each party is advertising to its benefit to control the atmosphere of a city, like capitalist investment companies where they employ advertisement in using architectural façade and other approaches to influence the public. And since the number of people who are spending their time in public places is increasing, whom can observe and linger without rushing to their workplaces, they are targeted by the advertisement industries (Zielinska–Dabkowska, 2014; Gehl, 2013; Lewitzky, 2005).

Therefore, the architectural façade is reconstructed for a purpose of entertaining and providing information, where the interface is giving the idea of multifunctioning context (Isıkkaya, 2012). Which alters the public squares and streets into experimental grounds and made the architectural façade a communicative platform to promote the innovative practices of space, various forms of interaction, as well as social inventions

(McQuire, 2011; Fatah Gen. Schieck, Briones, & Mottram, 2008). The advertisement impacts on the architectural façade as Cunningham described "classical advertising or news content in which often images are originally produced for TV or the Internet shown on a display, have no relation to the building" (Cunningham, 2007). Since façades and particularly media façades can be reachable to a variety of audience and can be more accessible and less officious than the standard commercial means. Which made public spaces not precisely serving the 'public' rather than helping corporations to spread their thoughts and ideas into the city's culture.

"[…] Urban sites are lit up by ads on buildings, on high tech billboards, and in the sky, taking the spectacle to new heights (or depths, depending on how you view it)" (Kellner & Best, 1997).

The Architectural façade of a building in each city plays a significant role in its urbanization and development, they have different characteristics which contributed in defining the culture of each city and its inhabitants' behavior along with their physiological reaction towards a building or a public space. With the modernization of the cities, façades gained their liberty and became independent from the body of the building, as Rem Koolhaas emphasizes. The façade gives an outer look to the perceiver and draws the contour of the city and outlines the streets. Its importance comes from how it is the only connection between the inside and the outside. The architectural façades were considered to be the narrators of the buildings and the people were their audience. However, recently some of the architectural façades took a different path, telling a completely different story than the interior of the building. Therefore, they may be either very effective connection to both outer and inner users of the buildings, or it may cause a social barrier for the public and disturb the surrounding environment.

1.1 PROBLEM DEFINITION

Since media façades are gradually becoming a vibrant element which is integrated into most of the modern urban cities nowadays. Therefore, this integration has several consciences and effects on the cities' environment and the people who live in them. Some of these consciences are cultural, practical and phycological on the individuals who are interrupted by the media façades, other effects are on the atmosphere that surrounds the

media façades. Such as the public spaces nearby and the harmony between these spaces and the people who interact with them.

Nevertheless, the wide and developed technology that the media façade offers, gives it great qualities that presents the architectural façade as a multifunctioning element and propose a huge variety of modern services to the public and the users. Therefore, this study will define both positive and negative effects of media façades and discuss the reactions of the public are towards it. Reviewing whether the spreading of media façades in major cities changes the identity of these cities, and whether the media façades affect or disturb the harmony between public spaces and its users. In addition to the people's psychology towards them and how the urban texture may diverse according to that. Regarding the public's memories, perception of the media façades and how they identify public spaces in their own perspectives.

However, currently media façades are being labelled as a positive influence on the people's life , adding enriching the city space and working as community platforms with a strategy that they are considerably fixable: since they permit people to contribute original content and share diverse concepts in the public community, or to indorse new communicating formats such as networked events (Fatah Gen. Schieck & Fan, 2012; McQuire, 2011; Fatah Gen. Schieck, Briones, & Mottram, 2008; Struppek, 2006).

Subsequently, media façades are described as important influences on the relationship of act and structures. Therefore, it is considered to be as elements that creates a major contribution to the constitution of public spaces (Löw, 2001).

1.2 AIM OF THE STUDY

Public spaces are turned into a place where people just pass through, where people continue moving but fail to gain experiences. (Sennett, 1992)

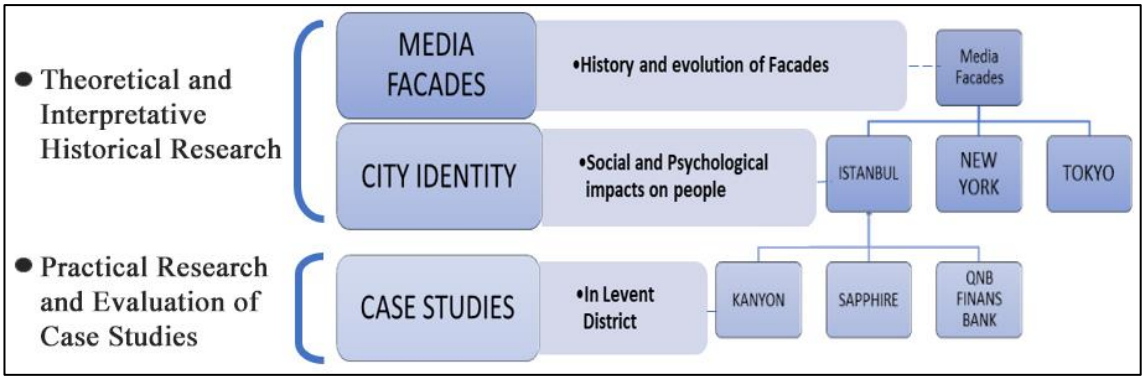
The aim of this study is to focus on how the city identities and the public spaces are influenced by media façades intervention along with the architectural façade styles and public spaces. How the citizens perceive the buildings and the façades and collect memories about them. And to what extent media is affecting and manipulating the cultures of cities.

Resulting with cities' identity being defined for publicity and advertising reasons around the world, especially the global metropolises cities that are often led by the idea of ''City Branding'' which is made by major corporations in order to attract more attention to these cities. Which made some capitals with no originality and incomprehensible. And these cities are all becoming similar to each other with no uniqueness. The study will focus on the Levent District, Istanbul. Which is the main business heart of the European side in the city, with a condensed population and a variety of skyscrapers that have different types of architectural styles, in addition to the media façades and the public spaces that surrounds them. This area is suitable to study how the media façades function in Istanbul and how they affect Istanbul's identity and influence the public spaces near them, in addition to concentrating on the reactions and the psychological impacts on people and the public who perceive these media façades. To what extent the behaviour of the public will change with the contemporary development of the cities while the technology is embracing the architectural façade and public spaces. Thus, observing the psychological and physical reactions of the districts' inhabitants and their different behaviours dealing with similar developments according to their different backgrounds. Do the public think that buildings are turned into anonymous vertical structures and leaving their original storytelling advantage? In order to give another meaning to their structures than it is supposed to be giving. Which makes the façades and the buildings relation disconnected and detached. Therefore, the people's observation of these changes is also becoming interrupted and incoherent. Furthermore, while the role of "industrial cities" started to emerge within the 19th century which varied according to the status of each city's function, whether it has a soft or heavy manufacturing industries. Regarding the soft industries such as education and tourism facilities in large cities, they had implications which created a major relation with the commercial facilities that led to the development of these cities and helped contributing with media's intervention into the public spaces in large cities. Since the morphology where public areas are commercialized for consumption and became profit-oriented structures, in which the passage between public and private is filled with the exhaustion and anxiety of the media which is affected by economic or political groups.

1.3 METHODOLOGY

The method of this study is theoretical and practical study on the opinion of the people's reactions and answers to the questions that will be asked to them through interviews and different observation studies that will be applied to them to how façades in the Levent District in Istanbul, are being altered and reformed into being media façades by the effect of advertisement. And to what extent are media and advertisement being manipulated by the capitalism, industrialism and new urban societies. And the implications on the public spaces that surrounds the media façades, whether if they disturb the harmony around the public places or they give new dimensions to its environment. Theses Questionnaires are being asked to a different age groups, with different backgrounds and multiple nationalities, in order to benefit from their alternative way of perceiving the new urban variations and identity of disidentification distinctions that are happening in Levent District and other similar urban Districts in the world. Furthermore, a comparison study between Levent District and the other non-urbanised areas is evaluated, with further comparisons between similar cases corresponding to Levent in other places in the world and how other cities are also affected from these changes. The Levent area case studies were Kanyon building, QNB building and Sapphire building, these buildings were specifically chosen because of their influential status and the significance that they apply on Levent area according to most people, and the most noticeable architectural buildings in the area that is crowded with medialised façades and buildings covered with billboards along the Levent-Maslak axis. Other surveys like how the high urban density of the Levent area is also contributing in the advertisement business where entrepreneurs and sponsors are targeting the high populated areas through media façades and public spaces, and to what extent does this factor affect the idea of architectural branding. Similarly, since Levent is identified as an important business, Education, entertainment and culturally diverse district, and the nature of its residents' professions and occupations gives an impression about whom these industries, soft industries and capitalists are aiming for to get their attention and consideration. Furthermore, which age groups, nationalities and social backgrounds are these media façade structures are opposing. Interviews with these different inhabitants enquiring their reactions and feedbacks about these urban developments, and their psychological impacts that they cause to the public and other similar statistics will be discussed in this study.

Figure 1.1: Methodology of the Thesis



1.4 LITERATURE REVIEW

Architecture as imprint, as brand, as the new media of transformation—of places, communities, corporations, and people. (Klingmann, 2007)

Cities are not as skylines anymore they are more similar to a brandscapes and the buildings are not objects, but they resemble advertisements and destinations. In the experience economy, experience itself has become the product: we're no longer consuming objects but sensations, even lifestyles. In the new environment of brandscapes, buildings are not about where we work and live but who we imagine ourselves to be. In Brandscapes, the controversial practice of branding by examining its benefits and considering the damage it may do. Architecture can use the concepts and methods of branding—not as a quick-and-easy selling tool for architects but as a strategic tool for economic and cultural transformation. Branding in architecture means the expression of identity, whether of an enterprise or a city; New York, Bilbao, and Shanghai have used architecture to enhance their images, generate economic growth, and elevate their positions in the global village. (Klingmann, 2007)

The dangers of brandscapes by favoring the creation of signature buildings over more comprehensive urban interventions and by severing their identity from the complexity of the social fabric, where today's brandscapes have, in many cases, resulted in a culture of the copy. As experiences become more and more commodified, and the global landscape progressively more homogenized, it falls to architects to infuse an ever more aseptic landscape with meaningful transformations.

Furthermore, Digital façades represent a new medium making its way into urban environments. This medium can affect public life in ways that have yet to be fully understood. Most of these media façades broadcast adverts, but an increasing number of large-scale projects are now also used to screen a broad variety of non-commercial content. On many occasions, these alternative screenings include interactive applications and user-generated contributions (McQuire, 2011). The emergence of such "community screens" and "urban social media" may be seen as a promising sign for contemporary city life, as they can address a wide audience and as they tend to be more accessible and less obtrusive than their commercial counterparts. They offer many possibilities for interaction and additional uses of public space, potentially fostering participation, dialog, social innovation, and community building. In this way, they can also enhance the well-being of all communities involved (Osberg, 2003), making urban space more lively, ludic, and experimental and cities more livable.

It is argued that non-commercially used digital media façades can have a positive impact on urban space and public life but that they do not work well in all types of locations. Certain conditions also have to be met to tap into their full potential and to avoid negative side effects such as light pollution. (Albrecht, 2015)

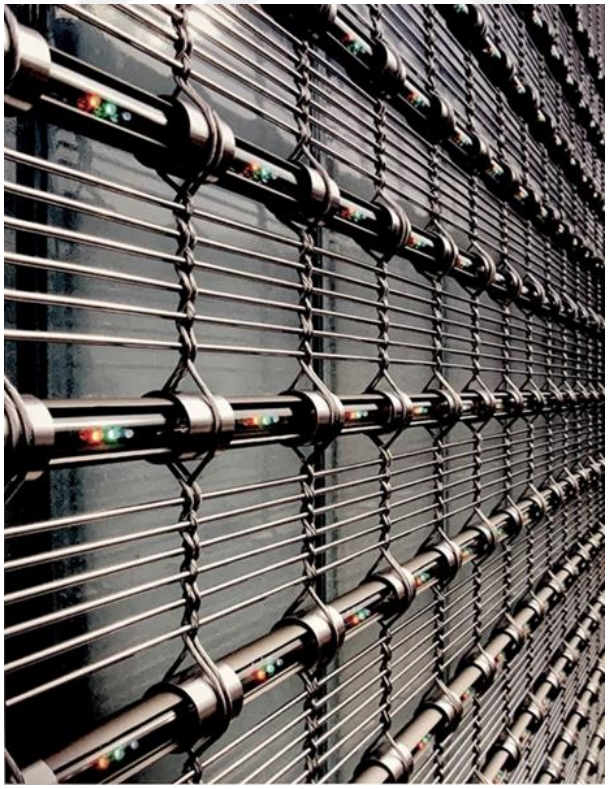
Figure 1.2: Digital Games in Urban Public Space: City Fireflies at the digital facade of Mediala-Prado, Madrid, Spain 2013

Source: https://www.researchgate.net/figure/Digital-Games-in-Urban-Public-Space-City-Fireflies-at-the-digital-facade-of_fig1_282869429 [Accessed 20 April 2019]

Media façades started as result of the wide competition of advertisement since it is getting very difficult to get someone's attention nowadays. therefore, creating moving images on a dynamic façade was a new approach to catching someone's eye. The psychological perception dictates every movement by exploiting a natural orientation reflex. however, static images or ordinary billboards disappear with time from the focus of human cognition.

The transparent media façades offers manifold possibilities to communicate powerfully and effectively on a large scale. The system of the transparent media façade is always an integral part of the actual building and has to be designed and adapted to each and every project. it is a system with a high degree of individuality and differently configurable resolutions to meet every possible need. The sensitive dynamisation of buildings on the basis of their individual design and their medialization has become a reality due to the media façade.

Figure 1.3: Media mesh LED video display wire hang on a façade, AG4. Cologne, Germany



Source: http://www.inlook.fi/files/940/Mediafacades.pdf [Accessed 20 April 2019]

Since the sufficiency of the media façades is corresponding with the buildings' different forms and shapes, the display of the media façades and the architecture of the buildings are perceived as one. Therefore, if the contents or the events inside the building are related to the events displayed on the media façade of the same building, then this interaction creates a new entity – where the interior turns inside out onto the façade. Giving a new approach to the architectural advertising. Media façades are designed with different purposes in mind and with different roles. Some of the functional roles are Aesthetical, where they serve as large display for typically dynamic visual representations. other roles are for information reasons where the media façade presents meaningful or systematic information to its potential users/viewers. Also, they play a role for Community reflection or mediation – where the façade represents visually the actions of its users or their behavior, indirectly or explicitly expressed, with this functional purpose, the façade becomes an architectural instantiation of a social media. Another purpose is Adaptive landscape – where the media façade adapts to environmental conditions, like weather, air quality or traffic. These dimensions are summarized in Table 1 together with the different types of users and the locations where they perceive the media façades. (Ag4-Mediatecture Company, 2006)

Table 1.1: Dimensions of Media Façades as Interactive Spaces

What is the Role?	Who is the User?	Where is the User?	How is the interaction generated?
Aesthetical	Individual	Local	Explicit
Information	Group	Remote	Implicit
Adaptive landscape	Crowd	Local/Remote	Implicit/Explicit
Community reflection or mediation	Group/Crowd	Local/Remote	Implicit/Explicit

Source: file:///D:/MappingInteractionOntoMediaFacades-paper-S.pdf
[Accessed 20 May 2019]

1.5 SCOPE OF THE STUDY

The first chapter will discuss the introduction of the thesis topic stating the main idea and the background of the subject with the problem definition and the aim of the study and

the methodology of the work and the literature review that is related to the thesis subject with the content of the thesis.

The second chapter, Façade and City Identity, will start with discussing the history of façades and the evolution through the years and in different areas around the world, and how the façade designs have changed throughout the years with the different environments and different cultures. And how each city adapted the façade design according to its characteristics and atmosphere. Furthermore, some examples about the historical media façades in the city of Istanbul and other cites with the application of media façades and video mapping on some historical monuments like Galata tower in Istanbul and on the Notre dame de Paris in Paris. Also, this chapter will study the reactions of the people towards these media façades and the social and psychological impacts and influences that façades can contribute towards the public spaces and the community and see the different reactions in different situations and cities. Moreover, it will discuss how media and technology are being interfered from the advertising companies and how these interferences are affecting the city atmosphere and changing the city identity to more corporate controlled venues rather than homogeneous and comfortable place for a living.

In the third chapter will cover the case studies part that will mainly be located in Levent, Istanbul. Starting with the analysis of the area and its historical background with the developments that occurred in it, since it is considered to be relatively new compared to old Istanbul districts, therefore the recent changes in the contemporary architecture has mainly affected this district and made it the business district in Istanbul, thus media façades and advertisement combined with technology is taking a major part in this area specifically. The main three buildings that will be discussed are Kanyon building, QNB Finans Bank and Sapphire building. These three buildings became important attractions in Istanbul. Relating to the idea about media façades' role and their impacts in changing city's identity or creating alternative landmarks in the contemporary architecture and global cities. These three buildings have a distinctive façade designs that distinguish them from other building, therefore they attract the eye and are considered important sites for advertising and publicity. The study will focus on how the façade of these buildings affect the atmosphere of the Levent area and the public spaces that surrounds them, and to what extent these buildings are interfering with the environment and the inhabitants that are interacting with them, and how the people are feeling about these media façades that

surrounds them and interrupt their daily life. The amount of comfort that public spaces are providing. These questions and analysis will be discussed and studied in this chapter.

In the fourth chapter the results of the case studies will be discovered and a survey about it will be studied and discussed explaining the main points that are found and the positive and negative sides of the analysis and the questionnaires, the main topics of the survey are mainly corresponding to these subjects:

a. What are the effects of Media façades on the local inhabitants of Levent District?
b. What are the people's opinions about the advertisement interfering with the city's architectural elements, such as façades and public spaces?
c. Does the atmosphere of the public space become incoherent with these modifications in the public environment harmony?
d. What are the positive and negative effects of advertisement and media façades in the city and city identity?
e. To what extent the behavior of the public will change with the contemporary development of the cities while the technology is embracing the architectural façade and public spaces?

These questionnaires and interviews will show the public's reactions towards these changes in the media façades.

In the conclusion chapter, the final work will be concluded with a self-criticism of the framework, mentioning if there is a possibility of the media façade to be helpful and how it can be managed to be more useful without affecting the coherency of the city or affecting the comfortable public spaces, keeping the inhabitants in a solitude a self-awareness with no disturb. And coming to the conclusion of how media façades mechanism works and the various dimensions that they implicate to the surrounding environment, in diverse new means with the continues developing of technology that upholds and endorses the architectural elements with new characterizations that was not previously available, which makes the buildings and the public spaces in the modern cities in a constant competition in order to achieve ultimate urban development, whether these developments are culturally and socially beneficial to the urban environment or not.

2. EVOLUTION OF ARCHITECTURAL MEDIA FAÇADE IN RELATION TO THE PUBLIC SPACE

Culture: As (Bevolo & Rosenius, 2014, p. 14) stated

Unlike infrastructure or smart grids, culture cannot be 'engineered', as it captures, encapsulates and embodies the true 'vernacular' that makes the hardware of a 'place' into an 'authentic' city or metropolitan region, with its own local rituals and its own 'minor practices' defining precise lifestyle.

Identity: Bevolo and Rosenius indicated that in their workshop that they have done, in order to connect the Socio-cultural research on Urban Futures at more theoretical level. Since the identity of the urban future is developing in time, in which the Socio-cultural drivers can be described as containers that have practitioners of future studies store. And the individual growth and the self-expression working as the main key idea in it, where in the other side is the globalized capitalism dynamics. (2014, p. 17).

Many cities are influenced by the globalization that is occurring to the world, creating a continuous race with the supremacy of the cultural and commercial values. Therefore, these cities are struggling to compete with each other and to accomplish the anticipated life standards. Which enlarged the work and wealth and created a diverse culture and enriched the urban cities in the world.

However, as an example of Istanbul's urbanization and wide expansion (Göktürk, Soysal, & Türeli, 2010, p. 10) mention that Since the 1950s the city has witnessed the rise of a consumer society together with the rapid urbanization, where the growth and cultural dominance of the middle class, and the improvement of modern systems of image production and consumption. Where making the city more open, through the expansions and extreme population changes, gave a chance to create an obsession with the city in the realm of culture that continues until the present day. Where the current present is severely burdened with the persistent thinking of loss in response to Istanbul's unplanned growth and Turkey's unformed status in regards to Europe.

“The modernist ban on images, according to which architecture was prohibited from putting anything (but itself) in the picture, is mostly history by now” (Ilka & Andreas Ruby, 2007)

Toyo Ito, who described the architecture in the electronic age referring to his building the Sendai Mediatheque, for him the architecture in the electronic age is assembled as a figure of a vortex of information, if it was in comparison with the primitive age people as they use to be connected only with nature. As he stated ‘’people today are equipped with an electronic body in which information circulates and are thus linked to the world through a network of information by means of this other body.’’ (Ito, 2013)

It is regarded that the first evidence of architecture’s presence in the electronic age is the inclusion of electronic information into it, therefore as Ito mentioned in his essay, that architecture in the electronic age is an extension of media suite, in which it does not only offers shelter from the natural environment for its inhabitants, but also it will offers them information with it.

However, after technology started emerging its way into architects and designers’ plans. And the digital and technological developments in the modern cities improved them to new level of progress. The digitalization throughout the world established a physical presence. Where public spaces, buildings and squares are affected by the new modern techniques of digital interference with their infrastructures. This is where media façades’ role is significant, because of its several noticeable characteristics that are not obtainable in the regular concrete façades. Giving life to some gloomy buildings. Thus, spreading into the urban cities and being a vital element in big cities. Moreover, the modern city is promised to be promoted by the massive digital innovation in urban design. Where media façades role is vibrant while increasing the new role of the revolution of architectural construction. Therefore, each designer, urban planner and architect’s role is to achieve an impressive future of instructive architecture with the richness of urban spaces.

2.1 MEDIA AND SOCIETY IN A CRITICAL PERSPECTIVE

The relationship between media and the audience has several meanings. Where media industries produce all acts of communications to enrich the spectators, where they generate behaviors of domination between the viewers and these media resources. Where

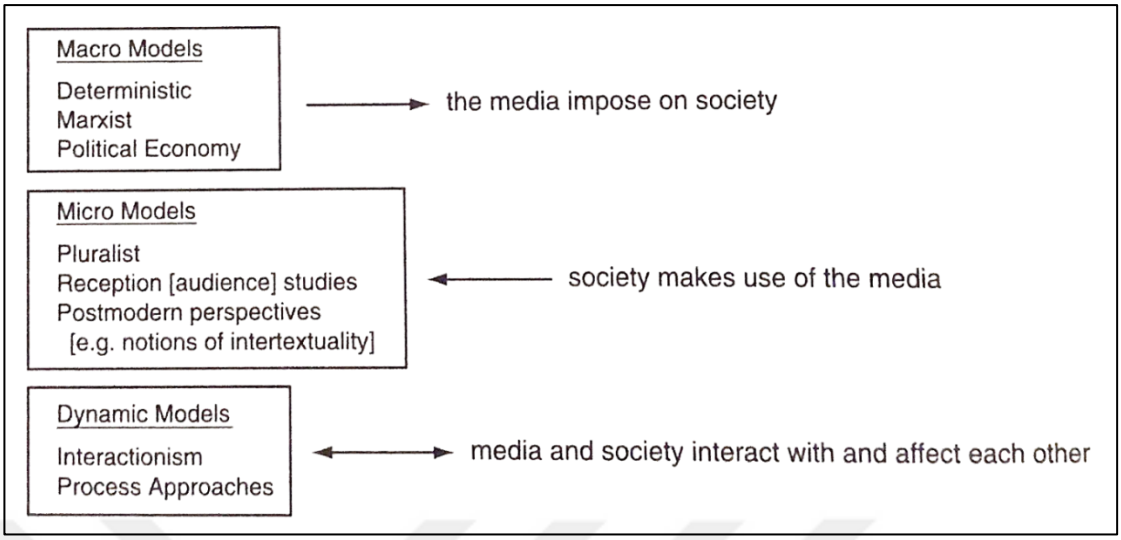
it afterwards these means turns into a material exchange. However, a cultural exchange is also being transferred through these medialised ways of communications. Therefore, the world becomes more dynamic and keeps developing with determined ideas that helps the evolution of the societies. It keeps the world an exciting place, with generative ideas. Nevertheless, media nowadays is being dominated by governmental attendance with the economic and capitalist factors and the ubiquitous marketing existence. Which made the media and advertisement industry very competitive and took the production of media process to the globalization phase. Though there is no one single manner of presenting media, because of different spectators and cultural backgrounds. Accordingly, many different methods of media means are applied and developed according to each encounter. However, a cultural fragmentation sometimes might occur due to the diversity of media approaches, thus it might induce the social community fracturing.

While Negrine argues about the contradictions of free market and state: (Negrine, 1994) "regulated to allow for freedom, albeit a freedom where market forces dominate, and where, crucially, media content is treated as a commodity rather than a public good". While (Kaen, 1991) also quotes:

there is a structural contradiction between freedom of communication and unlimited freedom of the market… the market liberal ideology of freedom of individual choice in the marketplace of opinion is in fact a justification of the privileging of corporate speech and of giving more choice to investors than to citizens.

Western ideologies have the beliefs of freedom and democracy regarding of free choices in media and the diversity of its materials. However, other ideologies do not agree with these essentials and they acclaim a specific system in order to create social morality and protect certain groups of their audience.

Figure 2.1: Summary of Models of the Relationship between Media and Society



Source: (Burton, 2005, p. 6)

2.1.1 The Relation between Media Façades, Public Spaces and City Identity

The phenomenon of medializing the buildings is becoming more and more very popular all over the world, for numerous reasons. Mainly the façade of a building used to be a rigid structure that is unchangeable with fixed appearance. Nowadays, with the interference of media and technology it unexpectedly became an independent renewable element in the building, with multiple functions that could be totally separate from the interior functions of the building. With these massive abilities the façade became like a magical structure with unlimited potentials and uses. This allows the building to be emotionalized with the surrounding environment, giving a new aspect to the buildings that has been always an important subject, that how built up environment should be in constant harmony with the urban environment. Where buildings are not only functional-rational fundamentals, but sort of a spaces that is uninterruptedly touching our souls and interacting with the live atmosphere of the society.

The development of architecture has a huge role of the persistent demand on innovative and renewable ideas, thus complexity in the structures that surround us. Therefore, nowadays buildings has a unique way of corresponding to the society and connect with it in a personalized way that has not been in the past. Fulfilling the culture's desires of more particular and deeply communicative structures. Furthermore, this made the connection between inner life of the society and outside environment stronger and more efficient.

‘’Perhaps we require living spaces that correspond more closely to our inner tensions and moods’’ (Ag4-Mediatecture Company, 2006, p. 166).

The concept of media façades came from the impression where cities are formed of an arrangement of multiple buildings that their relationship gives a concept of secrecy, thus media façade helps to blend the separation of façades and relate them together in the urban context, creating a more cohesive atmosphere. However, the need to design the media programs of a variety of façades will be high to make these façades cooperate with each other. Therefore, in cities that already have media façades, creating a concept to relate these façades with each other can help improving the connection in the urban environment of the city. Allowing to complete the cultural urban programing while avoiding the misapplication of media façade through some excessive advertising purposes. Which can be the negative part of this concept.

Media façades transforms the former nature of static and rigid architecture to a mirror of an oriented reality of its environment. representing the interests of the operator or the user of the media façade building in order to improve their building’s architecture and display themselves into the outside world as they demand.

‘’It is argued that non-commercially used digital media façades can have a positive impact on urban space and public life, but that they do not work well in all types of locations.’’ (Albrecht, 2015)

In order to decide where media façade can be efficient the most, there should be a study on which cities can afford to make the best use of the medialised façades structure. For example, as (Ag4-Mediatecture Company, 2006, p. 167) emphasized that small cities might not tend to be suitable for marketing and advertisement while other cities might get very beneficial outcomes from the medialized façades. which are mostly the modern metropolitan cities, that have cultural and social diversity with large scale of public spaces, that have the suitable environment either for media to broadcast its materials or to apply the interactive functions of media façade, these cities should also have the appropriate proportion of spectators and audience in their public spaces, with different desires and diverse backgrounds. Therefore, giving the convenient environment of the public spaces to have the medialised façade in order to achieve its results.

Moreover, some investments in electronic media in the cities might be very essential for the urban media program to specify some features in the creating of communicative city image. Therefore, big cities can have a medialised identity when its main landmarks have media façades. thus, it can become the ideal capitals for media and arts. Nevertheless, having media façades in a city is attractive and makes the city in competition to a global game of modern technology and innovation. While taking into consideration every building's interests regarding its users and investors, and how the general concept of the city is affected by the media design whereas creating a strategy for the parameters of the urban planning.

2.2 THE EVOLUTION OF MEDIA FAÇADES

The architectural façade perceived many developments throughout the years in different Historical times and different places. In accordance with each area's cultural and environmental factors that affected the standards of the architectural building and façade design. The glass windows in the mediaeval churches, for example, were already projecting an illuminated image form behind the sun, which can be considered as a projection façade in the ancient times.

While considering the relationship between technology, site and media content, it is regarded that the history of Media façades started when architects and designers initiated the application of TV screens on the exterior wall of a building. As Well As the relationship between technology and media content while designing the media façade which will promote the perception of both the public spaces and the architecture in the digital age.

2.2.1 The Starting of Embedding Media in Architecture

''a media façade should stimulate the beholder the use of communication methods to communicate with its environment.'' (Haeusler, 2009)

The starters of media façades presence was visible in the designing process of the Centre Pompidou when a competition for the project was announced by the French president Georges Pompidou. The architects Renzo Piano, Richard Rogers and Gianfranco Franchini won the competition with the idea of creating a mega structure with an open-

minded style with a large gathering space that would stand out and address the city of Paris. The façade of the building consisted of a large screen that displays electronic messages about the events of the center or political news and cultural events. But throughout the construction process of the center, many changes happened and such as cancelling the shelving plans of the floors and the large screen and replacing it with the colored pipes on the outside to represent the building's communication environment.

Figure 2.2: The Centre Pompidou

Source: https://www.centrepompidou.fr/en/The-Centre-Pompidou/The-Building [Accessed 5 August 2019]

As Luigi Prestinenza Puglisi stated in "Hyper Architecture – Spaces in the Electronic age"[1], he claims that the Centre Pompidou is a preceding shift form a space to a communicative space. Since the building and the space in front of it created something new. This building defined a new way of space communicating with the surroundings.

The Centre Pompidou recognized how can the building itself become a media format through its façade (initially, but the large screens on the façade were eventually annulled due to cost issues). However, the façade of the Centre Pompidou as now built show media functions as "exposing media" throughout their particularity displaying the systems that are necessary to run the museum such as gas, electricity, water and circulation on the outside. It creates an x-ray resembling image of the building through its transparency and allowing the structure to interact with the outside world, the building's infrastructures

[1] (Puglisi, 1999)

were placed in front of its glass skin, making an exterior mapping to its architectural components as they were identified by their distinctive coloring, and even though the main large screen was annulled, communication still represented the building's main characteristics.

With this interactivity of the façade it presented a new potential of a media façade that would stimulate the perceiver to communicate with its environment. this potential approach of communication gives the architecture a new dimension other than being only decorative and ornamented. As Puglisi states: "The Centre Pompidou, at least in its original design anticipates, but without being subject to the same strong commercial pressures, Times Square and experimental forms of electronic communication introduced above all in Japan and the United States."[2] (Puglisi, 1999, p. 10)

In 1986 the design of Tower of winds in Yokohama, Japan, done by the Japanese architect Toyo Ito, it was another presence of the media and architecture and according to Hohlwelt homepage [3] since it was one of the earliest forms of interactive architecture.

The surface of the building is made from clad and acrylic reflective plates and shaped in a perforated aluminum cylinder with an ellipsoidal base. The lighting used in the cylinder were an evenly spaced mini lamps and neon rings. And the lighting system is controlled by two computers that regulate the direction, typology and intensity of the light source, the timing of the neon rings is also programmed and adjusted in accordance with the environmental parameters and the wind direction. As Ito describes the Tower of the Winds "loses its presence after sunset and metamorphoses into a phenomenon of light. I refer to this metamorphosis from opaque substance into a transparent object of light as 'fictional'."[4]

[2] (Puglisi, 1999, p. 10)
[3] http://www.hohlwelt.com/en/interact/category/intarch.html, [Accessed October 2019].
[4] (Berwick, 1998)

Figure 2.3: Tower of Winds, Yokohama, Japan

Source: https://www.e-architect.co.uk/japan/tower-of-winds [Accessed 5 September 2019]

These examples are from the early beginnings of embedding media in architecture, they presented new ways of influencing the environment by controlling the lights and a train of thinking of media can become a part of architecture and by that early times, the media façades were mostly a process of creative imagination and not built yet. These building were visionary because their designers were thinking of options trying to include technology advanced elements into architecture and how that developed to imagining new possibilities to create new technologies into the media façades.

2.2.2 The Development of Electronic Components in Media Façades

After the 1970s the technology for media façades improved, and the affordability of it was enhanced, which made cost problems that faced some architects like in the Centre Pompidou case, no longer exist. If we examine the changes that occurred to the computer monitors from 1971 until the present day, it would reveal that the evolution of the display technology has shifted from the monochrome CRT computer displays that uses “green screens”, to the analogue RGB monitors, to the LCD screens, this development shifts happened in only 30 years.

The first start of a modern projector was the Eidophor, it is considered a television projector which was designed to create theatre-sized images, invented in 1939 by the Swiss Federal Institute of Technology and Dr. Fritz Fischer. In its earliest state the Eidophor was only in black and white, afterwards using a CBS style sequential color wheel which provided the colors fields of green, red and blue. In the 1990s the last

versions of the Eidophors were built because of the introduction of new advanced projection technologies with lower cost and smaller sizes.

Figure 2.4: the Eidophor projector

Swiss television camera, replacing end of cathode-ray tube with disk of oil, is eight feet high, weighs two tons.

"Idophore" process is new approach to problem of projecting theater-size images that are neither fuzzy nor faint.

Movies by TELEVISION

Swiss Use Film of Oil For Theater-Size Image.

By JOSEPH ISRAELS II

Special Dispatch to POPULAR SCIENCE MONTHLY

ZURICH, Switzerland—Television images have been projected on a full-size motion-picture screen at the Swiss Federal Institute of Technology by Prof. Fritz Fischer, with the help of a secret petroleum product.

This liquid is called "Idophore" and Prof. Fischer and his associates expect it to revolutionize the movie industry by permitting a single film to be shown in several theaters simultaneously. The problem they have been grappling with for six years was how to "blow up" the projected picture without diminishing its intensity or clarity.

The orthodox small-screen television receiver creates pictures by causing electrons in a cathode-ray tube to bombard a chemically coated surface. The surface on the end of the tube (the "screen") fluoresces rapidly as the electron gun shoots at it in response to the electrical impulses picked up by an antenna. The tube interprets the impulses in terms of lights and shadows and thereby creates the picture.

But the difficulty and expense of building vacuum tubes with fluorescent surfaces many feet in diameter have limited the size of the screens on which television shows can be seen. Television shows have been projected before theater audiences, however, by stepping up the size of the image with optical lenses and parabolic mirrors. Another method is known as the Scophony system. Instead of being used to make the end of the cathode-ray tube fluoresce, the stream of electrons is permitted to pass on through the end of the tube to a rapidly vibrating mechanical light valve that, like frames of movie film, permits varying amounts of light to pass through and create a picture on a large screen. In both systems the image has been either faint or fuzzy.

To compensate for the fuzziness or loss of light in increasing the size of the television image, Professor Fischer substitutes for the light created by chemical fluorescence an outside light source of the arc variety. To make the arc light produce lights and shadows, and therefore images on a screen, he replaces the end of the cathode-ray tube with a disk of film-thin oil. Bombarded by electrons, the oil sets up a miniature turbulence. This creates light refractions, faithfully interpreting the light and shadows transmitted electrically from the lens of the television camera. By passing the high-intensity arc light through the refractions in the oil, by a system of mirrors and lenses, the image is thrown upon a 24- by 32-foot viewing screen.

The oil disk is revolved and refrigerated. The revolving allows progressive portions of the oil to be "rested" and mechanically smoothed after being bombarded by electrons.

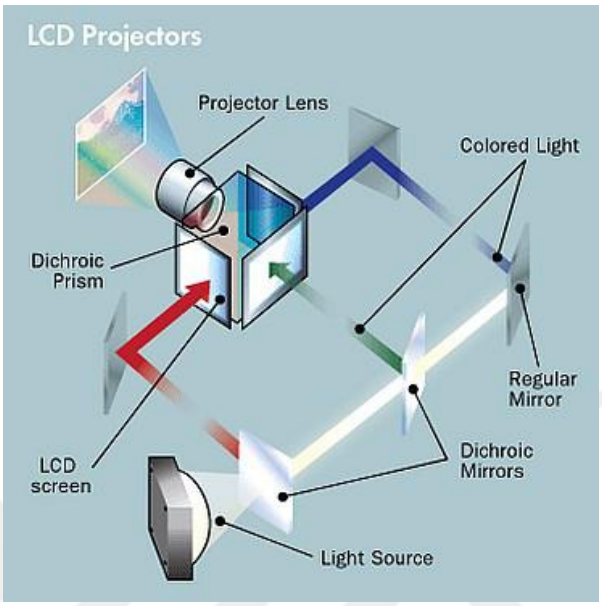
94 Popular Science, February 1946 POPULAR SCIENCE

Source: Popular Science Magazine p.94

In 1968 Gene Dolgoff started working on LCD projectors to create more brighter projectors than the 3-CRT projectors that were presented at that time. The 3-CRT projectors were made of a system of cathode ray tubes to provide the three colors of blue, green and red. The idea of the LCD projectors was using the element “light valve” to control the amount of light that pass through it. which allowed the use of a large amount

of external lighting source. Not until 1984 when Gene Dolgoff completed the first efficient liquid crystal display (LCD).

Figure 2.5: LCD Projector Diagram



Source: https://atmega32-avr.com/how-lcd-projectors-work/

The Illuminates (fluorescent tube) are a sort of lamp that is based on electricity to stimulate mercury vapor in neon or argon gas, to give the result in plasma which creates short-wave ultraviolet light. The acknowledged inventor of the fluorescent lamp is Edmund Germer, in 1926 Edmund Germer and co-workers proposed to coat the tube with fluorescent powder that converts ultraviolet light emitted by a rare gas into more uniformly white-colored light and they also proposed to improve the operating pressure inside the tube. Later on, in 1938 General Electric company bought the patent from Germer and made a large commercial use for the fluorescent lamps, which explains why it is commonly used in offices, households and in the illuminated advertisements in the urban environment. (Haeusler, Media Facades, 2009)

The most noticeable step towards the art of media façades was made by Shuji Nakamura after he invented the blue LED with high-brightness, which afterwards led to the invention of the white LED with the phosphor coating to mix blue light with yellow light to display the white color of the LED which went into production in 1993. Recently, new developments of LEDs took place to replace the light bulbs with organic LEDs (OLED)

by creating an organic materials layer between two electrodes which will emit light when given electrical power.

The first flat light-emitting display or LED television screen prototype was documented in 1977 by James P. Mitchell, and it was presented in 1978 at an engineering exposition. It received special recognition by NASA and universities like the University of California, with a number of technology business representatives from different countries. LCD (liquid crystal display) was also presented as a futuristic tv display method. The blue LEDs emerged in the 1990s allowing new designs, low-cost and high-brightness colors for outdoor signage and for large video displays for billboards and stadiums.

Since the tv screens industry experienced remarkable changes in its development, with a variety of technologies like LED based systems and other system types. One of the first display systems was created by Ferdinand Braun, a German physicist that invented the cathode ray tube (CRT) in 1897, it was a cold-cathode diode that led to afterwards the invention of the hot-cathode tube in 1992 by John B. Johnson and Harry Weinhart. It started in black and white and became commercial until being developed into colored screens. However, even though the (CRT) screens values were stable in domestic field, they were too heavy and wide to use in big screens. Therefore, most productions of (CRT) high-end screens came to an end in the mid-2000s. Furthermore, the need of a light in weight screens led to the development of flat screen plasma displays, which was around for a while, being co-invented in 1964 by Donald Bitzer and Gene Slottow. But the main reason behind today's complex flat plasma tv is the modern computers, with large electronics companies like Panasonic creating the largest plasma display in the world in 2006 with 103" measures. (Haeusler, Media Facades, 2009)

2.2.3 Times Square Development's Role in Media Façades' Uprising

The Times Square is extensively famous for the media presence in its streets. Since its history gives an expanded brief of how media has been developed over the years and how it was used with technology and been embraced in the Times Square. As (Townsend, 2004, p. 102) calls the Times Square, "perhaps the quintessential example of a digital urban environment"[5]. New York city expanded a lot during the 19th century, across the space that was developing to be the social city center and around the 42nd street. The Times Tower was built in 1904 by the New York Times on the 43rd street to replace their premises downtown, the square that faces the building was formerly known as Longacre square but is was rename later as the Times Square. The opening ceremony of the new Times headquarters was celebrated with fireworks display that is continued until today as a traditional celebration in the New Year's Eve. And in 1907's New Year's Eve, the first ball lowering tradition was held from the Times Square rooftop pole. The area of the Times Square is today is distributed from between the 6th and 9th avenue, and the 40th and 53rd street.

Figure 2.6: Times Square in 1930s

Source:http://myscienceacademy.org/wp-content/uploads/2012/08/7c81525bd836-590x458.jpg [Accessed 5 August 2019]

[5] Townsend, Anthoney: Digitally mediated urban space: New lessons for design, Praxis Issue 6 Journal of writing and building, Cambridge, MA, 2004, p. 102

During the first world war, the Times Square at that time was considered the main theatre district and it was an attraction site for various number of visitors, which made it the ideal place for billboards, and the first large electric billboard was installed in 1917 and after eleven years, at the announcement of Herbert Hoover's victory in his presidential elections, the first running electric sign was switched on. After the billboards became very popular and a major touristic attraction in the square, zoning regulations was applied now for the buildings to be covered with the billboards. After the Great Depression, a huge decrease occurred in the theatre sales, which led to closing a number of businesses and being replaced with peep shows and striptease venues.

Figure 2.7: The Times Square 1930s

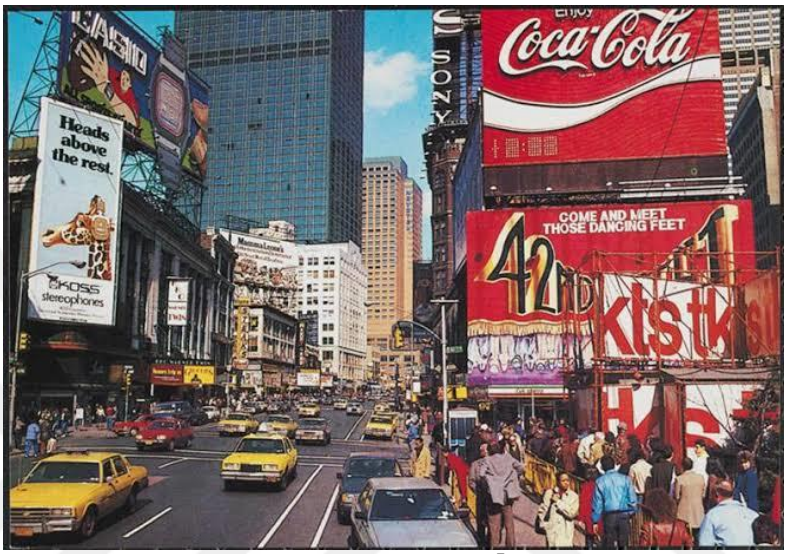
Source: http://www.herogohome.com/2013/11/30/a-serendipitous-discovery/ [Accessed 5 August 2019]

Nonetheless, in the 1930s the 42nd street was the most glamorous street in the world, the core of all the actors, dancers and the theatre world. These theatre elements of artificial lightings inspired and shaped the face of the times square, and also later on they were part of the cinema industry. However, the Times Square at that time was not considered a safe place, with crime happing around and theatres were turned into cinemas and porn shops kept the garish illumination which is a characteristic icon of cinemas and porn shops, since the bright lighting is attracting visitors towards the darker interior. Until the second world war, the area was thriving with visitors, but after the 1960s and mid-70s the area was becoming a sleazy and crime-ridden place and tourists were avoiding the Times Square district.

In the mid-eighties, police and building regulations and guidelines, like the zero tolerance, started changing the face of the Times Square. As (Boyer, 2002) [6] stated:

We could claim that New York City real estate values, and the midtown zoning district that operated between 1982 and 1987 and allowed taller and bulkier skyscrapers from Times Square to Columbus Circle along the Broadway spine, killed Times Square and turned it into a corporate office park

Figure 2.8: Times Square 1980s



Source: Alfred Mainzer, Times Square, 1980. [7]

Furthermore, the regulations for a required number of "LUTSes" (Light Units in Times Square) still gave the illuminated nature to the district, and in 1987 an ordinance instructed the degree of brilliance and the amount of illuminated signage that the buildings must include. The Holiday Inn Crown Plaza building's exterior held the first appearance of LUTS of a giant jukebox in 1989 between 48th street and Broadway.

Consequently, the Times Square was transformed into a theme park for commercial attraction rather being a fundamental public space of an American city. Where each of the structures that line the street between the Eight Avenue and Broadway should now have a layer of spectacular signage that is obvious from a distance, either with light or animation and should have an exceptional visual impression.

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[6] Boyer, M. Christine: The Double Erasure of Times Square, in: lain Borden, Joe Kerr, Jane Rendell, Alicia Pivaro (eds), The unknown city first, Cambridge, MA, 2002, p.37

[7] From dazzling to dirty and back again: a brief history of Times Square: (McMenamin, 2015), (accessed in November 2019)

Figure 2.9: The Times Square 2019

Source: (Cuozzo, 2019) [8]

2.2.4 Las Vegas Development's Role in Media Façades' Uprising

Las Vegas is considered to be a major media attraction in the US, internationally recognized as a major resort city, known mostly for its gambling, entertainment and nightlife, the city branding and the identity that Las Vegas gained made it broadly known as the Entertainment Capital of the World.

Figure 2.10: Pioneer Club, Las Vegas 1952

Source: https://en.wikipedia.org/wiki/Las_Vegas[Accessed 25 November 2019]

[8] Cuozzo, Steve: Times Square will never represent a real part of New York, 2019 (accessed 06 November 2019)

Designed and engineered by LG Electronics, the LED display “canopy” passes along the Fremont Street Experience promenade starting from Main Street to Fourth Street. It is considered the world’s largest projection screen with 457-meter in length and more than 12 million LED modules and a 555,000-watt sound system. The screen creates a holiday atmosphere for the people who are walking on the Fremont Street. Adjustments like enhancing the speed of the images across the display to minimize the blurring and to make the curved images viewable from the ground. The content of the display is mainly animation, moving images, event footage, live feeds and commercial. Recently, there is some developments to its content and new interactive elements will be added enabling people to write customized messages on the screens and vote for the next song or video. (Liu, 2015; Jessie, 2019; Vegas-Experience, n.d.)

Figure 2.11: Viva Vision Canopy in Fremont Street, Las Vegas

Source: https://vegasexperience.com/viva-vision-light-show/ [Accessed 20 November 2019]

2.2.5 Tokyo Development’s Role in Media Façades’ Uprising

Between 1924 and 1925 there was a demographic shift to Nishi west of Shinjuku in Tokyo after the Great Kanto earthquake in 1923, which led to the growth phase from the suburbs and expansion in the transportation sector. Since it is a seismically stable area and mostly escaped the destruction. Construction of large terminals was initiated to contain the increased passenger traffic. The Shinjuku Station had the most significant adjustments. It is located in the west of the financial and political center of the city, in 1925 it became Tokyo’s most-used terminal. (Sundberg, 2019; Freedman, 2010)

As the architect Kenzo Tange stated with other of the Metabolists, that Tokyo constantly modifies the urban fabric of itself and the city has the presence of a sophisticated organism with a metabolism that is highly developed.

When the Metabolists resembled the city to an organism it was not without a specific pattern. Patrick Geddes expressed this analogy of 'city/organism' with this biological concept, he studied the city's sophisticated relationships to both history and the region. Likewise, Ernest Burgess explained the unplanned growth patterns of the city as "Metabolism." (Geddes, 1915; Burgess, 1925; Lin, 2007)

Figure 2.12: Diminutive Shinjuku Station, Tokyo 1930

A diminutive Shinjuku Station, east entrance, c. 1930, is seen at center in the image.

*Source:*http://www.oldtokyo.com/the-bustling-main-street-of-shinjuku-tokyo-c-1930/ [Accessed 06 November 2019]

"In the late 1950s and early 1960s, Shinjuku was the center of artistic ferment in theater, photography, jazz, and dance as well as the visual arts." (Havens, 2006)

Figure 2.13: Shinjuku at Night, Tokyo 1960

Source: http://www.oldtokyo.com/view-of-shinjuku-at-night-c-1960/
[Accessed 06 November 2019]

"A self-sufficient city reveals the ability for persistency in its function/identity/structure through fast changes of urban growth. In order to attain persistency, the processes infer the interdependent scale-relations" (Eken & Alpar Atun, 2019)

Currently, Shinjuku district is compared to New York's Manhattan as it is linked with the cosmopolitan, urban and sophisticated part of the city. It includes three main areas: first is the Shinjuku Street which is a shopping area with large department stores, restaurants and bars and fashionable specialty shops, the second area is Kabukicho district that has the largest nightlife in the city and the third area is The West Side of Shinjuku Station that includes the developed business area and Tokyo's most modernist and tallest skyscrapers with the huge display screens and crowds cross the streets. (Hays, 2009; Japan-Guid, n.d.)

"… Shinjuku was the vortex of 'modern life,' where newness and normality, mediocrity and excitement converged and encircled the station." (Sundberg, 2019; Freedman, 2010)

Figure 2.14: Shinjuku at Night, Tokyo 2019

Source: https://www.thoughtco.com/united-states-russia-relationship-3310275[accessed 06 November 2019]

Another famous district in Tokyo city is Shibuya, it is regarded as the center of pop and youth culture with the department stores and the fast fashion retailors. With its overcrowded buildings filled with pachinko parlors, it was the model for "Blade Runner" movie together with its landscape of colored-light billboards, bars and shops on several floors. Attracting the crowds in day and night, its main vibrant street is the Center Gai, where all the shopping places, nightclubs, karaoke shops and attractions. (Live-Japan , 2019; Hays, 2009)

Figure 2.15: Center Gai of Shibuya District, Tokyo

Source: https://www.gotokyo.org/en/spot/88/index.html
[Accessed 06 November 2019]

Moreover, Akihabara District is Tokyo's “Electric Town." After the World War II, it got its growing as a center of black market activities, and in the 1990s it became known as a place for purchasing personal computers, Over the years many shops that specialized in computer games and videos opened in this area, and it was considered as the ground zero for “otaku” (nerd) culture. Currently it is considered a good spot for electronic products shopping at low prices. In front of Akihabara station there is a street with electronic stores that offers nearly every sort of electric and electronic device possible. (Hays, 2009)

Figure 2.16: Harajuku, Akihabara, Tokyo

Source: https://matadornetwork.com/destinations/asia/japan/tokyo/ [Accessed 06 November 2019]

An example of Tokyo’s modern media façade is the Chanel Tower in Ginza district, which is Tokyo’s version of the New York’s fifth avenue and considered to be more upscale district than Shinjuku. This district is close to Omotesando neighborhood, they also call it the Champs-Élysées of Tokyo, which is also an upscale area that is filled with luxury brand stores that are designed by famous architects, that made the area home for fine architectural designs. The Chanel Tower was designed by the architect Peter Marino and constructed in 2004, and its façade serving as communications media, a fashion icon and a daylighting source, it contains 700,000 embedded light-emitting diodes (LED) which flashes images and messages in the tower’s façade “The important thing it had to achieve was becoming media, rather than a fixed graphic,” says Tanteri, who is one of the Assistant architects of the building, As the façade acts as a lighting source, branding and communication tool as well. (Lubell, 2016; Sullivan, 2007)

Figure 2.17: Chanel Tower Ginza, Tokyo 2004

Source: http://www.tanteri.com/media-facades.html
[Accessed 06 November 2019]

Tokyo is best described as the constantly expanding Hyper-Metropolis city, that is all-adopting and sometimes might be considered as both frightening and mesmerizing. Nevertheless, precisely because the city's architecture is so completely linked with the altering urban design, it can be considered as a laboratory for the urbanized prospect of the Western civilization entirely. (Lin, 2010; Arcspace, 2018)

2.2.6 Capitalism and Media Involvement into Public Spaces

The phrase 'power of media' can be analyzed and discussed in several ways since it has a major significance and implications on the society, and it has a relation to the governmental interferences in media institutions and its content. The significance and identity of media institutions has a great role in constructing the media products, and it has a dominant role in the advertising industry.

As Jean Baudrillard stated: "Capitalism cross-cuts all the web of natural, social, sexual and cultural powers, all languages and their codes." (Baudrillard, 2007)

Since media institutions may have certain qualities with a certain place in the society, culture and commerce. But they are not pre-eminent. The government applies legal and political power to revise their part of operation. However, the groups and individuals

might also have an option to change and redefine media's role to what is acceptable and not to make.

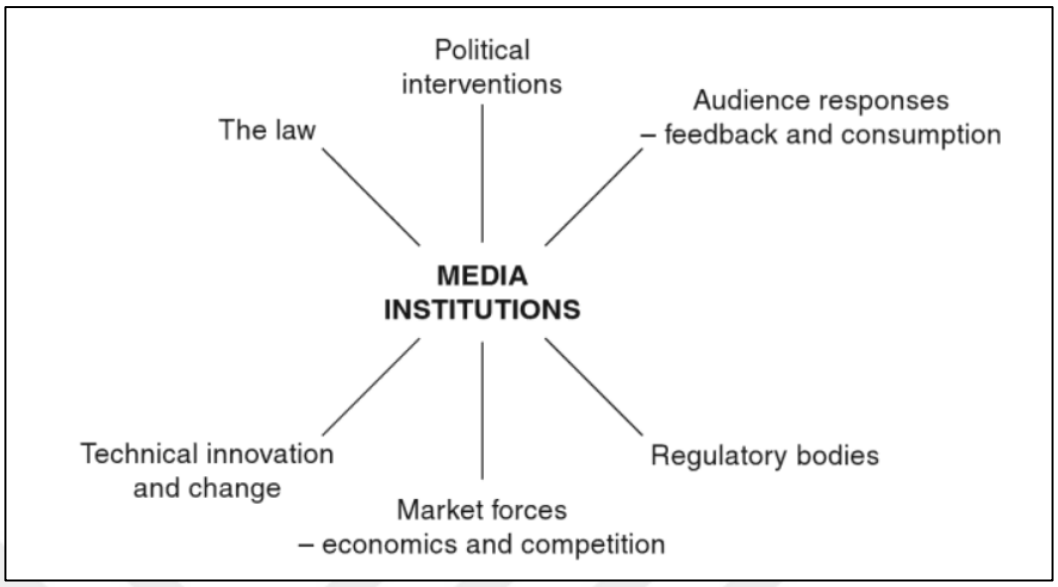
The regulations between the government and the media institutions is considered to be united in self-interest, but not necessarily equal interests. If the media industry was down, some law and controls about the information flow from the government might help. This regulation mechanism is controlled by the government in a direct or indirect way. However, when the government wants to distribute policies, test the people's reactions of new laws, announce information to the public, and mostly present their satisfactory view of their work, they mostly use the media for it. furthermore, although media broadcasters may be bothered of the restrictions on their cross-media ownership and its proportion, they tend to accept being under the government's restrains and limits, due to their knowledge of the financial implications of the government's power to either allowing or stopping things from occurring. Thus, this might affect genuinely the free opinions and the free media.

The relationship between the government and media is similar to an act of power dance between two great institutions. (Burton, 2005)

Moreover, politicians' relationship with media is considered to be collusive, because of the mutual need of politicians to be visible and to have a platform for their positions, with the media's interest is to attract an audience by having access to authority figures.

As an example, the 42nd Street in the Times Square. It is shaped to become an urban territory by the global capitalism, as it alternates signs of the real by the real, where the façades that exists in the area, have been "Disneyfied" and saved, which makes it consumable by the whole family ever since Walt Disney Company opened their store on Times Square, as the so-called "Disneyfication" has begun in the 1990s. (Haeusler, 2009)

Figure 2.18: The Media Power Pressures



Source: Media and society critical perspectives (Burton, 2005)

As stated by Graeme Burton: "The media should not necessarily be seen as dispensing influence and exerting power, media institutions are themselves under pressure from a range of forces, not least those of the varying tastes of their audiences/consumers" (Burton, 2005)

As (McQuail, 2000) stated that the media power can be summarized in how it can direct and attract people's attention and influence their behaviors, how it can persuade the public in the matter of beliefs and opinions, its legitimacy and its consistency of structuring the reality.

"The maintenance of national sovereignty and identity {is} becoming increasingly difficult as the unities of economic and cultural production and consumption become increasingly transnational." (Collins, Garnham, & Locksley, 1999)

The predominance of some products from some sources, like the Hollywood feature movies across the world causing the consuming cultures to create less product of their own, creating some kind of a common dominator of global genres. Which is mostly the 'developed' world trends. however, it may seem to create new forms of a new cultural energy, mixing the traditional regional cultures with other global cultures.

"A globalized culture admits a continuous flow of ideas, information, commitment, values and tastes, mediated through mobile individuals, symbolic tokens and electronic simulations." (Waters, 1995).

The concern of the predominance of some view of the world over another, in terms of news, can be concerning for small agencies compared to the dominating agencies with the 'imperialist' model of cultural production, creating a degree of cultural exchange and cultural clarification that might make the world brainwashed into materialism.

2.3 MEDIA FAÇADES AND PUBLIC SPACES AS A PART OF URBAN CULTURE

Users can be considered to be as the main components of urban places in which the physical qualities and architectural presence play an important role to impact and touch the degree of attachment and the sense of place (Ujang, 2012). Therefore, the sensitive responses of the people towards the buildings might be seen as prominent between each of the personal and circumstantial factors that can affect the valuation of the environment and the architectural charm. There is various standards for the medialised architecture in order it to be an effective element in the urban environment. It depends in what are the public and the concerned parties might benefit from it. Thus, it can be a socially complicated process creating suitable links between the public and the built-up environment with the increased game of technological and economical aspects, the medializing of façades is not only specific for construction process, it is also affecting public users' communicative desires and demands, As mentioned by (Ag4-Mediatecture Company, 2006).[9]

"Public urban space is the space that is not controlled by private individuals or organizations, and hence is open to the public." As stated by (Madanipour, 1996, p. 145)

Silva Kalčić discussed that the videos in the media façades with its new qualities of interactivity can enter our homes through the Internet as the new form of public space, it can be presenting the co-construction or accomplishment of an artwork instead of its

[9] (Ag4-Mediatecture Company, 2006) p.166

passive reception. Architecture has been similarly relevant and liberated from its Vitruvian ancient principles, predominantly consisting of stability and strength. So, it is able now to operate as a video-sculpture in public space or to function similarly as a television set of urban proportions, while being clothed in a media façade.

As (Kalčić, 2012, p. 49) stated that:

Interactivity abolishes distance on principle, introducing direct communication between the artist and the spectator. It is especially with video installations (in architectural or urban spaces) of the so-called closed circle that the traditional roles of subject and object are exchanged, whereby the artist or the observer may become the exhibit or the performer.

Furthermore, media façades' location is very essential factor in this development, because of the social and cultural conditions that each public space have in order to progress the identity of these spaces. However, the architectural-structure part of this process is not intensively different, since the nature of media façades is structurally similar to the regular architectural façades, with the differences of the additional elements that a media façade requires, which varies according to the characteristics of each media façade. (Haeusler, Media Facades, 2009)

Media façade designers and engineers work as partners to the architects trying to form their ideas together to create a more composed and homogenous work together. Thus, creating an overall framework of media façades which empowers the development of the public spaces and creates a more developed spaces that the technology and internet is currently in charge of.

3. MEDIA FAÇADES ANALYSIS

Since media façades are categorized under specific criteria according to each type. which has precise function mechanism, regarding its characteristics and its physical features that distinguishes its appearance respectively. Each type of media façade has specific classification, according to their technical components, therefore a classification of their technology and a classification of their function is important to understand the differentiation between them. Likewise, the variance between the mechanical and electronic media façades components is also important to fully understand and analyze the principles of media façades. Furthermore, the process of designing a media façade is studied, according to the visual appearance of it. A list of the important guidelines that should be considered before designing a media façade:

a. When deciding to design a media façade, weather it is going to be an indoor or an outdoor media façade, as some features are applied to them according to the environment that surrounds them.
b. The media content that is going to be displayed in the media façade, and the nature of it, such as illumination only, text/graphic, low/high resolution, videos with special aspect ratio or live media content like soccer games.
c. The budget of the media façade. Since high resolution media façades require high cost installation systems.
d. The media façade installation type, mobile unit or fixed display.
e. Considering whether the media façade will allow a close-up view, or it is only viewed from a distance, according to the resolution of the screen. And deciding the façade's aspect ratio, if it is an LED display it can be decided by the distance between each LED.
f. The size of the façade. since some installation can be fixed together to create a larger screen, some other systems cannot be stacked due to the nature of their function.
g. The time the media façade that will be used. Day or night, in order to decide the suitable brightness for its function.
h. The orientation of the media façade. Regarding the sun direction and the viewing angle, to create a clear viewing point for the media façade at day and night.

i. The media façade power consumption. It is important to inspect how much power the media façade will consume especially if it will be used around the clock.
j. The construction type of the building's façade should be regarded since it will be affecting the type of the media façade that covers it.
k. The location of the media façade is important, if it exposed to the public areas it may be damaged with vandalism, therefore the media façades that are accessed by the public should be designed as an impact resistant.
l. If the media façade should be able to support itself without an extra substructure, it should have a load-bearing capacity. And if the position of the media façade is going to be placed in the floor and not only on the walls, it should be scratching resistant and load-bearing as well.
m. The maintenance process and how its systems will be installed on the media façade should be regarded including the façade cleaning, since the dust might affect its brightness. And the repairing of its parts if some part got a defect.
n. The safety of the media façades, such as fire resistance according to the local regulations.

These points should be considered in an early stage before designing the media façade, in order to decide with the client and the manufacturer to ensure the success of the project. (Haeusler, Media Facades, 2009)

3.1 MEDIA FAÇADE DEFINITION

Media façade is a term that is used to describe a condition of the architectural façade where its rigidity is manipulated and becoming embedded with the technology and lighting elements which is either built in the façade or projected on it, becoming as a part of its characteristics in order to achieve a medialised purpose of dynamic imagery previews which results as a media presence in the architectural buildings. (Haeusler, Media Facades, 2009)

There is a difference between media architecture and media façade, since the term media can be a visual application describing a series of communicative events, opinions, facts, entertainment and information. With ways such as films, radio, cinemas, television and magazines. While on the other hand, the façade, is the one side of the architectural

building that will be integrated and harmonized with the moving images of the media projections on it which will transform the building into a communicative element.

The first assumption for architecture in the electronic age would be when the presence of electronic information was inserted into the architecture, so it is an extended form of media suite, in which the architecture is no longer a place which provides shelter from the natural environment.

As stated by (Haeusler, Media Facades, 2009):

The contemporary architecture needs to function, in addition, as a means to adjust ourselves to the information environment. it must function as the extended form of skin in relation both to nature and information at once. Architecture today must be a media suite.

Media façades are a part of media architecture, which in its turn is described as media being cooperative with several architectural elements. Thus, inserting a communicative means of entertainment, news and facts, videogames and other information like advertisements into the architectural elements. However, since media façade is the exterior part of media architecture its functions are mainly embedded on the relation between the building's exterior and the outside environment. (Haeusler, Media Facades, 2009)

3.2 MEDIA FAÇADES CLASSIFICATION

Table 3.1: Classification of Media Façades According to Technical Category

Mechanical Media Façade	Interactive Kinetic façade
	Flare façade
	Aperture façade
Projection Technology	CRT (cathode ray tube)
	LCD (liquid crystal display)
	DLP (digital light processing)
	LCoS (liquid crystal om silicon)
	Rear Projection façades Technology
Illuminants Technology	Arc lamps
	Incandescent lamps
	Electroluminescent (EL) lamps
	Gas discharge lamps
	High-intensity discharge lamps
Display Technology	Stealth technology
	MiPix 20 technology
	SmartSlab technology
	MediaMesh / Illumesh technology
Customized Technology	**Example: GreenPix, Beijing**
Voxel Façades Technology	**Example: Nova System, Zurich** **Example: Light Cloud (Pixel Cloud), London**

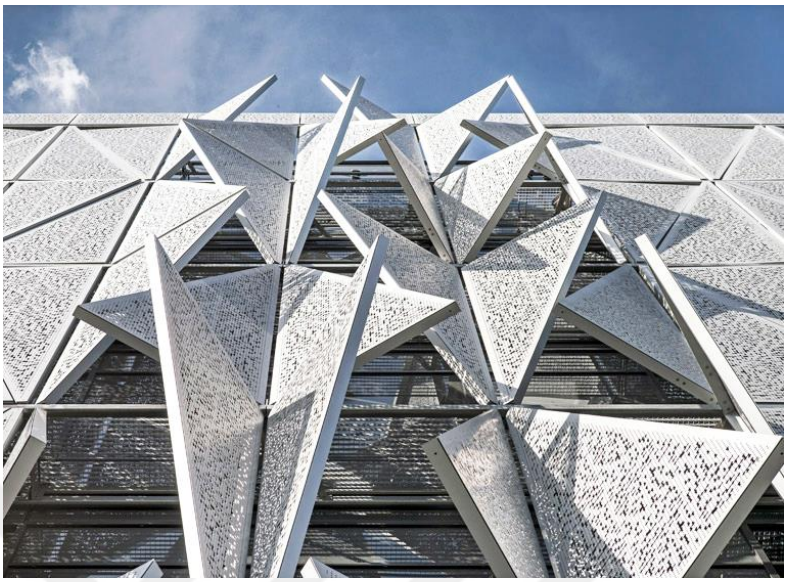
3.2.1 Mechanical Functioning Media Façade

Examples on mechanical façades:

3.2.1.1 Interactive Kinetic Façades

The interactive façade system is considered to be façade technology, which is responsive towards the surrounding environment, it is physically tangible that is constructed of single parts that are being controlled and moved by an electrical motor.

Figure 3.1: The Syddansk Universitet Communications and Design Building 2015



Source: https://www.dezeen.com/2015/07/14/henning-larsen-syddansk-universitet-sdu-kolding-campus-building-denmark-green-standards-university/ [Accessed 5 August 2019]

3.2.1.2 Flare Façades

It is a prototype design of a mechanical façade that functions with the use of pneumatics to alter between its appearances, it is consisted from number of metal flake parts that are called flare units. Its system can be controlled individually to adjust the flake part into countless number of sets and at any building or wall, making the façade like a living skin that allows to express interact and communicate with the surroundings.

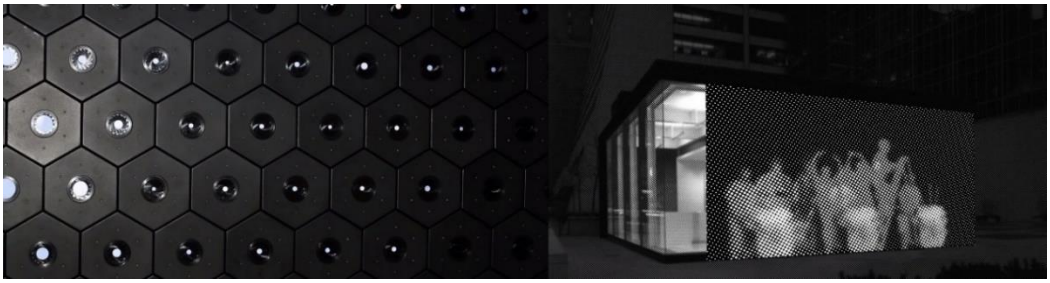
Figure 3.2: Rendering of Building Covered with Flare Façade System

Source: WHITEvoid interactive art & design

3.2.1.3 Aperture Façades

It is a prototype system developed as a narrative and interactive façade design that consist of an iris diaphragm matrix, in which the façades surface with the apertures' opening diameters is enriched by the dynamic transparency which can create a wide communication channel between the inside and the outside. The iris of the aperture has variety of diameter openings, it can be as camera lenses with a sensor for light and to capture an image. Also, each one of the apertures can be used as a pixel to represent an imagery.

Figure 3.3: Aperture Façade Prototype System



Source: http://www.thegreeneyl.com/aperture [Accessed 5 August 2019]

3.2.2 Projection Façade and Video Mapping Technology

Light projection technology is applied with the use of a projector placed on a building fronting the façade that is used as a projection screen. The architectural façade of the

building is used as an illumination in daylight or with an artificial light at night. Creating the atmosphere of media façade by manipulating colors and lights in the buildings. There is also the rear projection facades technology which uses the projector behind a transparent projection surface to project images.

However light projection of the sole use of lights and colors is not regarded as part of "media façades" as it is regarded as a light architecture. On the other hand, if the projected light was motion pictures or an image it would be regarded as a video mapping media façade.

3.2.2.1 Samsung Galaxy S III 4D Projection Video Mapping in Rumeli Hisari 2012

On the launch of Samsung Galaxy S III, the video mapping was done in Rumeli Hisari Castle by Dream Box company, where the launch's main part was observed by VIP group in a yacht in the dock of the Bosporus. The company managed to apply a scenario where the three towers of Rumeli Hisari talk to each other and talk to the city. The work was awarded by the 2013 DSE Apex Awards of ''SILVER – Public Spaces / Samsung Galaxy S3 Launch 4D Video Mapping''

Figure 3.4: Samsung Galaxy Projection Istanbul 2012

Source: *http://www.dream-box.tv/en/works/samsung-s3-video-mapping* [Accessed 5 August 2019]

3.2.2.2 Spectra Light Festival in Aberdeen Scotland 2016

The festival of light illuminated the city Centre of Aberdeen in February 2016 in celebration of the Scottish Year of Architecture, Innovation & Design through the theme "Spark of Inspiration"

Figure 3.5: Spectra Aberdeen light Projection Scotland 2016

Source: https://www.curatedplace.com/spectra-2016 [Accessed 5 August 2019]

3.2.2.3 Cologne Cathedral Illuminated for Peace 2018

The Cologne Cathedral's southern façade was light illuminated in 2018 in intention to commemorate the end of the first world war 100 years ago in Cologne, "This building certainly has more to say to us than we do to it," said Detlev Hartung. "But we are very confident that this combination of space, light and sound will create images that will inspire further thought." And as the cathedral provost Gerd Bachner stated, "We want to send a clear message to the world: Germany takes a stand against hatred." [10].

[10] https://www.dw.com/en/remembering-world-war-i-cologne-cathedral-illuminated-for-peace/a-45648271

Figure 3.6: Cologne Cathedral 2018

*Source:*https://www.dw.com/en/remembering-world-war-i-cologne-cathedral-illuminated-for-peace/a-45648271 [Accessed 10 September 2019]

3.2.2.4 Galata Tower 2018

This event was created by cream studio for the Istanbul Youth Festival's promotional campaign. It was performed on Galata Tower, one of Istanbul's most authentic historical landmarks, in order to create a remarkable experience to the viewers and to endorse the brand's innovative visual designs. "The contrast between the deep historical roots and the energy of youth has created an amazing mood for the large number of visitors everyday" (Cream Studio, 2019).

Figure 3.7: Galata Tower Istanbul 2018

Source: https://www.creamstudio.tv/galata-tower-projection-mapping-experience[Accessed 10 September 2019]

3.2.2.5 Royal Ontario Museum Outdoor Projection 2014

In this building, light gobos were used to create a dynamic display of architectural lighting and projection on the exterior façade of the museum by Moment Factory.

Figure 3.8: Royal Ontario Museum Outdoor Projection 2014

Source: https://momentfactory.com/work/shows/ceremonies-events/rom-centennial-ball [Accessed 10 September 2019]

3.2.3 Illuminant Façade Technology

The illuminant façade technology is used mostly on existing window grids on buildings animated with fluorescent or halogen lamps, where each window functions as a single pixel. It can cover large building area with dimmable light-bulbs or neon tubes, it can be easily installed and project low resolution animations or messages, and also display black and white low-resolution images.

Table 3.2: Illuminant Technology System Parameters

Illuminant technology system parameters:
• Use during twilight hours and at night
• Illumination of large building areas
• Exceptional color depth, fascinating vibrancy
• Transparent stainless-steel fabric
• Low weight
• Easy installation
• Minimum maintenance costs
• Weather and temperature resistant
• Sustainability thanks to the use of stainless steel as the carrier material and replaceable LED profiles
• Lower energy consumption than with conventional billboards

Source: https://gkdusa.com/download.php?file=PDF/Broschueren-Flyer/GKD_Mediamesh-Illumesh_Broschuere_web_EN_01-19.pdf (p.6) [Accessed 10 September 2019]

3.2.3.1 Iluma Urban Entertainment Center, Singapore 2009

The Iluma center was designed by WOHA architects, and the media façade was constructed by Million lighting company. Its display requires a matrix of light points, made of fluorescent lamps and it needed a special structure to clad the light points together. The media façade of the ILUMA building blurs boundaries as it blends with the media screen concept with ornamental architectural screen filtering the light and air blending the futuristic shapes with its 1970s Vegas style.

Figure 3.9: Iluma Urban Entertainment Center, Singapore 2009

Source: https://www.designboom.com/architecture/realities-united-iluma-interactive-media-facade/ [Accessed 10 September 2019]

3.2.4 Display Façade Technology

The Display façade technology is consisted of several types of screen systems technologies, they are all can be easily installed in a large format on space-driving elements, like walls for example. Different than the CRT based screens that was explained as heavy and wide to be used in larger screens sizes in media façades. The most common display systems are:

3.2.4.1 EPD (Electronic paper display or e-paper)

This display system is designed to mimic the appearance of the ink on paper, in which the "ink" consist of electrophoretic and forms visible images through repositioning charged pigment particles with the use of an electric field. However, this screen is distinguished because it stays active even after disconnected from power source.

3.2.4.2 IMOD (Interferometric modular display)

It is composed of etalons or miniature Fabry-Perot interferometers, electrically switched with a transparent plate with two reflecting surfaces or highly reflective mirrors, that can be switched on and off, this system is based on nanotechnology.

3.2.4.3 OLED (Organic light emitting diode)

It is the light-emitting diode (LED) in which its emissive electroluminescent layer is composed of a film of organic compounds. Its organic compounds are mainly printed on a polymer element in rows and columns in a pixel matrix which each pixel can emit the light in different colors.

3.2.4.4 FED (Field emission display)

It is a type of a flat screen with the technology of field-emitting cathodes to bombard phosphor coatings as the light emissive medium. The FED is very similar to cathode ray tube technology but with a few millimeters thick.

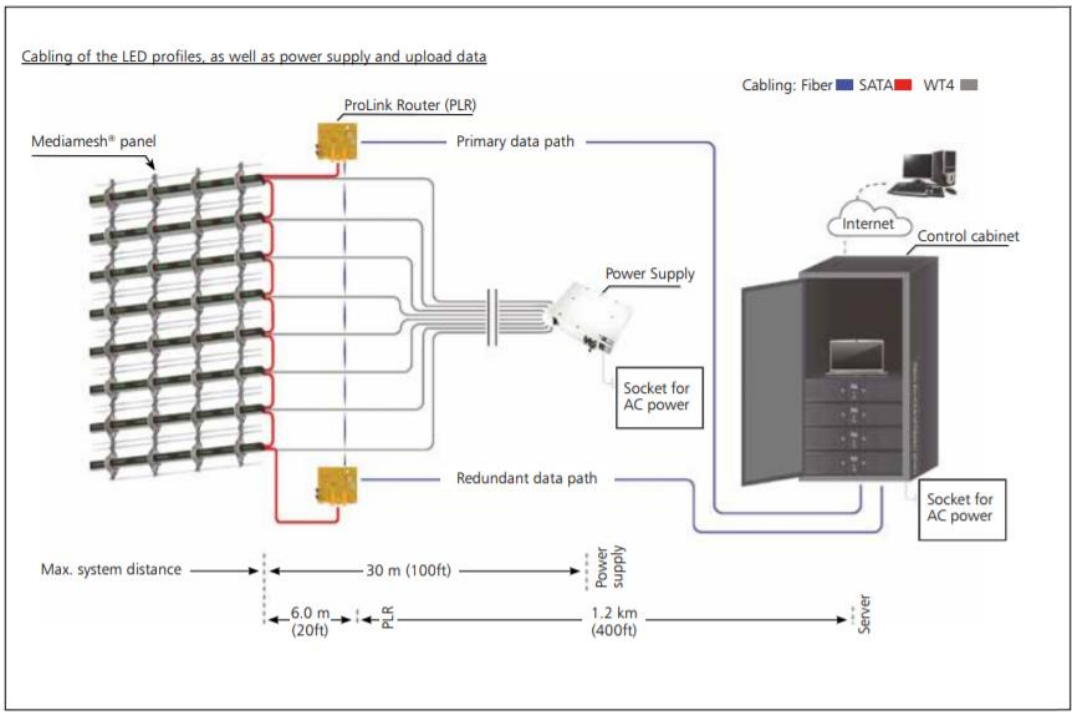
These technologies mentioned are the potential future large screen technologies, but at the present time, the most commonly used screen technologies are:

3.2.4.5 LCD Screen

The liquid crystal flat tv screen displays are very commonly used in these times, not only on tv screens, but in all modern technology uses like car displays, wristwatches, stereos and computer displays. The LCD panel is a “transmissive display” that relies on a separated light source allowing the light to pass through to the eye. The light source is a thin lamp that is situated behind the LCD panel. Once light passes through the liquid crystal layer of the polarizing filter, afterwards it goes through a color filter that each cell will be represented one of the three primary colors of the light. The disadvantages of the LCD screen is the poor black levels, slow responsivity, limited viewing angles and high prices due to its construction difficulties of having possible defective pixels during the manufacturing process. However, its advantages are a lower power consumption less than the projection systems and the plasma, with a slim profile.

Figure 3.10: Planning and Installation of MEDIAMESH

Four basic parameters for technical application



Source: (GKD World Wide Wave, 2019)

The four parameters that regulates the subsequent application and the technical configuration are the viewing distance, the resolution, the size of the media façade, and the brightness. However, the main influence in the required resolution is the viewing distance, the smaller the distance between the viewer and the media façade, the tighter the pixel pitch must be in order to project an identifiable and detailed image. (GKD World Wide Wave, 2019)

3.2.4.6 Plasma Screen

In the flat plasma tv screens there is a built-in computer that controls and changes the enormous number of tiny fluorescent spots or pixels in the accurate timing and accurate sequence. The screen lighting is created with electricity and the color of the pixels is green, red and blue. Any color can be made through combining these colored pixels together and changing their intensities, therefore the plasma tv can generate any color from the entire color spectrum. The plasma screen has two parts of glass sheets and between them there is “spacers” in which creates the individual cells. The back glass is called “address electrodes” and transparent electrodes which they are coated from inside

the front and back of each glass. The cells are coated with phosphor and loaded with a mix of xenon and neon gases. Thus, no gas can escape out of the structure because it is sealed. A voltage differential is created through an electric charge that is added to the front and back electrodes to create the image of the screen. The working mechanism is when the plasma state is accomplished once the energy is added to the gas mixture, after the mixture of gas is changes into the plasma state, its ultraviolet energy gets released, stimulating the phosphor coating inside the cells and emitting a visible light. The cells contains RGB phosphor and each pixel of the screen is made of three cells. The advantages of the plasma screen system is in comparing to CRT screens, they are slim and light in shape, also with an improved viewing points and angles more than the LCD screen as well as enhancing the colors reproduction. The most important disadvantage of both LCD and plasma systems is that they both have a frame that surrounds the screen, and when it comes to large scale screen, it creates a division between the screen segments, and it splits them. The LED screen system does not require any dividing frames around the screen, so they can be stacked together better.

3.2.4.7 LED Screens

The LED screen systems consist of two main types of panels: one is conventional, with the use of discrete LEDs and the other is Surface Mounted Device (SMD) panels. The majority of outdoors screens and some indoor screens are built around discrete LEDs, as individually mounted LEDs. With a combination of blue, red and green diodes that are formed together to create a full-color pixel, and they usually come as a square in shape. The pixels are centered and separated equally to create an absolute pixel resolution. And these panels can be stacked together for larger screen sizes. Most screens are built in the market using the SMD technology. The pixel in this technology consist of blue, red and green diodes that are mounted on a chipset , which is afterwards mounted on the driver PC board. These individual diodes are set very close to each other and have the size of a pinhead. The difference between the two types is the viewing distance of the SMD is 25% reduced compared to the discrete diode screen that have the same resolution. The indoor use of LED screen usually requires the SMD type technology which has a brightness of 600 candelas per square meter, which is very sufficient for the use of retail and corporate applications. However, if the conditions require higher ambient-brightness, then a higher

brightness will be needed for visibility, for example stage lighting of auto shows and fashion shows require higher LED brightness. (Haeusler, Media Facades, 2009)

Rockheim Museum, Trondheim, Norway 2010:

The Rockheim Museum in Trondheim, Norway it is a national museum for Rock and Pop, opened in 2010. It has a generative video LED display façade that is considered to be rather low-resolution, forming a shape of a "box" that turns in all directions with a varying pixel density.[11]

Figure 3.11: Rockheim Museum, Trondheim, Norway 2010

Source: https://www.mediaarchitecture.org/rockheim-museum-trondheim/ [Accessed 10 September 2019]

3.2.5 Customized Façade Technology

There is some designs that require on their exterior façade a customized display that is based on LED technology, it is convenient because of the better availability of LED and the decreasing of its costs with other options of illumination technology. Some aspects should be taken into consideration while designing a custom-made media façade, such as the LED elements should be situated equally on the surface and the distance between them should be equal, also the distance between the beholder to the surface of the media

[11] http://mariuswatz.com/2012/02/07/arcs-rockheim/. (2012)

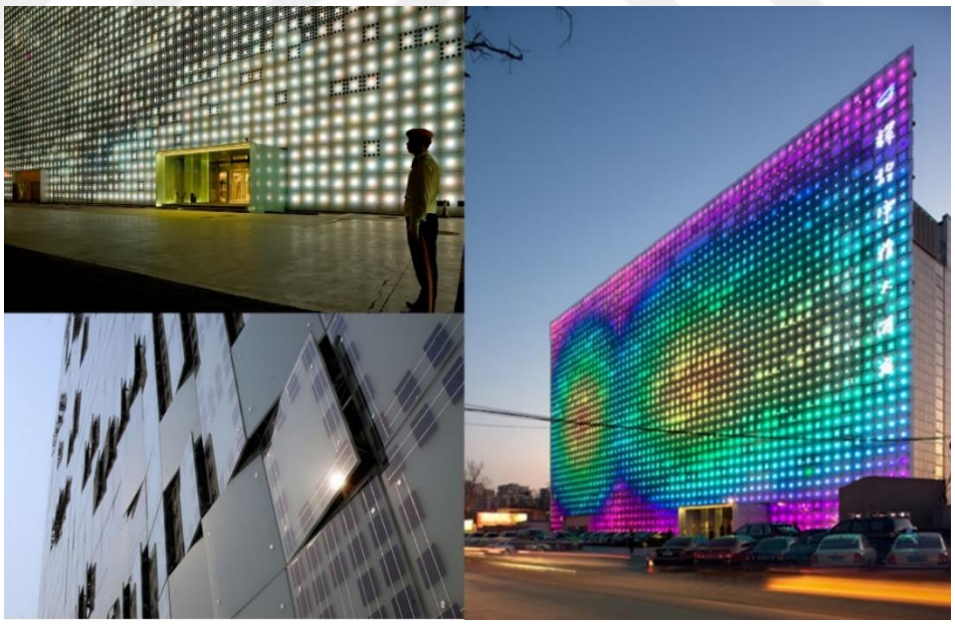
façade should be considered, another aspect is that the elements of the media façade should seem embedded into the façade and not as an add-on.

3.2.5.1 GreenPix, Beijing 2008

This building is considered to be a Zero Energy Media Wall design, regarded as the world's largest color LED display. Designed by Simone Giostra & Partners and ARUP, the building is located in Xicui Road, Beijing. The curtain wall of the building is covering the Xicui entertainment complex's front, next to the 2008 Olympic Games site. The glass curtain wall is integrated with a photovoltaic system that powers it. This combination of LED technology and photovoltaic system allows the energy to be formed by the day to be consumed at the night, which makes the building like an organic system. The photovoltaic cells are placed in a position to reduce the heat gain into the building and transformed the excessive solar radiations into energy for the media façade.

The screen provides content of art-oriented platforms which makes this media façade the first public digital art space. (Haeusler, 2009)

Figure 3.12: GreenPix, Beijing 2008



Source: https://www.archdaily.com/245/greenpix-zero-energy-media-wall [Accessed 10 September 2019]

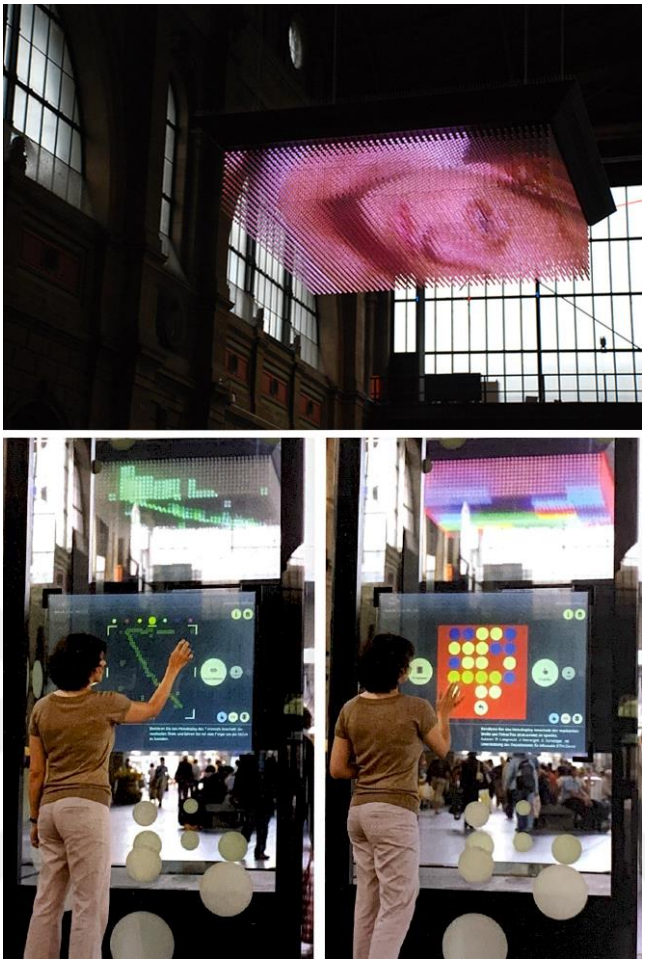
3.2.6 Voxel Façade Technology

The Voxel Façade Technology is considered to be a 3D-display technology which is created from a static object that display images without any moving elements. The difference between the 2D and the 3D images display is that the pixels in a 2D-display are organized in X and Y direction, but the pixels in the 3D-displays have X,Y and Z directions. Creating the 'Voxel' which is a term of a volumetric and pixel together. This means that a voxel in the 3D-data is similar to the pixel in a 2D-data. This technique is considered to be recent and it is usually used in the indoor media façade applications.

3.2.6.1 Nova System, Zurich 2006

The ETH Zurich (Swiss Federal Institute of Technology) disclosed a 25 cubic meters shaped 3D-display that is named NOVA in the celebration of 150th anniversary of the central station in Zurich city. It was designed by Friedrich Wanner and developed by the ETH Zurich. The process of the installation was building the 5 x 5 x 1 meters with a number of 25,000 Voxel elements that are 100 mm distant from each other. The voxels can create customized physical objects because of their strings that can adjust length. People can interact with NOVA by a touch screen (Figure 3.13: Nova System, Zurich 2006they can adjust and create a variety of potential content in real time. This creates a real science experience to the public with distinct content possibilities such as the alteration of the colors through the color wheel screen and tic-tac-toe games. Nova enhances enriches and the role of the 3D-displays and the media technologies in the public spaces. (Haeusler, Media Facades, 2009)

Figure 3.13: Nova System, Zurich 2006



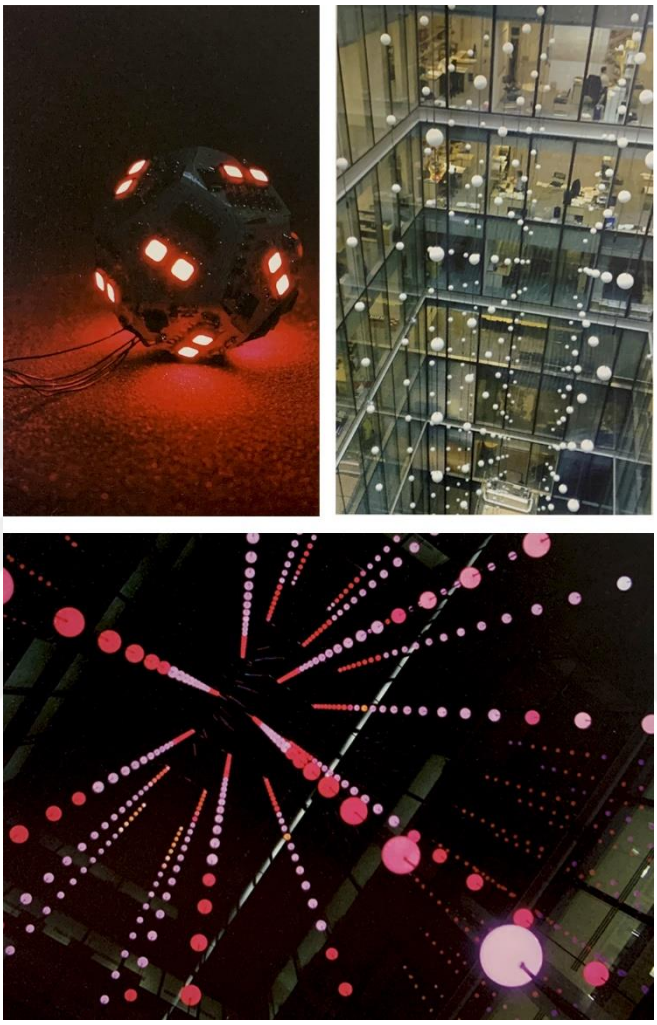
Source: (Haeusler, Media Facades, 2009, p. 206; Vimalassery, 2008) [Accessed 10 September 2019]

3.2.6.2 Light Cloud (Pixel Cloud), London 2007

Pixel Cloud is another Voxel façade system, which a static LED-based 3D-display located in the Hall of the Allen & Overy building at Bishops Square, London. The concept and design of the "Pixel Cloud" was developed by the Jason Bruges Studio in London, and the building was designed by Foster + Partners. The structure is built as an indoor system and its concept idea is to respond to natural phenomena like the weather in order to invoke to the public's overall reach, and its updating speed matches the LCD screen which makes a flexible and fluid transmission of colors. The 3D-display is suspended from a steel structure with 624 voxels, each one contains 24 RGB and LEDs that are in a folded composition. Each voxel can be addressed as a specific to generate any light or color intensity. The content of the installation varies between video playback or weather

feeds, operated by the client software and the server software operates the voxels conditions in the installation.

Figure 3.14: Light Cloud (Pixel Cloud)
London 2007



Source: (Haeusler, Media Facades, 2009, p. 212)

3.3 MEDIA FAÇADE AND ADVERTISEMENT PROGRAMMING MECHANISM

The programming of the media façade can be applied towards several directions altering between video content to colorful image display. However, there is a misconception about video programming that it may lead to uncontrolled flood of images based on the present electronic media, therefore the responsible of them tend to apply certain mechanisms of a display to a whole façade in order to present electronic images on a large surface.

Since the viewers has a manner of observing daily television displays they therefore tend to have a certain perceptions of waiting the displays to entertain them or have continuous and recent information to offer, therefore the media façade is considered to provide the same visual center stage that the television might give, but the relationship between the viewer and the medialised façade cannot be compared to his relationship with the television.

Subsequently the awareness of the viewer towards the electronic images in public spaces cannot be complete, due to numerous outside influences that might interrupt with their perceiving of the media façade. Therefore, advertisements in media façade cannot achieve its total goals, because most of advertisements relies on some sort of a punchline in their ads, and when the audience are constantly in motion they cannot pay attention and follow-up with even simple ads. Consequently, advertisements' programming in media façades has different standards and approaches than the programming for advertisements in normal television displays. Which provides different standards and outlines. For example, a LED screen ad in a media façade building should give the information quickly and briefly in a much shorter time than the television ads, because the audience whom are viewing it are in different circumstances than the television audience, they are in a constant motion and have several distractions. Therefore, the ad should be very specific, and it should give the idea in seconds, without the spectators' maximum attention.

The strong relation between the building's users and owners, city atmosphere and the continuing social developments makes the content parameters and the programmers in a constant development, and they have to be redefined in each different media façade, which gives a great opportunity to nurture the contemporary urban culture. Therefore, this medialization of buildings' façade made elevated the urban environment to a joint reflection. For example, if an advertisement was somehow inconvenient for any group of audience for any reason, it can be changed in no matter of time. Since it is projected to a wide group of people and it is being viewed in a public space. Because previously, the ads were only previewed in private places, with no public interaction, which created sort of a barrier between the ad makers and the audience, but now with the modern development of the advertisement industries and their public involvement with the audiences, making the spectator an active part rather than just passive viewers with no interaction with the source or even with other viewers. This way of giving information

and advertisement creates more harmony in the public spaces and within the urban environment and it stimulates the society to ask themselves and oppose their point of view of what kind of urban atmosphere they want to live in ?

3.3.1 Interactive Programming

The interactive programming is applied where the option of interacting and being a participant in the media façades belongs to pivotal attributes of digital media. The user's involvement into media programming in buildings improves the perception and identification with the media façade and its contents. Therefore, media façades becomes more integrated with the urban environment that displays a variation of uses when the possibility of playful interaction or the creative participation occurs on it. Also, the interactive displays are not only exciting for the active users, but also for the passive users, such as the use of classical video games similar to Pac-Man and Pong games, since these are games from the 80s, they are still being a part of this technology until this day. With the new utilities that are connected with media façades like the smart phones, laptops and other mobile equipment that gives the interactive possibilities a new wide range. Furthermore, new technologies are added every day to this such as camera recognition and motions scans creating a new and sensational spatial dimension to these spaces. (Ag4-Mediatecture Company, 2006, p. 20).

An example of that is the T-Mobile Headquarters in Bonn, Germany.

Figure 3.15: T-Mobile Headquarters in Bonn, Germany

Source: (Ag4-Mediatecture Company, 2006, pp. 22-23)

T-Mobile is Telecommunications company in Bonn, Germany that has several branches around the world, their corporate management were looking for a creative way of presenting the company's identity in this headquarters branch. They made a contract with ag4 mediatecture company who constructed the world's first transparent media façade, where they combined architecture and media. With a 30m-wide, 10m-high glass façade and the vertical beams were set in front of it with a static connection to the building's steel construction. (Ag4-Mediatecture Company, 2006, p. 25).

Figure 3.16: T-Mobile Headquarters in Bonn, Germany

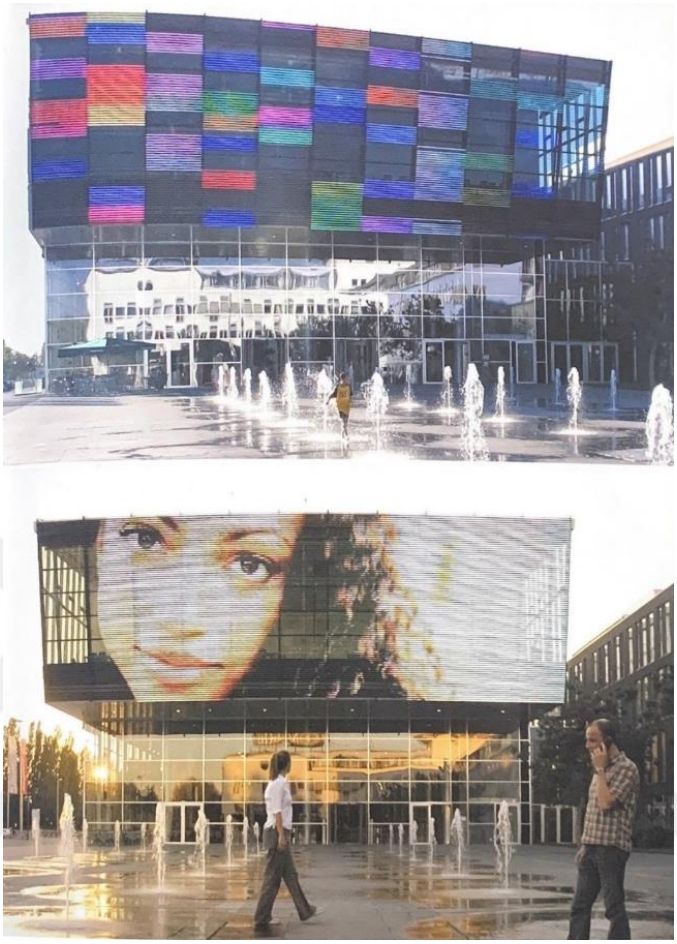
Source: (Ag4-Mediatecture Company, 2006, p. 24)

The beams of the building were integrated with most of the electronic components. Over 250.000 light emitting diodes are attached to horizontal aluminum slats. they were

especially personalized to make the designed waterproof LED-cards. The transparent part was created due to the large pixel distance. The building's identity is signed by the graphics, videos and logo-animations, where the company’s events and culture is visible inside and outside the corporate's headquarters. The media façade potential has exceeded T-Mobile’s expectations, where it does not only preview the company’s logo, but the entire brand is staged by the moving images and videos.

The square in front of the company was turned into an interactive playground, where people’s movements can be recorded from a camera and it is directly merged to the media façade display, which provides a fun and interactive possibilities during lunch breaks with activities like video games interactions and projecting images and videos from mobile phones. The display can view and animate the current events that the company has and informs the viewer toward T-Mobile’s latest events and news. (Ag4-Mediatecture Company, 2006, p. 25)

Figure 3.17: T-Mobile Headquarters in Bonn, Germany



Source: (Ag4-Mediatecture Company, 2006, p. 27)

3.3.2 Auto-active Programming

The Autoactive programming consists of inserting a classical imagery and video materials with other elements such as animated texts and graphics. Where the modular content management systems is applied, and it is designed in a way to be precisely constructed to each individual client's requirements and the Autoactive display is managed by these systems. It delivers the medialised façade with the up-to-date requirements without the need for intensive editing supervision. The Autoactive programming is especially suitable for emotional imagery, information providing and brand communication. Its effectiveness is fully accomplished as a communicative accompaniment and when it is used covering live events. (Ag4-Mediatecture Company, 2006).

However, the repetition of the imagery cannot be avoided in the Autoactive programming due to the limited amount and length of the images, therefore the content management system presents the units by constantly altering combinations or might integrate them into an interactive or reactive background display by organizing its contents into small units. As stated in (Ag4-Mediatecture Company, 2006, p. 70)

An example of that is the Galeria Kaufhof Alexanderplatz in Berlin, Germany

Figure 3.18: Galeria Kaufhof Alexanderplatz in Berlin, Germany

Source: (Ag4-Mediatecture Company, 2006, p. 75)

The building was renovated, and it was planned to integrate a media façade into its original natural stone façade. The ag4 mediatecture proposed an installation of a transparent media façade placed in front of the wide windows. Opposing to the normal LED displays which is placed in front of the stone façade similar to a stamp, where media façade perfectly joins in with the building due to the size of it and the surrounding architecture of the Alexanderplatz.

The making of this media façade allowed Galeria Kaufhof to promote its brand not only by the building itself but by projecting the site within the city. Also, it can be used as a large runway for products and fashion shows. The media façade also compliments this building playing a role in its diverse activities, broadcasting several large-scale events like the soccer World cup in 2006. While in everyday events, the media façade broadcasts

the events that happens inside the building to the outside, with cameras that captures what happens inside the building and projects it to the outside as auto-active live events on the façade. (Ag4-Mediatecture Company, 2006, p. 74).

Figure 3.19: Galeria Kaufhof Alexanderplatz in Berlin, Germany

Source: (Ag4-Mediatecture Company, 2006, p. 75)

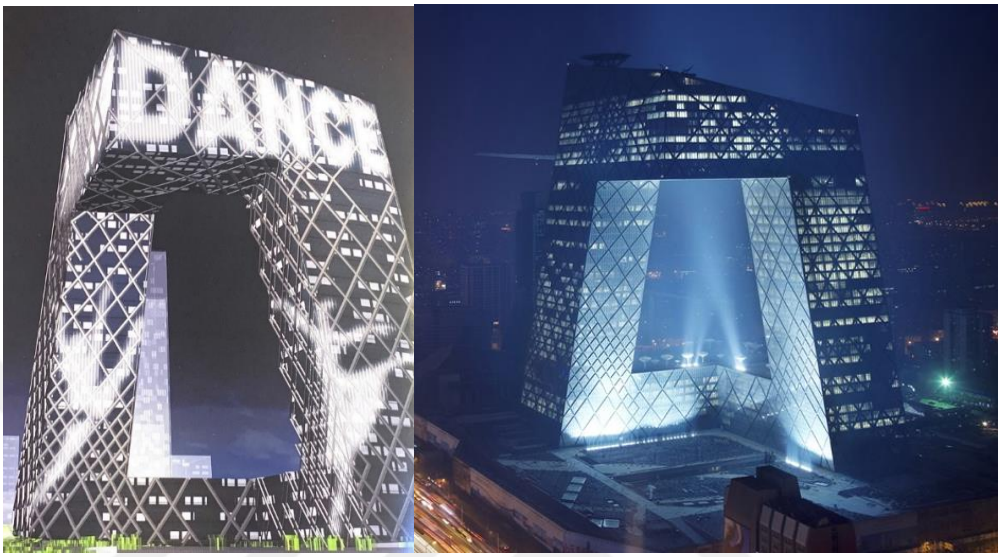
3.3.3 Reactive Programming

An external parameter create an unlimited variety of images, where the contents of media façades and the events of the surrounding urban environment are directly related. When each viewer can be targeted at his precise point in space and time. for example, weather and light sensors and cameras with the modern software technologies can gather external informative parameters in real time and transfer this data into the media contents, and the media façade accordingly responds and transfer it to the viewers, creating an interactive live environment. also, quantitative information such as stock exchange prices and traffic conditions. Making the media façade not only an outer building factor but turning it into an informative mirror that reacts to the surrounding environment. Since the new technologies decreasing from the computer game industries enables of constantly changing the high-quality images, Therefore, the Reactive programming is not limited in time but recreates a new presentation every second. And the quality of the reactive content is defined by the choice of influencing factors as well as the adequate choreography of

the generated images over a long-time span. These qualities make the reactive content an ideal base-display for media façades. (Kronhagel et al. 2006, p. 108).

An example of that is the CCTV Broadcasting Station in Beijing, China

Figure 3.20: CCTV Broadcasting Station in Beijing, China



Source: (ag4 Media Façades 2006, p.128)

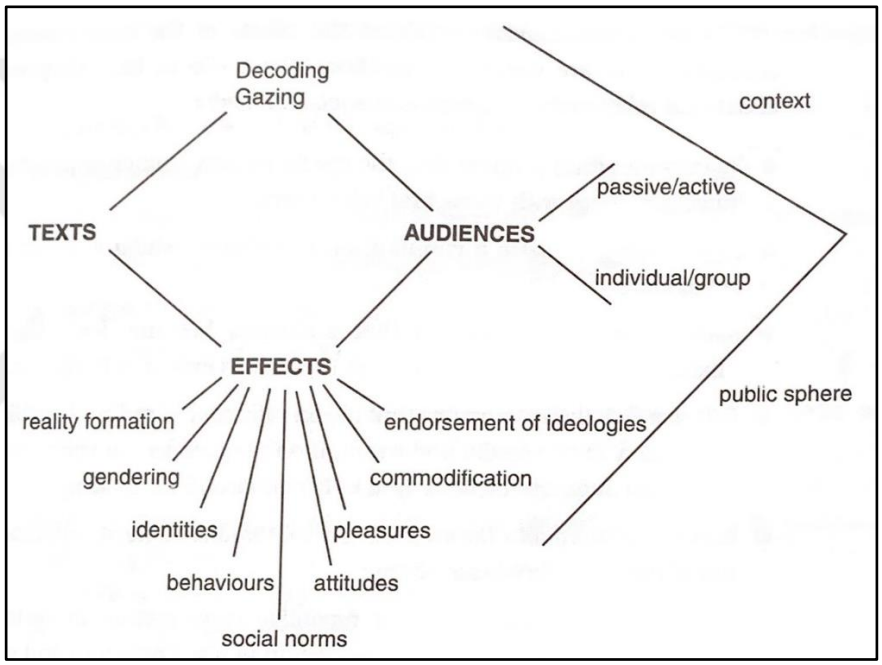
The tower serves as headquarters for China Media Group, Rem Koolhaas and Ole Scheeren of OMA were the architects in charge for the building. The ag4 group managed to develop a concept to medialise the façade but the challenge was to find an economical way to medialise a 230 meters tall building. The structure of the building is being mirrored with a large diagonal lattice system on its façade, where the LEDs is applied, and the media façade is reduced only to the latticing part therefore it is limited with a low resolution. However, an extensive range of moving images could be displayed on it. Another concept was to apply a vertical medialised profiles, creating larger area for the media façade but with higher cost. This LED structure enabled representation of images and animated fonts on the whole building façade, where the reactive media programming is applied, and it is allowed the consisted changing of forms and colors with an interaction with the external influences like traffic wind and light. (Kronhagel et al. 2006, p. 130).

3.4 THE CONTENT AND AUDIENCE OF MEDIA FAÇADE

The media façade's content and audience have a massive impact in media façade industry and plays a major role in the media façade process. As it is linked directly to the relation between the viewers and the directors and programmers of the media façade.

The terms “media do things to people” and “people do things to media” are considered to be both true, as the media is influencing the audience that have their cultural, social and personal factors which also have an impact on their perception of media, with their social backgrounds and their changing personal circumstances. Also, the media’s influence is regraded if the media is speaking of values and attitudes of their audience, as media plays a role in affecting the attitudes of some social behaviors and sometimes altering their opinions. (Burton, 2005)

Figure 3.21: The Interaction of Audiences and Texts, within Given Contexts, Produces a Range of Possible Effects.



Source: (Burton, 2005, p. 99)

3.4.1 Media Façade Audience Classification and Interaction

The Categorization of Media Façade’s Audience derives according to a variety of conditions that affects and influences each one of the media façade’s spectators. The surrounding environment, the cultural background, the density of the inhabitants, the city’s history and the people’s own different experiences, social life, educational background and age groups will have its impacts on how they will react to the media façade.

A study of two architecture students, (Moghaddam & Ibrahim, 2016) ‘’people's evaluation towards media façade as new urban landmarks at night’’ found twelve

characteristics that determines media façade's functioning qualities, which is : uniqueness landmark, different nocturnal appearance, dynamic color, informative lighting, artistic lighting performance, on-going process, match content with building, permanent Installation, dynamic advertisement, covert interaction, overt interaction, and predesigned interaction. All the found attributes are related to dynamicity and interactivity as the main dimensions.

"The spectacle is not a collection of images; it is a social relation between people that is mediated by images". (Debord, 2002)

The Spectators of media façades can be characterized in three main categories: the Flaneurs, who are just passing by and wondering around the space without taking the consideration to observe, The Passive Spectators who does not want to observe or they are not interested in interacting with the media façade or any attractions, and The Active Spectators who would be attracted to the media façade and would want to engage with it and they might interact with its content accordingly. These categories are linked with how the observers of the media façade react and behave when they encounter media façades, in addition to a variety of circumstances that affect the spectators' interactivity when they encounter a media façade. Such as their mindfulness and consciousness state while passing by the area, if they are alone or in a group, the timing of their encountering with the media façade, the type of the media façade and its surrounding environment and the spectators' personal preferences and expertise in dealing with technology and media façades. All of these conditions affect the way people react and respond to the media façade. (Dalsgård, 2008; Brynskov M., 2009)

In a study done by (Brynskov M., 2009) to Stage Urban interaction towards media façades it was described how social interaction are explained in situational interaction flexibility.

Table 3.3: Interaction Patterns

Initiation	Interaction Style	Relation
Pass and notice	Basic exploration	Individual
Pass and interact	Visual engagement	Group
Walk-up-and-use	Embodied engagement	Family
Watch and join	Narrative and empathic engagement	Social
Watch and take over	Showing off	
Return	Hacking/unintended use	

Source: (Brynskov M., 2009, p. 161)

Another study by (Fatah Gen. Schieck & Fan, 2012) that observed a few people who pass by the screen they then stop and return to interact with the screen content. This pattern of behavior appeared few times throughout the final experiment ‘pass-by-and-use’

Figure 3.22: The Pass-by-and-use Behavior of People with Media Façades

Source: (Fatah Gen. Schieck & Fan, Connected Urban Spaces: exploring interactions mediated through situated networked screens, 2012, p. 8201:5)

As an example of the Active Spectator, UTV Company designed a Retro Gaming Consoles in Macquarie Mall, Liverpool as an interactive piece that would be activating the public space in case of an event or prior to a film. The users of this Interactive Media Façade are mostly younger active groups that are more willingly attracted to this kind of media façades rather than the older age groups.

Figure 3.23: Media Facades' Impact on Young Age Groups

Source: http://www.urbanscreens.tv/essential_grid/retro-mame-gaming-console/ [Accessed 01 December 2019]

Figure 3.24: Retro Gaming Consoles in Macquarie Mall, Liverpool

Source: http://www.urbanscreens.tv/essential_grid/retro-mame-gaming-console/ [Accessed 01 December 2019]

As Guy Debord stated[12]:

The spectacle is simply the common language of this separation. Spectators are linked solely by their one-way relationship to the very center that keeps them isolated from each other. The spectacle thus reunites the separated, but it reunites them only in their separateness

3.4.2 Media Façade Content Classification

The efficiency of the media façade strongly depends on its content, since it is one of the main keys of how the people will perceive the media façade and how they will be attracted to it. there is three different aspects that a design of the media façade can be applied to obtain an insight for its characteristics, these three aspects are the media façades precursors, technical enhancements and architecture in the electronic age, these aspects will drop the light on how it affects the forms of content.

Luigi Puglisi describes the Centre Pompidou as the "antecedent of a new space" which can be viewed as a precursor of media façades. Puglisi explained the three phenomena that gave it this description as "Immateriality, Sensoriality, Multimediality."[13] These characteristics were describing the early state of media façades in the Centre Pompidou but might also apply to the general idea of media façades characteristics.

The word Immateriality gives the sense of the material and therefore it is not a reference for media contents. however, elements such as people's movements and arrangements of the walls, columns and other building components might be seen as a part of the media content, especially if the façade had transparent or translucent parts.

The Sensoriality , is the capacity of the structure to interact, in which it gives a form of media content, being an interactive one, and its conditions are adjusted due to the environmental changes that affects it. for example, if the weather conditions influenced the façade with a responsive façade, it creates a media content loop that changes with the conditions of the environment. therefore, interactivity can be the first content for media façade.

[12] (Debord, 2002, p. 16)
[13] (Puglisi, 1999, pp. 7-8)

Multimediality is about the option of altering the building into an organism that is able to communicate and express messages. Similarly, the characteristics of the Multimediality presents more possibilities as in what type of hardware would convey these messages. As stated by Haeusler (Haeusler, 2009)

Multimediality represents the choice to transform the building into an organism capable of conveying messages using various media, integrating them into the building fabric. The building becomes a screen that irradiates lights, colors and sounds and, at the same time, communicates information.[14]

As media façades is associated with the development of technology, Anthony Townsend mentioned in his article, ''Digitally mediated urban space: New lessons for design'' He assembled the current technologies into four groups of communications, positioning, display and expression, positioning and documentation frame the technical requirements to start a mediated space. Not all groups might be present at a time, but if two or more of them are combined it will give more capability and flexibility of human and environmental interactions, As Townsend stated. (Townsend, 2004)

"Display and Expression" is discussed as the new technologies that has been discussed earlier made a shift in the appearance and a shift in the technologies. Since they are developing together, the urban space could not be mediated through visual display to the extent that is present today.

For Townsend, communication plays a role that was neglected by architecture. As wireless communication started a new definition of the nature of the twenty-first century urban streetscapes. Nonetheless, the wireless communication's role in the architecture does not have a significant impact, but the role of the mobile phones and other electronic devices have affected the integration between them and the technologies of the buildings. And the positioning of the building and the people came to a new aspect with the GPS technologies that made new dimensions to the urban spaces with the information exchange of the surroundings and the everything being locatable. An exchange of information will help integrating how computers will locate people's positioning and benefiting from it. (Haeusler, 2009)

[14] Haeusler, Media Facades, 2009, p. 10

Finally, the documentation of the urban environments and the technological database that it is accessible in the present time gives the public very large potentials to engage with the urban environment with ease and a wide knowledge of the spaces though the location of their phone and the social networks databases.

These four groups of display, expression, communication and positioning and documentation, make the structure of what are the characteristics to start a mediated space. They may not necessarily be all present but two or more will give competence to the human-environmental interactions.

There is three main forms of media content that have been categorized out of the characteristics of media façades:

3.4.2.1 Pre-recorded Media Content

This type of media content is the most common type that is used in the connection between media and architecture, the pre-recorded media content has a method that is its data has already been recorded and collected to be saved and re-played later at any other time and as often as desired. The typical pre-ordered media can be for example, any clip of an advertisement that has been recorded and it can be played as much as it is required.

The most commonly famous example of media façades that are in a digital urban environment is Times Square in New York, that has variety of buildings covered of media but unfortunately it also has the most densities of low-quality accomplishing of media façades. Since Times Square area was planned as result of zoning guidelines that was made by the New York Department of City Planning in 1998, and although it was designed and initiated as a whole, covering the buildings with these media elements such as LCD screens and large LED displays did not place the concept of surface of the interactive, active, reactive and communication in architecture in this area. As the zoning guidelines demanded illuminating all the new developing façade frontings on Broadway Street and the Seventh Avenue and was allowing the increase of signage on existing buildings.

Figure 3.25: Times Square 2012

Source: Luciano Mortula, Times square, 2012. [15]

As a consequence, after a decade of these implications, an outburst of illuminated signage occurred, which resembled the division between the everyday culture of the consumers, its intrigues and how it functions and between the culture of aesthetics and academic discourse of architecture. Likewise, as Stephen Perrella mentioned about Times Square in his essay "Hypersurface Theory: Architecture><Culture": (Perrella, 2001, pp. 138-148)

... if we could strip away all the electronic signs in Times Square, we could find a cacophony of material surfaces, each working to maximize the potential readability of the sign. It is the sort of drive, motivated by economic concerns, that differentiates surfaces, and that will propel the surface into a sign, and the sign into a surface. This 'vulgar' impulse exists outside the disciple of architecture in terms of pure commercialism even though it has been acknowledged in the media architecture trajectory.[16]

However, some other buildings display the content of a pre-recorded media not including the advertisement part and without being used simply for commercial reasons, as an example of this is the Kunsthaus museum in Graz, Austria. This building can be described as an extravagant structure for contemporary art, designed by Spacelab UK/Peter Cook and Colin Fourier. The local residents call it the "friendly alien", Since it connects the contemporary with the traditional architecture. With its biomorphic form, this building creates a floating effect above Graz city. Covered by 1.300 blue translucent Plexiglas

[15] https://www.123rf.com/photo_13095699_new-york-city-march-25-times-square-featured-with-broadway-theaters-and-animated-led-signs-is-a-symb.html [accessed in December 2019]

[16] Perrella, Stephen: Hypersurface theory Architecture>< Culture, in: Giuseppa Di Cristina (ed.), Architecture and Science, Chinchester, 2001, pp:138-148

panels. Its façade allows to project messages and videos, behaving as additional display space, with BIX installation. Created by Realities United company, the images are viewed in black and white colors and in a low resolution, and they give the feeling of being integrated within the building envelope and not projected on it, thus they are not a simply decorative but a part of the project. They are created on a 900 m^2 surface uses 930 points of light that a 40 cm diameter fluorescent tubes provides. (Salla, 2015)

And as Deborah Snoonian quotes Jan Edler, one of the directors of the Realities United company which created the building's skin in an interview (2003, p. 177): "…The façade is 'gloriously incapable' of projecting most typical television and film sequences, such as ads and movie trailers. Instead, it will display work designed especially for the building and catered to the owners' or artists' intentions."[17]

Figure 3.26: Kunsthaus Museum Graz, Austria

Source: https://www.visualarq.com/2015/09/03/floating-architecture/ [Accessed 15 November 2019]

Furthermore, Jan Edler explains in the interview on how to obtain solutions to solve the media façades' problem of being used mostly for advertisement aims, one of these answers is using media façade types and systems that has its own parameters which makes it not appropriate to view TV commercials and advertisements and leads to creating a pre-recorded content alternatives that suits different types of media façades.

3.4.2.2 Live Media Content

The live media content's method is to display while recording at the same time without including the back loop between the display and the environment back once again.

[17] Snoonian, Deborah, P.E.: Digital Practice, In: Architectural Record, 03/2003 the magazine of the AIA, p. 177

Generally, live media content that is displayed on the media façade occurs in the live broadcasting events such as sports events of Olympic games or the Football World Cup.

Zorlu Center in Istanbul has a variety of theatre venues and stages with public spaces, the Zorlu PSM Amfi is an open space theater area that provides live media content for nearly 1000 people with a 300 inch LED screen[18], such as the live view of football matches (Figure 3.27) and other types of media content like an occasional open-air cinema previews for the public and live concert performances. This type of media façade is considered to be temporary screen since it is not a permanent part of the building and its events happens occasionally.

Figure 3.27: Live Football match at Zorlu PSM Amfi in Istanbul, Turkey

Source: https://www.haberler.com/turkiye-ispanya-maci-oncesinde-zorlu-psm-amfi-de-8533691-haberi/ [Accessed 29 November 2019]

[18] (Zorlu PSM, 2019) [Accessed 29 November 2019]

Figure 3.28: Cinema Display in Zorlu PSM Amfi in Istanbul, Turkey

Source: https://www.zorlupsm.com/en/visit/venues/zorlu-psm-amfi [Accessed 29 November 2019]

Although live media content is considered to be free from advertisements, it is sponsored by different organizations, which they gain advertisements for their own interest from such events. In addition, screens that are displaying live media content are mostly used for advertising and partially for public events, the main reason of the media content being mostly used for commercial reasons is mainly the cost. For example, in the Times Square district the total cost of nearly 38 large-format LED screens is over 140 million USD (Townsend, 2004). Therefore, it is not possible to install media façade to a building without assuring the return investments from advertisements profits. As the main barrier of the media façades' content being non-commercialized and strictly artistic is the cost constrains. However, there is some exclusions in this matter as an example is the Reuters Sign in Times Square that displays news to the public without advertisements, yet it is also boosting the company's platform and promoting itself by this display of information.

3.4.2.3 Interactive Media Content

The type of media that allows a simultaneous content that is recorded and displayed with the option of interacting between the user or the environment and the display, creating a loop and a direct connection between them. Since the nature of this media content is connected to a series of previous and following media content of the same kind, it is considered to be a living media content. Interactivity is expressed by Arjen Mulder as

when a system is flexible and can be adaptable while being altered between the users' effects on it and between its own functionality, meaning that if the system is linked to another system and they affect each other in return, this relationship is called interactive relationship (Mulder, 2004). Whilst Sheizaf Rafaeli defined Interactivity as: "the extent to which communication reflects back on itself , feeds on and responds to the past" (Refaeli & Newhagen, 1996). According to Mulder, interactive systems should "adapt itself to the use that is being made of it" or as Rafaeli described "reflect back on itself". They both discuss how the system should be responding and expand its understanding of its information, a related way of how a human may process information.

The Interactive content creates new aspects for innovation, due to the transitory exchange of activity between the user and the system in an artistic or architectural project through enhancing the visions and the experiences of the spectator. (Kalčić, 2012)

As stated by Tali Krakowsky, creating Interactive content is described throughout how the system is able to customize real-time dialogues with the users. This relationship can be through the smart sensors or the digital interface when users start to communicate, afterwards, similarly to a regular conversation, this information is processed, and transformed into new modified data . (Krakowsky, 2008)

The Met loft apartments building in Los Angeles, California, has an implanted tiles in its entrance with a red LED lights and a grid shaped of weight-sensitive sensors and that detects the guests and the residents as they go across the sidewalk into the lobby hall, and mirrors the patterns to the exterior façade display that have the same pattern of the interior interactive carpet. The façade display is with LED lights on the buildings. Designed by (Electroland, 2006) as they explained: "Environmental intelligence and surveillance of human activity are combined with a video-game sensibility."

As being an affective part in this link between themselves and the façade of the building, the users experience their influence on the urban landscape. [19]

[19] https://archimedespool.wordpress.com/2007/08/29/enteractive-content-digital_communications-lighting/ [Accessed 20 November 2019]

Figure 3.29: 'Enteractive' The Met loft Apartments building

Source: https://www.electroland.net/#/enteractive/ [Accessed 25 November 2019]

Figure 3.30: 'Enteractive' The Met loft Apartments building

Source: https://www.electroland.net/#/enteractive/ [Accessed 25 November 2019]

"The observer is no longer watcher but collaborator and associate, which tests out and expands the very concept of the authorship of the artwork". (Kalčić, 2012) [20]

[20] Cited in the International Conference on Communication, Media, Technology and Design, p.49. 2012 Istanbul, Turkey. [Accessed online in November 2019]

Another example about interactive media content is the Swiss Expo.0-2 in 2002 interactive pavilion “ADA – the intelligent space”. Designed by a research institute at the university of ETH Zurich called the Institute of Neuroinformatics. ADA can manage information like a human being, and unlike the typical computer, it can process vague or inaccurate data. ADA can be “unpredictable”, and her action may be similar to human actions, and it is best explained as an organism or creature, even several article and magazines referred to Ada as “she”. When someone interacts with Ada it is best described as if they interact with a space, not something in a space. Since Ada has various sensors of touch, hear and see, Ada reacts with these sensors not only with voice, but it applies projection, sound and lights. It collects her encounters and reacts in a different way each time. (Haeusler, Media Facades, 2009)

Figure 3.31: ADA the Intelligent Space, Zurich 2002

Source: http://www.interactivearchitecture.org/ada-the-inteligent-room.html [Accessed 01 December 2019]

4. CASE STUDY OF ISTANBUL LEVENT DISTRICT

Istanbul is the biggest metropolitan global city in Turkey, which is constantly undergoing several transformations that is taking place in its districts and neighborhoods, because of the globalization. Some of its districts have changed regularly and some maintained its historical identity, while some other districts have changed significantly during the last years. One of them is Levent district in Besiktas municipality. As it is currently considered to be one of Istanbul's Upper-Class neighborhoods, along with Ulus, Akatlar and Etiler neighborhoods of the European Side in Istanbul. Levent and Maslak, which is next to Levent on the north, are considered to be in the business heart of the European side in Istanbul, with the skyscrapers' silhouette that adds new identity to the city. Both Districts compete for business, and they are described as the Manhattan of Istanbul. Which creates an atmosphere that distinguishes Levent more than any other districts in Istanbul. This neighborhood became one of the most prosperous neighborhoods in Istanbul and a driving force for the city's economy. Additionally, Levent is situated within the commercial and business center, which has a diverse public community that is a combination of local merchants and inhabitants in the residential areas, businessmen and white-collar employees in the business buildings areas, students in the educational and entertainment areas and local visitors with tourists in the commercial areas. (Kabarık, 1991; Göksu, 2019; Torus & Aydın Yönet, 2016)

4.1 THE URBAN AND ARCHITECTURAL CHANGES IN ISTANBUL

"The city is the focal point of history because it embodies both a concentration of social power, which is what makes historical enterprises possible, and a consciousness of the past" (Debord, 2002)

Turkish architecture was always balanced between the history and future. however, Istanbul's urban and architectural context has been changed and reproduced due to a number of transformative effects that led to major changes in the city.

The current modern architecture of Istanbul is the consequence of many different time periods: in the early times of the republic and particularly in the First National Architectural Movement, Ottoman architecture was the main influence on Turkish

architecture. Afterwards, there was attempts to release the Ottoman image and create a pattern of nationalism in the country. Later on, the influence of this pattern started declining because of the interference of Rationalism and international style.

The architectural sector and modern architecture in Turkey and especially in Istanbul was affected by the several economic and political problems that happened. However, in spite of these difficulties, architects were able to design some important buildings.

At the beginning of the 1950s, the architecture was influenced by Europe's ideas, and a new generation of architects such as Hayati Tabanlıoğlu, Abdurrahman Hancı, Turgut Cansever and Nevzat Erol became more prominent in the architectural arena. While in that timing the leading client was still the government sector. (Prosdocimo, 2019)

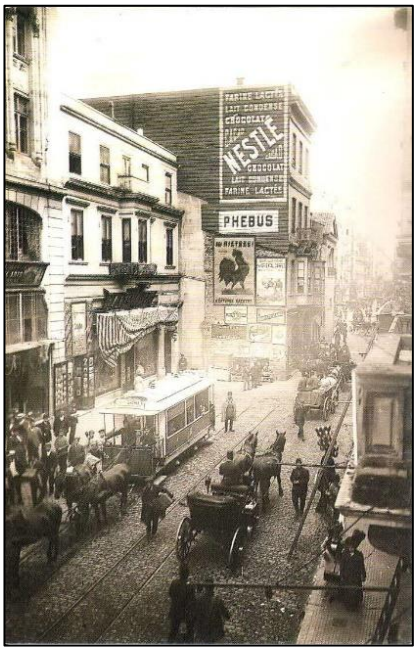
Through the Urban expansion of Istanbul, the city experienced changes and adjustments with the developments of the architecture, and with the progress of the theatre and cinema industries, the media facades started to emerge into the city's architectural elements. Especially in the Beyoğlu District in Pera and Istiklal Street, similar to the Times Square situation as mentioned in chapter (2.2.3), since Taksim Square was the symbol of the new Turkish state in the early Republican era in the 1930s. When modernism influenced other changes that came along that time with the new cafes in the "à la française" design in the open air. In the 1940s the parades were held in Taksim along with advertisements and posters that attracted the passing crowds. Additionally, Taksim Square became a center area for social and political gatherings and protests during the 1950s on. (Souici, 2015)

These examples are of the early stages of media façades existence in Istanbul.

Figure 4.2: Cinema in Pera Neighbourhood, Istanbul 1936

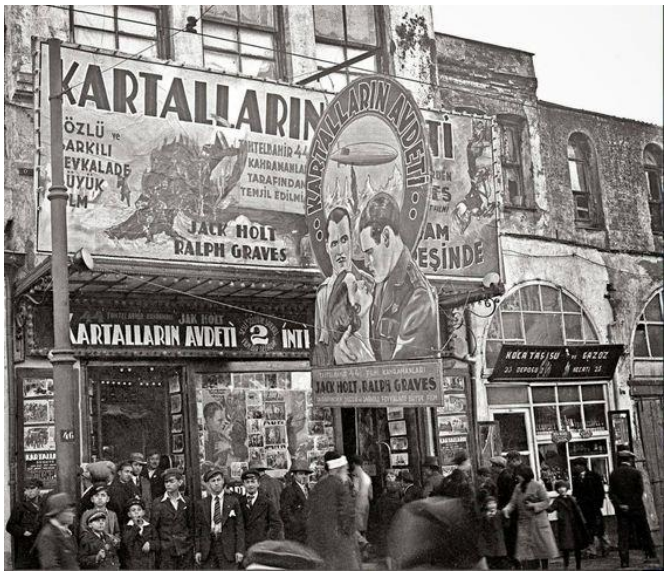
Source:http://maviboncuk.blogspot.com/2017/03/flash-gordon-in-pera.html [Accessed in 15 November 2019]

Figure 4.1: Istiklal Street, Istanbul 1905



Source: https://www.istanbulium.net/ [Accessed in 15 November 2019]

Figure 4.3: Şehzade Cinema in Istanbul 1930s



Source: https://www.fatihhaber.com/sehzadebasi-sinemalari/3036/ [Accessed 01 December 2019]

After the 1999 earthquake in Marmara, the housing market, residential buildings and all their related construction sector was disturbed. Therefore, the earthquake was the turning point in the process of the urban transformation that led to the regenerating and renovation of the building stock in Istanbul. Similar to what happened after Tokyo's Great Kanto earthquake, 2.2.5).

Since Istanbul was the mostly influenced by these transformations the new regulations encouraged and helped this urban transformation process especially in housing. This new urban transformation has altered various districts in multiple ways according to the district properties and the socio-economical nature of its inhabitants. Therefore, distinct practices related to housing can be seen in several districts. (Torus & Aydın Yönet, 2016)

Starting from 2000, with the rapid and constant flow of information and investments that were accelerated globally, Istanbul was on the top of that flow, with significant changes occurring on the social, physical and economic patterns of Istanbul's urban structure and architectural production. Introducing new areas of functional position coordinating with the demand of global capital, as a new language of architecture emerged in terms of form and material. (Görgülü & Kaymaz Koca, 2009).

"The conditions of habitation and spectacular control in today's "planned environment" have created an artificial neopeasantry". (Debord, 2002)

4.2 LEVENT DISTRICT HISTORY AND DEVELOPMENT

The first settlement of Levent was initiated in the period of I. Abdulhamid, as centers of modern Istanbul. Afterwards, mostly the sailors moved to this area, and as in Ottoman Turkish, Levent means sailor, this place has taken the name of 'Levent farm'.

In the 1950s Turkey's new role in the post-war international order turned the government's attention back to Istanbul. the General Directorate of Highways played an important role in developing Istanbul's urban form, directing massive destructions to open up wide boulevards into the city. And due to the increased demand on housing after the World War II, the first restructuring of the Levent was in 1950s to housing estate constructions of Emlak Bank, which was a TOKI of that time. Later on, it was extended to the nearby area and they were named 2.levent 3.levent etc. (Degisti, 2011)

Figure 4.4 Levent between 1946 and 2014

Source: https://onedio.com/haber/23-eski-istanbul-goruntusuyle-zamaninda-dedeniz-almadigi-icin-kahrolacaginiz-arsalar-558350[Accessed in 15 November 2019]

Figure 4.5: The New Neighborhood of Levent

Ad in the Newspaper

AKŞAM 21 Ocak 1951

Yeni «Levend mahallesi» ndeki evlerden bir kaçı

istanbul yepyeni bir mahalle kazandı: Levent

Mahallenin kurulmasında Levend arazisi niçin tercih edildi — Karşılaşılan müşküller — Boğaz güzelliğinde bir çıbana mâni olundu — Belediyenin bu yeni mahalleden faydası...

Emlâk Kredi bankası tarafından, Mecidiye köyünde Levend çiftliği arazisinde inşa edilen 391 eve havagazı, su ve elektrik verildi; Belediyece bir de otobüs servisi ihdas edilmek suretiyle İstanbul, yepyeni bir mahalleye kavuştu.

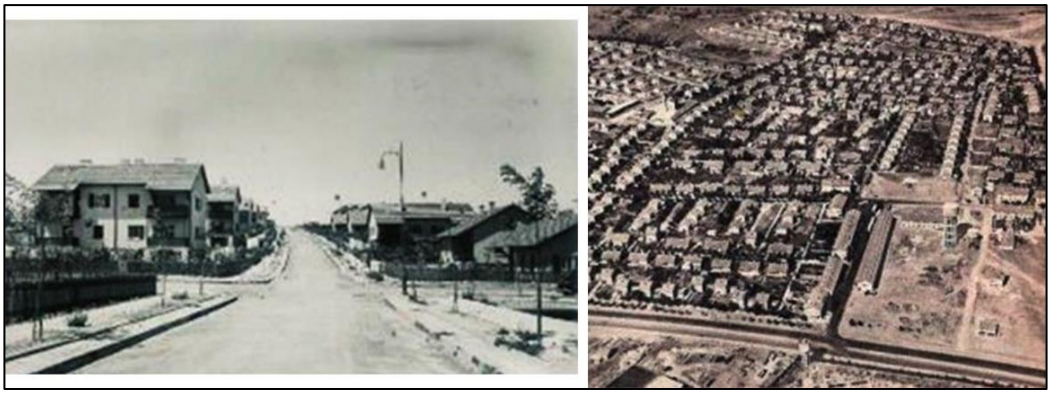
Herhangi bir teşebbüste tenkid, bizde âdeta bir itiyat haline gelmiştir. Netekim Levend'de bu yeni mahallenin kurulması da az mı tenkide uğradı: «Şehir içi dururken dağ başında mahalle mi kurulur?» diyenler olduğu gibi evlere «Gündüz

(Arkası 7 nci sahifede)

Mahallenin 14 bin liralık evlerinden biri

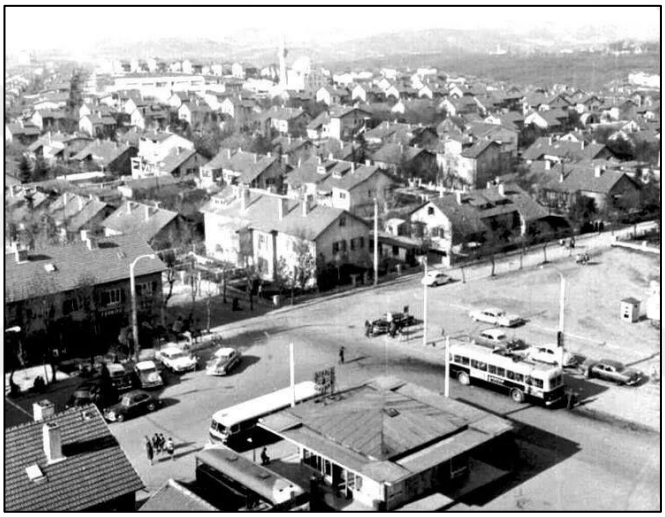
*Source:*http://www.etilermahallesi.com/?Syf=18&Hbr=977200&/...[Accessed in 15 November 2019]

Figure 4.6: Levent Housing in 1950s



Source: http://www.etilermahallesi.com/?Syf=18&Hbr=977200&/...[Accessed in 15 November 2019]

Figure 4.7: Levent District in 1960s



Source:http://www.etilermahallesi.com/?Syf=18&Hbr=977200&/...[Accessed in 15 November 2019]

Levent was a quiet residential neighborhood which is located far from the city's disturbance at that time, it started to develop and become more crowded and it began to appear as being squeezed between the high-rise concrete buildings, which surround its environment. During the same period, the population of the city increased rapidly, as luxury residential neighborhoods started to surround Levent from all directions, and entire Levent was merged within the city. Moreover, in 1980 when the traffic was opened to 1st Levent, houses started to transform into commercial places and boutiques, and Levent started to move away from being a dwelling area to a trade and entertainment area. Since its establishment years, many scientists, artists and scientists have lived or raised in Levent. After being shifted into the business district of the city, the middle and small companies settled in the 1st Levent, while the large corporations preferred the sections of

the 2nd, 3rd and 4th Levent overlooking Büyükdere Street and built their skyscrapers there. Such as the Yapı Kredi Plaza, İş Bank's twin towers, Sapphire, Kanyon, Sabancı Center, and Metrocity. As they are regarded are the tallest buildings in European side in this region. (Göktürk, Soysal, & Türeli, 2010; Degisti, 2011). “The city was rebuilt and expanded with speculative housing developments on all sides. Concrete-frame walk-ups rapidly replaced the existing residential fabric.” (Göktürk, Soysal, & Türeli, 2010, p. 9).

The most important factor was the building of the first Bosporus bridge in 1973, because of the highways connecting, opening new options for developments and expansions, and as stated by (Göktürk, Soysal, & Türeli, 2010, p. 9):

The new Central Business District between Levent and Maslak was now realized with the addition of glass-clad high-rises on the Büyükdere Asphalt. This is the skyline contemporary Istanbul projects as a counterpart to that of the historical peninsula with its domes and minarets.

Figure 4.8: Levent District in 1980s

Source: https://www.degisti.com/index.php/archives/7832 [Accessed 30 November 2019]

Levent started developing and becoming one of the most important business districts in the European side of Istanbul. Therefore, considering its importance, Levent became the hub of attraction for modern architectural designs, modern technologies and a target for businesses, corporations and advertisement organizations. Consequently, the study of media facades effects in this area would provide a comprehensive information on the developing process of media façade into the cities and its implications.

Since currently Levent is considered to be home to many business centers, huge buildings and shopping centers. However, as (Türker Erşen, 2017) stated, that Skyscrapers found in each corner between the Levent-Maslak axis, but this is almost the case in the city where buildings seem giant and overwhelming the surrounding neighborhoods. High-rise Buildings are not only affecting the social fabrics of the city but also influencing the form of the new interactions and relationships with new habits.

Moreover, (Türker Erşen, 2017) explained that the city's daily life is either where the skyscraper's shadow or its neon lights will hit the calm texture of the neighborhood's buildings.

Figure 4.9: The Current Levent and Maslak District taken from Sapphire Tower

Source: hiveminer
https://farm9.static.flickr.com/8215/8321991194_a76bb343d8_b.jpg
[Accessed in 15 November 2019]

"The landscape of the "new cities" inhabited by this technological pseudopeasantry is a glaring expression of the repression of historical time on which they have been built. Their motto could be: "Nothing has ever happened here, and nothing ever will." The forces of historical absence have been able to create their own landscape because historical liberation, which must take place in the cities, has not yet occurred." (Debord, 2002)

4.3 THE CASE STUDY BUILDINGS ANALYSIS

Levent District's identity of rich individuality makes it an important subject to study the impacts of media façades in it towards the public, to recognize the influences and impressions of the environment that Levent has towards these types of different media façades approaches, which is perceptible and evident in the buildings of Levent district.

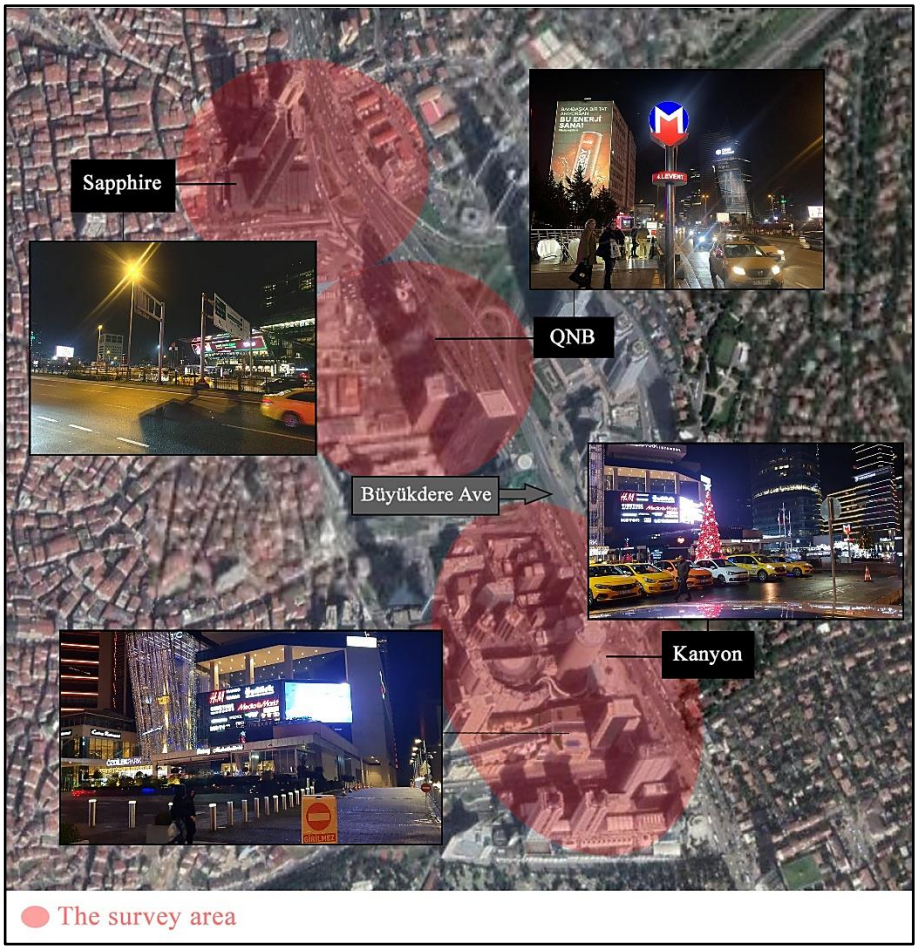
The selected case study building are Kanyon, QNB Finans Bank and Istanbul Sapphire Tower, which they were specifically chosen due to their importance in Levent area according to most people whom were asked in the questionnaire as what is their consideration about the most iconic buildings that attract them in Levent area. These buildings have the most noticeable medialised façades in the area that is crowded with billboards that covers a wide range of buildings on the Levent-Maslak axis. As Kanyon has multiple media façade displays together with Özdilek Park and Metrocity shopping malls as well, that overlooks the main Büyükdere Avenue and face the public spaces of these building, while the QNB Bank has the most notable façade design that makes it an icon in Levent district and an important attraction to discuss in this study. Similarly, the Istanbul Sapphire Tower is also considered to be a significant structure with its distinctive architectural design with the addition of the media façade screen in its main entrance façade that is positioned towards the public space in front of the building and towards the main Büyükdere Avenue.

The type of the media façades in Kanyon and Özdilek Park area is digital display screens that is considered to be used mainly for commercial and advertisment reasons, especially since it is located on the façade of the shopping malls, creating advertisments to the interior spaces and to the stores inside the builidng, and attracting the observers in the public spaces and in the Büyükdere Avenue to enter the building. The media façades and billboards that are located near to Kanyon and Özdilek Park spaces are oriented all facing Büyükdere Avenue in order to be visible to a maximum number of individuals, and specially the pedestrians crossing Büyükdere Avenue, and the vehicles passing Büyükdere Avenue.

Moreover, since the QNB Finan Bank building has a prominent façade design which makes the building stand as an icon, without any medialised additions, this façade creates its own static media hype with only the simple addition of the QNB Finanbank

logo on its façade that is sufficient for the purpose of this building with its eye-catching design.

Figure 4.10: The Public Spaces in Front of the Media Facades in Levent Area



Source:https://www.google.com/maps/@41.081102,29.0093757,1452m/data=!3m1!1e3 [Accessed in 20 January 2020]

Furthermore, the Istanbul Sapphire Tower also has an outstanding design and it is considered to be one of the tallest buildings in Istanbul, it is simply recognised as a major attracting building in Levent district, with its unique shape it is one of the primary buildings that are noticed while passing through Büyükdere Avenue. However the display screen on its façade is more noticable for pedestrians whom are closer to the building than the passing vehicles, since vehicles' movement is fast and the display screen on the building is approximately small compared to the size of the building and compared to the size of the billbaord signages that are located in the surrounding building next to Sapphire Tower.

4.3.1 Kanyon, Levent 2006

Architects: Tabanlıoğlu & Jerde Partnership

Site Area: 30.000 m² Construction Area: 250.000 m²

Year: 2006

Structural Engineer: ARUP & Ove Arup Englad & Los Angeles

Kanyon is a multi-purpose complex, opened on 6 June 2006, it unites a 160-store shopping mall, a 30-floor office tower and a 22-floor residential block with 179 residential apartments into a complex undulating around a dramatic architectural "canyon". The architect of this building, Murat Tabanlıoğlu stated that its design started as writing a scenario in order to describe the residents expectations and experiences.

A canyon is designed and the functions of shopping and dwelling were built up around this open space. In dwelling part, the main goal is to construct "an exclusive neighborhood" that looks at the canyon. The building is described as an open, vibrant and green project, envisioned as a family of bold architectural shapes, each housing a different use that comes together to form a dynamic and iconic composition. Between the architectural shapes, the perspectives and views through the project constantly change, resulting in a vibrant and energetic space that engages users.

Figure 4.11: Kanyon, Levent 2006

Source: https://www.nbmcw.com/articles/green-tall-construction/646-kanyon-an-open-air-design.html

The Building materials complement and reinforce the project's strong architectural forms. The office tower is sheathed in a glass curtain wall with a stone base. Common areas, designed to evoke a canyon, are made from a combination of stone, tile and concrete. The residential tower combines glass, plaster and stone with metal accents. Kanyon has been built to withstand earthquakes exceeding the worst-case scenario for the district. (ARCHNET, n.d.; MGS Architecture, 2006)

Figure 4.12: Kanyon Building 2006

Source: https://archnet.org/sites/6522/media_contents/68786 [Accessed 1 September 2019]

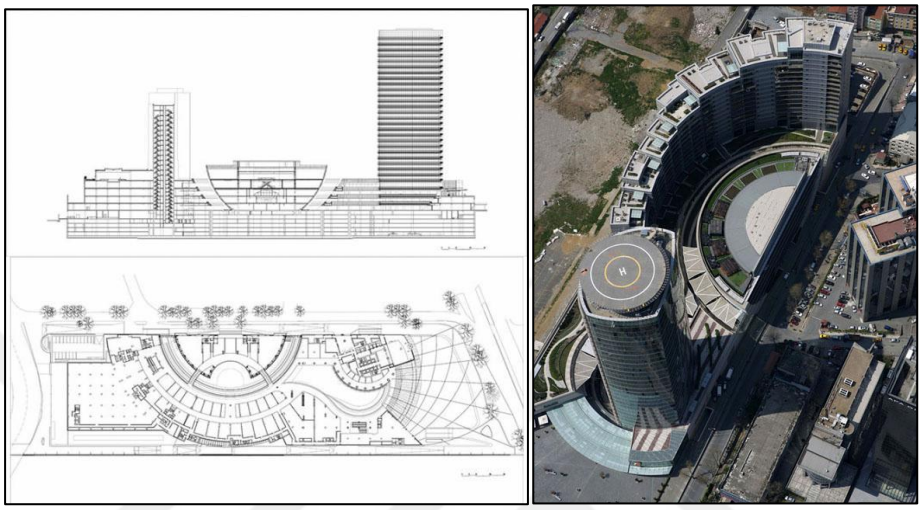
While Tabanlıoğlu Architects described their building as an Interior streets encircled by courtyards associate all buildings and areas that cause to feel like you are in a compact city. Soft curves of each building, location of spaces and their connection arcs create an elegant flow while the verdant route provides a feeling of profundity, freedom and choice.

And in the complex, the tallest building is the 25-story office tower, a concrete building sheathed in glass, which is the main construction of the boulevard. Below 15-story residential building at split-levels, 4 stories along the site is reserved for the retail space for shops, theaters and restaurants.

Daring and outstanding form of the complex is supported by the use of natural stones and special building materials. Light earth tone stone and painted copper metal belts are the

main constituents of the façade. The architectural design aims to engage the natural light and cityscape inside the building where at the southern front sun screening provided. Load bearing building system is reinforced concrete framework and steel, and the foundation system is foundation raft.[21] (tabanlioglu Architects, n.d.; MGS Architecture, 2006)

Figure 4.13: Plan and Section of Kanyon



Source: https://archnet.org/sites/6522/media_contents/68786
[Accessed 1 September 2019]

Figure 4.14: Özdilek Park's Media Façade in the Public Square of Kanyon

Source: Photograph taken by the Author [5 January 2019]

[21] This description of Kanyon was based on a previous study report of the (ARC4021 Contemporary Turkish Architecture) subject which was done and written by the author.

4.3.2 QNB Finans Bank 2014

Architects: Pei Cobb Freed & Partners

Area: 90,000 m2, including 37,000 m2 below grade

Year: 2014

Structural Engineer: Thornton Tomasetti, Inc.

The QNB Finans bank Kristal Tower is a complex building that is considered to be one of Levent's major attraction and unique buildings, located in Büyükdere Avenue. The height of the building is 170 meters tall. Provides a unique design of an architectural structure and adds a dramatic silhouette to Istanbul's skyline. With a to the 35-story glass-clad tower. Consisting of a 12-story office block to the west and three-story podium which they are linking the two buildings. Its most significant interior feature is the five-story sky garden above the main tower. It contains an auditorium with 245 seats and a conference center. (Architect-Magazine, 2017; Pei Cobb Freed & Partners, n.d.)

Figure 4.15: QNB Finans Bank, Levent

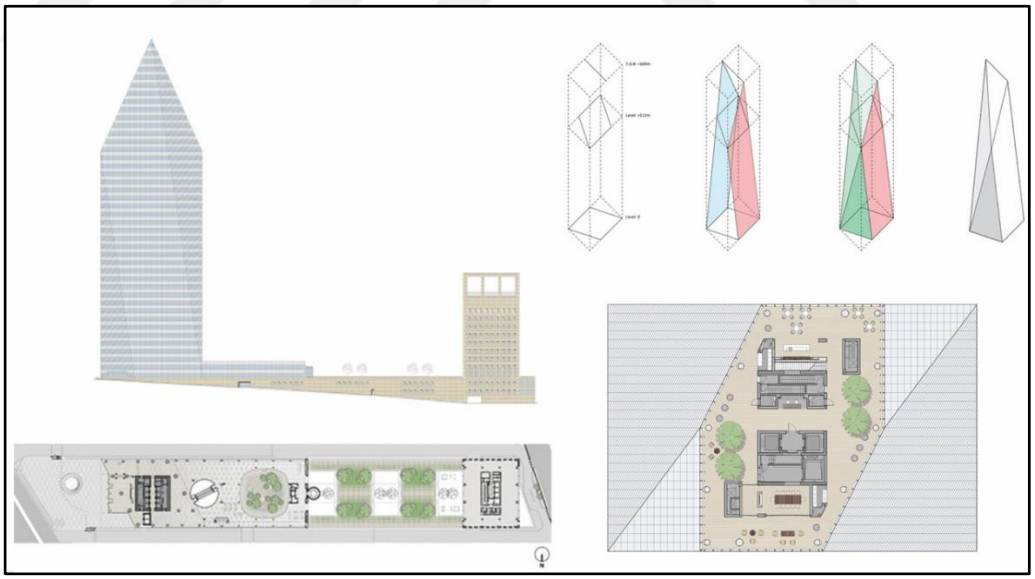
Source: https://www.pcf-p.com/projects/soyak-kristalkule-finansbank-headquarters/ [Accessed 1 September 2019]

Figure 4.16: QNB Finans Bank

Source: https://pamirsoyuer.com.tr/en/content/finansbank-genel-mudurluk-bati/ [Accessed 1 September 2019]

Regarding its unique design shape, the diagram below clarifies the main concept of the building and how it is invented. The building's podium roof is filled with green areas in addition to a collection of indoor and outdoor public spaces.

Figure 4.17: QNB Architectural Plan, Section and Diagram



Source: https://www.architectmagazine.com/project-gallery/finansbank-headquarters-interiors-at-kristalkule [Accessed 1 September 2019]

The interior of the Kristal Tower had to be as strong and characteristic as its exterior, as it resembled the sharp Finans Bank's corporate identity, double-glass partitions for the enclosed offices, and back-painted glass with stainless steel frames for the lobbies section.

A raised floor with integrating the metal ceiling together with lined lighting. (Pei Cobb Freed & Partners, n.d.)

Figure 4.18: The Interior of the QNB Finans Bank

Source: https://www.pcf-p.com/projects/finansbank-headquarters-interiors/ [Accessed 1 September 2019]

Figure 4.19: QNB Kristal Tower

Source: Taken by the Author

4.3.3 Istanbul Sapphire 2011

Architects: Tabanlioglu Architects / Melkan Gürsel & Murat Tabanlioglu. With an

Area: 165169.0 m2

Year: 2011

Manufacturers: Villeroy & Boch

Istanbul Sapphire is a mixed-use building, it is the city highest structure in Istanbul city and in Turkey. Even though it is surrounded by other high-rise buildings, its simple and unique design distinguishes it among all other Towers. The façade is constructed with two main independent shells, an outer and an inner shell, with the outer ones main function being a protective casing from the weather conditions and also serving as a buffering layer between the outside and the inner areas when it comes to noise and air pollution, together with its indoors vertical gardens and terraces it gives an effect of being outdoors while you are inside the building. (Archdaily, 2011)

Figure 4.20: Sapphire Skyscraper

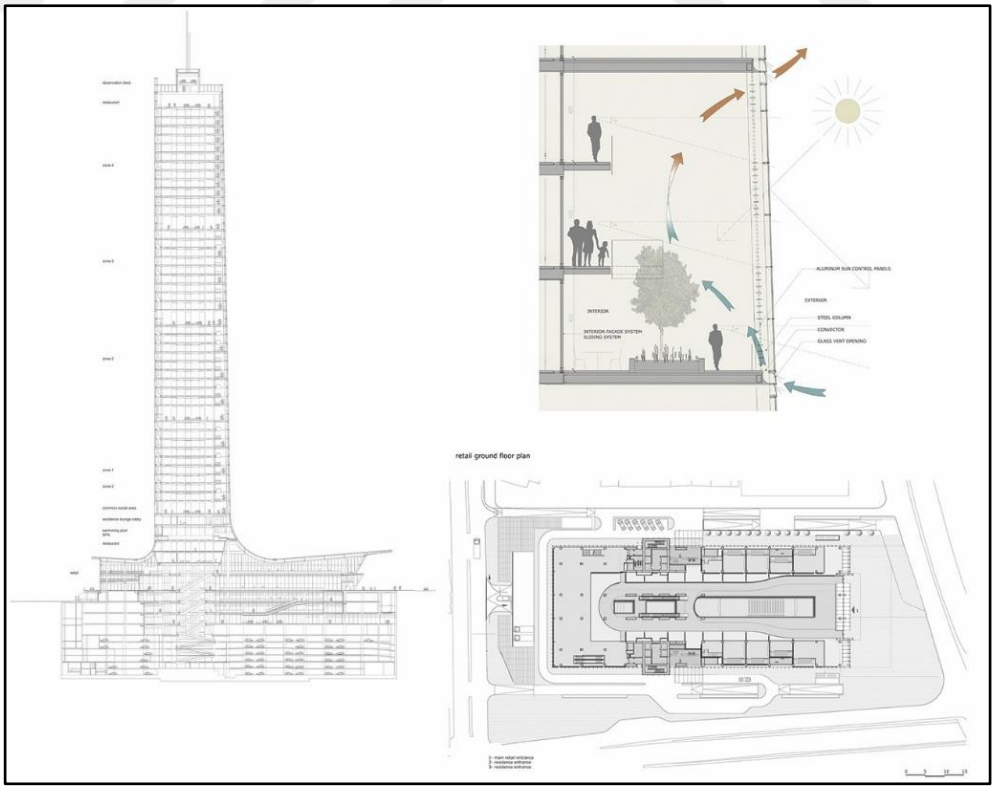
*Source:*https://www.archdaily.com/141615/istanbul-sapphire-tabanlioglu-architects [Accessed 1 September 2019]

Figure 4.21: Istanbul Sapphire's Media Facade

Source: https://www.archdaily.com/141615/istanbul-sapphire-tabanlioglu-architects [Accessed 1 September 2019]

The building gets a curved shape and then expands horizontally similarly to a skirt that covers the structure, with restaurants and the retail space beneath it. As the diagram below indicates how the protective casing of the façade adapts to weather conditions.

Figure 4.22: Sapphire's Facade Design Diagram, Plan and Section



Source: https://www.archdaily.com/141615/istanbul-sapphire-tabanlioglu-architects [Accessed 1 September 2019]

5. SURVEY AND EVALUATION

The survey and questionnaires is done to analyze and study how the Media Façades influence Levent area and what are these effects along with how the individuals are perceiving them. A series of questionnaires and interviews were done with a both quantitative and a qualitative method of selecting the candidates and interviewing some of them in person and sending the questions by email to other individuals with an online questionnaires survey[22] to create a variety of recipients with a variation of answers and not to be limited with a specific type of candidates. Approaching people who either live in Levent area, work in it, studying in it, passing by it occasionally, or just flaneurs whom are from different nationalities, Turkish and foreigners tourists that came to visit the city.

The survey is completed with responses of a number of 80 people, equally of men and women that were chosen to have diverse backgrounds, approaching different age ranges and different nationalities with mixed educational levels and work positions. The interviews with the candidates were in different locations in Istanbul, asking people whom have visited Levent and whom are familiar with the area, and most interviews were done in the case study locations in front of Kanyon building and in the public spaces that surrounds it, asking the people who were passing by the area or whom were going to the metro station, in addition to the local merchants and the retailers of the multiple shopping mall in the area, and inquiring the security guards who are standing in front of QNB Finans Bank, and the people working in Sapphire Tower at the top floor of the building. Creating a diversity in the candidates in order to get a complete understanding and a comprehensive idea on the amount of acceptance or dissention that media façade have on the public and what are their impacts on the city's architectural identity in general. Furthermore, the survey will distinguish the impacts of the positive and negative consequences of Media Façades in Levent area and in the city. And the feedback of the survey will eventually give us an impression on how people will adapt to these kinds of changes in their cities, and how the future of this technologies may possibly become.

[22] https://docs.google.com/forms/d/e/1FAIpQLSd241BgBipquu6d52x_oMGVA0pGSLeV7RoOvV_n1Er7zcLdAg/viewform?usp=sf_link (2019)

5.1 QUESTIONNAIRES [23]

a. What is your age group, gender, nationality and marital status?
b. What is your occupation, educational background??
c. How long have you been in Istanbul?
d. What do you do in Levent Area?
e. How well do you know Levent Area?
f. Do you live/work/study there?
g. Before you come to live/work/study in Levent, where were you?
h. On a scale from 1-10, how much would you give Levent area? and according to what?
i. How would you describe Levent District?
j. What is the most word that define Levent District to you? Comfortable/Noisy/Crowded/Eye-catching/Homogeneous/Lively/Active/Scattered?
k. To what extent do you think that the Architectural facades in Levent district have a major role in Levent's identity?
l. According to your occurrence in Levent (work or resident), What is your opinion about the Media façade's existence in the public spaces in this area?

5.1.1 Media Façades and Public Spaces Questions:

a. Do you get any discomfort or become overwhelmed from the presence of screen displays and advertisements or any kind of lighting on the façades of the buildings that surrounds the public areas?
b. Do you benefit from the information that are displayed on the screens of the Media façades of the buildings, such as weather and traffic status?
c. Do think interactive videogames and applications on the media façades screen displays can have positive or negative influences on the public users?
d. Does the lighting that comes from media façades disturbs the night atmosphere of the public areas in front of Kanyon and Özdilek park square in Levent?

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23 https://docs.google.com/forms/d/e/1FAIpQLSd241BgBipquu6d52x_oMGVA0pGSLeV7RoOvV_n1Er7zcLdAg/viewform?usp=sf_link (2019)

e. Do you think advertisements are interfering with the city's architectural elements, such as façades and public spaces?
f. Did the atmosphere of the public spaces become confusing with media façades' interference in the public environment harmony? Or did it become more alive and active and the media façades added new potentials to the public space uses?

5.1.2 The Effects on City Identity Questions:

a. What are the positive and negative effects of advertisement and media façades on the city and city identity?
b. Do you think that Istanbul's identity Is affected by these changes in its districts, losing its authenticity, since Levent district has developed and changed dramatically through the recent years?
c. Do you think that the behavior of the public will change with these contemporary developments of the cities while the technology is embracing the architectural façade and public spaces?

5.2 MEDIA FAÇADES EFFECTS ON LEVENT DISTRICT AT DAY AND NIGHT

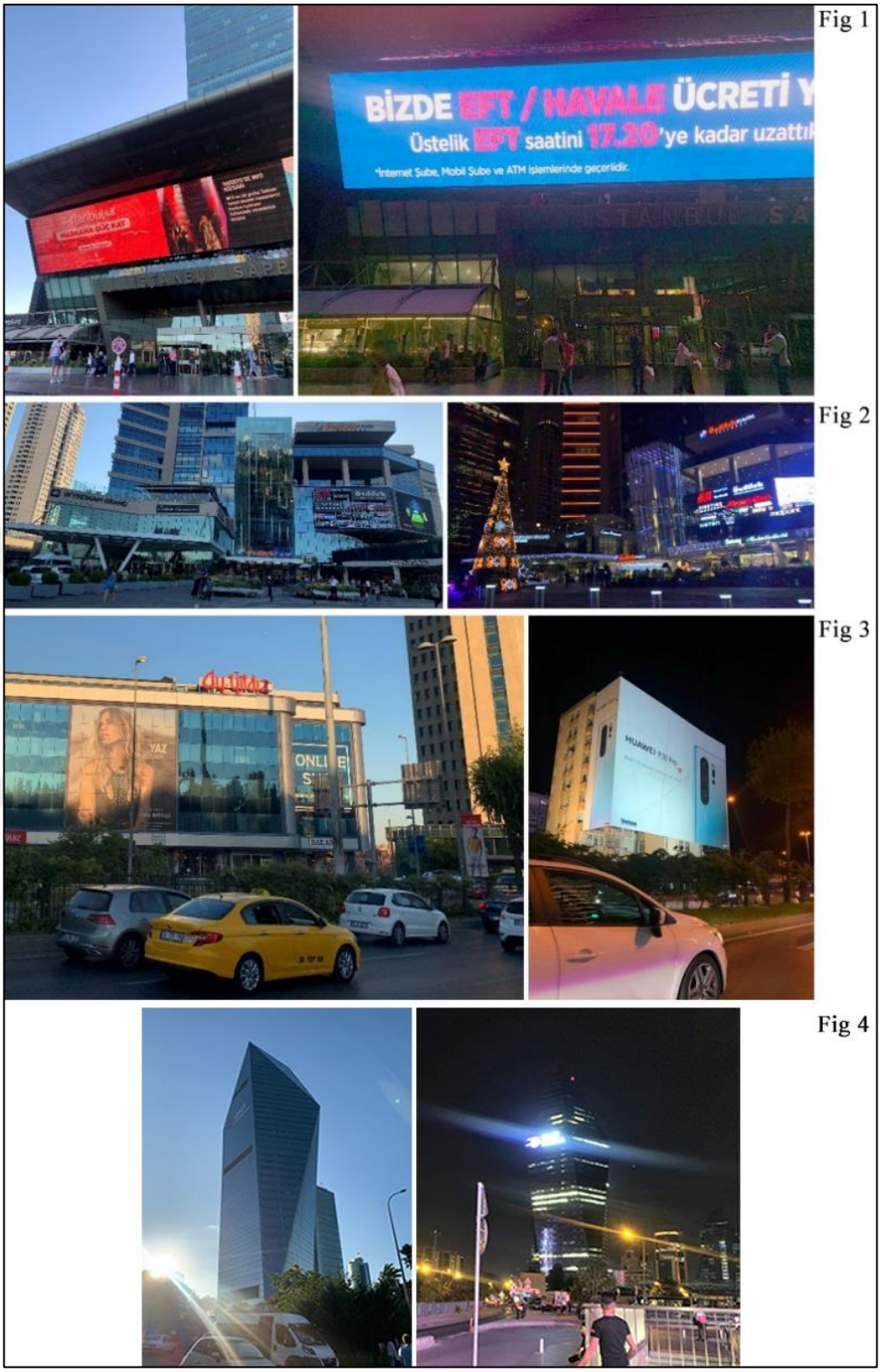
As we interviewed people in Levent District, a visual observation was applied in the region to make a comparison between daytime and night-time, to examine the changes that occurs on both the surrounding environment and the people's reactions towards it. In Addition to how the media façades' experience will be shifted between day and night, due to several reasons such as the degree of brilliance and the amount of visual pollution and illuminated signage that might cause discomfort or incoherency to the public spaces that surrounds these media façade.

And other reasons like each timing in the day has its different characteristics towards media façade's perception. Therefore, pictures and video recordings were taken and analysed, to study the main differences that happened. Which were recognized at day time, when people were more productive and in faster motion than the evening time, and their attention towards the media façades is low, since they tend to be more relaxed after the working hours, that implied on how they notice the media façades that surrounds them. As one of the most important characteristics of the media façade is the lighting that

attracts the viewers, the screens appeared dimmed and the sunlight was affecting the quality and reduced the screens brilliance, also the people during the day seem to be in a rush to do their errands and tasks than the evenings, which affected their awareness towards the commercials and medializations that surrounds them. Therefore generally, the perception of the people to media façades during the day was lower and less efficient than the evenings.

However, while studying the area in Levent and analysing the media facades, it was noticed through personal experience and people's interviews that media facades' observation was very high by people who were waiting either at buss stations or at the traffic lights to cross the street, since Büyükdere Caddesi is very dense with vehicles and it takes a lot of time to cross the street. Thus, advertising companies applied it in its benefit and people will notice all the fronting media facades while waiting. Consequently, in the rush hours the vehicles in Büyükdere Caddesi becomes static and people inside the cars or busses will start observing the surrounding buildings and media facades clearly.

Figure 5.1: Levent Area at Day and Night [24]



[24] Fig 1: Sapphire Media Façade Screen at daylight and at night
Fig 2: Kanyon and Özdilek park Square at daylight and at night
Fig 3: Levent Billboards at daylight and at night
Fig 4: QNB Finans Bank at daylight and at night

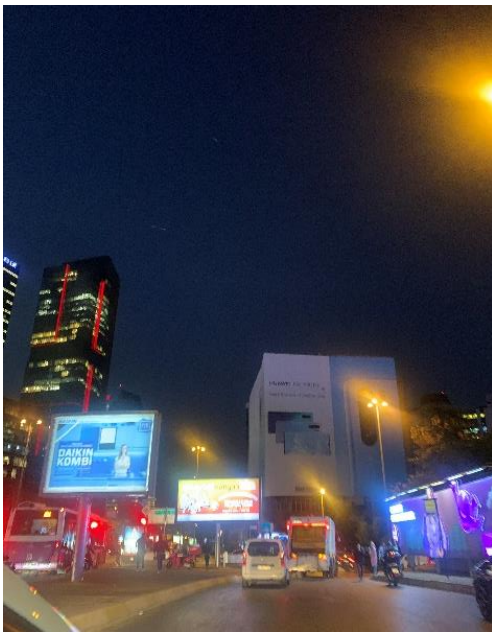
Figure 5.2: Media Facades in Beşiktaş, Istanbul

[Taken 14 November 2019]

Figure 5.3: Media Façade in 4.Levent

[Taken 11 October 2019]

Figure 5.4: Büyükdere Caddesi at night



[Taken 16 October 2019]

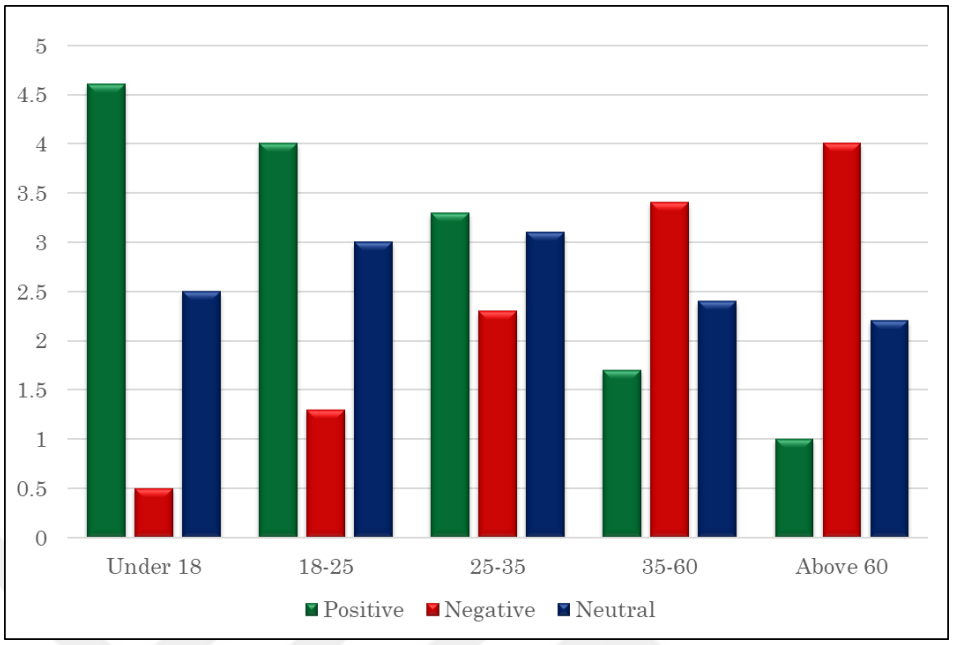
5.3 FINDINGS AND EVALUATION OF MEDIA FAÇADES PRESENCE AT LEVENT DISTRICT

As a result of the Media Facades survey (2019). Which was applied in the area of the case study buildings between Levent and Maslak axis, and specifically in the Kanyon public spaces, QNB Bank and Istanbul Sapphire Tower, a series of outcomes and evaluations of the people's answers towards the survey was collected, and according to the answers there have been some observations and assessments on how people react towards media façades and how they feel about their presence in our daily life, and according to what their answers vary.

The results of the study can be resolved and listed into three main categories, accordingly with the survey and the questionnaire results, some opinions had an optimistic review towards media façades and their developments into the cities in general and in Istanbul Levent District in specific. Other opinions stated that the media façades caused some issues such as distractions to the public, and the advertisement signage on the buildings affected the beauty of the architectural facades.

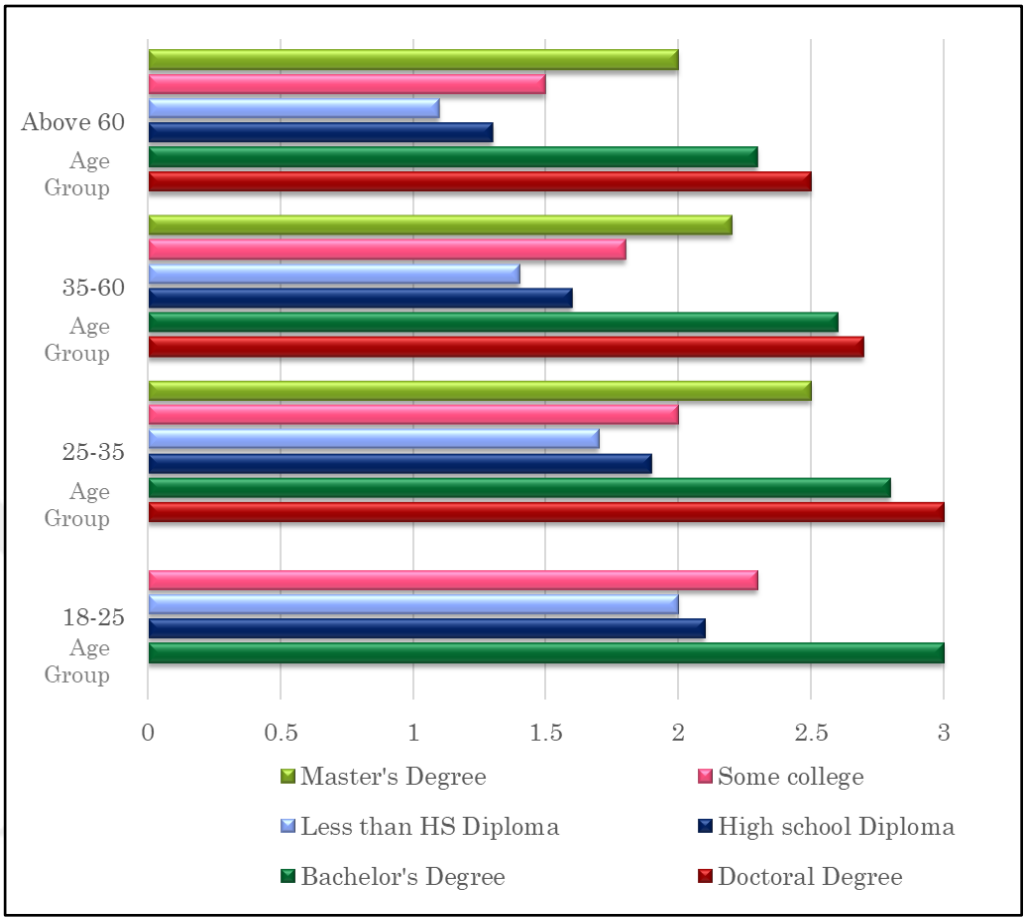
However, generally most of the opinions and feedbacks were neither optimistic nor pessimistic towards the concept of media façades, due to the variety of qualities and potentials that the media façades generate together with the issues that they cause. Therefore, the majority of opinions were neutral and have mixed thoughts and observations towards it. As the responses were subjective and convoluted, since each personal point of view and reaction towards the survey is according to different backgrounds.

Figure 5.5: People's Reactions Towards Media Facades According to their Age Group



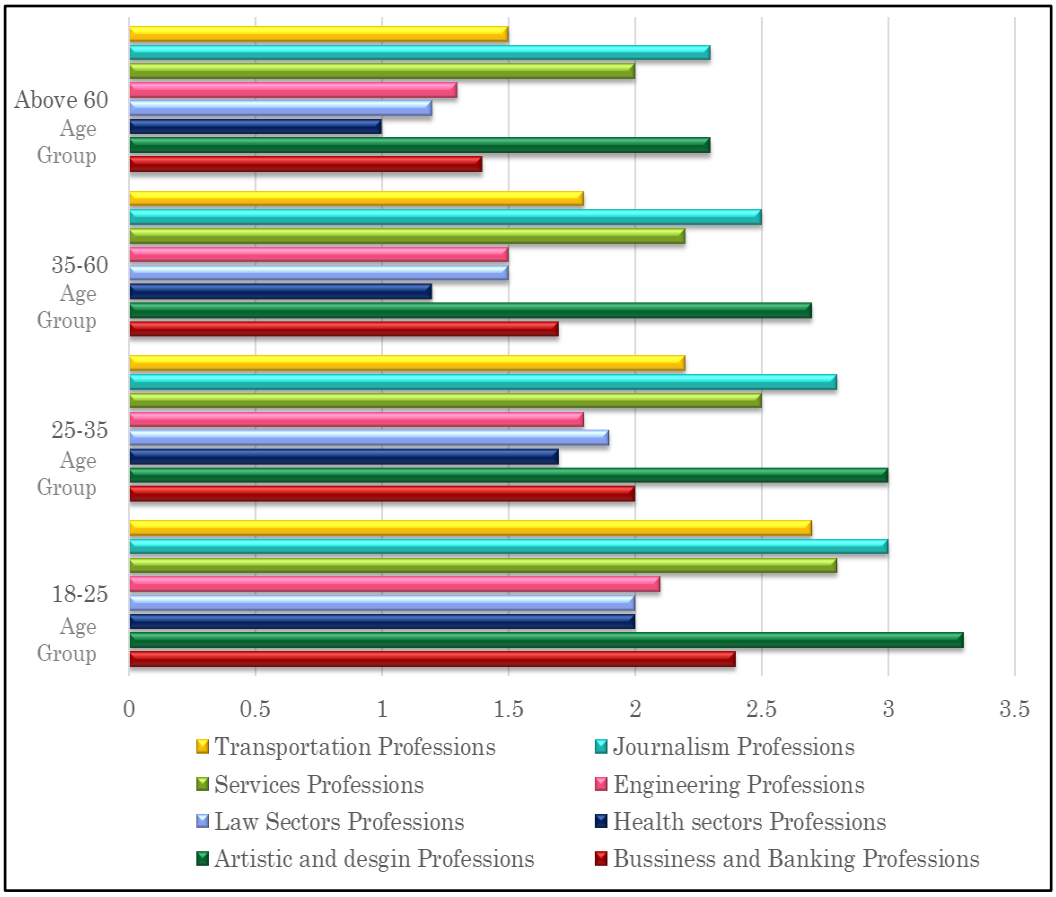
As we see in the diagram above, the proportion of responses which were pessimistic towards media façades were mainly from senior individuals, and the settle type of people whom preferred the classic city lifestyle which is in their sense incompatible with media façades. As they mentioned the dramatic change of Levent since the 1960s, starting from a two-story villa type residential area, with calm and undisturbed atmosphere, unlike its current condition now being totally altered into a crowded business area that hundreds pass by it every day. While the responses of the younger generation were certainly feeling enthusiastic and passionate about Levent area in general, considering it to be the hub of contemporary lifestyle and energetic area, which they felt is good for the city, especially for Istanbul, since it is a metropolitan city that is constantly developing and competing with other mega cities in the world. As one interviewee responded: "being a metropolitan city requires being in a constant change, and that might affect the city's original identity, but it would make it a mega city which is necessary and sometimes crucial in our time in order to compete with the others ."

Figure 5.6: : People's Reactions Towards Media Facades According to their Age Range and Educational Background



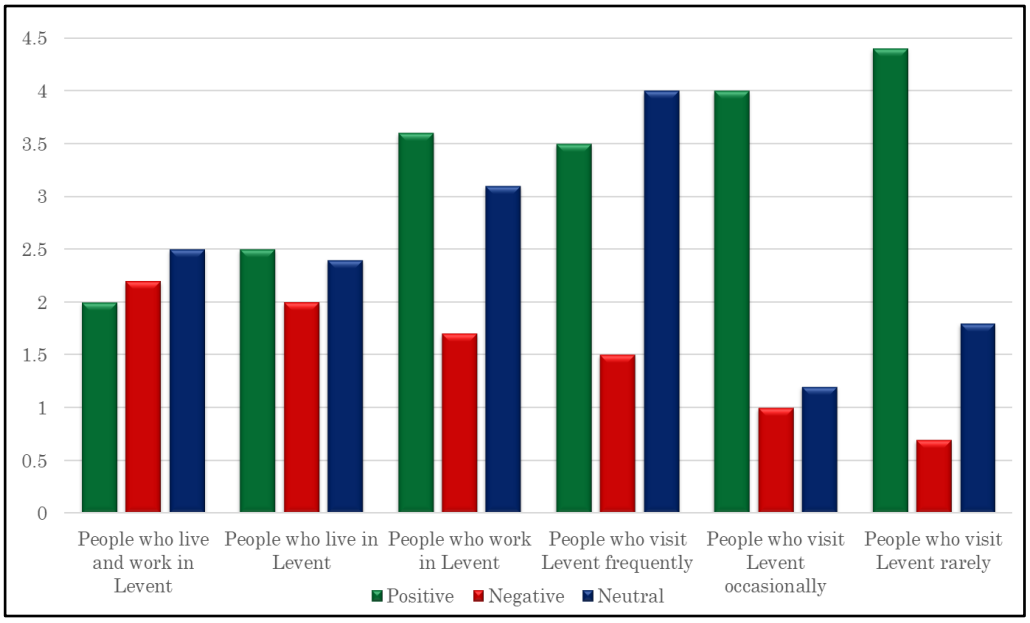
Furthermore, while analysing the people's reactions towards media facades and taking into consideration their age range and educational background it was observed that, as seen in the diagram above, although the common of the elderly opinions were opposing media façades' presence in the public spaces and comprehended as confounding, a percentage of the answers indicated that some of the seniors whom obtained higher educational level, responded positively towards media façades' outcomes in general. Meaning that in some situations, people's reluctance of technology is due to their lack of knowledge and inability to interact or respond to it.

Figure 5.7: People's Reactions Towards Media Facades According to their Age Range and Occupation Sector



Additionally, it was found that some of the responses that were according to the professional background of the candidates with their age range, which was opposing the media façades presence in general, were answered from individuals with a majority of professions in the law and some health sectors. In contrary of responses to people with professions in art and design sectors, which might be subjective statistically but when they were asked about the reason behind their dislike of media façades some explained as they think the media façade distract them from the real purpose of their journey and that they might be interrupted while doing their daily tasks. Other people from sectors like transportation and journalism explained that they liked the presence of media façades as it can be sometimes entertaining for them and it can provide helpful information.

Figure 5.8: People's Reaction Towards Media Facades According to their Location



Moreover, as we see in the responses of the people's reactions towards Media facades according to their location, as it was clear that the majority of the people who are both living and working in levent were leaning to negativity towards the presence of media façades, as they were explaining that their daily life became more overwhelming and the serenity of their neighborhoods is lost, since they are daily spectators of media façades and their sight became constantly dazzled by their glare. However, the candidates that were only working in Levent had a more positive experience towards media façades, since they encounter them less time. Whereas the frequent and the occasional visitors of Levent area reacted quite positively towards media façades, since people enjoyed the media façade presence, and as some explained that they feel themselves cheerful and spirited when they see sparkling colors in the streets while visiting the area.

CONCLUSION

In Conclusion, this study encountered many aspects regarding the reasons behind media façades' development and involvement into the architectural elements along with the consequences of media façades on the society and on the city. Whilst each of these aspects obtain different characteristics and perspectives. In regards to the media façades variations and styles, and the influence they made on the spectators together with their interaction with public spaces and medialized cities. In the findings and statistics of the survey and evaluation, several opinions were identified.

One of the main factors that contributed to this involvement of media facades is the globalization and the cities' persistent evolvement that directed global cities to create a city branding mechanism which affected the physical, social and economic texture of these cities. In this manner, the urban expansion and the architectural development in Istanbul, influenced some of the city's essential characteristics by the transformation process which media façades were the essential factor in it, that influenced the architectural identity on the city, and especially Levent-Maslak axis in our case study.

The urban developments that happened in Istanbul, regulated and altered the future of the city's architectural characteristics, that was represented through evolving Istanbul's cultural and historical identity and identifying new aspects that defined it as a metropolitan city which contributes to the globalization process and the economic growth. However, the capitalism interference in attempting to control the city development may be a cause of total dominance on the city. Therefore, as an outcome of this research, certain acts of raising awareness in the societies to not be inefficient and to refuse the capitalism manipulations and interferences in their culture and city heritage.

These globalization effects created similarities between cities, such as Tokyo, New York, Dubai, along with Istanbul and other "Mega Cities". which influenced the identity of each city that even reached to coming up with neighborhoods in Tokyo or Istanbul that are called like Manhattan, New York. This gave these "Mega Cities" an identical recognition between the perceivers, with similar skyline and silhouettes with all the skyscrapers and

the medialised public squares, leaving them without their original authenticity, and created a sense of competition between these cities to become continuously modernized.

Nevertheless, since mega cities are distinguished as multinational and diverse, this progression created new identity to the city, that is homogenous with its diversities and also creates a connection between the future and the past of the city, which was contemplated in the example of (Galata Tower 2018) video projection in Istanbul. the creation of such applications of media façades, can maintain the cultural identity and the architectural heritage of the city along with being contemporary and developed.

Since innovation is constantly achieving and developments are inevitable. These implementations may resolve the struggle between tradition and innovation, that most of the historical cities' societies encounter, through their urban and social development process. As the cultural innovation is created by the historical contributions, meaning that the social psychology of the human beings is intuitive to be constantly developing and it might be against nature if the wheel of growth and evolution was prevented.

Furthermore, media facades' existence in a city can create a new definition to the city space perception, as it gives further aspects to the city without constraining it to a definite location or a place, as an example of this in the movie "Lost in Translation" that displayed Tokyo's streets and media facades as the dazzling part of the city which made the viewer feel both lost and distanced from the reality, this feeling gives a new representation of the city memory that has a blurry identity definition, where the spectators can understand it according to their own experiences and journey. Creating a new dimension in the way the spectator previews the city, without predictable movements and static places. With hybrid spaces that each person will react differently to it and experience it in their own way.

However, individuals of the society should be self-conscious and observant by the outcomes and consequence of their cities' progression, people should be able to understand how technologies might seduce them or interfere with their life without paying attention, besides of how they can be manipulated in the media brainwashing mechanisms, strained inside the media and technology's interference leading people towards the corporates' beneficial goals.

As a result of this study, the unconstructiveness of the technological developments into the architectural elements that affected the urban and social context, can be resolved with the coordination and management between social, urban, economy and technological context of the city which gives it a better architectural developing process which makes the city and the society enriched and comprehensive.

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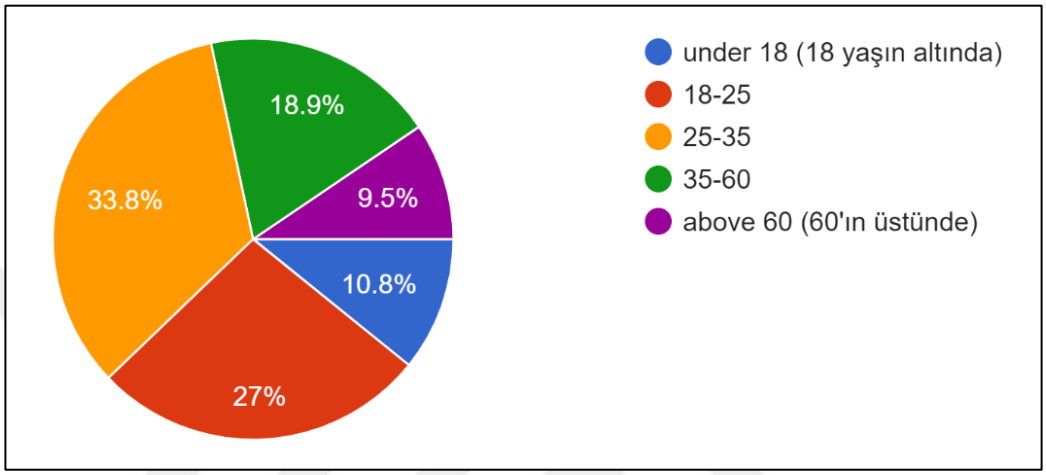
APPENDICES

APPENDIX A.1 QUESTIONNAIRES AND ANSWERS OF THE SURVEY:

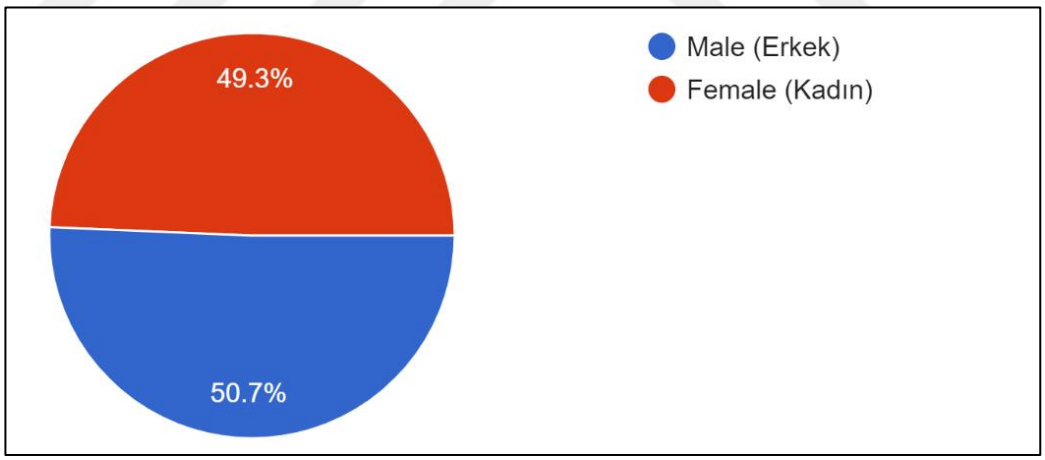
Media Facades survey (Medya Cepheleri anket). (2019).

A survey about media facades in Levent area, Istanbul. (İstanbul, Levent bölgesinde medya cepheleri hakkında bir anket.) [25]

1) What is your age group? (Yaş grubunuz nedir?)

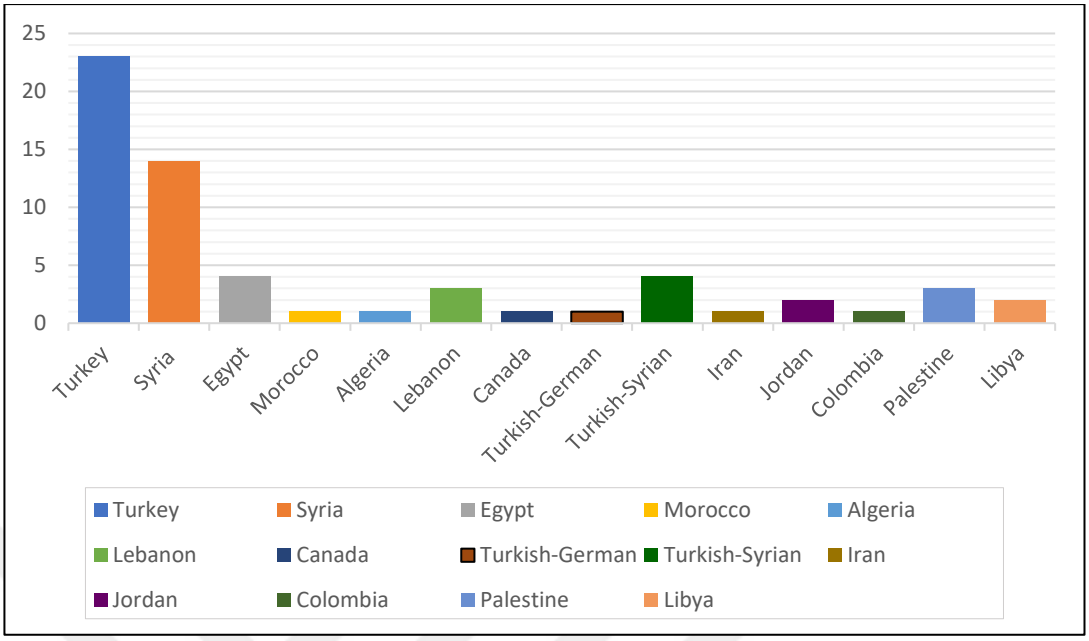


2) What is your gender? (Cinsiyet ?)

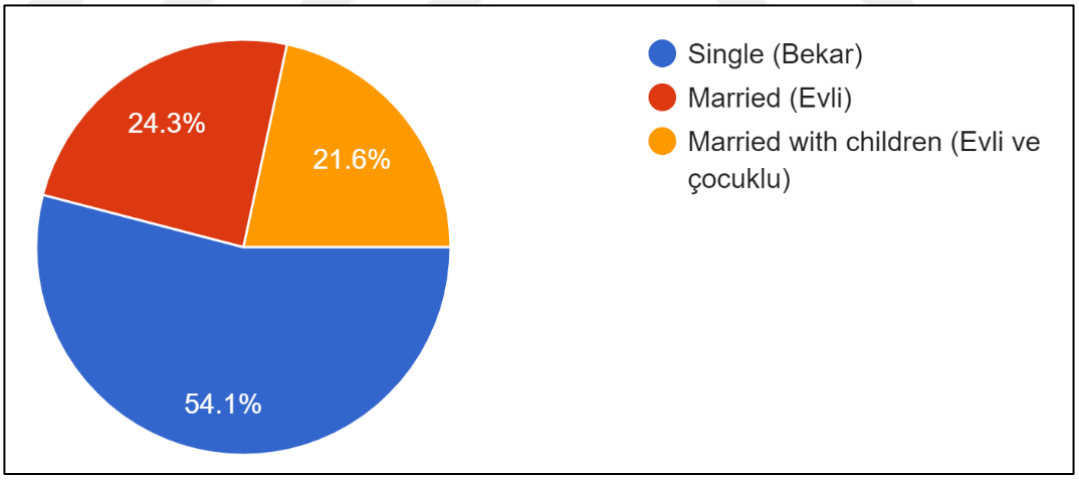


[25] The survey is created by google forms website by the author and the responses were collected online at: https://docs.google.com/forms/d/1Y-WSMplOZytAM-8BFIHA9pL6W9mefy34ETlEuMqQ3FQ/viewanalytics?fbclid=IwAR22PQEpIBbFdrrmOycRZuabPGHesNKLpAHQUO0rH-EAn5Z9MRuX-ggqWHE

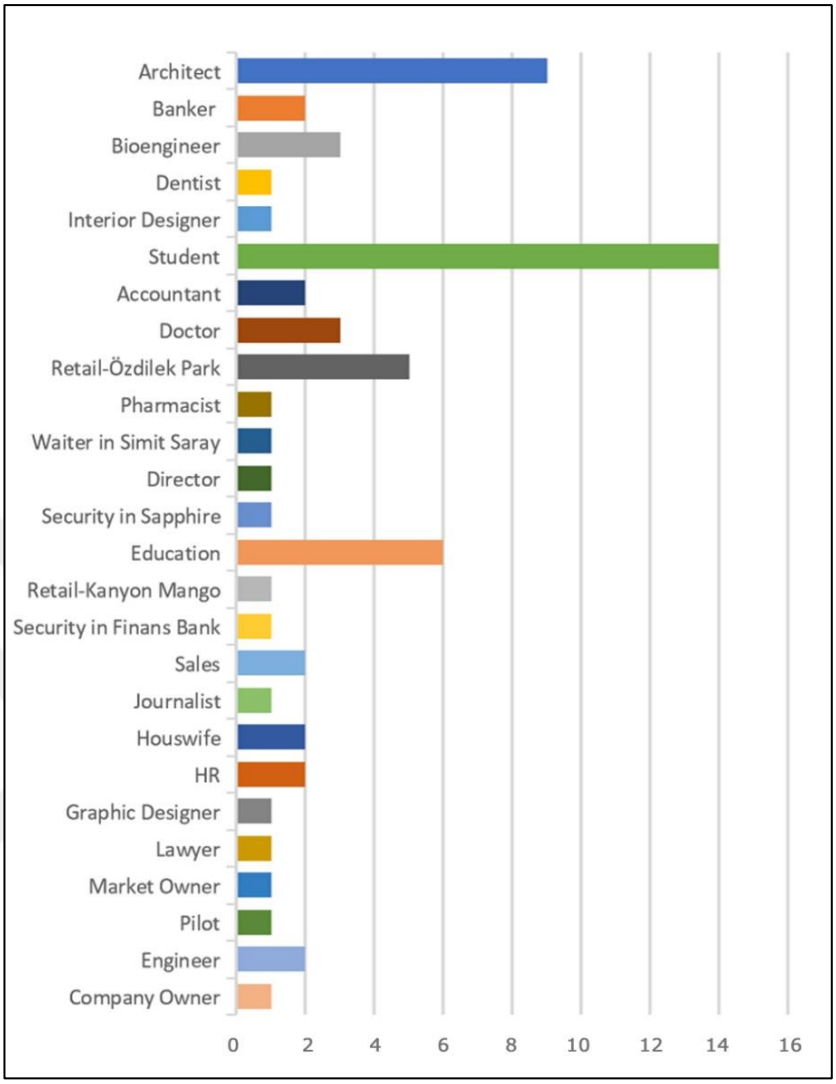
4) What is your nationality? (uyruğunuz nedir?)



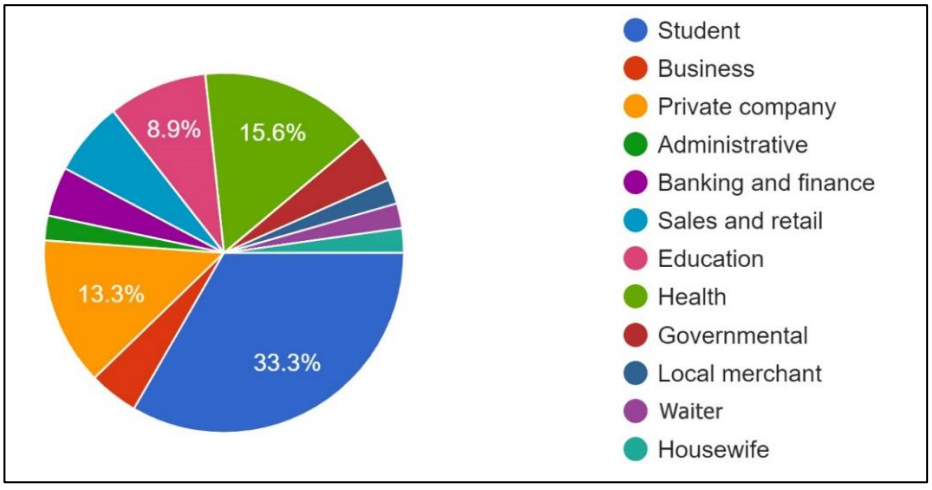
5) What is your marital status? (Medeni durumunuz nedir?)



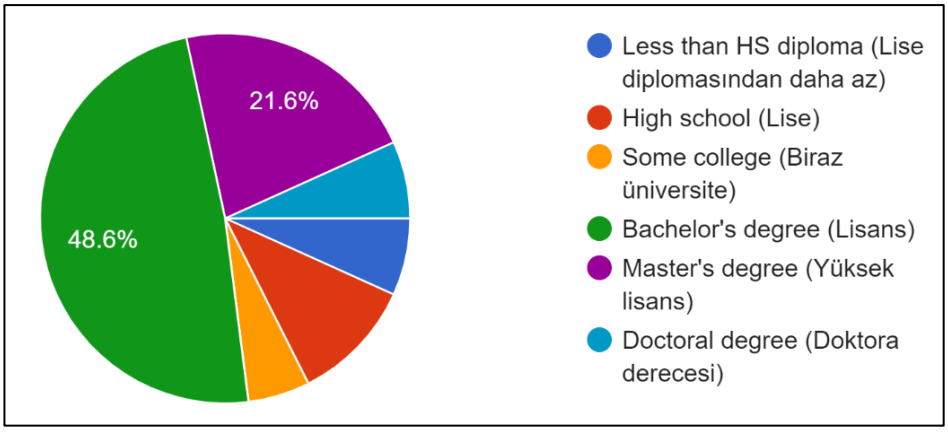
6) What is your occupation? (Mesleğiniz nedir?)



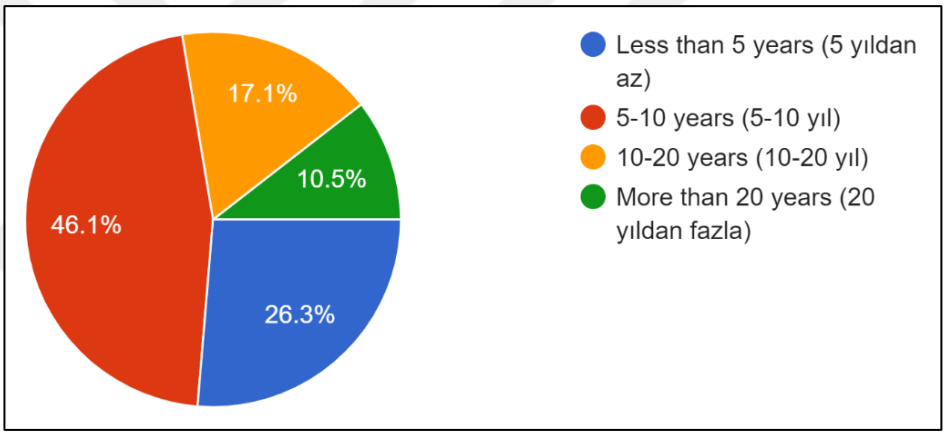
7) What is your occupation sector? (Mesleğinizin sektörü nedir?)



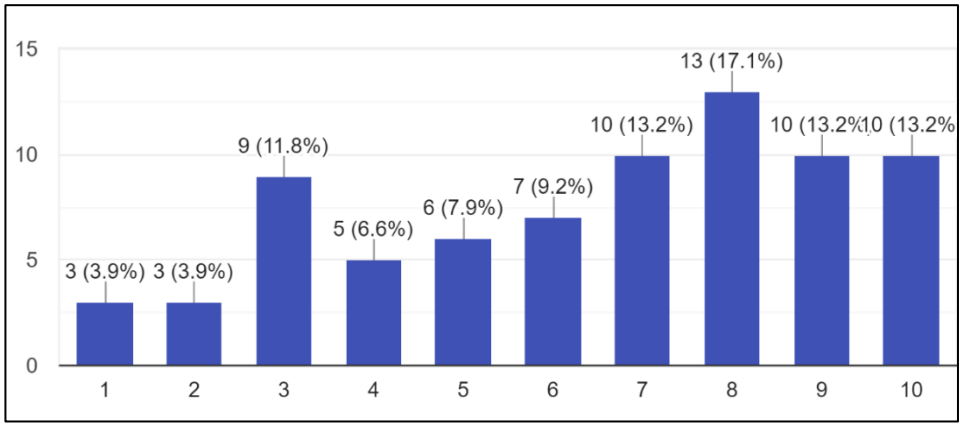
8) What is your educational background? (Eğitim durumunuz nedir?)



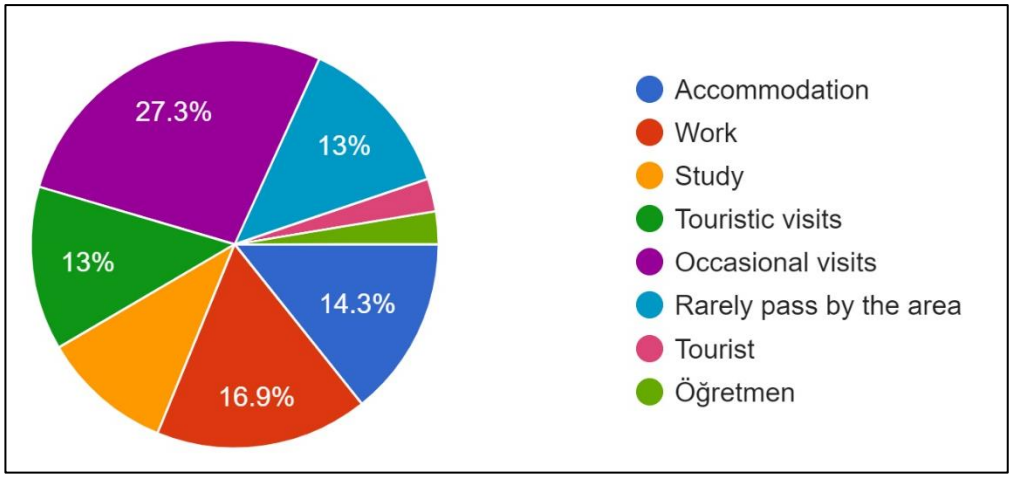
9) How long have you known or been in Istanbul? (Ne zamandır İstanbul'dasınız?)



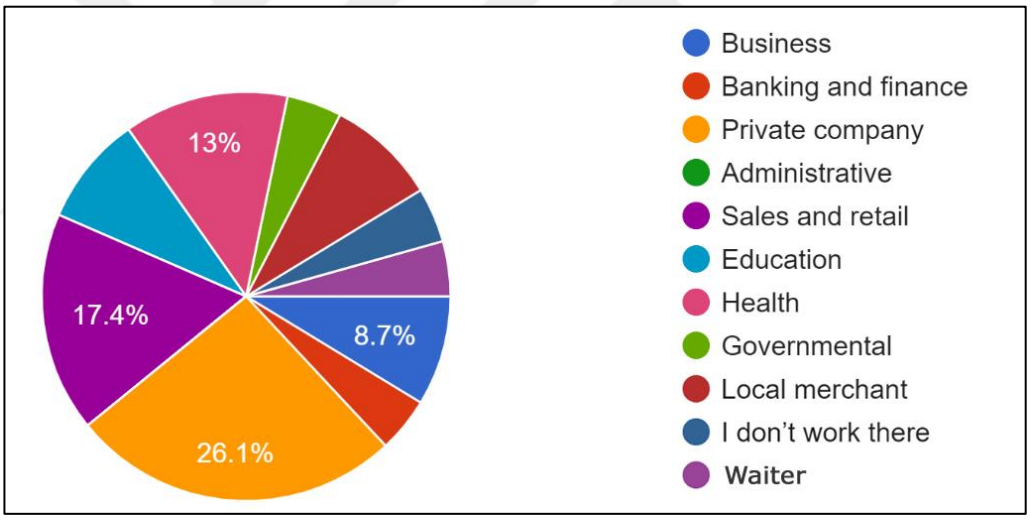
10) How well do you know Levent area? (Levent bölgesini ne kadar iyi tanıyorsunuz?)



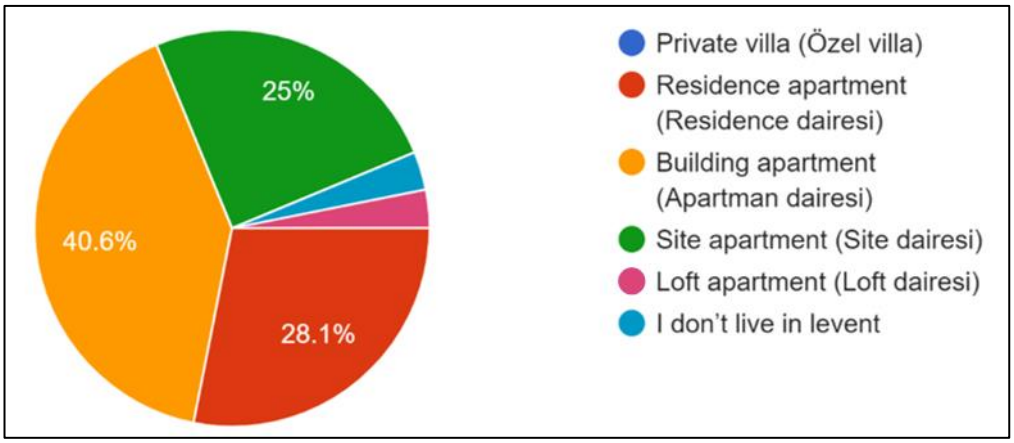
11) What do you do in Levent? (Levent'te ne iş yapıyorsunuz?)



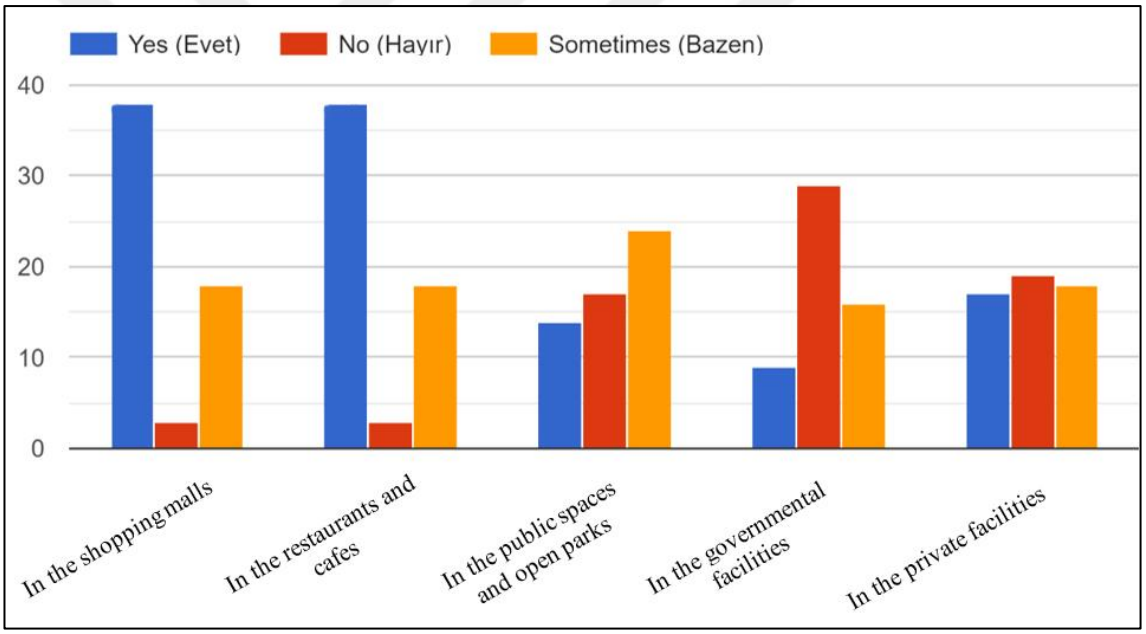
12) If you are working in Levent, what is your occupation sector? (Eğer Levent'te çalışıyorsanız, meslek sektörünüz nedir?)



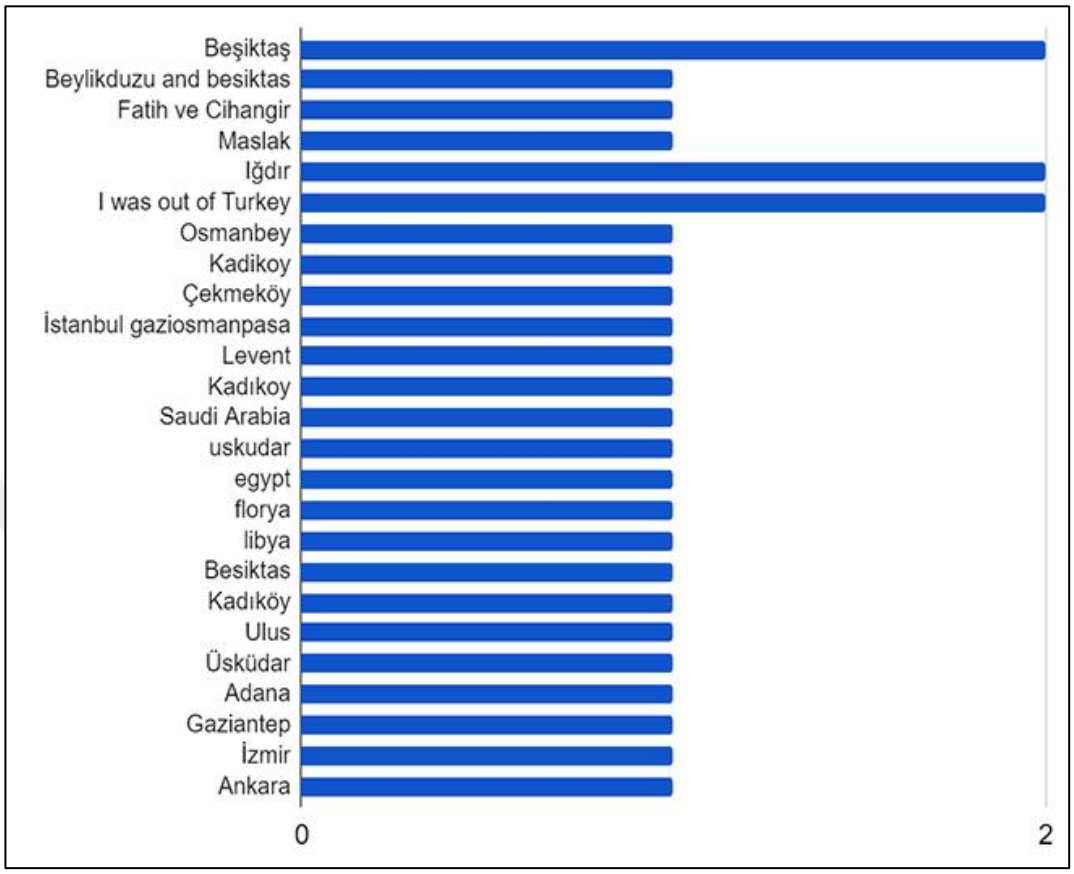
13) If you are living in Levent, in what type of accommodation do you stay? (Eğer Levent'te yaşıyorsanız, ne tür bir konutta kalıyorsunuz?)



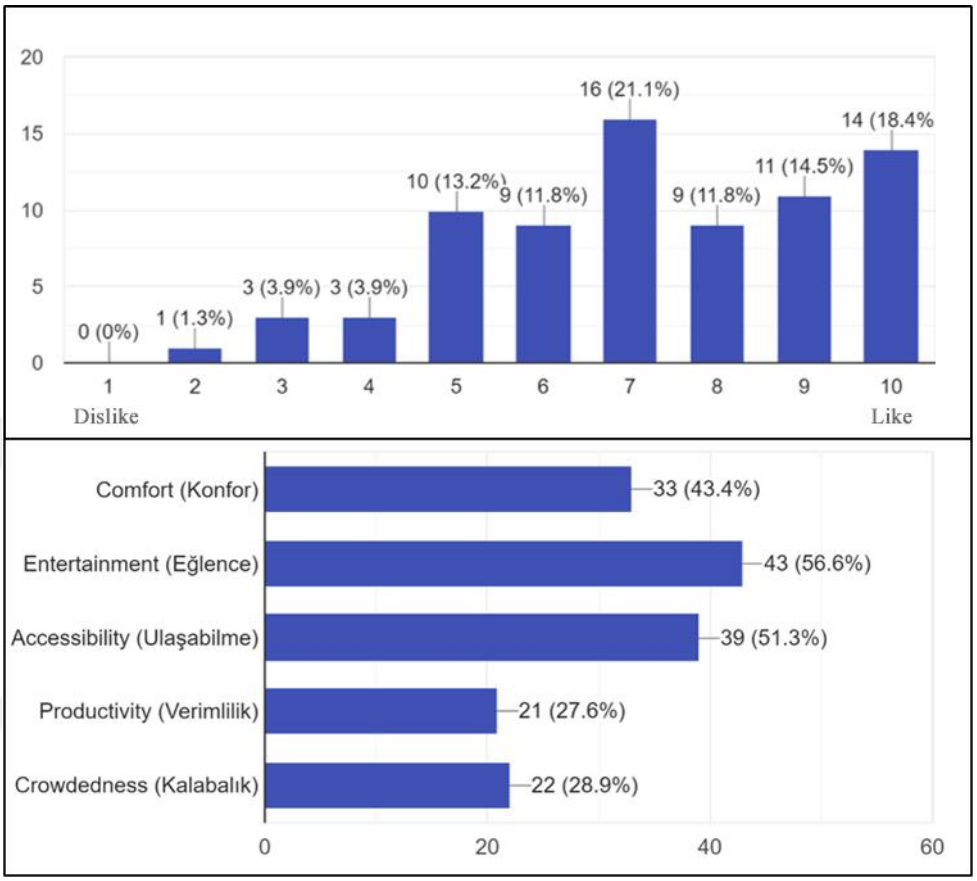
14) If you frequently visit Levent, where do you mostly spend your time? (Eğer Levent'i sık sık ziyaret ediyorsanız, en çok zamanınızı nerede geçirirsiniz?)



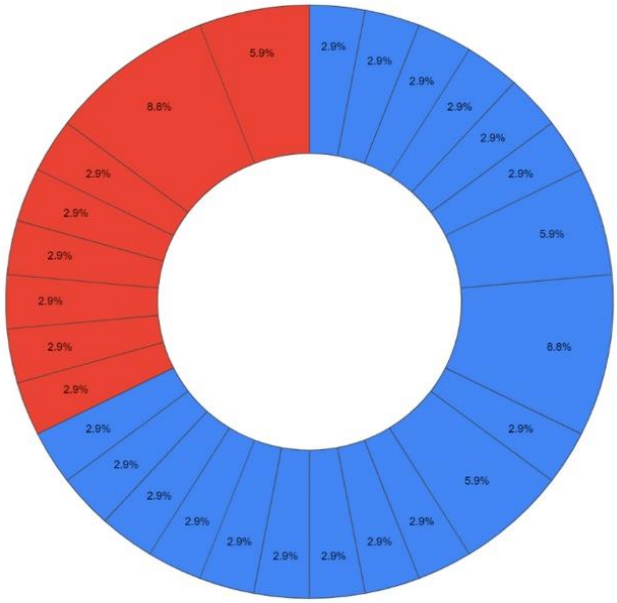
15) Before you come to live/work/study in Levent, where were you? (Levent'te yaşamaya/çalışmaya/okumaya başlamadan önce neredeydiniz?)



16) How much would you rate Levent area and according to what you rated it? (Levent bölgesini nasıl değerlendirirsiniz ve neye olarak değerlendiriniz?)

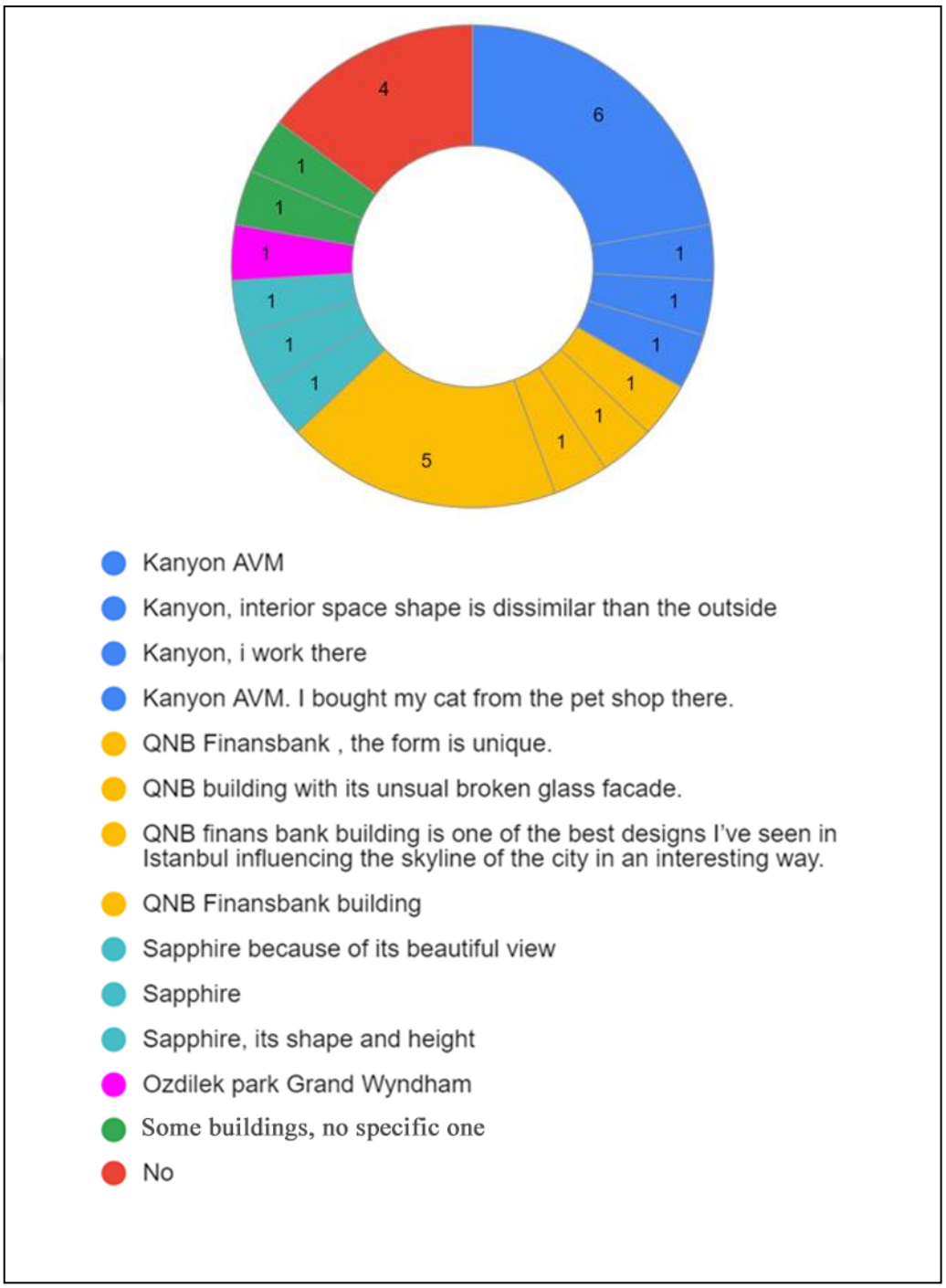


17) What do you like/dislike architecturally at most in Levent district? (Levent bölgesinde en çok mimari olarak neyi beğeniyor/beğenmiyorsunuz?)

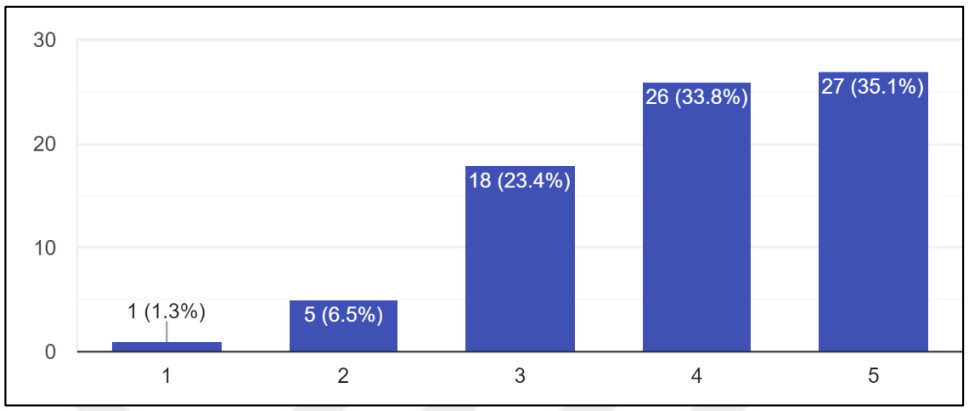


2.9% Like: The skyscrapers and the modern buildings
2.9% Like: Very good area and really comfortable place
2.9% Like: its wide streets
2.9% Like: The neighborhoods behind the high rised buildings
2.9% Like: Some skyscrapers. Dislike: the rest of the neighborhood
2.9% Like: The facades, structure of the shopping malls, the modern look and culture around the area.
5.9% Like: Rezidans
8.8% Like: the developed buildings
2.9% Like: the towers there
5.9% Like: Kanyon AVM
2.9% Like: The designs of buildings
2.9% Like: Shopping malls architecture
2.9% Like: the tall buildings and their special designs, the night view.
2.9% Like: I love the modern buildings
2.9% Like: Skyscrapers
2.9% Like: Kanyon avm, Metro integration to the malls, easy access to the shops and the skyscrapers.
2.9% Like: it is close to transportation and has lots of places to go to.
2.9% Like: The green areas (Yesillik alan)
2.9% Like: lively because of the entertaining buildings
2.9% Dislike: Inconsistent buildings, buildings difficult to access by car, polluted air in the open areas
2.9% Dislike: Building density
2.9% Dislike: Scale disorientations
2.9% Dislike: very high and large scale buildings
2.9% Dislike: Tower side by side with low profile housing
2.9% Dislike: scale
8.8% Dislike: the Crowdedness
5.9% Dislike: the traffic

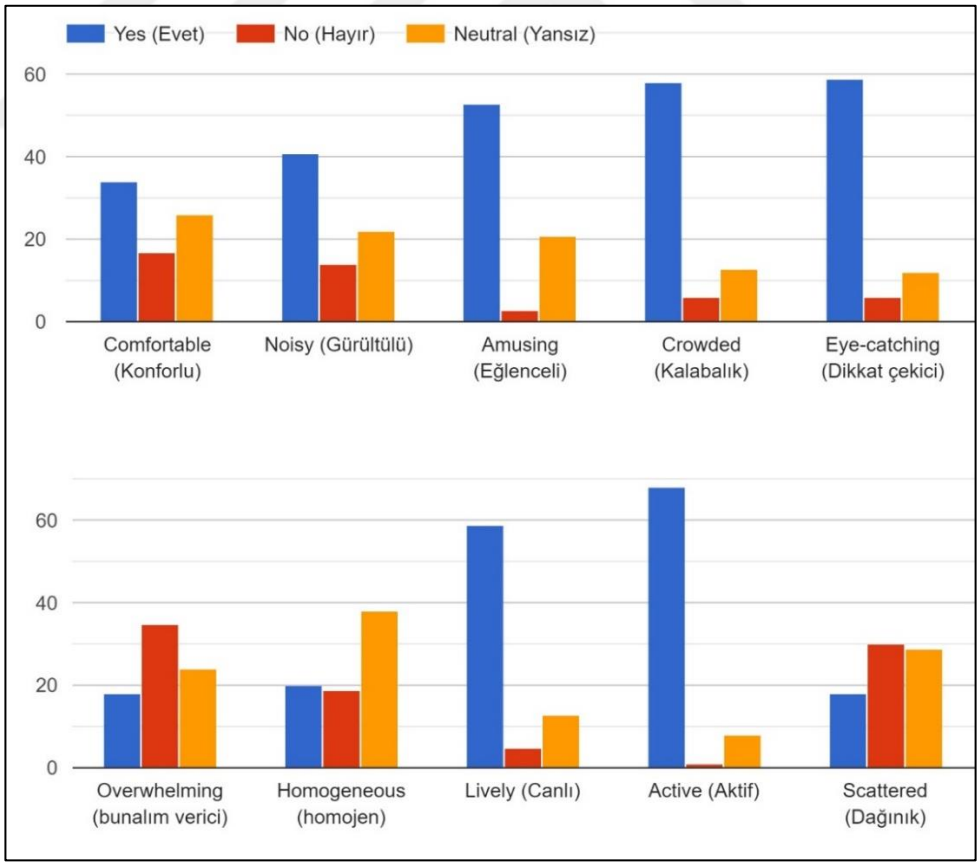
18) Does any building around/in Levent district have special meaning for you/in your memories? Which one and how? (Levent ilçesi çevresindeki herhangi bir binanın sizin / hatıralarınız için özel bir anlamı var mı? Hangisi ve nasıl?)



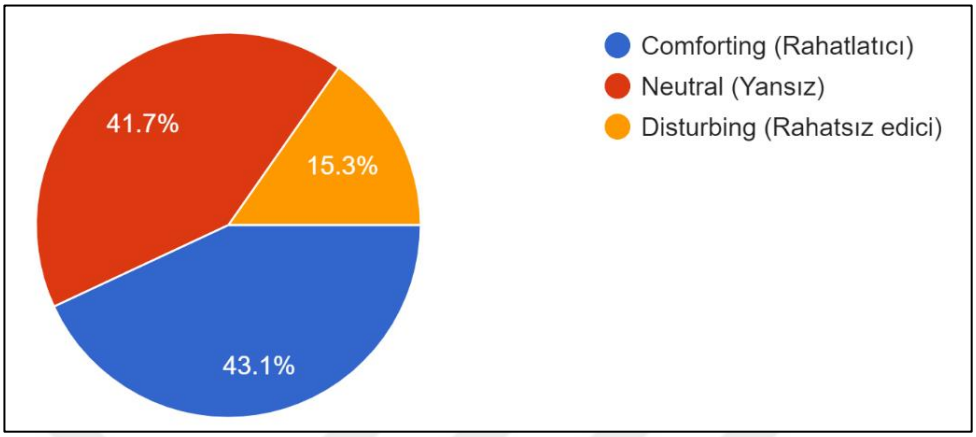
19) To what extent do you think that the Architectural facades in Levent district have a major role in Levent's identity? (Levent semtindeki Mimari cephelerin ne ölçüde Levent'in kimliğinde önemli bir rol oynadığını düşünüyorsunuz?)



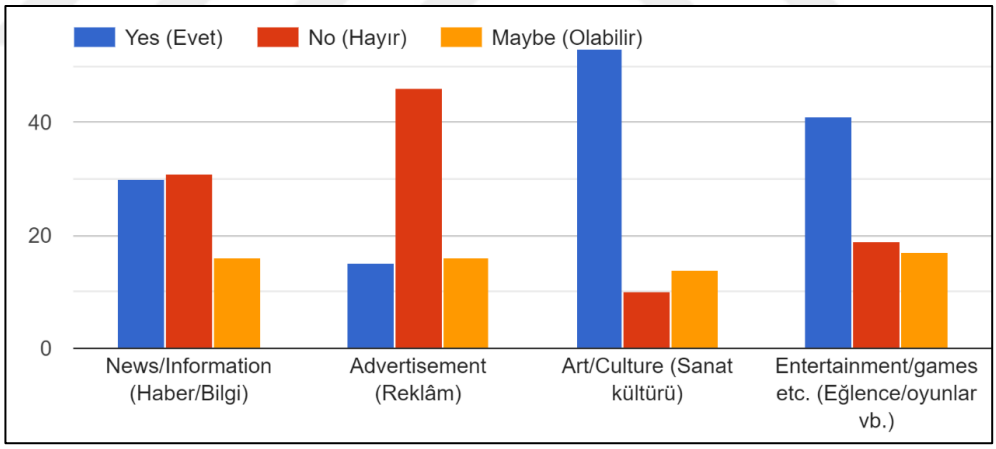
20) What words do you think describes Levent area? (Levent bölgesini hangi kelimelerle tanımlıyorsunuz?)



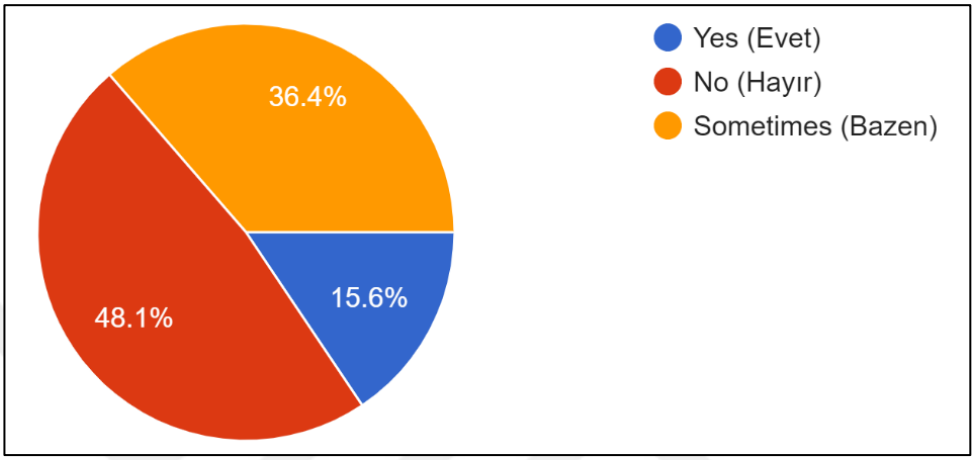
21) What is your opinion about the Media façade's existence in the public spaces in Levent? (Medya cephelerinin Levent'teki kamusal alanlarda varlığı hakkında ne düşünüyorsunuz?)



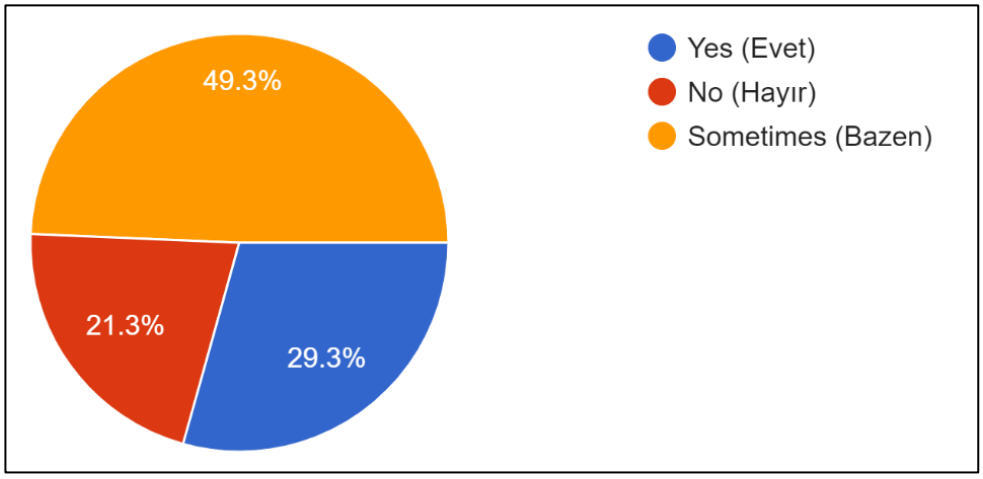
22) What content do you want to see at most on/in media facades? (Medya cephelerinde en çok hangi medya içeriğinde görmek istiyorsunuz?)



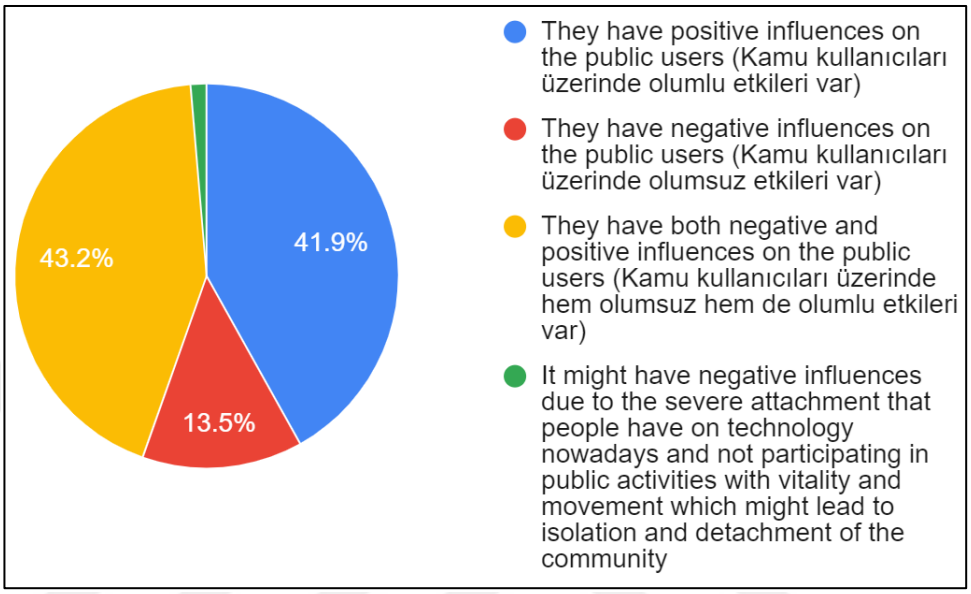
23) Do you get any discomfort or become overwhelmed from the presence of screen displays and advertisements or any kind of lighting on the façades of the buildings that surrounds the public areas? (Kamuya açık alanları çevreleyen binaların cephelerinde ekran ve reklamların varlığından veya herhangi bir ışıklandırmadan rahatsızlık duyuyor veya bunalıyor musunuz?)



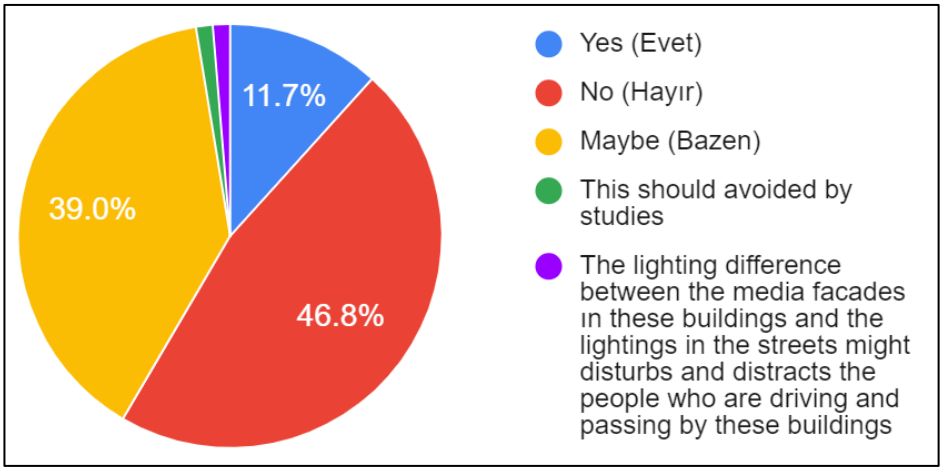
24) Do you benefit from the information that are displayed on the screens of the Media façades of the buildings, such as weather and traffic status? (Hava ve trafik durumu gibi, binaların Medya cephelerinin ekranlarında görüntülenen bilgilerden yararlanıyor musunuz?)



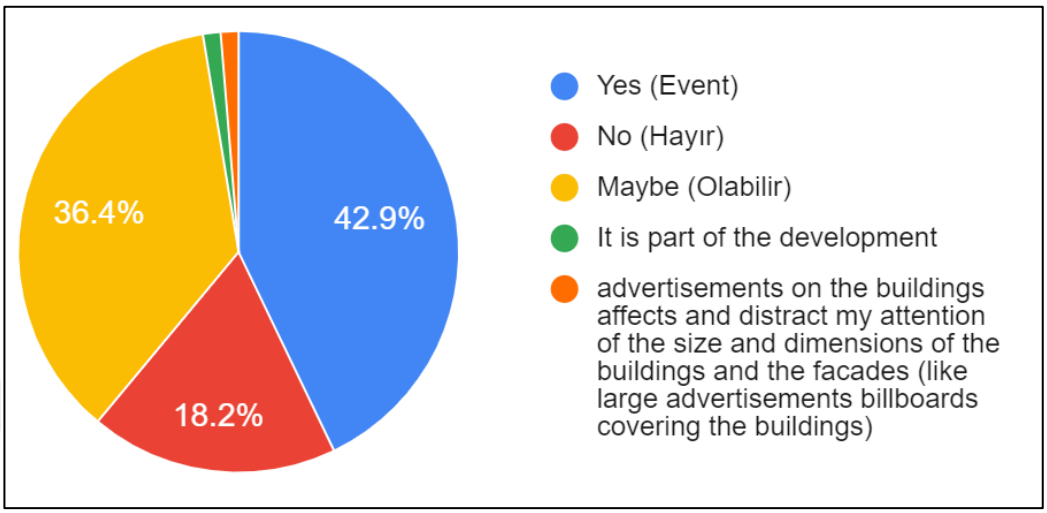
25) Do think interactive video games and applications on the media façades screen displays can have positive or negative influences on the public users? (Medya cepheleri ekranlarındaki etkileşimli video oyunlarının ve uygulamaların kamu kullanıcıları üzerinde olumlu veya olumsuz etkileri olabileceğini düşünüyor musunuz?)



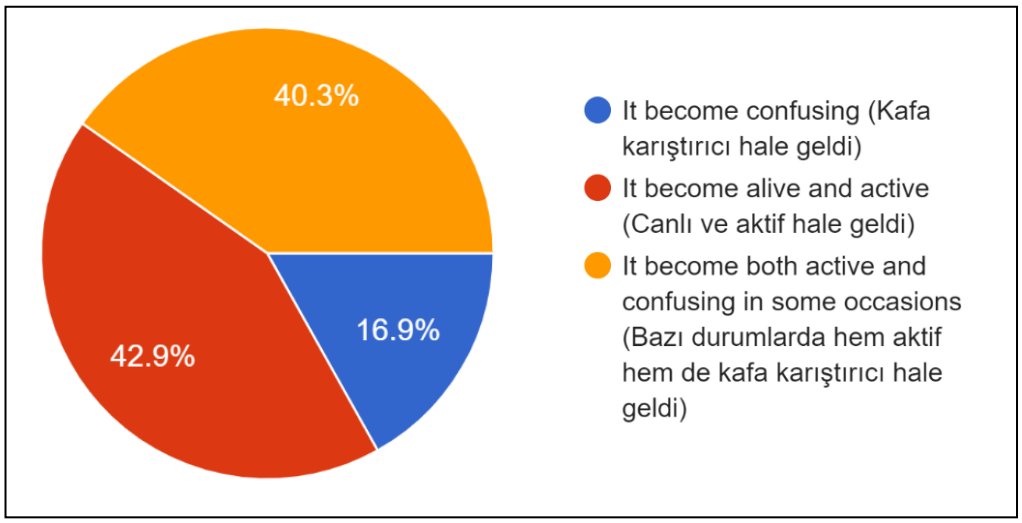
26) Does the lighting that comes from media façades disturbs the night atmosphere of the public areas in front of Kanyon and Özdilek park square in Levent? (Medya cephelerinden gelen aydınlatma, Levent'teki Kanyon ve Özdilek park Meydanı'nın önündeki kamusal alanların gece atmosferini bozuyor mu?)



27) Do you think the advertisements are interfering with the city's architectural elements, such as façades and public spaces? (Reklamların, şehrin cepheleri ve kamusal alanlar gibi Mimari elemanları müdahale olduğunu düşünüyor musunuz?)



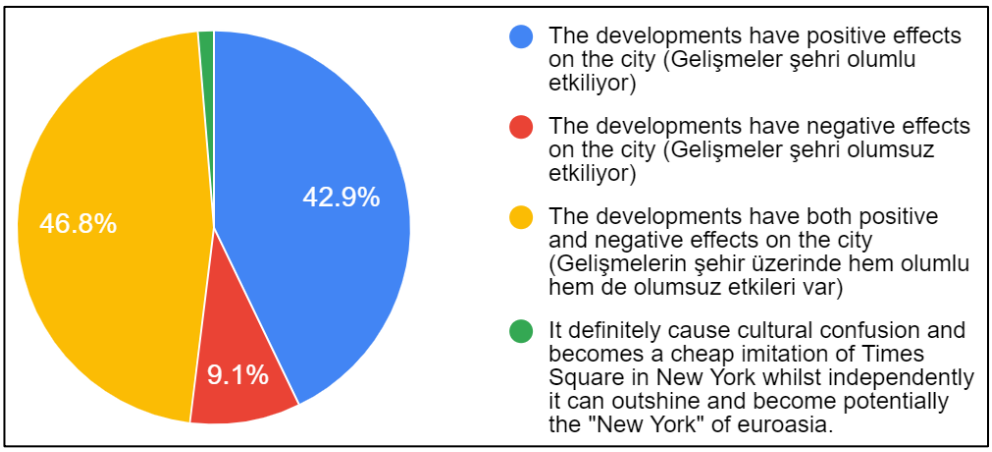
28) Did the atmosphere of the public spaces become confusing with media façades' interference in the public environment harmony? Or did it become more alive and active and the media façades added new potentials to the public space uses? (Kamusal alanların atmosferi, medya cephelerinin kamusal çevre uyumuna müdahalesiyle Kafa karıştırıcı hale geldi mi? Yoksa daha canlı ve aktif hale geldi ve medya cepheleri kamusal alan kullanımlarına yeni potansiyeller ekledi mi?)



29) What are the positive and negative effects of advertisement and media façades on the city and city identity? (Reklam ve medya cephelerinin şehir ve şehir kimliği üzerindeki olumlu ve olumsuz etkileri nelerdir?)

a.	It keeps the city alive (Şehri canlı tutuyor)
b.	It lost the identity of the architectural area in levent which is very negative
c.	Some advertisements are helpful others might be annoying
d.	I don't know how to relate both I think in general that media facades are not really necessary it does not have a function beside over used energy.
e.	Can be attractive but also overwhelming is there is abusive
f.	Positive: Source of information , Negative: lower self-esteem
g.	It creates a fact sense of capitalistic ambitions that further fuels debt, and financial troubles for the average user.
h.	positive: it makes the city developing.
i.	It might give positive vibes to the folks. At the same time, it has side effects to the environment in general.
j.	Positive effects reside in keeping up with the technological advance thus emphasizing the city's identity beyond the fact of it being an Old city.
k.	It's confusing and disturbing
l.	It gives life at night, and it reflects technological development
m.	It covers the building's architectural design, but it is fun and eye catching at the same time. Sometimes it gives useful information.
n.	It can be distracting and definitely different from the atmosphere of the rest of the city, but it is a positive atmosphere in its own way adding new lively change from the rest of the city.
o.	sometimes they might serve disturbing/oppressive images to my perception, for too long to affect my mood (for example, political)
p.	It gives it a more modern look.
q.	It makes the facade more alive also it's better lighting to some areas at night and draw pedestrians' attention to these public areas
r.	It gives the city a commercial and economical identity, but affects the serenity of the residential areas
s.	positive: it makes the city more alive and active, negative: it might make the city noisy or scattered

30) Do you think that Istanbul's identity Is affected by these changes in its districts, losing its authenticity, since Levent district has developed and changed impressively through the recent years? or do you think that these developments have positive effects on these districts and on Istanbul in general? (İstanbul'un kimliğinin, ilçelerindeki bu değişikliklerden etkilendiğini, Levent'in son yıllarda etkileyici bir şekilde değiştiğini ve özgünlüğünü kaybettiğini düşünüyor musunuz? Yoksa bu gelişmelerin bu ilçelerde ve genel olarak İstanbul üzerinde olumlu etkileri olduğunu düşünüyor musunuz?)



31) Do you think that the behavior of the public will change with these contemporary developments of the cities while the technology is embracing the architectural façade and public spaces? (Teknoloji, mimari cepheyi ve kamusal alanları kucaklarken, halkın davranışının kentlerin bu çağdaş gelişmeleriyle değişeceğini düşünüyor musunuz?)