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THE IMPACT OF MEDIA IN PUBLIC SPACES TO IMPROVE SOCIAL INTERACTIVITY WITH URBAN LANDSCAPEIS

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Abstract

Currently, the concept of the urban landscape is linked with a complex mixture of social and cultural dynamics of all daily life, and the advanced use of technology both characterizes and has strongly influenced the emergence of new interfaces between man and his environments. In this context, technological innovation influences our daily life and the use of urban spaces. Within this global phenomenon, the present research explores how socio-cultural changes and smart communications systems evolve the urban landscape to ensure the continuation of the dialogue between man and his environment. In particular, the research objective is to explain the impact of media to improve positive social interactivity with the urban landscape. Research considers that Media plays an essential role in attracting people and engaging them in public spaces; the study supposes that (i) Media can enhance the Potentiality of the urban landscape; (ii) Media transform social relationships at the local level and enhance shared focuses, dialogue, and collective action. Results explained that both traditional media and digital devices are still important for the productivity of the modern landscape. Media enhanced diversity, improved reactive, enhanced interaction, developed resilient spaces, increase personal autonomy, provided interchange ability, improved time efficiency, maximized duration of using spaces, and offered versatile space. Media improved public activities and expanded relationships between people, engaging them in new relations, encouraging them for shared dialogue and focus and involving them in collective action. Finally, in this research, "media" has extended to cover applications beyond screen-façade, it refers to all smart applications and telecommunications advances that designers can involve in public spaces as prayer announcements, media displayers, motion sensor bridges, intelligent lighting, intelligent fountains, intelligent climate wall, and Sports control area.

Keywords: Human needs, Interactivity, Media landscape, Occupancy of landscape, Positive interactive relations, Potentiality of the media landscape, Resilient spaces, Urban landscape.

1. Introduction - Urban Landscape in a New Perspective

At the turn of the 20th century, philosophers and sociologists developed significant theories about the functions of places where people can gather and express their opinions. These theories are connected to the process of place making and innovations [1]. The term "Urban Landscape" refers to the permanent topic related to the origin and formation of cities. It ensures long-term values by maintaining connections to historical events and promoting social, cultural, and ecological resilience. The landscape is the exact sample of the duality between the universe and humans, nature and culture, entity and essence [2].

De Wit [3] considered Urban - landscape as a result of human–natural interaction, reflecting the image of the city and a kind of substitute environment in the natural context. People in modern societies require an urban landscape to form an identity through the use of landmarks, points of interest, memorable distinct places, and other recognizable reference points [4].

Landscape has its different tangible and non-tangible aspects, in this context, different approaches in landscaping design have introduced a comprehensive framework that covers both physical and socio-economic aspects fastening between people, nature and technology.

Aesthetic approach: Aesthetic approach: Emphasizing the ornament, and aesthetic conditions of the landscape which is closely related to people's daily life [5].

Perceptual approach: Interesting in the way that people interpret and understand what they notice, deserving a remarkable focus on the interactions of the individual and group according to the characters of spaces [6].

Contextual approach: Overplaying the reflection of the landscape on social diversity, ethnic differences, Liveability, and public life.

Morphological approach: Describing the relationship between society and place and the way how people dwell in space.

Sustainable and eco-system approach: Overstating the environmental role of an urban landscape, energy, climate change, and water crisis [7].

Communicative Approach: The urban landscape is commonly understood in two distinct ways communicative and spatial. The first refers to the medium through which messages and information travel, and the second refers to the physical spaces and their connection [8]. Beyond the physical existence of the landscape, it also includes mental and cultural aspects. European Landscape Convention (ELC) [9-11] and de Wit [3] described a landscape as a product of action and interaction between natural and man -mead environments.

Actuality, the landscape represents the dialectic between universe and humanity, between natural, cultural, independent, and dependent [11, 12]. Public art in the landscape is the transformation of socio-cultural dimensions, according to European Landscape Convention, every type of artwork can change the values of landscape and develop people–space engagements. Lörzing [13] suggested four stages of human involvement with the landscape: Intervention (what we produce), knowledge (facts we know), perception (visual landscape), and interpretation (what we believe).

1.1. Social interaction with urban landscape

Social interaction refers to the activity of engaging people with each other and with their context [14] it is an establishment of the intellectual environment in which people can transmit their distinctive mental and moral qualities (cultural, behavioural, and sensorial) [15].

Krueger [16] defined Social interaction, as an indicative form of social cognition correlated with self-structuring while Kim [17] pointed out that social interaction is an opportunity in which two or more people participate in accessible open public spaces. According to Alexander

Wiethoff et al. [18], the term "interaction" originally referred to the actions of people who can communicate with one another and take part in two attributes of events; today, the term is more commonly used to describe the process of exchanging materialistic things, data, or services.

Huang and Deng [19] provided a model for enhancing social interaction, this model included: Cultural features, Social context, Social activities, Participation, Object and environment, Interaction, Attitude, and motives. In recent decades the socio-cultural structure of cities has been changing and people's social interaction have seen a gradual decrease, to cover this problem

Gökçe [14] showed some factors can help to re-use public spaces positively, like (quality of life, availability, accessibility, safety, maintainability, and diversity. Maintaining social cohesiveness in public spaces requires the presence of a sustainable gathering area; people's different beliefs and ways of living are reflected in the outside environment in various contexts.

Multiple forms of urban public spaces (squares, parks, playgrounds, streets, and so on) provide more opportunities for people to interact with one another [20]. Pitt-Perez [21] stated that landscape design gives individuals with differing tendencies a sense of belonging and enables them to embrace the place.

1.2. Information, communication, and society

Media, in public spaces, whether traditional or smart represents a field of exchanging data, people communicate information differently by using signs or behaviours [21]. The rapid increase of using digital technologies has transformed the significance of the place and the interaction between individuals - space takes on new meanings.

Media enhanced the sense of the place and engaged people with new arguments in their environment while also facilitating communication. Since there will be no reason to separate humans and technology, both will be able to act and react in the same shared urban space [4]. With the emergence of - the Digital Age - new criteria for the evaluation of public spaces come to be introduced associated with convenience, Accessibility, speed of movement, and information transfer [22, 23]. Communications media influence context (navigation, identity, and spatial structuring), and as a result, people's perspectives shift due to the emotional judgments made by electronic technology [24].

Media involves cultural lifestyle changes and welcoming novel kinds of connection. It has always integrated both dimensions: static (topography,

constructed structure) and dynamic (people, automobiles, light) [23]. By incorporating spatial aspects into the design, modern technologies reduce the gap between the two dimensions. The objectives of technological adaptability are users' well-being and safety, Longevity and viability, and Functional efficiency [25].

1.3. Motivations - Research problems –Questions- Objectives – Methods.

In recent decades, the socio-cultural structure of cities has been changing and people's social interaction has seen a gradual decrease, to cover this problem Gökçe [14] explained some factors that can help to re-use public spaces positively, like (quality of life, availability, accessibility, safety, maintainability, and diversity. Naz [26] discussed how individual and group needs, as well as values that come from society, personal knowledge, training, religion, and other things, could affect how individuals perform [26]. As a consequence, Matsuoka and Kaplan [27] observed that the urban landscape has a big effect on people's well-being and behaviour, encouraging the use of technology that meets most of the needs of urban life today. They indicated some of these challenges as shown in Table 1 [27].

Table 1. Challenges faced media landscape [26, 27].

Challenges	
New interfaces	Technologies create new interfaces known as (pass-by-and-use) and (walk-up-and-use).
Integration:	New installations integrate into physical structures and surrounding spaces.
Robustness and stability	Light and weather conditions present distinct challenges
Developing content to suit the medium	Media exist in public spaces, trying to make them visible to a large number of people; for this, it should include public messages
Transforming social relations	New technologies can transform social relationships and promote new forms of interfaces.

Considering these challenges, the current study attempts to provide answers to the following questions:

- How digital media can improve the potentiality of public spaces?
- How digital media can enhance social positive interactions with the urban landscape?

1.4. Research Problem Statement

Social interaction in landscape refers to the activity of engaging people with each other and with their context. In technical words, interaction is composed of two parts: the input and the output. It is the state between an action (input) and a reaction (output). Interaction also refers to the exchange of information between two or more people. In this context, social interaction in landscape refers to the activity of engaging people with each other and with their context. Research problems appear on two levels.

- **In theories**, different concepts were used to talk about the main topic (media and social interaction), but much of the information were put together in a way that was not clear or cohesive. In general, there is a lack of consensus on how this information should be affronted and what issues need to be explored by landscape designers.
- **In an implementation,** the study found that landscape designers have little access to practical resources; as a result, they cannot expect their new projects to have a positive effect on the real world. The method used in this study is (Research through Design (RtD), it represents the technical process of conducting scientific research that uses the distinctive knowledge acquired through design practice to assist people in comprehending challenges and problems in the design field. RtD is not a new way of doing things. Research through design" is the most like real design practice because it transforms the design process into a research proposal [28]. Furthermore, for the practical purposes of this study, virtual reality replaces a real-world method with a similar three-dimensional graphical model. The research problem, objectives, and methodology are shown in Table 2.

Table 2. Research problems, objectives, methods.

Research Problems	After examining the relevant references (from 1 to 27), the researchers concluded that previous studies covered in a separate way some of the different aspects related to the main topic (media and social interaction). Therefore, research problems come out of the absence of a comprehensive theoretical model that can explain how designers can use media to improve positive social interaction with the urban landscape.
Research Objectives	The main objective of the research is to explain the effects of using media to improve positive social interaction with the urban landscape.
Research Methods	Research methodology is based on a: Research-through-design process carried out as a reflective design practice, rather than focusing on the design artefacts [28]. The Research adopted also descriptive and analytic methods to cover two levels of information, theoretical (reviewing previous studies (Tables 3 to 9) and practical (applying theoretical model by using virtual reality Tables 9 to 11).

2. Conceptual Model

In this research, the theoretical framework consisted of two primary concepts (i) (positive social interaction with urban landscape) and (ii) the potentiality of media urban landscape). In consequence, the research examined different indicators (as shown in Fig. 1)

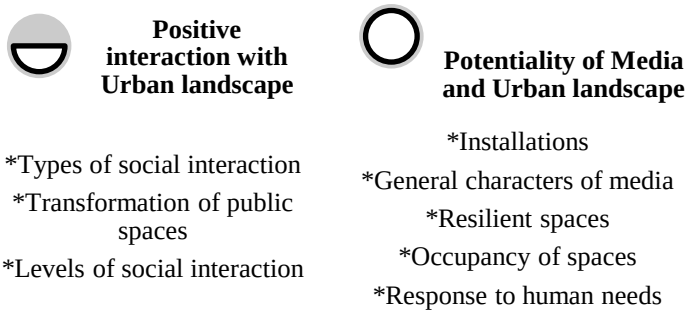

Fig. 1. Conceptual model.

2.1. Potentiality of the urban media landscape

2.1.1. Installations

Installations have progressed from flat screens to media façades and architectural infrastructure [29]. Such urban interfaces enable citizens to participate in the co-creation of their urban experience and provide situated access to information [30]. Digital Media is no longer restricted to static displays as shown in Table 3 [29-34]. The interaction of real and virtual space produced the hybrid space. The Characters of media are shown in Table 4.

Table 3. Media installations [29-34].

Installations	Type
Display Technologies	High-res screen- LED displays Architectural illumination and information -Spatial layout and interaction zones.
Urban Robots	Delivery urban robots.
Climate Wall	Interactive generator of climate statements.
Transparent Windows	Responds to the movement of people passing by walls.
Video Statement	Screens which are integrated into bus shelters and information.

Table 4. Characters of media [32, 33].

Characters	Explanation
Diversity	Using varied activities.
Reactive Architecture	Replies rapidly through design logic and time schedules.
Interactive Architecture	The main objective of responsive, adaptive architecture is to interact and engage with the surroundings.

2.1.2. Resilient spaces

Resilient cities are increasingly interested in integrating new technologies into urban spaces to get better respond, recover and quickly restore essential activities following disasters and other unforeseen disruptions to social, institutional, and economic life [33].

- **People Resilience:** Self-organization and utilization of skills and abilities to find new possibilities and adapt, as well as solidarity after a disaster.
- **Places' Resilience:**

  Activity-Space Tolerance: Most activity changes and new activities may require new spaces. A loose-fit spaces technique recommends not matching activities too closely to reduce mismatch [34].

Agility refers to a space's ability to adapt to its users' requirements and desires rather than the user adapting to the environment [34].

Capacity to adapt: Urban designers should develop spaces to promote change to sustain values throughout life. Innovative solutions learn and anticipate occupant requirements and preferences, improving comfort and flexibility [34].

2.1.3. Occupancy of spaces

A. Quality of Space-Activity: Includes the following factors: The total number of users, the quantity of time that people use space, a high ratio of usable area, versatile space, using furniture that can be utilized for different activities, maximizing standards for practical work.

B. Amenity (comfort): Refers to qualities that can satisfy occupancy goals, occupants' pleasant feelings due to their lifestyle, and social, cultural, and subjective backgrounds; the goal is for occupants not to feel stressed and to engage them in certain specific behaviours.

C. Activity-Space Interchange ability: Providing several locations for performing the same activity).

D. Time efficiency: Performing multiple activities at the same time in different locations.

E. Duration of overlapping activity: Doing multiple numbers of activities in the same space [35, 36].

2.1.4. Response to human needs

The quality and quantity of activities in public spaces might encourage people to stop and interact. Public areas host various daily activities and festivities, whether active or passive. Identity, legibility, Accessibility, Life quality, Diversity, Safety, and aesthetics are criteria that help create a pleasant environment and promote user satisfaction [37, 38].

2.2. Positive interaction with urban landscape

2.2.1. The effects of media urban landscape

Using technological innovation affects the way people move through space. When information and communication are combined, it changes the way people think and design. The media affect public spaces and the people who use them, transforming the static architectural environment into a dynamic space for communication. Buildings become alive and interact with people through the informational program, and their presence in the urban landscape has become a part of everyday life. The negative and positive effects of media are shown in Table 5 [38-41].

Table 5. The negative and positive effects of media [38-41].

Effects	Explanations
Negative	Aggressive replay from some users and spatial alienation.
Positive	Increasing attractiveness,
	Introducing landmarks,
	Socializing activities,
	Enhancing space consumption,
	Promoting information and images shape,
	Improving collective life and culture,
	Create brand value.
	Communicating civic or educational messages
	Contributes to urban identity

2.2.2. Social Life and interaction

Matsuoka and Kaplan [27] in their study *People need in the urban landscape * identified interaction patterns in which people encountered and were involved with the installation [40-42]. People revitalize urban architecture by increasing relations between inside and outside, for example: reinforcing the rhythm of the vertical facades, re-creating life of the buildings, as well as the inclusion of the street for commercial activities within open space [43].

2.2.3. Transformation of public spaces

In urban design, a lot of the spaces in a city are shared and written. Over time, unwritten social agreements and rules have developed in these spaces to assist people acquire together. Some technologies, like cell phones, change these social relationships on a big scale. Media facades, on the other hand, change these relationships close to the facade(as shown in Fig. 2). Table 6 shows the levels of social interactions [40, 41], while Table 7 includes four kinds of social connections between people and spaces [40, 42].

Table 6. Levels of social interactions [40-41].

Distributed attention	Each person has their own 'bubble' of attention
Shared focus	People notice the same thing
Dialogue	Shared activity that people do together and think about
Collective action	People participate in achieving a common goal.

Table 7. Types of social interactions [40-42].

Types	Explanations
Initiation	Pass and observe,
	Watch to take control,
	Pass and engage
	Walk-up-and-use
	Watch and join
Interaction Style	Investigation
	Visual interest
	Embodied participation
	Narrative engagement
	Unintended use
Relation	Individual,
	Group, Family, and Social

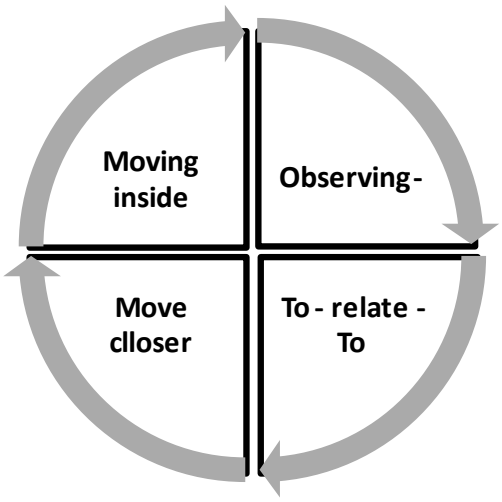

Fig. 2. Relationships between people and space [40-41].

3. Case study: Research Tools, Hypothesis, Selected Projects, Discussions, Conclusion

In this research, theoretical information come to be organized into two main concepts (potentiality of media urban landscape and positive social interaction with urban landscape) in consequence research examined different indicators mentioned in Fig. 1. Research methodology based on a: Research-through-design approach carried out as a reflective design practice, rather than focusing on the design artefacts, in additive, the research adopted also descriptive and analytic methods.

3.1. Research technical process: Research through Design (RtD) and Virtual Reality (V. R.)

Research through design (RtD) refers to "the process of constantly creating objects as a creative way of exploring what a possible future might be". The basic principles that constitute (RtD).

- The logic of the design process guides research, at the same time design is driven by the research hypothesis.
- Research through design prefers a gradual re-alignment of how things are made, based on trial and error, so that difficult design problems can be solved better.
- Learning by design: research discovers things by examining how their condition changes over time.
- The designer or researcher needs to be certain that "the method" can be repeated by every person who wants to look closely at the research.

Steps of RtD methodology:

i. Chronology: Work should be described in chronological order, using short sentences whenever possible.

ii. Clarity: Keep entries intelligible, insightful and honest.

iii. Record images: Take photos and involve them and finish physical models.

iv. Out of hours: Describe events of "completely out of hours' design in the following days.

v. Diary admin: Make sure all notebook papers are labelled and marked.

vi. Modelling admin: To facilitate cross-referencing, provide that all simulation results have numbers and are recorded [28].

Virtual reality:

Technological advances have made it possible for more realistic sensations. The term "virtual reality" was used to describe a 3D simulation that allows participants to discover and communicate with imitation surroundings in a manner that corresponds to the fact, as interpreted by the senses of the user. Virtual Reality technologies (VR) can differ greatly from one another based on their intended application and their fundamental technology, but they can be divided into three classifications.

Non-immersive:

Virtual reality in this sense usually refers to a simulated 3D setting that may be experienced on a computer screen. Depending on the software, the surroundings may potentially produce noise. Using a computer's keyboard, mouse, or other input device, the user can influence the virtual world around them, but the world itself does not respond to their actions.

Semi-immersive:

This sort of virtual reality (VR) provides a less-than-full immersion experience that can be accessed via a computer screen or glasses or a headset. It's not as immersive as full VR, but it still uses the same 3D graphics and sounds to simulate a realistic environment.

Fully immersive:

This form of virtual reality (VR) provides the highest quality of virtual reality possible by totally submerging the user in a simulated 3D environment. It includes the senses of sight, sound, and even touch. Some studies have even attempted to incorporate the scent [44].

For testing the hypothesis, the present study addressed 14 projects which are related to the course of urban landscapes, all projects are (virtual reality) designed by undergraduate students at Al-Esraa University - Iraq- Baghdad 2022 and supervised by the researcher.

Students used full immersive Virtual Reality (V.R.), to create their prototype. Students applied concepts that were included in the theoretical model of the present research, and then, they presented their work as movies and pictures (Figs. 3 to 16).

Computer-generated simulations can make an observer feel like they are in the real area. In the second approach, the researcher chose other supplementary resources to gain an overview of information, using qualitative techniques and questionnaires (Table 8), the collection of data and information is done through groups of workshops (organized at different levels and applied by 100 people).

Table 8. Independent and dependent variables

Independent variables	
Installations	Virtual reality
	High-res screen-
	LED displays
	Climate Wall
	Video statement
	Sport control media
locations	Fixed to facade
	Fixed in public spaces
	Fixed in street furniture
Dependent variables	
Potentiality of Media	Resilient spaces
	Occupancy of spaces
	Response to human needs
Type of Interaction	Diffused focus
	Equal vision
	Dialogue
	Collective action
Initiation	Pass and observe
	-Walk-up-and-use

3.2. Hypothesis

Research hypothesises that:

- Media can improve the Potentiality of the urban landscape in terms of resilient, Occupancy of spaces, and Response to human needs
- Media transform social relationships at the local level and enhance shared focuses, dialogue, and collective actions.

3.3. Questionnaires

The research used a five-point Likert scale as indicated for people's responses towards virtual images, this scale includes a series of questions with three scores and two values: 1-Negative 2- Neutral 3-Positive as shown in Table 9.

Table 9. Questionnaires list.

	Negative	**Neutral**	**Positive**
	○		●
Do you believe that media improve the Potentiality of the landscape?			
Develop resilient spaces			
Enhanced Occupancy of spaces			
Enhanced diversity			
Improved Reactive			
Providing Interchange ability			
improving Time efficiency			
maximizing Duration			
Increase personal autonomy			
Response to human needs			

Do you believe that media improve engagements ?
Engaged people in Shared Dialogue
Engaged people in a new type of interaction
Engaged people in Shared initiation
Engaged them in a Collective style
Do you believe that media transform relationships between people and spaces ?
Observing and interacting,
To- relate - To
Move closer and observe
Moving inside

3.4. Samples

All fourteen samples in this research are related to the course of the urban landscape (In Baghdad's historical area). Samples (from Figs. 3 to 16) are virtual projects designed by undergraduate students at Al-Esraa University –Iraq-Baghdad 2022, who followed the conceptual model (Fig. 1) and developed according to the theories mentioned in this research. Baghdad's historic district is an important part of Iraqis' stories since it was the location for a great deal of important historical events. Students used a media façade, media displayer, interactive wall climate wall, motion sensor, pedestrian bridges, intelligent lighting, video statement, The Climate Wall, LEDs, sports control area, and prayer announcement.

Fig. 3. Prayer announcement.

Fig. 4. Media displayer.

Fig. 5. Motion sensor bridges.

Fig. 6. Intelligent lighting.

Fig. 7. Intelligent fountains.

Fig. 9. Intelligent climate wall.

Fig. 9. Media façade.

Fig. 10. Sports control area.

Fig. 11. Sports control area.

Fig. 12. Prayer announcement.

Fig. 13. Intelligent lighting.

Fig. 14. Motion sensor bridges.

Fig. 15. Intelligent lighting.

Fig. 16. Prayer announcement.

3.5. Data analysis and discussions

In the present research, the idea of improving social interaction in an urban setting was investigated by using a statistical analysis method, research calculated an average of 100 people's responses related to the 14 virtual reality projects. In general, results show some proximity and coherence with the theories mentioned in this research.

- **Indicator 1: Autonomy of spaces:** According to the three-point Likert scale, Fig. 17 shows a clear difference between people's responses (Positive case 75 %,

Neutral 19%, negative 6%. In general, a designer can improve resilient space by using (Motion sensor bridges- Intelligent climate walls- Sports control areas-)

Autonomy is a key concept in the recent revival of the public space. The concept of autonomy has different values, including the ideas of independence, strict regulation, conservatism, and self-reliance. Doing activities autonomously is considered a right for all citizens. The results show that all projects have a degree of socio-culture and economic independence, media integrated into the public spaces (in the fourteen landscape projects shown in the case study) exhibit multiple manifestations, creating a complex landscape of significantly influential fragments of autonomy.

For example using (Prayer announcements, Media displayers, Motion sensor bridges, Intelligent lighting and fountains, and sensitive climate wall sports control area), giving people the possibility of doing activities autonomously; access to different services, moving and doing sports, going to the socio-cultural festival and the possibility of travelling autonomously.

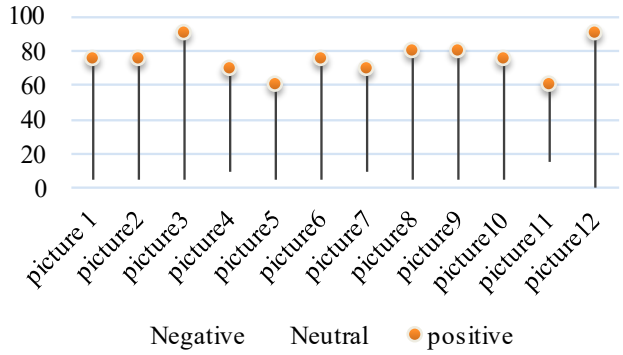

Fig. 17. Autonomy of spaces.

- **Indicator 2: Providing multiple locations for doing one activity:** Fig. 18 shows Positive cases at 80 %, Neutral at 15%, and negative at 5%. Results explained that designers can develop social interaction by focusing on Intelligent fountains, Sports control areas.

Landscapes that serve multiple functions at once are becoming more prevalent. The findings indicate that people engage in social activities (Individually or by Group). For example, sharing activities that people do together and think about, achieving a common goal, having a shared initiation and collective style, doing sports facilities, relaxation, entertainment, gathering in the cultural events, assembling in a social and religious festival, all can be done in more than one location in both formal (squares, streets, and parks,) and informal settings(different platforms and physical structures)

In addition, results show that wellness is an essential part of a healthy lifestyle, in consequence, a much greater number of the population engaged to get (mental, spirit and physical sport). This is especially true in areas where the media displays have an excessive degree of influence, such as the realm of sports, prayer announcements, lighting, smart fountain, and intelligent climate wall.

Results explained that Media helps people to exercise in a park, individually or collectively in addition it gives them the possibility to participate in the open recreation area and socio-cultural events close to the place of residence, encouraging people to leave their homes and integrate in the public space seems important.

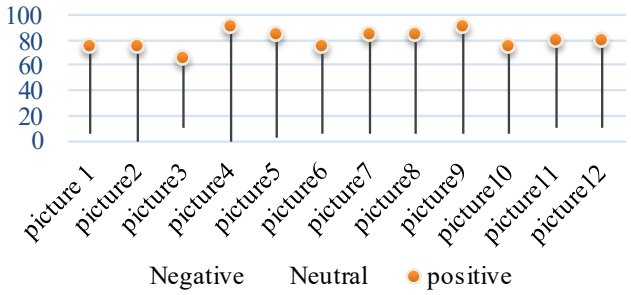

Fig. 18. Providing multiple locations for doing one activity.

- **Indicator 3: Doing more than one thing at the same time in the same places:** The high average of interaction with society is about 78%. This occurs when multiple kinds of installations (Media displayer, intelligent fountains, and Sports control) are located in the same area.

To draw the greatest possible number of users across a wide range of ages, landscapes must include spaces and facilities that are both versatile and distinctive. The findings indicate (as shown in Fig. 19) that media integrated into the landscape and other small architectural components like (benches, water features, sports and playground areas, and spots to relax) socialize activities and attract users of all ages.

Media transform the limitations of physical spaces to be versatile, these types of spaces can manage the (shape, size and quality to contain different functions) and have no clear boundaries, so they can be merged easily with the surroundings.

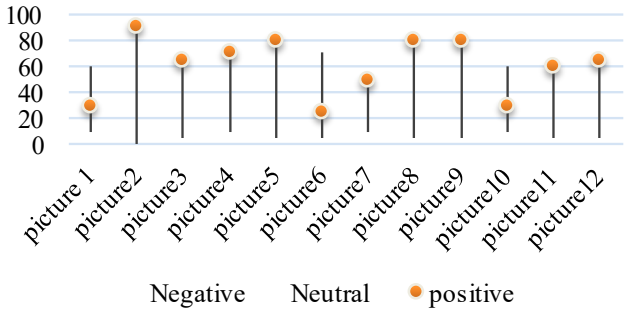

Fig. 19. Doing multiple activities in the same spaces at the same time.

- **Indicator 4: Response to human needs:** Fig. 20 demonstrates positive cases in 75%, neutral cases in 21%, and negative cases in 4%. The inclusion of (Prayer announcements, Media displayers, Motion sensor bridges, intelligent fountains, and Sports control areas) in a landscape develops the responses to human needs.

To integrate all ages in a community (from young people to the elderly), media in the urban landscape should raise the users' safety and contributes to the inclusive, also media must collaborate to improve the quality of public space can strengthen the connections between people who use the same features of the place in spontaneous ways.

Research results display that the most important features that people's desire in landscape are: (1) the closeness to their home (2) connecting the landscape into the context to enable the active frequentation between different areas (home, schools, public transport, nodes, sports and recreation areas), (3) the possibility of using landscape in all sessions and during day and night and in all weather conditions,(4) multifunctionality and diversity of activities done inside spaces to encourage socio-cultural interactions.

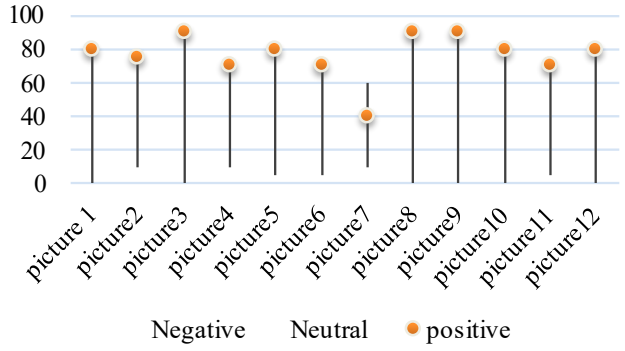

Fig. 20. Response to human needs.

- **Indicator 5: Improve engagements:** Fig. 21 shows positive cases at 78%, neutral cases at 18%, and negative cases at 4% on a three-point Likert scale. Results suggest that adding features like prayer announcements, digital displays, intelligent fountains, sports control areas, and intelligent lighting can increase people's engagement with landscapes.

The outcomes exhibit four distinct initiations that connect users with the landscape:

i. Pass and observe
ii. Pass and engage
iii. Watch and join
iv. Watch to take control

In addition, results indicate five styles of social interaction:

i. Fundamental investigation
ii. Visual interest
iii. Embodied participation
iv. Narrative engagement
v. Demonstrating hacking/unintended use-

In addition, the study confirmed four levels of social interactivity:

i. Distributed attention Each person has their own 'bubble' of attention

ii. Shared focus: People notice the same thing

iii. Dialogue and shared activity

iv. Collective action: People participate in achieving a common goal

The promotion of social interactivity is often dependent on the mix of media and landscape that provides accessible, fair as well as secure venues for people to socialise in.

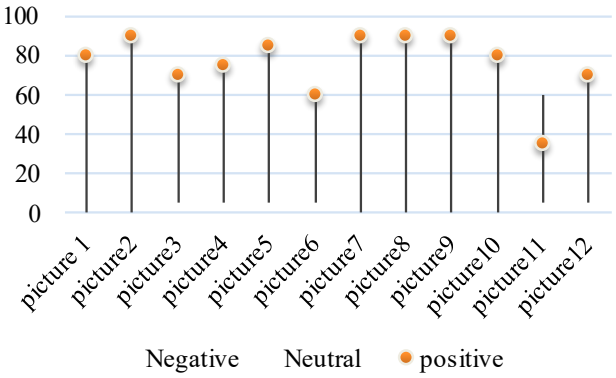

Fig. 21. Improve engagements.

- **Indicator 6: Transformation of people-space relations:** this indicator reflects positive cases of 80%, neutral cases of 15%, and negative cases of 5%. The transformation between people and spaces can be improved by using prayer announcements, media displayers, motion sensor bridges, intelligent fountains, and sports control areas.

The outcomes explain (as shown in Fig. 22) that media in public spaces make cities liveable and desirable. Media add landmarks and activities that create better ways to use public space and connect people. Digital media increased the potential of public spaces by developing a stronger feeling of belonging, promoting information and image, collective life, urban history, and collective culture, as well as sending civic or educational messages, which can bring people together, get them involved in solving urban problems, and help create a public sense of morality and raise awareness. In general, the data show that media change the way people relate to space in one or more of the four types:

i. Moving inside

ii. Observing- interacting

iii. Move closer and observe

iv. To- Relate – To

In consequence, people develop a stronger sense of belonging to their community and the environment that encourages social interaction when they frequently meet friends, and when they have comfortable interacting with strangers.

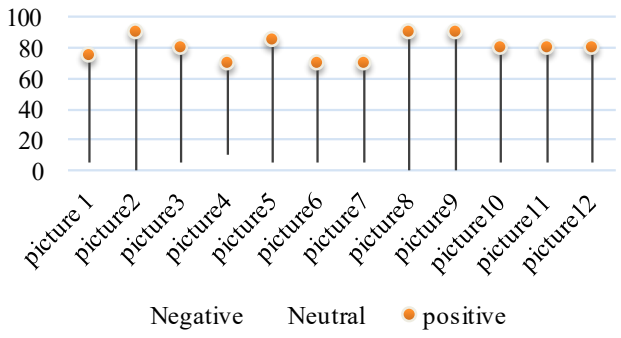

Fig. 22. Transformation of people -space relations.

4. Conclusion

As we enter the twenty-first century, there has been a shift in the values placed on a person's relationship to their immediate surroundings. Thanks to developments in communication technology, this rethink of the values of one's immediate surroundings has been encouraged. In this light, the individual, space, and environment have new significance. Besides adding to the city as a network of landmarks with unique personalities, a public urban area must also serve as a focal point for information, communication, and Accessibility.

In this context, the role of digital media to improve social interactivity in the urban landscape come to be investigated by addressing two basic concepts:

- -Potentiality of Media and Urban landscape.
- -Positive interaction with the Urban Landscape.

In following, by adapting the methodology (Research through Design) present study gets a better understanding of the general topic in both theory and implementation. In general, the research found consistency and rationality in the overall results by comparing them to theories mentioned in previous studies and conceptual models.

The research concluded the following:

- Both traditional media and digital devices are still important for the productivity of the modern landscape. digital media has modified our conceptions of spaces and their interpretations. In addition, public spaces are essential for everyday social inclement. The ability of these places to promote well-being, sustainability, and justice is closely tied to how people perceive and use their rights.
- Media ensured users' independency, make spaces more resilient, and gave people more options for creating interchangeable spaces. Space’s ability to adapt to its users' needs, promotes flexibility and improved comfort. Also, media maximized the duration of using spaces and provided versatile space
- Technological improvements promote people's self-confidence and civic involvement. In a natural disaster or another catastrophe, technology can warn people to avoid risk zones and enable communication with emergency services like ambulances. They are promoting gender equality and empowering women

- Technology changed how we do everything, from our daily shopping to getting the weather report in the morning.
- Media increases the connections between people involved them in new initiation, enhances interaction style, it changed the way that people and places related to each other. It has improved public relations by increasing engagement, judgment, and a sense of duty. Individuals in various locations were given different opportunities to engage with the environment and social life through media.
- Through carefully exploring the engagement zones, users can go progressively from passive viewers to active integrators. They can involve in social activities and actions by placing themselves in various engagement zones.
- Media transform social relationships at a local and global scale Globally, Media façades transform social relations on a large scale by maximizing images while virtual reality (V.R.) and augmented reality (A.R.) transforms social relations locally (moving closer and observing and moving inside the landscape and observing.

5. Recommendations

Comparing current urban media landscape theories with those from the past, the research found that the field has developed and matured, theoretically and practically. The integration of Digital media into the urban landscape is no longer restricted to night-time lighting technologies. Emerging software uses virtual reality (V.R.) and augmented reality (A.R.) technology, influencing citizens' awareness, people's behaviour and emotional acts. Research gives the following recommendations to improve social interactivity in a landscape by using media:

- Develop the use of versatile space and add an extensive range of functions. that make the surrounding area more welcoming, secure and friendlier.
- Maximized the duration of using spaces, Well-planned, energy-efficient lighting makes the landscape easier and safer for people to use public spaces, especially at night.
- Increase the attraction of urban landscape: Emerging different kinds of software. People are more likely to frequent a place if it's visually more interesting, and, streets and plazas are aesthetically pleasing, this relationship (media-space-people) influences people’s perception and how they use the environment.
- Improve urban vitality: public places remain sites where people can meet, socialise, and conduct contact with one another. They are still vital to the overall well-being of communities. Public space influences the social dimension since it invites people together, which contributes to the city's vitality. Stimulating a relationship between people and their surroundings, creating an efficient use of space, and enhancing urban vitality are all achieved through the provision of wide, easily navigable avenues, plazas, playgrounds, and walkways.
- Create Friendly socialising places: Places that are good for socialising make it easier to meet new people, especially if they establish or enhance places to gather. People who visit and use them often can learn to see them as the heart of their community and a place where they belong.

- Enhance the capacity to get Happiness: People make more of an effort to connect by gatherings, taking trips, and celebrating holidays with friends and family members, in addition to when people from other different cultures or groups can exchange ideas and hope this makes life more enjoyable. The most desirable places to live are the ones that people want to go to because they are pleasant, are close to or connected to services and shopping, and are full of people with whom one already has or is likely to form friendships.
- Ensure the local identity: To create a deep connection between individuals and their surroundings, It's important to consider the social dynamics and unique cultural characteristics of the local area.
- Improve Exchanging ideas: Spaces can be places where people meet to talk about different things. People become closer as a group when they spend more time together doing things they enjoy or find important, such as doing sports, socio-cultural celebrations, and religious events.

Abbreviations	
L.S	Likert scale
RtD	Research through Design
V. R.	Virtual Reality

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