

Arabic Architectural Space and Its Impact on the Interior Design of the Dwelling: A Case Study of Alfirmus Residential Complexes in the Al-Qadisiyah Area of Tikrit

Maysoon Muhi Hilal¹ , & Kaled H. Mudhee² 

¹College of Engineering, University of Samarra, Samarra, Iraq

²College of Engineering, University of Tikrit, Tikrit, Iraq

✉ maysoon.hilal@uosamarra.edu.iq

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Abstract

Architectural spaces are one of the most important aspects that aim to establish dialogue between humans and their surroundings. The objectives of the current study were to describe the concept of architectural space, its constituent sections, the environmental elements that influence them (such as lighting, ventilation, air conditioning, privacy, and view), and the connections between their internal and external elements. The significance of this study comes from the fact that space size is a fundamental problem. This is because a large space requires larger services, which, while satisfying many needs, are not cost-effective when it comes to controlling factors, such as temperature, light levels, and the quality of the space and walls. One must understand how to distinguish it from other spaces and how to grade the spaces appropriately, bearing in mind the traits and way of life of the society being examined, to produce a location that is suitable for all purposes. Using effective indicators for each architectural space, each interior design component, and each design, the study utilized a descriptive methodology as well as proof of their effect on the psychological and behavioral health of the individual tenants in a selected sample of 25 residential units in one of the (388 dwelling units) residential complexes in the Al-Qadisiyah area of Tikrit. According to the findings, 60% of respondents were satisfied with the interior design of the housing units, 80% were satisfied with how the housing units looked from outside, and 12% were satisfied with every aspect of the housing units. 90% of people are content with their housing 90% of individuals are satisfied with the interior of their home, 90% are satisfied with the colors and materials utilized, 85% are satisfied with the lighting, 80 percent of individuals are



satisfied with their view, 80 percent are glad with their privacy, 70 percent are happy with their home& orientation, the results show the importance of interior design in enhancing the architectural environment, which benefits the user on both a physical and psychological level. It has been successful in providing location authenticity and a sense of urban belonging.

Keywords: *Arabic Architectural Space; Architectural Design; Interior Design; Dwelling; Privacy*

INTRODUCTION

Arab architectural space significantly influences the interior design of dwellings, shaping the physical structures and cultural and social dynamics within (Al-Mohannadi et al., 2020; Al-Thahab et al., 2016; Eben Saleh, 2002). This article delves into the cultural and social impact of Arab architectural spaces, supported by relevant references and studies. Arab architectural space reflects a rich tapestry of cultural heritage, traditions, and values that are deeply ingrained in Arab society. According to Ibrahim Jaidah, a prominent Qatari architect, Arab architecture is deeply rooted in history and culture, drawing inspiration from Islamic art and geometric patterns (Jaidah, 2023). This cultural heritage is intricately woven into the design elements of Arab homes, influencing everything from layout to decorative motifs. The influence of Arab culture on interior design is evident in the use of traditional materials and craftsmanship (Attiah & Alawad, 2022; Osim, 2021).

Fathy (2000) emphasized the importance of traditional building techniques and materials in Arab architecture, which are sustainable and reflect cultural identity. For example, using intricate woodwork, colorful tiles, and geometric patterns in interior design pays homage to Arab craftsmanship and Islamic aesthetics (Abdullahi & Embi, 2013; Aghabayli, 2016; Chida-Razvi, 2019; Shah & Muro, 2023). Furthermore, the cultural significance of spaces within Arab homes plays a vital role in shaping social interactions and behaviors. In Arab

culture, hospitality is highly esteemed and homes are designed to accommodate guests comfortably. The majlis, or reception room, serves as a focal point for social gatherings and discussions, reflecting the importance of communal spaces in Arab homes (Brookshaw, 2003). Arab architectural spaces reflect cultural values and influence social dynamics within communities.

Previous studies highlighted the role of architecture in fostering social cohesion and identity among Arab communities (Al-Thahab & Abdelmonem, 2019; Awaliyah, 2023; Keleg & Abdellatif, 2019; López Reus et al., 2020). The design of communal spaces within Arab homes encourages family bonding and strengthens social ties, thus contributing to a sense of belonging and community solidarity. Moreover, Arab architectural spaces have adapted to social norms and gender roles within society. The segregation of public and private spaces in Arab homes reflects the cultural norms regarding privacy and modesty (Al-Mohannadi et al., 2022; Othman et al., 2014, 2015; Sobh & Belk, 2011). For instance, including separate living areas for men and women accommodates traditional gender roles while promoting family harmony. This article provides a comprehensive overview of the cultural and social impact of Arab architectural spaces on interior design, drawing on scholarly research and expert insights to support its arguments.

LITERATURE REVIEW

Architectural Space

Architectural space is a term used to describe the location where architecture is created. In general, space has no definition, and once an element is placed inside it, there are multiple visual relationships between space, elements, and the elements themselves. Space is formed as a result of these elements, which determine how we perceive and design space. A designed space is defined as the primary

material that the designer deals with. This space needs to be planned and treated as a singular instance that can be felt. It is more a statement of the activities that will take place in it than a functional dimension. The argument is what supports the thesis and its intended purpose. The interior space is composed of components that work together (Michels et al., 2018; Spence, 2020; Torresin et al., 2020) to create the following characteristics:

- a. The floor of the space is represented by the bottom horizontal plane.
- b. The ceiling is represented by the upper horizontal plane.
- c. vertical planes, which serve as the representation of space boundaries
- d. Non-human, inanimate, or plant-based elements make up the space furniture.
- e. The area's level of activity, whether social or economic.

Each space has a degree tied to the impression it makes on a person's soul and how closely it relates to human scale. The space, which may be small, conveys feelings of anguish, loneliness, privacy and security. It might be peaceful, calm, and natural (Archer, 2005; Hillier, 2015; Pellegrino & Jeanneret, 2009). The shape of the room can be closed, not semi-closed, regular, or irregular. The size of the space is a significant issue because a large space necessitates larger services, which, while meeting many needs, is not cost-effective. However, when it comes to controlling services such as temperature, light levels, the quality of the insulators in this space, retaining walls, and isolating them from other spaces, these issues become less of an issue. It is important to find a suitable place that fulfills all needs and incorporates space gradation and privacy in a way consistent with the culture and way of life of society.

Interior Design

The task of designing spaces is within the scope of the architect and is a component of the process of designing an environment inhabited by humans. Interior design constitutes a distinct facet of architectural and environmental design. It is crucial to acknowledge that any specialized domain loses its significance when detached from its contextual framework (Friedmann & Savage, 2024). Interior design is described by Khanfar (1983) as the output and embodiment of what is in the spirit and imagination to attain the intended aim (Salih, 2022). Innovation and creation come first, followed by manifestation, and implementation. Interior designers using functional and aesthetic approaches should have a thorough understanding of architectural elements and all their details, particularly the interior ones, as well as how to use various materials and have a sufficient understanding of how furniture should be arranged within an architectural space. They also need adequate knowledge of furniture and its distribution in the architectural space, its selection and placement in the appropriate place, as well as the knowledge of the complementary elements necessary for design such as lighting, colors, distribution, and coordination to address the difficulties in the space and the ease of use of the furniture and equipment it contains, making this space comfortable, enjoyable, and joyful (Bellia & Fragliasso, 2021; Losonczy et al., 2019; Yücel, 2013).

The main factors influencing the interior design framework are intellectual or technical, internal, or external; they may overlap to produce a design whose content reaches the highest level of perfection when it is related to its consideration of these variables. The design process and the external form of the internal space are subject to many variables (Cardenas, 2016; Cetin, 2011; Helmy, 2008; Saleh, 1998):

- a. the impact of environmental factors like temperature, humidity, and light

- b. the environmental impacts, as shown by the connection between the interior and the requirements of each space for humans
- c. the internal effects, as shown by the internal architectural space's determinants and complements
- d. The social and cultural context of the user of the architectural space represents intellectual influence.

Understanding the functional requirements of the architectural space (aesthetic, environmental, and structural) to be constructed is the duty of architectural designers. Hence, he enjoys the capacity to analyze the issue and provides a design that achieves a high satisfaction rate for space users. He also has originality and delicate sense. Therefore, reliable indications exist for each of these needs. The following are some functional requirements for architectural spaces ([Alinaghizadeh & Hematalikeikha, 2012](#); [Bhatt et al., 2010](#); [Galster et al., 2006](#)):

- a. achieving the fundamental function of space by balancing the part with the entire, the whole, and the general
- b. the effectiveness of the raw materials required to complete the task
- c. achieving the motor performance requirements of space.
- d. The dimensions of internal spaces depend on their dimensions (human scale).

Structural requirements for architectural space include efficient performance of structural materials in the internal space for the longest period of time and consideration of environmental climate factors when selecting the raw material ([Safwat & Hamdan, 2022](#)). Environmental requirements for architectural space include achieving thermal comfort for the user within the architectural space and considering the psychology of the user while using the architectural

space (Gong et al., 2022; Nakano & Tanabe, 2004; Rahman & Wibowo, 2021). Aesthetic requirements for architectural space include taking into account the dimensions of the internal spaces, furnishing them to achieve golden aesthetic proportions, and harmonizing the aesthetic appearance in a way that suits the culture of the user (Forlini, 2024; Hendrix, 2015; Kristin & Wiyoso, 2022).

Residential Buildings

A dwelling is a place where people live and perform their fundamental personal and familial needs. In addition to being a cultural component for the interaction of the individual with the information of their surroundings, it serves as an architectural space for family relationships and a platform for socializing (Ferguson & Ferguson, 2016; Lipman, 1969; Loiseau et al., 2022). The following categories of residential buildings are based on their shapes and uses (Alsanjari et al., 2010; Ramdan et al., 2020).

- a. Independent residences with one or more levels, typically around a garden.
- b. Two-story homes are located in buildings with many stories. Each floor has two or more surrounding apartments, and green areas separate it from nearby structures to provide ventilation and illumination.
- c. Connected or strip dwellings, in which the residential buildings are adjacent to each other, facing them from the front and back, two facades separating them from the street and neighboring buildings, and their entrances and floors are multiple, as one entrance includes two apartments or more, and its height usually reaches five floors.
- d. Tower housing. This type of building is found in major cities to take advantage of built-up land to construct the largest number of dwellings, with heights ranging from 8 to 12 floors, and it may reach more than that in metropolitan cities. One floor

usually includes many apartments in which elevators are used in addition to stairs.

There are several types of residential architecture and designs, as follows:

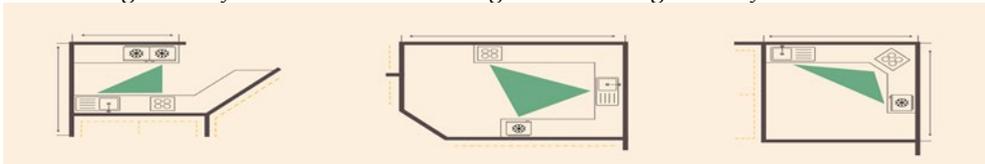
- a. Entrance, which is the guest's initial architectural space upon entering the home, reflects the visitor's concept of welcoming. It should be sufficiently large to allow movement. The living room, reception area, and kitchen should have direct access to the door, but the bedrooms should only have indirect access. The entryway must be created with privacy. The use of colors in the entrance is an appropriate way to give the desired atmosphere as a lively place; the preferred color is golden yellow in its high-value degrees, and the appropriate lighting is used, which suggests a quiet welcome ([Shcheviova, 2020](#); [Van den Berg, 2010](#)).
- b. The living area has become part of a dwelling that is not limited to one function. It is a spacious place where many activities take place, such as watching TV, listening to music, using a computer, reading, and receiving guests. It also contained a corner for practicing various hobbies. It is possible to summarize the functions in the living room as social functions such as meeting the family or some of its members and receiving guests in small or large groups to eat ([Safwat & Hamdan, 2022](#)); cultural functions, including reading and writing, and storing the materials necessary for those; entertainment functions such as listening to music, watching TV, video games, and entertainment games such as chess; and physiological functions of relaxation, sleep, and rest.
- c. The bedroom quarters feature the master bedroom and children's bedrooms. The master bedroom is a particular type

of room that must have elements of tranquility and privacy. Along with changing and storing clothing, listening to music, reading, and sitting quietly, they are primarily used for rest and sleep. Children's bedrooms are one of the most significant interior architectural areas that allow children to play freely, study, and engage in hobbies, and fully develop their personalities.

- d. Services and workspaces, including kitchens. The kitchen is the heart of contemporary dwellings. Its function is no longer to expel hot fumes far from the dwelling, but rather it has become an elegant place rich in colors that create comfortable and pleasant effects on the soul. It combines food preparation and eating. The south or southeast region takes advantage of the daytime sun, in addition to avoiding the infiltration of fumes into the dwelling. The kitchens were arranged according to the arrangement (the movement triangle), which simply means placing the most important elements of the kitchen: the sink, refrigerator, and stove were in a triangular shape, and each corner contained one of the three elements. By following this rule, a design in which the ease of movement and work for two people in the kitchen was achieved without one of them hindering the movement of the other was achieved.

Figure 1

The Arrangement of the Kitchens According to the Arrangement of the Work Center



Source: Primary data.

METHOD

There are several aspects of this research method. Location of the Al-Firdous residential complex in Al-Qadisiyah district in the city of Tikrit. The reason for selecting the Al-Firdaus residential Complex in Tikrit as an important sample is that the residents are teachers and are from the middle class in terms of income and culture.

Figure 2

Al-Firdous Residential Complex in Al-Qadisiyah District in the City of Tikrit

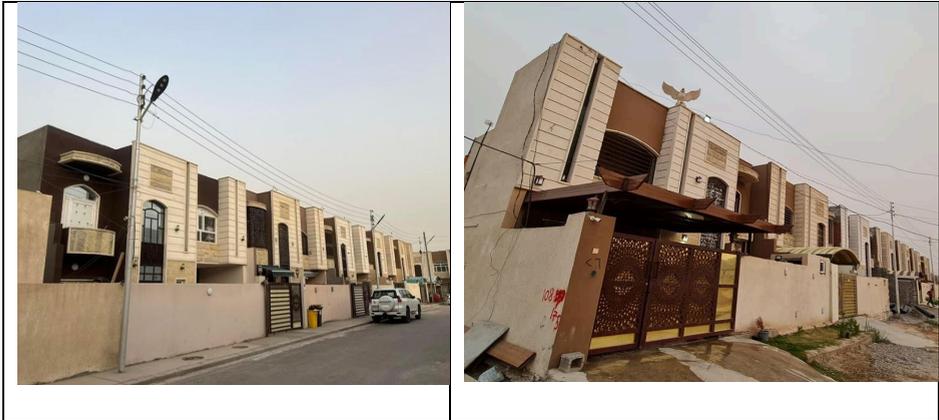


Source: Primary data.

A questionnaire was distributed to a selected sample of users of the Al-Firdous residential complex in Al-Qadisiyah district. The number of residences (388) housing units, of which 180 housing units are occupied by families and (208) housing units are under construction, are residential buildings with one floor, meaning that the architectural spaces in each of them are distributed on one floor.

Figure 3

Single Story Dwellings in Al Firdous Complex



Source: Primary data.

Additionally, 20% of the units have a distinction between primary services and other spaces for aesthetic reasons. Twenty-five housing units were chosen randomly, and each unit received a questionnaire. Questionnaire Al-Qadisiyah area was modern complex, and the development of the Al-Qadisiyah area as a residence took three years, the Al-Firdaus residential construction made in beam and columns it been built and functioned for two years. Islamic architectural principles were adopted for the Al-Firdaus Resident complex. Al-firdaus residential architecture adopted the values of the Koran regarding spatial planning.

RESULTS AND DISCUSSION

The results of this study were determined by the percentage of residents' satisfaction with the useful indicators derived from the theoretical part and applied procedures. Some procedures for this study included taking pictures of the complex and distributing the questionnaire forms, studying the number of members of each family,

their personal information, the educational level of the family members, and deciding when to seek the assistance of the architectural designer to design the complex. The percentage of satisfaction with the design of the internal spaces of the dwelling, the analysis of the questionnaire results, and the coming up with some recommendations. The questionnaire results, the scientific level of the spouses, found that 85% of the spouses of the study sample were holders of postgraduate degrees and 15% were holders of primary university degrees. The answers to the questionnaire are discussed in the following passages.

The first question in the questionnaire was the appropriate time to seek the assistance of an interior architect. Was the reason for the functional, utilitarian, or aesthetically pleasing assistance? The opinion of the majority of the study sample was that it was necessary to have an interior designer from the beginning of the design stage to the completion of the finishing stage of the residential building. Fifteen% believed that the use of an interior designer was the goal of achieving full utilization of the building's spaces based on a functional reason, 15% of the residents believed that the reason for dissatisfaction with the original internal distribution, which necessitates the redistribution of architectural spaces in a new way that is better than the previous one, 30% believed that the first and last goal was an aesthetic goal, and the remaining 40% believed that the reason for hiring an architectural designer combined all the reasons.

The second question is: Was there a need in the design for the presence of high-cost materials, such as gypsum or wooden decorations and inscriptions on walls and ceilings, and what effect did these materials have on the quality of the interior design? The aesthetic aspect, while the percentage of those opposed, was 65%. The owners of this opinion emphasized that the arrangement, simplicity, and

consistency in choosing colors and finishing materials may increase the aesthetics of the dwelling.

The third question is, what is the opinion of the inhabitant about the suitability of the design of his dwelling to the needs of the family in terms of comfort, vitality, privacy, and family relations? Ability of architectural designers to achieve these requirements. Residents' responses to the third question: 90% of the residents supported studying the internal distribution of their homes to reach the maximum state of satisfaction, and 10% of the residents found a need to replace or change some of the main elements inside the dwelling to achieve satisfaction with the design and more fluidity of movement.

The fourth question is whether architectural design can create a cohesive relationship between the home as a structure and its surroundings. Thirty% of the sample shows that the internal space is artistically connected to the surrounding spaces to achieve the necessary extension towards the garden. The notion of the architectural design of a house within a complex reveals this. However, 60% of the sample's needs were to enhance outside space at the expense of buildings, while buildings accounted for 50% of the sample's land. The following statistics apply to the percentage of inhabitants who were satisfied with the search activity indicators.

Table 1

The Percentage of Inhabitants who were Satisfied with the Search Activity Indicators

Questions of Residents' Satisfaction with the Design of the Dwelling	Excellent (90%)	Very Good (80%)	Good (70%)	Medium (60%)	Weak (50%)
What is the level of satisfaction with the beauty of the external appearance		80%		20%	
What is the level of satisfaction with the	90%		10%		

Questions of Residents' Satisfaction with the Design of the Dwelling	Excellent (90%)	Very Good (80%)	Good (70%)	Medium (60%)	Weak (50%)
beauty of the inner appearance					
Interior spaces				60%	40%
Spatial relations and the flow of movement inside the dwelling					
Colors for corridors and entrance	90%			10%	
Natural lighting	90%	10%			
Sound insulation and privacy			70%		30%
The relationship of spaces to the general distribution		80%		20%	
The quality of raw materials (durability and maintenance) for floors				55%	45%
The quality of the materials (durability and maintenance) for the ceilings		80%	20%		
The quality of materials (durability and maintenance) for the walls	95%	5%			
Beauty and vision		80%	20%		
Building access and entrance		85%	15%		
Thermal insulation and heating		80%		20%	

Source: Primary data.

The study's findings indicated that 60% of the respondents were satisfied with the interior design of the residential units, 80% were satisfied with the exterior appearance of the housing unit, 60% were satisfied with the thermal and acoustic insulation of the residential units, and 90% were satisfied with the appearance of the interior. For the residential unit, the percentage of satisfaction (90%) with the colors and materials used, the percentage of contentment (85%), the percentage of pleasure (80%) with the view, and the percentage of satisfaction (80%) with the privacy of the residential. And the percentage of satisfaction (70%) with the orientation of the housing units and the percentage of satisfaction (60%) with the adaptation of the housing unit

CONCLUSION

The investigation underscores a pivotal correlation between architectural design and the user experience throughout the various stages of conception, implementation oversight, or their simultaneous integration. The lucidity of this correlation profoundly impacts the efficacy of the architectural spatial design process, culminating in optimal engineering resolutions, and ultimately fostering resident contentment. Such interconnectedness between design and user experience underscores the inherent symbiosis between the built environment and its inhabitants, emphasizing the need for a holistic approach to architectural planning and execution.

In forthcoming research endeavors, scholars advocate the incorporation of green spaces within each residential unit in proportion to their size, underscoring the significance of internal spatial arrangements in ensuring residents' satisfaction. This recommendation aligns with burgeoning trends in sustainable design practices, reflecting increasing awareness of the multifaceted benefits of integrating nature into the built environment. By advocating for the

integration of green spaces within residential dwellings, researchers aim to not only enhance the aesthetic appeal of architectural spaces, but also to foster a sense of well-being and connectivity with nature among occupants.

The proposal to integrate green spaces within residential units represents a proactive step towards addressing contemporary urban planning and design challenges. By prioritizing the inclusion of natural elements within architectural frameworks, designers and planners can mitigate the adverse effects of urbanization on residents' physical and psychological well-being. Moreover, this approach resonates with broader societal aspirations towards sustainability and environmental stewardship, aligning with global initiatives to create more livable and ecologically conscious built environments. Through empirical research and interdisciplinary collaboration, scholars have sought to elucidate the nuanced dynamics between architectural design, user satisfaction, and environmental sustainability, thereby contributing to the evolution of best practices in architectural design and urban planning.

Author Contributions

Conceptualization: M.H.H. & K.H.M.; Data curation: M.H.H. & K.H.M.; Formal analysis: M.H.H. & K.H.M.; Funding acquisition: M.H.H. & K.H.M.; Investigation: M.H.H. & K.H.M.; Methodology: M.H.H. & K.H.M.; Project administration: M.H.H. & K.H.M.; Resources: M.H.H. & K.H.M.; Software: M.H.H. & K.H.M.; Supervision: M.H.H. & K.H.M.; Validation: M.H.H. & K.H.M.; Visualization: M.H.H. & K.H.M.; Writing – original draft: M.H.H. & K.H.M.; Writing – review & editing: M.H.H. & K.H.M. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

The study was approved by College of Engineering, University of Samarra, Samarra, Iraq.

Informed Consent Statement

Informed consent for this study was obtained verbally before the interview.

Data Availability Statement

The data presented in this study are available upon request from the corresponding author.

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Conflicts of Interest

The authors declare no conflicts of interest.

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