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The Synthesis of Architecture in Dubai: Modernization and Contemporary Representation Between 1950 to 2024

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Abstract:

This research paper delves into the amalgamation of architectural styles in Dubai against the backdrop of modernization and contemporary representation from 1950 to 2024. Dubai's architectural scene has undergone significant changes due to rapid urbanization, economic expansion, and cultural influences. The study explores the blending of traditional architectural elements (Key features include intricate geometric patterns, calligraphy, domes, arches, courtyards for natural ventilation, and shading from the sun) with innovative designs, reflecting the city's dynamic character and its ambition to establish itself as a global hub. Initially characterized by modest structures in the 1950s, Dubai's architectural landscape underwent a dramatic transformation following the discovery of oil reserves, leading to ambitious modernization endeavors and the creation of iconic landmarks like the Burj Al Arab and Palm Jumeirah. In the contemporary context, sustainability, cultural conservation, and monumental projects such as the Burj Khalifa epitomize Dubai's architectural excellence and international prominence. Through an examination of the interplay between tradition and innovation in Dubai's architectural narrative, this study contributes to a deeper comprehension of how cities navigate their identities amidst rapid globalization and development. Ultimately, Dubai's architectural journey offers a compelling case study of how a city harmonizes its heritage with aspirations for modernity, shaping its built environment as a testament to cultural richness and progressive design.

Keywords — ***Modernization; Dubai's architecture; Tradition; Burj Al Arab; Cultural influence.***

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I. INTRODUCTION

Dubai is the most populous city in the United Arab Emirates (UAE) and the capital of the Emirate of Dubai, the most populated of the country`s seven emirates. Dubai, a city born from the sands of the Arabian desert, has undergone a profound architectural transformation over the past seven decades. From its humble beginnings as a trading port in the 1950s to its status as a global icon of modernity and innovation, Dubai's architectural landscape stands as a testament to its remarkable journey of urbanization, economic growth, and cultural evolution. This introduction provides an overview of the synthesis of architecture in Dubai within the context of modernization and contemporary representation spanning the period from 1950 to 2024.

Dubai's upward thrust from a modest trading outpost to an international powerhouse has been nothing short of superb. As skyscrapers pierce the desolate tract skyline and futuristic trends reshape the town's city fabric, Dubai's commitment to retaining its history stays unwavering. Against the backdrop of fast urbanization and globalization, the metropolis's architectural visionaries have embraced the venture of modernization whilst honoring the timeless ideas of traditional design. In the past two decades, the United Arab Emirates (UAE) has undergone swift urbanization, leading to the adoption of modern architectural and construction methods, prioritizing rapid

construction processes. Dubai and Abu Dhabi aspire to become globally recognized modern metropolises and premier tourist destinations; thus, contemporary architectural designs have been prominently showcased. Characterized by towering skyscrapers, opulent artificial islands, and numerous world-class shopping centers, Dubai exerts a magnetic pull on the global stage. Although the city has evolved into a captivating center for commerce, residential living, and tourism, its historical depth extends far beyond its current allure. Most of Dubai's transformation was progressed under the leadership of Sheikh Rashid bin Saeed Al Maktoum, the former Ruler of Dubai (Alhasawi, M. 2019). By focusing on the period from 1950 to 2024, the study aims to analyze how Dubai's architecture has transformed from traditional Arabic designs to cutting-edge contemporary structures, reflecting the city's rapid modernization and global prominence.

II. HISTORICAL CONTEXT

Once upon a time, in the late 1800s, Dubai was simply scattered with courtyard houses built from coral stone and gypsum, a testament to Arabian architecture. Then at the turn of the century, one fairytale ended as another began: the city expanded, the population increased, and Dubai experienced a construction boom. Today any remaining buildings are quite literally, overshadowed by modern, skyscrapers and low-rise, gated communities. But the question remains regarding Dubai architecture: whether there is any tradition at all in the new architecture of Dubai (Carli, S. 2010). To answer this, we must understand what defines Dubai's traditional architecture. A strong example of how the spread of Islam had been a cause of cultural migration across regions is Islamic architecture of the Gulf area, highly influenced by the art and architecture which migrated to the region with traders from neighboring Iraq, Persia, and India (Dubai Municipality, 2006). Patterns of the city, spatial configurations, architectural elements, and decorative ornamentation were noticeably, in many cases, inherited from ancient Mesopotamian and other pre-Islamic patterns. These adaptations have always been rooted in the availability of local resources, mostly; natural and human (Hobbs, J. 2017), as well as being highly adaptable to local climatic conditions (Croome, D. 1991). In the mid-20th century, Dubai was a relatively modest settlement characterized by traditional Arabian architecture, including wind towers, courtyard houses, and mosques (Al-Darwish, M. 2018). However, the discovery of oil reserves in the region during the 1960s catalyzed rapid economic growth and urban development, laying the foundation for Dubai's architectural renaissance (Ibrahim, H. 2017). Current Dubai is part of a federal government that was founded in 1971 when seven small independent "Sheikhdoms" collaborated to form what we know as the United Arab Emirates. These seven entities (Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al Qaiwain, Ras Al-Khaimah, and Fujeirah) from west to east, are situated on a desert mountain peninsula and form what we now know as the United Arab Emirates. The map in figure 1 illustrates all the depiction-

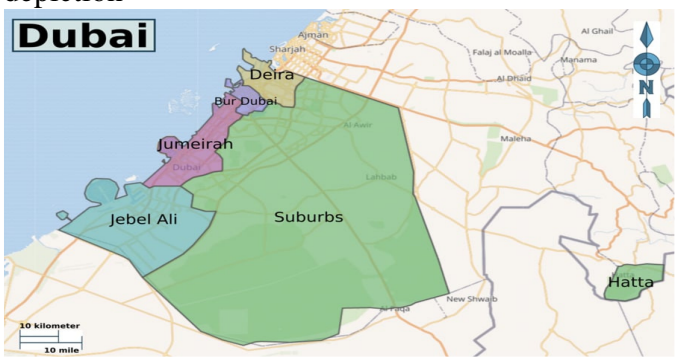


Figure 1 Map of Dubai, Collected from- ontheworldmap.com

The pace of progress, prestige, and wealth attained by this relatively small city surpassed any historical accomplishment. According to Ian Fairservice in Dubai Gateway to the Gulf (2001), "Since 1971 the country has seen a pace of progress unequaled almost anywhere in the world. Seemingly overnight highways and health facilities, schools and universities, electricity and water plants, housing and hotels, sports facilities of every kind, satellite stations and cement factories, beach

complexes and grassed golf courses, publishing houses, and television studios have sprung up" (Fairservice, I. 2001). The history of the UAE spans more than 4000 years, with the archaeological findings unveiling a cluster of extensive and sophisticated political and trade systems. The inhabitants of the Lower Gulf depended on fishing, hunting, harvesting dates, herding cattle, and trading (mainly copper and pearls) for their survival. According to Yasser Elsheshtawy, the Gulf region has been the ground of many struggles since the fifteenth century. First the Portuguese, then the British made many attempts at gaining control over the area, which was initially known as "Historic Oman" and later as the "Trucial States," a nomenclature referring to a maritime truce between the British and the Arabs to ensure safe marine commute (Elsheshtawy, Y. 2009). The British dominance period saw the formation of many treaties between the colonial ruler and the different Arabian tribes. However, these agreements had critical consequences as stated by Elsheshtawy: "Historic Oman was divided into two parts: Oman and Trucial Oman. Trucial Oman was divided into separate sheikhdoms, 'conferring' an identity on each, thus leading the way toward cultural, political, and economic segmentation. Also, a social hierarchy was 'constructed' because of designating treaty signatories and their descendants as de facto rulers, with all the power and prestige that entailed" (Davidson, C. 2007). As for Dubai, this factor played a great role in its political establishment and its modern development. Since the 1800s, Dubai's mercantile activity has been flourishing continuously. This was resultant of many factors, such as the Qawasim's (the rulers of Sharjah) support of Dubai's independence. Another factor was the political and economic instability in Persia, which made Dubai a safer trading port and led to the immigration of many Persian merchants to Dubai. Last is the British preference of Dubai as their chief pearl exporter (Hvidt, M. 2009). Still, until the 1950s the commercial growth of the city did not result in any change in its urban structure except for the rising of the Bastakiya, which is one of the oldest areas in Dubai. Bastakiya is the name given to the area where the Persian merchants settled and constructed their new homes. The architectural language of these new settelements, which surrounded the ruler's residence near the creek, was derived from the merchants' original Persian homeland of Bastak. Their signature elements include tall wind catchers or brazil, long slim openings, and recessed bas reliefs. Today, Bastakiya is among the major historical tourist destinations, alluding to the identity of the city. Ironically, as noted by Elsheshtawy, these structures were considered an eyesore in the early 1970s and underwent a wave of demolition until the intervention of the UK's Crown Prince, who visited Dubai in 1989 and encouraged the authorities to preserve the area as a symbol of Dubai's heritage (Davidson, C. 2007). Overall, the historical timeline can be depicted in certain phases-

1. **Early Beginnings (Before the 20th Century):**

In its beginning stages, Dubai's design was essentially utilitarian, and custom fitted to the challenging forsake environment. The buildings were developed utilizing locally sourced materials like palm fronds for material, mud for dividers, and coral stone for more changeless structures. These early buildings frequently included yards and wind towers, known as Barajeel, which served as normal cooling frameworks within the hot climate (Al Fahidi Fort's picture is shown here in figure 2 as an example). Islamic and Middle eastern social influences were transcendent, apparent within the mosques and marketplaces central to community life. This period of design was checked by effortlessness and common sense, with a solid accentuation on adjusting to the neighborhood environment (HiDubai Newswire 2023).

Figure 2 Al Fahidi Fort built in 1799, the oldest surviving structure in Dubai. Image Credit: Gulf News Archives

2. Pearl Trade Era (Early 20th Century)

The thriving pearl exchange within the early 20th century was introduced in a period of thriving for Dubai, which was reflected in its engineering. Amid this period, the city saw the development of more expanded and solid buildings utilizing coral stone, upheld by wooden posts, and decorated with complex gypsum enhancements. This was a time when Dubai's engineering started to assimilate impacts from remote dealers and guests, driving to a progressive move from simply conventional plans towards a mix of neighborhood (Figure 3 shows the port of the creek). The pearl exchange period set up Dubai's move towards more modern and differing engineering plans (Aqil K. 2018).

Figure 3 The creek in Dubai circa 1937, Image Credit: dariushzandi.studio/historical restoration

3. Post-Oil Discovery (1960s Onwards)

The revelation of oil within the 1960s stamped a transformative period in Dubai's history, driving to quick modernization and urbanization. This riches convergence driven to a noteworthy move in engineering, with conventional Middle eastern plans giving way to innovator and worldwide styles. The presentation of discuss conditioning and advanced development materials such as concrete and glass encouraged the rise of high-rise buildings, drastically changing the city's horizon. This period moreover saw noteworthy speculation in foundation, counting streets and ports, encourage moving Dubai into the advanced age (Monovision, 2016). Some of the remarkable architecture of post-oil discovery of Dubai are attested here in figure 4.

Figure 4 Architecture of Post-Oil Discovery of Dubai. Image credit: Gulf News Archives.

4. Late 20th Century to Early 21st Century

By the late 20th century, Dubai had progressed around the world building center, pulling in world-renowned creators, and giving rise to a skyline stacked with curious and creative structures. Infamous focuses of intrigued such as the Burj Al Center easterner, opened in 1999, epitomized Dubai's liking for luxury and basic crave. This time underscored Dubai's creating status as a center for building advancement and luxury (Nunocerca,2015). Some of the notable architectures are attested here

in figure 5 which portrays the timeline, late 20th Century to early 21st Century.

Figure 5 Marina Yacht Club golf course, Dubai. Image Credit: Sarah Maisey (Getty Images)

5. 21st Century and Beyond

The 21st century stamped the apex of Dubai's building desire with the completion of the Burj Khalifa in 2010, the tallest building within the world. This time too saw a move towards economical and keen design, with an accentuation on joining green spaces and eco-friendly materials into unused ventures. Also, there has been a resurgence in intrigued in conventional structural components and Arabesque plans, as seen in ventures like Madinat Jumeirah, which reflect conventional Middle eastern townscapes (Faisal.J. 2015). Figure 6 is an example of this time periods architecture.

Figure 6. Some of the Notable Architecture of 21st Century and Beyond, Dubai. Image credit: Juan Miron (flickr)

III. METHODOLOGY AND PROCESS

The research paper employs historical and comparative methodologies to analyze architectural developments in Dubai. Historical analysis tracks changes over time, while the comparative framework assesses architectural style evolution. Case studies illustrate the impact of historical elements on modern architecture. Primary sources like documents and photographs, alongside secondary sources such as academic literature, inform the study. Thematic analysis identifies trends and influences. Different historical periods, from early beginnings to the present day, are examined. Social heritage and conservation efforts guide the research. Limitations include restricted access to documents, potential bias, and incomplete perspectives. Future research could explore longitudinal architectural patterns and comparative studies with other mega cities to understand Dubai's unique architectural synthesis further.

IV. CASE STUDIES

We know that case studies are a valuable research method for exploring complex phenomena, theoretical concepts, generating hypotheses and providing practical insights that contribute to advanced knowledge. Here is description of three projects that will integrate the results into a real-world context and improve relevance. Additionally, these case studies will allow me to examine multiple variables, factors, and perspectives within the context of Dubai and provide a comprehensive understanding of Dubai's complex interactions.

1. Al Fahidi Fort:

Project Name: Al-Fahidi Fort now part of the Dubai Museum
Construction: 1787, Later introduced as museum since 1971
Type: Covers the archaeology and history of Dubai, and a historic site by itself.

Designer: Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, the Crown Prince of Dubai, approved the final design for the Al Fahidi Fort Rehabilitation Project.
Dubai's unique design, dating from the late 19th century, was affected by Iranian, Indian, and Islamic plans. We can see the outer expression of Al Fahidi Fort in Figure 7. The hot and dry climate, devout and social traditions of the tenants, and accessible determination of development materials were significant contemplations in building styles. The most highlights were effortlessness, usefulness, strength, and appropriateness for the climate. Early structures were made of stone, palm takes off, and palm tree trunks, with mud substituting for mortar as we can see in Figure 9 (Devadasan K, 2020).

Afterward, the most grounded accessible materials, coral stone from the ocean and gypsum from the creek's salt bogs, were utilized for the emirate's four common structures - watchtowers, mosques, souks, and houses. Islamic accentuation on security and humility calculated into the plan of yard, homes, numerous of which were associated to wind towers for cooling within the summer months as depicted in figure 9. Buildings were erected near together to make shaded and breezy person on foot walkways as we can see in figure 8. The design of the buildings in Al Fahidi Neighborhood is special and speaks to the conventional Emirati fashion. Most of the houses are made of coral, stone, and gypsum, with complicated plans that served as characteristic discuss conditioning frameworkssome time recently cutting-edge innovation as we can see in figure 9 The wind-tower houses are especially vital for their expound plans that not as it were give ventilation but too grandstand the craftsmanship of nearby artisans.

The Al Fahidi Neighborhood, too known as Al Bastakiya, a charming area that jam the city's wealthy social legacy and exhibits its memorable past.

Figure 7. Al Fahidi Fort. Image Source: Arabia Horizons

Figure 8. Al Fahidi Fort Façade. Image Source: Arabia Horizons

The neighborhood dates to the 19th century when it was built up by affluent vendors from Persia who settled in Dubai. The region got to be a center for exchange and commerce, with bustling souks and markets offering everything from flavors to materials. The historical neighborhood is adjacent to the court of the Ruler of Dubai and encompasses the Al Fahidi Fort. Built in 1787 and located on the southern side of the Creek (Devadasan K, 2020). The buildings are all low-rise, no more than two stories and above them, the Barjeel stands tall as one of the most prominent features of Emirati

architecture. These 'wind towers' are a testimony to the success of the region's inhabitants in overcoming the challenges of the harsh climate, especially in summer. The buildings and the architecture reflect the identity of the place as well as the customs and traditions of Dubai. The design of each structure affords visitors a glimpse of the traditional social lifestyle of the time. The scarcity of front windows, their narrowness and high placement reveal how privacy was a sought-after quality. The winding and twisting alleys and pathways, the south-west orientation of the buildings towards the Qibla as well as many other architectural principles and social values can be discovered by exploring visitors. The fort was restored during the reign of the late Sheikh Rashid bin Saeed Al Maktoum and reopened in 1971 [the year of the declaration of the Union and formation of the United Arab Emirates] as an official museum showcasing the history and heritage of Dubai, named Dubai Museum (Devadasan K, 2020).

Figure 9. Shaded and breezy on foot walkways Image Source: Google.

2. Dubai World Trade Centre Tower:

Location: Trade Centre 2, Dubai, United Arab Emirates
Construction Started: 1974
Construction Finished: 1979
Architect: John Harris
Inagurated: February 26, 1979; 45 years ago, by Queen Elizabeth II

Figure 10. Dubai World Trade Centre (DWTC). Image Source: Google

The Dubai World Trade Centre Tower started functioning in 1979 and has become one of the famous buildings in the city. The structure is 184 meters high which makes it among the tallest buildings around there as we can see in figure 10. It consists of 39 floors whereby 28 of them have been leased out for commercial purposes with an overall net leasable area being around 283,000 square feet (Esha N. 2018).

The DWTC tower has the square built-form with two axes running northwest-southeast and northeast-southwest. The directions of the facades man-made using these selected axes as well as building orientation are northwest, southwest, southeast, and northeast. The symmetrical form along two axes is contrary to the climate effects and requirements, which differ significantly from one orientation to another. The two-core structure located in the middle of the DWTC tower serves all the service areas. All floor spaces are developed along outer walls of the tower having a room dept of 4m for northeast and northwest orientations and 6m for the southeast and the southwest orientations. Between the offices and central cores there is a 2m wide corridor (Al-Sallal, K. 2004). This positioning is meant to give all the rooms very good lighting but not air circulation. This is because Dubai's climate is more adverse (and less helpful) to certain aspects (such as west, southwest, southeast, and east) and this causes more thermal comfort and less energy use. If we observe every façade of the

DWTC tower as in figure 11, we can see that it is shaded with eggcrate screens which is surely regarded as a positive aspect in Dubai's warm climate. The eggcrate is 2 meters wide by 2 meters high by 1.5 meters deep and has a deep recession of 1.5 meters from the window glass. This offers almost complete shading of the windowed area during the period of overheating. There is a wide air gap between the window glasses and the blinds, which is an advantage that allows for air to pass through. As a result, heat is not trapped in that section. These windows have two layers of transparent glass through which one can see everything outside (Esha N. 2018). Wrapped in concrete, the tower is modernist in style, some traditional local motifs are incorporated into the design including the use of arches on the building's exterior. During the day 40% of the offices lighting is provided by natural lighting through the windows which cover 77% of the room area (Al-Sallal, K. 2004). The proportion between height and depth in the room is 1:2, with the windows occupying 20% of the external wall (Al-Sallal, K. 2004). Designers find it ideal for natural light designs. Offices use incandescent lights which are covered with reflective diffusers to provide them with artificial lighting. Energy saving control is promoted using the building management system (BMS) as associate with the artificial lighting (Al-Sallal, K. 2004).

Figure 11. Elevation profile of Dubai World Trade Centre (DWTC) (Left), Façade blowup (Right). Image Source: Google.

3. Burj-Al-Arab:

- Other/Former Names: Arab Sail.
- Chief Architect: Wright of Atkins.
- Chief Contractor: WS Atkins Partners Overseas.
- Construction Contractor: Murray and Roberts.
- Construction: 1993 – 1999.
- Floors: 60.

The instruction from the client (the Crown Prince of Dubai) was to design, not just a hotel, but also a signature building; one that would announce, "Welcome to Dubai". The client wanted a dramatic statement with imagery that would immediately conjure up images of the city (Swibel and Matthew. 2014). The building is built on sand which is unusual as most tall building are founded on rock. The orientation of the building as we can see in figure 12 minimizes the heat gain during the summer seasons. The south elevation has the most exposed surface area. As a result, it has the maximum capacity for heat absorption.

The Burj Al Middle easterner Jumeirah, regularly hailed as the exemplification of extravagance, stands tall as a notorious image of Dubai's structural resourcefulness and greatness. With its sail-shaped outline as we can see in figure 12 and taking off stature, this exceptional inn has captured the world's consideration and adoration. The building's famous sail shape was designed to reflect the flying sail of a traditional Arabian yacht or yacht which reflects the maritime feature of Gulf history, setting it apart from Dubai's coastline.

The Burj Al Arab Jumeirah is more than a hotel. It is a symbol of construction and design. Situated besides by itself artificial island, this hotel features a connection with the mainland through a sloping path.

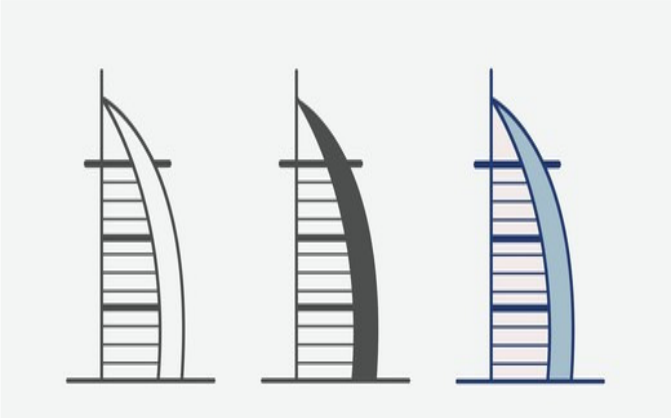


Figure 12. The sailor shape reflects the maritime feature of Burj Al Arab. Image source: Google.

This astonishing display of advanced technology attests to Dubai's desire to construct artificial marvels that will stun the globe (Al Kassim, Z. 2016). The interiors of the Burj Al Arab Jumeirah are both opulent and regal. They are the epitome of luxury with the use of expensive materials like marble, gold leaf as well as bright hues that adorn the atrium rising more than 180 meters (590 feet) into the air, making it one of the world's highest hotel atriums (DandBProperties, 2023).

V. FINDINGS

Dubai's architectural evolution from 1950 to 2024 epitomizes a remarkable blend of tradition and innovation. Initially featuring modest Arabic designs, Dubai's architecture underwent a dramatic transformation with the discovery of oil reserves. This ushered in an era of ambitious projects like the Burj Al Arab and Burj Khalifa, symbolizing the city's modernization and global stature. Landmarks such as the Emirates Tower and Dubai World Trade Center seamlessly merge traditional and contemporary elements, reflecting Dubai's economic ambition. As a thriving global hub, Dubai's architecture mirrors its rapid growth and international identity, while projects like Palm Jumeirah showcase its bold vision. Incorporating traditional motifs into modern structures demonstrates a nuanced approach to heritage conservation. Overall, Dubai's architectural synthesis represents a dynamic fusion of tradition and innovation, marking its journey from a trading port to a global metropolis of architectural excellence.

1. Overview of Architectural Styles Practiced in Dubai

Dubai's memorable areas refer to blocks or buildings constructed by the federation as recently as 1971. Conventional design does not speak to archetypal construction but also symbolizes a way of life, including includes facts about geology, climate, and lawmakers and hierarchical order. The most notable cases of this type are Sheikh Saeed House, Al Fahidi Fort and Bastakiya area. All these illustrations were found near streams, which were important sources of trade and commerce. This architectural ritual repeated in modern times as well. We can see that Burj al Arab, Burj Khalifa are placed nearby waterbody. Dubai's greatest structure is Sheik Saeed's House, built in 1896. Its design has become an icon of the region, inspired by the Bastakiya region of Persia. Wind towers, small openings and complex aid improvements set the stage for conventional stylized development strategies. The wind tower surrounding this house can be a source of ventilation, an innovation that is beneficial to me and widely connected in this field. The construction dialect of this house has become a source of motivation for many nostalgic businesses concentrated architectures like (Palm Beach) in Dubai, highlighting the need to restore the traditional appearance of the city in the face of today's advanced structures. Some nostalgic illustrations include the Old City, located in the heart of Burj Dubai, and Madinat Jumeirah, built near Jumeirah Shoreline Inn and Burj Al Arab of the Middle East. In any case, the application of conventional plans on the flying towers of modern facilities has brought many benefits and, so to speak, we can approach the wind tower section in a structure. Above the highest stages and artificial lagoons, the entire elegant system of these modern districts sits as symbol of modern Dubai. The

borders of authentic encounters are reinforced by the closed nature of these enclaves, or private towns.

2. Overview of Architectural and Cultural Elements

We know that Dubai is mainly an Islamic country. Therefore, Islamic elements and characteristics play an important role in their heritage and history. Most of the vernacular, monumental and regionalist style buildings have prominent Islamic imagery and use a variety of Arabic features for structural details. These include domes, columns, capitals, and lactic structures, are also widely used, and come in countless shapes, details, proportions, and sizes as well as other elements such as wind towers and bastions desert are used to reflect regionalism but usually only superficial decorative elements and candidates. The architectural evolution of positional ideologies in these three styles can be explained through the diagram shown below figure 13 (Atry, S. D. B., Khan, T. H., and Rasdi, M. T. M. 2023). The darker boxes show the impactful events, and the regular boxes show the consequences of those events

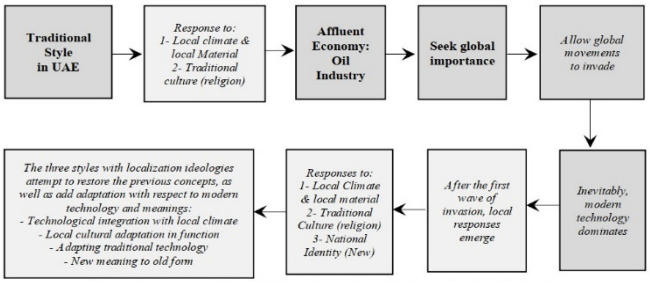


Figure 13 The Evolution of Localization Ideologies in Architectural Development

Here, in figure 14 through one of the remarkable projects of Dubai, I've tried to illustrate the traditional architectural elements of Dubai.

Figure 14. Al Fahidi Area, Area reflecting the traditional architecture of Dubai. Image Source: Shutterstock.

Outstanding traditional heritage elements, frequently reused or copied, in modern buildings are Barajeel, domes, cupolas, traditional ornaments and decorative motifs etc. Barjeel has become an iconic symbol of Gulf architecture in modern times. Perhaps one of the reasons for this is that it is one of the noisiest architectural elements reminiscent of past lifestyles. Another reason might be that is the easiest to interpret contextually in any form; for example, added as a decorative element on top of a skyscraper or mid-rise building and in any type of building, such as hotels, shopping malls, educational buildings education and population.

Due to this ease of translation and interpretation, the combination of Barajeel is predominant within the Postmodern translations of UAE's engineering. This exceptionally predominance has changed the Barjeel into an image that can be obviously watched in different other angles. Urban road furniture such as, phone boxes and things such as, charity and gift boxes, are regularly molded within the frame of Barjeel. Here're few examples attested here in figure 17. This endeavor to "localize" cutting edge engineering by comparing conventional building components on present day buildings can be broadly watched in Dubai on a bigger scale.

A surprising case exists within the development of mega relaxation ventures such as, Madinat Jumeirah like we can see in figure 16, where the design of the conventional house is translated into a combination of extravagance lodgings and resorts. Conventional engineering has hence gotten to be a promoting device in arrange to pull in tourism. While the result may be a sense of affectedness created from a tribute to the past, the inherent esteem of vernacular engineering has been decreased to absolutely enhancing purposes. If we observe figure 16, we can see the abuse of conventional components by forcing them on "modern" buildings has as it were served to overburden buildings with unessential points of interest instead of stating an "Arabic" personality.

Figure 15. Left- We can see a traditional Barjeel then on middle and right we can see innovative use of Barjeel as telephone booth in Urban public place and as design element in a museum. Image Source: Google.

Figure 16. Juxtaposition of heritage elements in modern buildings of Dubai. Madinat Jumeirah with that feature< A residential Tower in Sharjah> A Building beside Al Khaleel Road. Image Source: Google. Modified by author.

Figure 17. Use of Arches and domes in various types of building to create an eclectic "Arabian Style" of architecture. Image Source: Google.

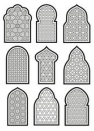
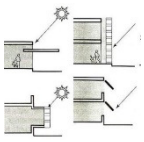
Figure 18. Use of patterns as mashrabiya for completely ornamental purposes is common sight in the UAE. Image Source: Google.

The desire to attract tourists through the dreamy sense of a pre-envisioned image of "Arabic style" led to the fusion of various regional architectural styles, often with both Indian and Persian motifs, in contrast to traditional architecture that is purely local and indigenous. Few examples are attested below here in figure 17.

While attempts to embed elements of vernacular architecture into the design of buildings in the UAE are numerous, they are without conscience to the ethos of their original intent. The environmental and social solutions, such as, wind catchers or wooden lattice screens (*mashrabiya*), that were contextually reflective responses have now been reduced to mere design features (Mahgoub Y. 1999). Here are few examples of Mashrabiya in modern buildings attested below in figure 18.

Lastly, here through two table I'd like to introduce few architectural elements (in table 1 and 2) of Dubai which are traditional but still they're widely used in modern buildings of Dubai.

Table 1.

	Wall Surface Elements	Top Wall Elements	Windows
Traditional elements	 Rectangular recessed  Arches		 Rectangular window.  Arched topped window.
Modernized traditional elements	 Double triangle arches  Pseudo three centered arches recess	 Decorative railing  Crenelated Parapet	
Climate responsive elements	 Solar shading/ Brise soleil  Mashrabiya		 Deep set windows

Architectural Elements of Façade Morphology

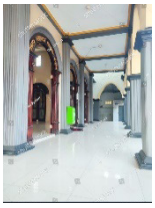
	Outdoor	Indoor
Modernized traditional elements	 Courtyards  Bay, arcade	
Climate responsive elements		 Overhangs  Vaults

Table 2. Architectural Elements of Spatial Typology.

VI. CONCLUSION

In short, the synthesis of Dubai architecture spanning from 1950 to 2024 presents a fascinating story of ambition, innovation, and cultural convergence. From its humble beginnings as a commercial port to its status as a global center of commerce and culture, Dubai's architecture has undergone a remarkable transformation, reflecting efforts The city's relentless drive for modernity and distinction. Over the decades, architectural styles have evolved from traditional Arabic motifs to avant-garde designs, creating a skyline that represents Dubai's unwavering determination to create a position for themselves in the international arena. Landmarks such as Burj Khalifa, Dubai Marina and Palm Jumeirah have become iconic symbols of the city's ingenuity and ambition, capturing the imagination of people around the world. In addition, Dubai's commitment to sustainable development and innovation has further consolidated its pioneering position in the field of architecture, setting new standards in environmental management and modern living. As Dubai continues to push the boundaries of architectural innovation, the synthesis of the architecture serves as a powerful reminder of resilience, adaptability, and commitment. Dubai's architectural steadfastness in shaping a better future for generations to come.

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