

# Amman's Facades Lost between Identity and Veracity; Factors Impacting Facades' Design

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## Abstract

Today's building façades continuously lose connection to their local identities and contextual surroundings, more attention is required when designing façades in order to come up with designs that synergize with their unique surroundings. This does not imply that building façades should be approached in a typical traditional manner, but rather that their design should be a result of different factors, interacting and overlapping, and in respect to the physical and non-physical context. Façades should be designed in respect to high performance, aesthetics and efficient constructability for example, and this in return indicates that variations in façade designs are a positive indication that buildings are responding to their built and natural contexts. Architects and designers should respond to side effects of globalization resulting in the spreading of out of context styles, unresponsive and kitschy, in order to save the visual interest in the city and the beyond physical meaning of architecture. It is advised here that architects and designers articulate the very meaning of modernity within local architecture and environment. This article tries to discuss various factors impacting façade design generally, relating discussions to the current situation Amman, the metropolis, and its buildings are undergoing.

**Keywords:** Façade design, contemporary façade, local identity, Amman.

## 1. Introduction

The façade, the first and most impacting connection between humans and the built environment, the outer shell of a building, is not only a reflection of the architectural character of a region (Askari and Dola, 2009), but also a representation of local cultural, social, climatic, political and economic circumstances. Building façades are an integrated system between the rationality of function and the surrealism of beauty, capturing people's imagination and triggering emotive reactions (Bechtel and Churchman, 2003).

Towards the second half of the 20th century the effect and the vision of returning Jordanian architects from Europe and the US was infused with local traditions and the art of building to produce a more domesticated modernity, Ammani style. The result was a special Ammani version of Modern Architecture that was characterized by being dynamic, asymmetrical, providing new ratios of solid and void in façades, and demonstrating a vibrant and dynamic composition that is based on a volumetric interplay between horizontal and vertical volumes. The International Style even came to Amman as early as the 1960s. Unfortunately, many of Amman's architects today have failed to produce similar buildings and are producing an architecture that is devoided of meaning, so extravagant and unsophisticated (Daher, 2008).

Globalization and the increased cultural friction on local architectural and urban aspects resulted in the construction of countless buildings with mere connections to their local identity. When observing Amman's contemporary urban context, a clear contrast among the different façades with different architectural languages and inconsistent heights is highly noticeable, especially a lack of synergy between the more new façades and the their surrounding environment, where façades disrespectfully respond to their cultural, historical and environmental conditions of the region.

When approaching buildings' façades as an integral and inseparable component of city image, it is to be comprehended as the connection between the inner and the outer space of a building. Urban space is characterized by building façades, neighbouring buildings' façades, streetscape and environment, even the scale around a building is specified through its façades. Building façades trigger various experiences to the viewers and are in most cases considered for the evaluation of historical districts image.

## 2. Factors impacting façade design

The architectural thought of any region is impacted by a variety of factors which can be summoned into environmental, historical, cultural, social, technical, aesthetic, economic and political factors alongside other issues that also contribute to the formation of the character of each urban environment. Since these factors inevitably impact façade form and characteristics, they will be investigated within a deeper context of literature.

Local and varying environmental aspects have to be respected when designing a building, as the façades can have an immense environmental impact on the internal conditions within acting as the direct interface between what lies within building limits and what lies beyond. Design of façades can and will influence thermal and lighting conditions and hence energy use associated with the provision of these specific conditions.

Sadly, decisions regarding the provision of such environmental conditions are often considered later in the design process, losing significance gradually (Robinson & Tanno, 2003).

### *2.1. Environmental aspects*

For optimum environmental responsiveness parametric façade studies ought to investigate various building orientations, voids and window openings, vertical and horizontal shading devices, building material's textures and colors (Wang & Hien, 2006), all integrated within the design itself.

Going into more detail regarding these considerations, the solid to void ratio is an important aspect. Openings in façades not only play a role in the enrichment of the appearance and the amenity of a building also providing a connection with outdoor spaces, but are one of the major environmental considerations in the design process. This solid to void ratio is governed by a variety of complex factors such as privacy, visual continuity and connectivity, building function, measures of bearing walls, local specific climatic conditions, ventilation and humidity among others (Reda, 2013) (Wang & Hien, 2006). Ratio of building openings imposes a major impact on the energy efficiency of the building's envelope (Wang & Hien, 2006).

Poorly designed and installed openings, for example widows and skylights, can cause the building to become too cool or hot. But when designed properly they can help maintain year-round comfort, reducing the need supportive heating and cooling systems, saving energy, providing light, ventilation, noise control and most importantly security. Shading devices are another important environmental consideration aspect in a building, complementing void to solid ratios as they reduce undesired summer heat and direct sun radiation which can generate the same amount of heat as a single bar radiator over every square meter of a building's surface. Shading can be as efficient as blocking up to 90% of this heat.

Vegetation and trees can also be used as efficient shading devices, as they can be used to absorb unwanted heat in front of openings and to reduce glare. Vegetation as a shading device can be considered an inseparable component of façade design, especially with the rising of new green architectural concepts, such as green façades, coming hand in hand with the increased call for sustainable development and design on a global level. In their quest to develop efficient approaches to address energy demands in buildings, architects and engineers have come up with façades greening as an energy saving method for the built environment, but also to enhance the responsiveness of buildings to their environmental contexts on the small and large scales. Vertical greening can provide a cooling potential on the building surface, which is very important in the summer especially in hot climates (Sheweka & Mohamed, 2012). To a smaller extent, roofing systems can also impact façade design. In areas with higher precipitation where canopy roofing systems are used to prevent the collection of rain and snow, the layout of façades is affected.

### *2.2. Site and Context*

The site and context are yet another major façade design factor. Building site size, configuration, topography, geotechnical characteristics, ecological features, accessibility to property, etc. are site forces which cannot be excluded from façade design. These forces play an important role in specifying locations of entrances, main facilities and the general layout of the building alongside façades. Contextual forces include the nature of the surrounding fabric of natural and built elements. The existing patterns and characteristics of surrounding fabrics can provide clues for designing facades, influencing the configuration and use of material, style, colours and materials. Also, when buildings are built adjacent to or between existing buildings they should be responsive to their existing context through their design, and also should represent a transitional treatment what is old and what is new. To facilitate the transitional potential of new buildings in its simplest manner, their design can match cornice line, follow a colonnade, use similar materials and relate building proportions. Existing buildings of a city can be used as reference material for the design of more contemporary buildings, so the built environment becomes more and a mosaic of coherent units.

### *2.3. Religious aspects*

In many cases religious aspects also influence façade design. Religious thoughts and ideologies can be translated not only into clothing and behaviour but also into architectural practices generally and façade design specifically. Religious signs can be used to decorate façades, privacy is also an issue that can be derived from religious and cultural thought and that can affect solid and void ratios in return. Still, the interpretation of religious thought into façade design is very complex and seems to be losing significance over time.

### *2.4. Building Technology*

Building technology in façade design is not to be given less of importance. With the advent of architecture and the pinnacle of scientific progress in construction techniques, for example the use of steel and concrete, construction processes have been greatly impacted and facilitated, giving way for more freedom in the building and façade construction hence design. New technologies also examine the growing interest in incorporating

advanced glazing elements into more comprehensive facades and building systems in a manner that increases comfort, productivity and amenity for occupants and reduces operating cost.

### *2.5. Regulations & Codes*

With time regulations and codes posing constraints on design processes and outcomes have increased noticeably. Such regulations, for example, include light and air specifications, zoning and façade design regulations, appearances of façades like unifying (or specifying) used materials, colours, heights and land uses, but also determining dimensions of architectural protrusions and setting specific regulations for used façade advertisements and boards. One perfect example to this is the Jordan University Street, a vibrant and arterial hub in Amman, when taking a closer look at the buildings along the street the high resemblance among the different buildings is striking. This resemblance can be read through the general architectural layout, but also through more specific details such as window treatments, locations of the main entrances and used material. Regulations and codes impacting façade design can be summoned into building setbacks, scale, and proportion and façade materials. Setbacks are defined as the distance between the building's front façade and the sidewalk of the urban main street, typically with buildings joined together in a continuous block. It is advised for buildings with larger setback areas to consider landscape treatments and outdoor seating and activity areas as a complementary part of façade design. Not only the landscape, but also street features are important as they are all considered one comprehensive figure visually.

While different scales of adjacent buildings might produce attractive rhythmic patterns, a great disparity among building scales can create an unpleasant appearance, hence neighbouring buildings ought to be considered carefully and scale of building should be studied thoroughly. Skylines of buildings should always be respected. Proportions of buildings represent the height to width relationship, when examining these characteristics among different buildings characteristics of historic and modern design aesthetics emerge. Historic buildings tend to have a vertical emphasis which is translated into window openings, façade shapes and detailing that guides the eyes on the observer upwards. The variety of materials within the façade framework is considerable; hence special attention should be paid to the recommendations of permitted and not permitted ones according to regulations. The selection of façade materials should respect the nature of the climatic conditions of the region, particularly rain, wind and sun.

### *2.6. Cultural aspects*

The cultural aspect of a region is usually strongly evident in the general architectural style of that area. This local character of cultural expression seems to have weakened by increasing global architectural trends, coinciding with the evolution of technology, especially after globalization, which led to the dissolving of boundaries between countries and people more and more. Many local architects have created multiple façades which are significantly cited from alien Western solutions, completely ignoring local cultural and environmental values, and the local needs of cities. Still, a number of architects attempted to cite fine vocabulary of the traditional environment; sadly these citations resulted in the citations being purely cosmetic treatments for external interfaces, without any interest in building content and primary function.

### *2.7. Social aspects*

With time new circumstances, needs and possibilities arise and call for further study and exploration, giving buildings new meanings adding to their physical framework. Therefore the social aspect of a city is also of utmost importance. Privacy, for example, is one of the social aspects affecting façade design directly. Privacy concerns, which vary significantly from one culture to another, impact window sizes and arrangement, visual connectivity, presence and absence of fences, their height, used materials, etc. all of the previous variations aim at one objective; allowing or denying privacy and to what extent.

### *2.8. Achieving the notion of Aesthetics in Façade*

Achieving the notion of aesthetics in façade design is highly dependent on the understanding of aesthetics itself. Aesthetics is the science determining character of beauty in the productions of nature and art, and everything that is an object or a being that gives the impression of being fine. If we take into consideration the nature and criteria of Arab Muslim societies, which rely significantly on concepts such as morality and equity among individuals within a broader community, it can be concluded that aesthetics here represent the pure search for equity and balance among different individuals and hence residences. The work of archaeologists through excavations of the oldest cities increased the ability to further understand how old designs and façades reflected architectural and aesthetic aspects over time. On the other hand, the interpretation of a modern architectural language in façades, the inspiration of traditional design elements and the nature of the environment provide the definitions of harmony and beauty through a combination of two concepts. The concepts of imitating aesthetics in traditional architecture and the formal composition of an imported architecture evolved.

### 2.9. Community Concerns

Architects and clients on a broader level have to respond to community concerns, adjusting their designs to not contradict with community groups and nearby neighbours. Generally, these design adjustments are often ad hoc efforts to meet objections or to gain support rather than direct responses to communal requirements. When regarding community concerns, the client; user impact and cost should be taken into consideration. Although some clients have a clear idea about the architectural value, aesthetics and project objectives, including the final appearance of the building, they believe that the façade is the mirror that reflects buildings, utilizing this idea to market their projects, reducing the true value of a building significantly. Other clients find little importance in building façades, minimizing the architect's role in enriching the outcomes, resulting in typical façades with poor architectural value. The user impact appears as some users tend to try personalize and alter designs as ways of establishing and expressing meaning and users' identity. Changes and modifications to façades by individual users for example can be seen as a search for personal expression, keeping in mind that these changes happen over time. These appropriations can be spatial and technical applications (such as; closing balconies in order to increase spaces within buildings or raising garden walls to achieve more privacy) or completely aesthetic actions such as colours and materials (Akalin et al., 2009).

Cost is also an important factor, where in many cases there is a limit to the funds available for design and construction. Once defined, cost does impact building characteristics. Cost through influencing building envelope design, can assist the differentiation between poorer and richer urban neighbourhoods, simply by sighting the different façades. Generally, richer people have the chance to better care about aesthetics and making buildings look more luxurious, for example through using bulky masses, enormous columns, greater heights, huge entrances and more expensive materials.

Finally, demands and constraints set by project schedule may influence how specific issues are considered. The façade design may not get enough time and sufficient effort as required. Therefore, multiple issues regarding façade design may be ignored in the case of no proper time management.

### 3. Conclusion

Façades are a reflection of each and every building. Despite the multiple factors impacting these façades, a harmonized and meaningful image of city buildings is required. Variations among buildings are inevitable, or even encouraged if calculated as they enrich the very experience of comprehending a building and city. Still, designs ought to be a functional mixture of responsiveness to surrounding environments, culture and religion, building technology, regulations and codes, social aspects, aesthetics and community concerns, hence giving each physical layout of a building a deeper meaning that arises from the cultural, social and environmental context.

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