The Impact of Culture on Construction

Vatulele U. Finau
California Polytecnic State University
San Luis Obispo, California

The aim of this comprehensive exploration is to identify elements within Japanese, Islamic/Arabic, and Tongan cultures that can be implemented into construction practices in California, leveraging their unique values to enhance home design and construction. The study reveals that culture plays a pivotal role in shaping the design and construction of homes, reflecting deeply held values, traditions, and societal norms. Through qualitative research, expert interviews, and a detailed literature review, key elements defining each cultural approach to housing are elucidated. From the emphasis on privacy and natural ventilation in Japanese homes to the integration of modesty and hospitality in Islamic/Arabic dwellings, and the communal living spaces of Tongan households, cultural influences shape every aspect of the built environment. By understanding and incorporating these cultural design elements, construction projects in California can attract a diverse range of prospective homeowners, offering living spaces that resonate with their cultural identities and values while promoting harmony with the environment.

Key words: Culture, Japanese, Islamic, Tongan, Privacy, Hospitality, Nature

Introduction

The design and construction of homes are not merely practical endeavors but are deeply intertwined with cultural values, traditions, and societal norms. From the meticulous layouts of traditional Japanese homes to the intricate architectural features of Islamic dwellings and the communal living spaces of Tongan households, cultural influences shape every aspect of the built environment. In this comprehensive exploration, we delve into the profound insights gained from studying Japanese, Islamic/Arabic, and Tongan cultures, uncovering the impact of their unique values on home design and construction practices. Through qualitative research, interviews with experts, and a detailed literature review, we elucidate the key elements that define each cultural approach to housing. This detailed literature review explores the profound impact of Japanese, Islamic/Arabic, and Tongan cultures on the construction industry, delving into the intricate nuances of home design that reflect the core values and beliefs of these diverse societies. By understanding and incorporating these cultural design elements, construction projects in California can attract a diverse range of prospective homeowners, offering them living spaces that not only cater to their functional needs but also resonate with their cultural identities and values. Join us on this journey as we navigate the intricate tapestry of cultural influences that shape the homes we inhabit.

General Background: Idea of Culture

Culture is the unique collection of ideas, customs, arts, traditions, and practices. Culture encompasses the shared beliefs, values, customs, traditions, and behaviors of a particular group of people. It shapes how individuals within that group perceive the world, interact with one another, and interpret their experiences. Cultural elements include language, cuisine, religion, art, music, and rituals, among others, which are passed down from generation to generation. Culture provides a sense of identity and belonging, influencing social norms, and fostering cohesion among community members. It is dynamic and constantly evolving, influenced by historical events, globalization, migration, and interactions with other cultures.
Japanese Culture

Japanese culture is a rich tapestry woven with traditions, aesthetics, and deep-rooted customs that have evolved over centuries. Respect, harmony, and hierarchy are fundamental values in Japanese society, influencing various aspects of life, from family dynamics to workplace interactions. The concept of "wa," or harmony, is central to Japanese culture, emphasizing the importance of maintaining peaceful relationships and avoiding conflict. Traditional arts such as tea ceremony, ikebana (flower arranging), calligraphy, and kabuki theater showcase Japan's refined sense of aesthetics and attention to detail. Shintoism and Buddhism are the two main religions, coexisting harmoniously and shaping cultural practices and festivals. Modern Japan seamlessly blends its rich heritage with cutting-edge technology, creating a unique cultural landscape admired worldwide.

Islamic Culture

Islamic culture, rooted in the teachings of Islam, is characterized by a rich tapestry of traditions, values, and practices that have evolved over centuries. Central to Islamic culture is the adherence to the Five Pillars of Islam, which include faith, prayer, charity, fasting, and pilgrimage. Islamic culture emphasizes the importance of family, community, and hospitality, with strong bonds forged through shared religious beliefs and customs. Art, architecture, calligraphy, and literature are integral parts of Islamic culture, often reflecting intricate geometric designs and spiritual themes. Respect for elders, modesty, and generosity are esteemed virtues within Islamic societies, shaping daily interactions and social norms. Despite its diversity across regions and sects, Islamic culture is unified by a common faith and a deep reverence for Allah.

Tongan Culture

Tongan culture is deeply rooted in Polynesian traditions, marked by a strong sense of community, respect for hierarchy, and reverence for their monarchy. Family and kinship ties are paramount in Tongan society, with extended families often living together and sharing resources. Traditional arts such as weaving, wood carving, and dance are cherished forms of expression, reflecting the rich cultural heritage of the islands. The Tongan language, a Polynesian language, is central to their identity and is widely spoken alongside English. Religion, particularly Christianity, plays a significant role in daily life, influencing social norms and practices.

Detailed Literature Review:

Figure 1 – Section View with Air Flow

Source – Reflection of Traditional Japanese Design

Figure 2 – Traditional Japanese Floor Plan

Source – Japanese Homes & their Surroundings
Study of Japanese Homes

In Japanese culture, the concept of inside (uchi) and outside (soto) holds profound significance, reflecting social, cultural, and psychological boundaries that shape interpersonal relationships and societal norms. With the exception of the kitchen, bathroom, and entry hall, traditional Japanese homes do not assign specific uses to each room (Yashar, 2016, p.4). These other rooms can be flexible, but there is an emphasis placed on these aspects along with the courtyard and layout of the home that may seem obvious, but culturally impactful.

These Japanese architects had a distaste for ostentation which is why their homes were filled with many walls, sliding screens, and partitions. Figure 2 depicts a traditional Japanese floor plan that shows an open layout, notice how the only hallway in the home actually runs around the house to promote privacy and humility which is prominent in the Japanese culture. Although private, the Japanese culture still tries to encompass that concept of inside (uchi) and outside (soto). The courtyard, which offered light and fresh air in addition to a connection to the outside, was an essential component of the traditional Japanese home (Moran, 2013, p.4). Clearly staying in touch with the outside, these designers had multiple ways of including nature through their construction process, “…[Japanese]traditional builders always found a way to connect the building with the nature such as with natural ventilation, material usage or designing a garden” (Yashar, 2016, p.8). Furthermore, the architecture of traditional homes allowed for controlled airflow within the building. Traditionally, Japanese architects created their structures to maximize the direction of natural air flow as depicted in figure 1 (Yashar, 2016, p.7). These cultural influences have transcended borders, with elements of Japanese house designs being incorporated into modern architecture around the world, emphasizing simplicity, functionality, and a connection to nature.

Study of Islamic Homes

The cultural impact of Islam on construction has been profound and far-reaching, influencing architectural styles, building techniques, and urban planning across regions where Islam has flourished. Certain aspects that really stick out in the Islamic house were the vocabulary associated for the creation of a home, whether it is having a majaz or entrance, mashrabiyyah or windcatcher, courtyard and qa'ah representing the main reception hall.

As depicted in figure 4, an Islamic home begins with an entrance whose features were “designed to open into a blank wall to obstruct views into the inside from outside in order to preserve the privacy of the family” (El-Shorbagy, 2010, p.2). The Islamic culture preaches the idea of humbleness and maintains that idea at home, having a main entrance that leads to the front door of the home so that they are not flaunting whatever luxuries decorating

Figure 3 – Section view of an Islamic Home

Source – Traditional Islamic-Arab House

Figure 4 – Plan view of an Islamic Home

Source – Traditional Islamic-Arab House
their home to those outside. Islamic communities' cultural and religious emphasis on visual seclusion has also led to an inward-looking design with simple exterior walls to deter outsiders from peering inside.

Represented above, figure 3 depicts an Islamic home with a feature known as a malqaf which is a shaft that rises high above the structure and opens to the direction of the dominant wind, trapping cool air and directing it into the rest of the home. Islamic architecture, characterized by its intricate geometric patterns, decorative motifs, and elegant domes, reflects the rich cultural heritage of the Islamic world. The most important component, and the center of any Islamic-Arab home, is the courtyard. Traditional architecture, both rural and urban, frequently uses the courtyard concept (El-Shorbagy, 2010, p.2). Moreover, Islamic values such as community cohesion, hospitality, and environmental stewardship have informed construction practices, leading to the development of the qa’ah (main reception hall) with its high ceilings and large sitting areas. Overall, the cultural impact of Islam on construction extends beyond mere aesthetics, embodying the principles of unity, beauty, and harmony that are central to Islamic civilization.

**Methodology**

The methodology I primarily will be using is qualitative research in this project. There are multiple floor plans and designs that could be used from various countries and companies that deal with international construction projects. I will use peer-reviewed articles/case studies that deal with Japanese house plans, Muslim homes, and Cultural Context in Architecture (just to name a few) to understand the core differences between our own designs and other countries. This will help with analyzing and identifying common patterns that differ from these unique cultures and our very own. I will cross reference those unique design layouts with common designs here in California that will identify similarities and/or differences. Also, I included qualitative information I learned from speaking with knowledgeable individuals in different sectors of the construction industry around the world about their thoughts on the cultural impacts on the trade. With all of this in mind, I will be able to identify common elements amongst those countries that will be best implemented in our own designs.

**Interviews**

*Dr. Ritsuko Ozaki – Japanese Homes*

The Japanese home is designed with careful precision and executed with years of cultural value passed down from generations before. Dr. Ritsuko Ozaki, author of *Boundaries and the meaning of social space: a study of Japanese house plans*, was able to express some of these cultural values and how they impact the construction industry to this day.

Dr. Ozaki expressed that Japanese construction design and architecture are deeply influenced by cultural values such as harmony with nature, simplicity, and attention to detail. This is reflected in the simple designs used to create a flexible house layout with a dining room sizeable yet spacious enough for engagement centered around the dining table. This promotes the influence of harmony and simplicity actively involved in the natural flow of the home, inspiring its design.

Dr. Ozaki also mentioned that the emphasis on cultural heritage ensures that construction projects respect and maintain the country's rich architectural legacy while incorporating modern advancements in construction technology and sustainability. This is demonstrated by the way the centuries-old houses were designed, which allows the natural air flow to effectively circulate through it. Modern practices integrate these principles with technological advancements while prioritizing sustainability and effectiveness with the nature around them.

Additionally, it was mentioned from Dr. Ozaki that In Japanese culture, the relationship between nature and construction projects is deeply ingrained, with a profound respect for the environment influencing site selection and home design. Traditional Japanese architecture often incorporates elements that seamlessly blend with the natural surroundings, reflecting the belief in harmony with nature. Referring back to the concept of inside (uchi) and outside
Zulkeplee Othmann – Islamic Homes

Islamic culture profoundly influences construction practices, imbuing projects with a deep reverence for architecture, privacy, and a harmonious integration of the built environment with the natural world. Zulkeplee Othmann, author of *Privacy, modesty, hospitality, and the design of Muslim homes* who received a post graduate diploma in architecture from the University of Sheffield, UK, was able to communicate some of these qualities. Othmann mentioned that the preservation of cultural heritage is highly valued in Islamic culture, leading to the incorporation of historical elements into modern construction projects. This includes the integration of traditional design elements into contemporary structures like a home with certain features, such as an entrance, courtyard, and reception hall, preserving the cultural identity of the community.

Othmann also discussed that in Islamic culture, the integration of nature and the outdoors into construction projects is guided by a profound reverence for the natural world as a manifestation of Allah’s creation. It was reiterated that when selecting a site for construction, Muslims often consider the surrounding environment, seeking locations that offer natural beauty, tranquility, and a connection to the elements. This just shows the connection the Islamic/Arabic culture has with the natural world and all that comes with it. The design and concept of the courtyard greatly depicts this aspect of the Islamic culture which is prevalent in the built environment.

Furthermore, Othmann revealed that Islamic cultural values, such as modesty and respect for nature, influence decisions in construction projects which can be seen in the emphasis on creating spaces that promote tranquility and privacy. This aspect of the Islamic/Arabic culture can be perceived through the implication of the wind catcher and entrance. The mashrabiyyah, or windcatcher, allows for natural air to flow throughout the house creating a sense of peace in the home allowing for calmness amongst those who dwell inside. The main entrance is also a huge factor that preserves these cultural values of privacy and humbleness. This feature deters outsiders from viewing the inside of the home while also deterring ostentation amongst the homeowners allowing them to live up to their cultural values. Ultimately, the Islamic cultural impact on construction exemplifies a timeless commitment to environmental stewardship, architectural excellence, and spiritual harmony within the built environment.

Takai Maumau – Tongan Homes

After the devastating eruption in Tonga, Kanokupolu emerged as one of the two villages profoundly affected, with only two houses left standing. Despite the recurring threat of such natural calamities, the resilient spirit and deep-rooted love for their ancestral land are driving the revitalization efforts in Kanokupolu. Takai Maumau is leading those efforts currently, working with members of the community on rebuilding their beloved homes. Maumau, who has been working construction in the islands of Tonga, New Zealand, and Australia since as early as the 1960s, was able to share some details of the rebuilding efforts. A few key aspects of the reconstruction in relation to Tonga’s cultural impact are the design of open floorplans with large windows and doorways, the integration of nature around them, and the importance of gathering halls.

Amidst the reconstruction of the village in its entirety, the focus is on the little details that preserve all of Tonga’s cultural values. The open floorplans are a key element to the construction of a home in Tonga. Pertaining to the two houses that remained standing after the tsunami, both included large dining rooms that connected to both the kitchen and living room. This allowed for active engagement amongst family members because of the scale of these conjoined rooms which is a huge factor in the Tongan culture. Despite the inevitability of natural disasters like this occurring again, the community’s deep connection to their ancestral land is serving as a driving force in the reconstruction efforts of Kanokupolu.
The Tongan culture is rooted in the land passed down from generation to generation, preserving the land they live in and taking advantage of the agriculture around them. Tongan homes make good use of the plethora of trees around them, usually building homes on the edge of your plot of land, near the bush, leaving the rest of the land surrounding the home. The bush in Tonga holds cultural significance, as traditional Tongan society has long relied on the land and its resources for sustenance, shelter, and cultural practices. The "bush" typically refers to common species found in Tonga which include coconut palms, breadfruit trees, pandanus trees, and various types of ferns and tropical flowers. Adapting and learning to live with the land is the reason why many traditional Tongan customs and ceremonies are closely tied to the natural environment, reflecting the deep connection between the people of Tonga and their land.

Maumau also discussed the importance of constructing gathering halls such as churches or townhalls where they could gather under God, or to discuss important events in the progression of the village. The Tongan culture calls for unity amongst the people, creating a sense of family not only in their individual homes but in their community. Tongans are known for living with extended family such as in-laws, nieces, nephews, etc. There are even many cases where neighbors would often have dinner together if food is barren in their land. Privacy is held to a minimum due to this element and the features of open floorplans that comes with open doors to all in a typical Tongan home. The population of Tonga is relatively low in comparison to many of these larger countries, forming a sense of unity with not only family, but also to strangers who you might come across on the road. This love for their heritage and the land passed down by their ancestors is inspiring resilience and determination among the villagers as they work to rebuild their community from the ashes of the disaster.

<table>
<thead>
<tr>
<th></th>
<th>Entrance</th>
<th>Dining</th>
<th>Outdoor</th>
<th>Ventilation</th>
<th>Privacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese</td>
<td>Low</td>
<td>Mid</td>
<td>Mid</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Islamic/Arab</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Tongan</td>
<td>Low</td>
<td>Mid</td>
<td>High</td>
<td>Mid</td>
<td>Low</td>
</tr>
</tbody>
</table>

*Figure 5 – Tabled Results depicting the range of significance these features had on the different cultures analyzed*

After researching the various cultures that have impacted the construction industry in their respective regions, I have determined that there are five common elements to the design of these particular homes. In this breakdown, I will communicate the importance of various elements of housing design and how they can attract a new set of customers here in California.

**Japanese**

Culture is made up of several interconnected and mutually reinforcing factors, such as the social structure, ontological beliefs, values, personhood notions, ecological and environmental setting. One of these components is the house form, which includes the structure, dimensions, and layout of the dwelling (Ozaki, Lewis, 2006, p.1). The Japanese culture holds the privacy and ventilation design of their homes in high regards, similar to Islamic/Arabic culture. Through their architectural design techniques passed on from previous generations, Japanese designers were able to create house structures that took full advantage of the surrounding environment and natural air flow. Within this house layout is the particular use of the hallway running around the house, which promotes privacy from the outside. While promoting discretion, the Japanese culture encompasses the outdoor environment into their design through the creation of a courtyard that exposes the home to the beauty of nature. The construction of homes, here in California, can attract many potential homeowners using these key aspects of the traditional Japanese home, such as the house structure that promotes natural air flow, use of hallways to promote privacy, and the open layout of dining rooms to promote tranquility amongst families.
Islamic/Arabic

The Islamic-Arab house's most nuanced features stem mostly from the variety of components that have been put to the test by people's customs and cultures (El-Shorbagy, 2010, p.6). These components are prevalent in the design of the majaz or entrance, mashrabiyyah or windcatcher, courtyard and qa'ah representing the main reception hall. The entrance that leads to the front door of the home and keeps the rest of the home hidden from the outside, which promotes humility/privacy in the Islamic culture. The structural design of the house with windcatchers promotes the cultural collaboration with the nature that surrounds them. This is also depicted in the design of the courtyards that have a cultural significance and is the center of any Islamic/Arabic home. Besides the nature around them, Islamic culture promotes the importance of family, community, and hospitality which can be illustrated through the main reception hall where gatherings and quality time with loved ones can be held in. These essential features to an Islamic/Arabic home can draw a large number of prospective homebuyers, here in California, that have not been there before.

Tongan

In Tonga, cultural traditions play a significant role in house construction, with designs often featuring open-air living spaces, integration with the surrounding nature, and the use of halls for gatherings, reflecting a deep connection to the land and cultural heritage. Despite not being as populated as the other two cultures, a lot of potential homeowners can be attracted through the implementation of these distinct elements of a traditional Tongan home. The Tongan culture promotes open floorplans for committed engagement between people, allowing them to fulfill certain traditions done with loved ones. Some of these cultural values are also promoted in the way homes are connected with the nature that is around them. These homes take full advantage of the large amounts of forestry that is found on the island, making use of shade by constructing homes near the bush, making full use of the agriculture that fills it. Besides the land, the Tongan culture places a great value on interpersonal communication, making seclusion less desirable in comparison to the Japanese and Islamic cultures. With the creation of these gathering halls and open floorplans, Tongan culture promotes the sociable aspect of its community.

Conclusion

In conclusion, the study of Japanese, Islamic/Arabic, and Tongan cultures reveal profound insights into the impact of cultural values on the design and construction of homes. The table above lays out the importance of certain key features amongst each culture which are the entrance, dining area, outdoor area, ventilation, and privacy of the home. Looking at the variety of significance amongst different elements of a home, certain aspects of those different features can be combined and implemented to attract a wider range of potential property holders. With the idea of culture being an instrumental part of the home design, an array of homes can be built on that foundation which attracts a variety of cultures and people here in the state of California. As mentioned above, figure 5 shows the three traditional features that were regarded as the most important amongst the cultures analyzed, which were ventilation, outdoor, and dining. The ventilation aspect allowed these cultures access to fresh air while remaining in their home, promoting cultural elements of tranquility with proper air circulation, and living with the nature that surrounds them. Building on the concept of living with the nature around them, the outdoor aspect of the construction design was implemented so that these cultures would remain in touch with land that has provided for them for centuries. Finally, nothing brings home the importance of family being under one roof, enjoying quality time for all of these cultures than the home design of dining areas. Each culture exhibits unique characteristics and traditions that shape the layout, structure, and features of their dwellings. Japanese homes prioritize privacy, natural ventilation, and a harmonious connection with nature, reflected in their use of sliding screens, courtyard designs, and controlled airflow systems. Islamic/Arabic homes emphasize modesty, hospitality, and integration with the environment, evident in their secluded entrances, windcatchers, and central courtyards. Tongan homes prioritize communal living,
integration with nature, and open-air spaces, seen in their open floorplans, reliance on natural surroundings, and emphasis on gathering halls. These cultural elements not only serve functional purposes but also foster a sense of identity, belonging, and unity within each respective community. By understanding and incorporating these cultural design elements, construction projects in California can attract a diverse range of prospective homeowners, offering them unique and culturally resonant living spaces that celebrate diversity and promote harmony with the environment.

References


