

RIYADH MUSEUM AND CULTURAL CENTER

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Abstract

Museum and cultural center functions as an important element in preserving the cultural and heritage value of a country or tourist site. This cultural center makes an important contribution to heritage tourism around the world. Riyadh is Saudi Arabia's capital and an influential destination for Saudi Arabia's cultural heritage festival for tourists worldwide. Thus, this work proposes development of a museum and cultural center at Riyadh, Saudi Arabia. In this study, 4 cases studies were analysed for the development of the cultural center. Based on the case studies, the estimated area for development is 90000 m² with building gross area of 15500 m² and park area of 74500 m². The museum and cultural center is comprised of several zones such as museum, exhibition, library, conference area, auditorium and other amenities. In this work, 3 sites were proposed for development and the most suitable site was selected based on site evaluation analysis. The results of the site evaluation analysis showed that site 3 exhibited the highest score of 78. This site is located at the King Abdullah Financial District. This museum and cultural center was designed based on the trunk design of the palm tree, based on the element of nature. This museum and cultural center is expected to be the main tourism attraction in Riyadh and will contribute to Saudi Arabia's economy.

Keywords -- Museum, cultural center, architecture, heritage, design, Saudi Arabia.

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INTRODUCTION

The travel industry market world has advanced to one in which there are a few coinciding specialty markets for prospective tourist visitors. One of the markets for tourist attractions is heritage sites and museums [1]. Heritage tourism relies on the historical, cultural, and social significance of a destination and extends beyond a fundamental interest in past historical events. Heritage and cultural tourism comprise a broad range of scenery and environments [2]. It investigates citizens social and environmental heritage, illustrating unique physical features, metropolitan and agricultural trends, as well as historical monuments and architecture. In addition, heritage and cultural tourism are more focused on social sights such as museums and cultural centres that define the cultural element of a region or nation [3].

Recently, heritage attractions and locations have experienced a kind of renaissance. For many of these kinds of attractions, the previous century has seen a significant cultural shift, transforming them into locations of learning and informational centres [4]. Studies have found that the educational element is an important motive for tourists to heritage locations, and this knowledge has triggered a paradigm shift for many heritage destinations globally [5,6]. These innovative modifications have resulted in many sights taking on a more science and technological approach, developing into integrated interactive exhibits in which tourists arrive to engage and communicate, rather than merely looking at the exhibits [7].

Culture, environment and heritage sites are all significant elements that need to be developed in Saudi Arabia. Riyadh is Saudi Arabia's capital and a prominent location for Saudi Arabia's national heritage festival [8]. To accommodate this, it requires a museum and cultural center that will help tourists become more aware and civilized about different aspects of Riyadh's heritage, culture, and identity. Thus, this work proposed the development of a museum and cultural center at Riyadh, Saudi Arabia.

CASE STUDIES

In this study, four case studies were evaluated. The case studies analysed are stated as follow:

- King Abdulaziz Center for World Culture
- Millennium Park
- Archaeology Museum
- King Abdullah II House of Culture & Art

King Abdulaziz Center for World Culture

King Abdulaziz Center for World Culture is located at Dharan, Saudi Arabia (Figure 1). It was designed by architect Snohetta. It is a cultural type building with an area of 45000 m². The rational of the project structure is based on the idea of social interdependence in space, time and setting. The idea of social dependence is at the heart of the spatial association of the structure. Each component of the structure has its own discreet and conspicuous structure. In any case, these individual pieces are assembled in such a way that they reinforce each other. This thought is created to the extent that the various components really and fundamentally reinforce each other. The physical and otherworldly heart of the structure is the territory referred to as the source around which the various components are organized. Placed in three stories, the building is an illustration of the wellspring of Arab richness found in the deep oil fields underneath the structure. It also gives a physical setting to the underlying foundations of Saudi Arabia's way of life shown in the gallery that spirals around the source. The court of 6000 square meters is a passage for all sections of society. It is considered to be an urban space that provides a setting between the depressed exhibition hall and the social stones of the elevator for numerous guests, as well as distinctive social opportunities in the structure at the grade level. The structure is between the past and the future, communicating to the present. The ring divider, worked with crushed earth, encompasses each of the four sides of the court. This divider links the urban square with the visual component worked from the very ground on which the structure is based; an immediate reference to the social foundations underpinning Saudi Arabia and the setting of the interior itself. All the structural components, which have been raised from the

scene and into the sky, allude to the future and are enclosed in a material like reflecting metal skin. The metal is the inconsistency of the slammed earth divider; it is artificial, modern and intelligent of the solid Arabian sun. The offices of this social community include a library, children's focus, historic center, presentation and occasion, open-air media focus and other relevant offices.



Figure 1. King Abdulaziz Center for World Culture

Millennium Park

Millennium Park is located at Chicago, United States (Figure 2). It is an extraordinary town square near the shores of Lake Michigan, covering an area of 99 000 m². The recreation center has a number of primary components, such as the Jay Pritzker Pavilion, the Crown Fountain, the Cloud Gate and the Lurie Garden. The Jay Pritzker Pavilion is the main attraction of the Millennium Park, a band shell engineered by Frank Gehry. The structure has 4,000 fixed seats, in addition to 7,000 additional grass seats, where the stage is encircled by bending hardened steel plates. The Spanish craftsman Jaume Plensa, who highlights 2 square glass segments with LED display, designed the Crown Fountain. In addition, the Cloud Gate was engineered by British craftsman Anish Kapoor, which is another stunning fascination zone in the recreation centre. The Lurie Garden was designed by Kathryn Gustafson and is located at the southwest corner of Millennium Park. The Lurie Garden consists of two "plates." The dull plate depicts the historical background of Chicago by introducing hidden adoring plants, and has a blend of trees that will decorate these plants with a shade cover. The light plate, which has no trees, speaks of the eventual fate of the city, with sun-loving perennials that thrive in warmth and light.



Figure 2. Millennium Park

Archaeology Museum

Archaeology Museum is located at Alava, Vitoria, Spain (Figure 3). It has a site area of 5000 m². This museum building was designed by architect Francisco Mangado. The essential state of the structure is controlled by its unique circumstances and congruity. Every single level surface, floors and roofs are dim in the long-lasting show corridors. The wooden floor (practically dark) and the persistent roof (additionally dark) form a closed

and dull box or a chest delimited by façade dividers, remotely clad in a broken bronze sheet of skin, with parts that are superimposed or dared to rely on lighting needs. In addition, these dull spaces are crossed by white coated crystals, around which the pieces are arranged. During the day, it draws light from the rooftop, coming from the inward light in the darkness. These crystals are to be combined with illustrations to depict the extraordinary element of the building. In addition, it is the representation that refers to light in a dull space. In addition, the design of the entrance patio is progressively straightforward. It is the tanned skin that opens with a consistent beat, allowing space to flag guests to the presentation territories.



Figure 3. Archaeology Museum

King Abdullah II House of Culture & Art

King Abdullah II House of Culture & Art is located at Amman, Jordan (Figure 4). It was designed by architect Zaha Hadid. This structure is built on an area of 26800 m². The inspiration for this building is originated from the ancient city of Petra. The inner government foyer is a constant multi-level channel cut straight through the construction from north to south, producing a room that is literally light-flooded with a beacon and a welcome lamp. While erosion shapes the government foyer, the residual mass contains performance areas such as theater and an auditorium. Further subtle nuances are established by handling the external quantity of the structure as a fluid rather than a stiff enclosure. Furthermore, its floor surface is sloping and increasing between greater erosions to generate natural amphitheatres. The site includes main theatre, open amphitheater, learning center, grand stand, rehearsal area, main entrance, ticket hall and other amenities.



Figure 4. King Abdullah II House of Culture & Art

PROGRAM ASSUMPTION AND SPACE DETAILS

For this work, the proposed museum and cultural center will have an estimated foot print area of 15400 m². The land area for this proposal is 90000 m². The details of the area division are shown in Table 1.

Table 1. Space details

Zone	No of floors	Area (m ²)
Museum	2	5900
Library	2	2200
Recreation	1	4200
Conference	1	3200
Total Foot Print		15 500
Park Foot Print		74500
Total area		90000

PROPOSED SITE

Proposed site: Site 1

For Site 1 (Figure 5), this site located on Old Riyadh, City Center. This site has good heritage value.

Proposed site: Site 2

For Site 2 (Figure 6), this site located at North Wadi Hanifah, Riyadh. This site Lies on the North West ring road of Riyadh.

Proposed site: Site 3

For Site 3 (Figure 7), this site is located near the King Abdullah Financial District. It lies on an intersection of two main highways in Riyadh.

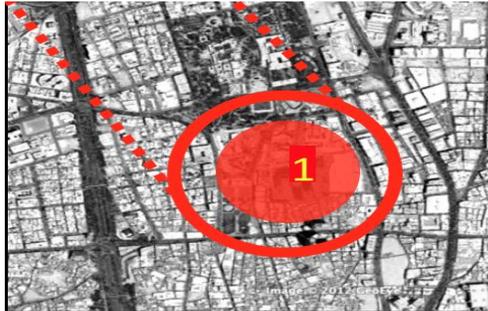


Figure 5. Site 1



Figure 6. Site 2



Figure 7. Site 3

SITE EVALUATION AND ANALYSIS

In this work, 3 sites were proposed for development. Thus, site evaluation was done to select the most appropriate site. Site evaluation was done in terms of accessibility, visibility, location, future expansion, security, view, landmark and value. In this work, weighting factors (WF) was used for each criteria, where 1 = not very important, 2 = slightly more important, and 3 = important. Table 2 shows the results of site evaluation. Based on Table 2, site 3 was selected as the proposed development site as it attained the highest evaluation score of 78, compared to site 1 with score of 54 and site 2 with score of 53. The selected site is next to next to King Abdullah Financial District. This site is close to major intersection between King Fahad Highway, and Riyadh's Ring Road. This site has an area of 105000 m². Furthermore, Olaya street and King Fahad Highway are the two main roads that surround the site. The main landmark surrounding this site is King Abdullah Financial District, Al-Nakheel Tower and Almamlaka Tower. In term of climate, this site has a hot climate throughout the year. The zoning of this site is shown in Figure 8.

Table 2. Site evaluation

Criteria	Site 1	Site 2	Site 3
Accessibility (WF=3)	10	8	12
Visibility (WF=3)	8	8	11
Location(WF=3)	7	6	10
Future expansion (WF=2)	7	8	10
Security (WF=3)	8	8	11
View (WF=1)	5	5	6
Landmarks (WF=2)	5	6	10
Value(WF=2)	4	4	8
Total	54	53	78



Figure 8. Site zoning

PROJECT DESIGN

For this work, the design of the museum and cultural center was done based on nature elements. For the exterior of the building, palm tree trunk design was applied, as it was suitable for the museum to design a shell-like structure. Because of its rough texture, it can create a pattern of solids and voids and indirectly allow sunlight to enter the building. For the interior of the building, sandy dunes were used to create a flowing sense of direction that is continuous. Figure 9 shows the overall zoning of the building. The building has 3 levels and the comprehensive details are shown in Figure 9.

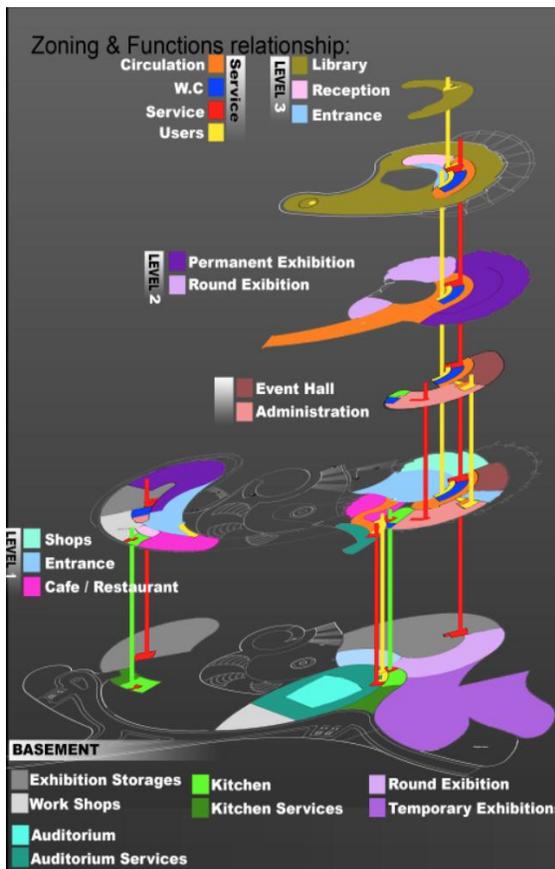


Figure 9. Building zoning

Furthermore, the building is designed with the following features. Facades are varied in orientation to enhance energy savings capability. Solar cells mounted on the roofs and built into the facades. Transparency of façades designed to create the best indoor environment to control sunlight and daylight. In addition, shading canopies, moist absorbent materials, water features and a carefully prepared vegetation strategy are incorporated which will create a significant improvement as it will be able to lower the temperature by 8-10 degrees to create a lively and active public sphere. Figure 10 shows the overall perspectives of the proposed museum and cultural center.



Figure 10. Overall view

CONCLUSION

This work has proposed the development of a museum and cultural center Riyadh, Saudi Arabia. The estimated build area for this structure is 15 500 m² and it contains few areas such as museum, exhibition, library, conference area, auditorium and other amenities. This museum and cultural center is expected to expose the public to Saudi Arabia's heritage and culture and strengthen the sense of appreciation for history and Islamic traditions. This center will also serve, as a main point of tourist attraction at Riyadh and it will contribute to the local economy of Saudi Arabia.

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