

Design of Iranian Pavilion in Expo (2020) Dubai based on Connecting Minds, Creating the Future

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Abstract:

At the present age that is surely called as Age of Globalization, any country tends to attend more efficiently and strongly with reliance on potential and actual capabilities on the international arena. The world exhibitions are assumed as appropriate platform to display economic, industrial, cultural and artistic power and growth in technology for the countries. Expo is one of the foremost exhibitory events in the world for which the countries take their best effort to exploit from this exhibition and to use the given opportunity by accurate planning more than ever. By proposing this motto (*Connecting the minds creating the future*), Expo (2020) Dubai is an appropriate location for interaction with the world people in order to prepare a platform for exchange of thoughts and taking a comprehensive and prospection-oriented toward global development. Beside the micro and thematic objectives in this exhibition, holding this world exhibition aims to create human interaction and cultural exchanges to develop human relations, world peace and hope for future as its objective at macro level. Inter alia, Expo is deemed as an unrepeatable opportunity for any nation to introduce their country what it really is and immediately to the world. Enjoying rich history and culture and potential for development and progress, Iran should make its presence more prominent in the world community and in addition to revival of traditions and benefiting from the past and familiarize the world with a proper image of potentials of this land by looking deeply at the future and pave the way for improving international interactions. The current research intends to take a proper step toward realization of the main motto of Expo and improvement of the way of participation compared to past times by means of descriptive method and extensive study on theoretical bases of Persian architecture and through casting deep glance at three categories of culture, tradition and identity from architectural perspective. The findings of this study express the effect and by using three aforesaid elements in designing Iranian pavilion and present some patterns to display architecturally all three elements.

Keywords:

Iranian Pavilion, Expo (Exhibition), Globalization, International Interactions, Cultural Exchanges

1. Introduction

The world is always moving toward progress and reaching to new achievements. In this sense, Expos are assumed as locations for displaying these achievements which are mixed with architectural sciences. Expos serve as a platform for creating face-to-face relations between different nations and they cause expansion of modern sciences and technologies among them. The various nations become familiar with culture, customs and rites of each other through aesthetic approach by Expo.

Expo is an exhibition that influences in world architecture and culture. Visual aspect of Expos is an architectural outlook proposed by creative architects. The exhibitory architecture represents mutual understanding between different cultures under the best conditions where respecting aesthetic criteria in the host country is considered as the design principles for exhibition booths for any nation. Based on a subject which is selected in such kinds of exhibitions the countries and participants design and build their own booth in coordination with the given subject and in fact the image guest country intended to present it the host nation is the foremost factor in design of such a space. The initial image expresses that the pavilions should include architectural reflection, culture and domestic identity outside this space. On the one hand, this image is related to basic ideals and ideas of the country as owner of pavilion; and on the other hand, to type of motto belongs to the host country (Afshar Naderi, 2007).

Pavilions are architectural spaces in which the paramount feature is the expression of idea and beauty by means of all practical potential in the given construction. Surely the pavilion presents a real outlook from capabilities and potentials any nation at small scale in any country and it should stimulate sense of attention plus respect by the visitors from the whole world rather than respect and coordination with the host country and stream and subjectivity of given exhibition.

With respect to minor presence of Iran in this exhibition during the past periods, the necessity for conducting an investigation was felt in order to achieve criteria based on which one can reach to a favorable design for fulfilling goal of Expo (2020) with motto of 'Connecting the minds, creating the future' and adapted as the research subject in the current research.

2. Research Literature

Rezvani Befrouie A et al. [1], discussed the design of high-rise building with ecological approach in Iran (Alborz Province). The present study aimed to evaluate the ecological architecture with the concept of increasing energy storage, reduction of fossil energy, reduction of CO₂ emission and replacing clean energy. This study aimed to minimize the need of high-rise buildings to fossil fuels, achieving. The results showed that by curve form (oval) for the lowest aspect in east and west and extension in eastern and western (aerodynamic), we can use renewable and clean energy in high-rise buildings in Alborz (Azimie). Also, by solar space (Atrium), we can minimize energy consumption in high-rise buildings in Alborz (Azimie).

Taghipour et al.[2], studied Risk analysis in the management of urban construction projects from the perspective of the employer and the contractor. Imbalance between anticipated and actual progress in the development of urban construction projects suggests that there are many obstacles and risks which not only causes the urban management be unsustainable, but the reconstruction and development of urban space

is also seriously threatened. the results indicated that the experts listed the most significant risks as the delays in the payment of contractors' claims and statements due to the lack of handling financial instruments, the governance of relationships rather than rules in the tenders resulting from employer actions, low commitment to the quality of work provided by their subcontractors, failure to complete the detail engineering by foreign contractors on time, weaknesses in contractors' financial resources, and offering lower prices than reasonable by contractors to win the tender. Finally, the solutions for eliminating or reducing risks in high risk areas have been offered to provide tranquility for contractors and employers.

Rezvani Befrouei MA et al.[3], discussed Identification and Management of Risks in Construction Projects. Today, risk management in construction projects is considered to be a very important managerial process for achievement of project's objectives in terms of time, costs, quality, safety, and environmental sustainability. Instead of employing a systematic approach for identification of risks, their probability and their effects, most of the studies conducted in this area have focused only on a few aspects of risk management in construction project. the present study aims to identify and analyze the risks associated with development of construction in the greater city of Tehran, employing a comprehensive approach that is consisted of five aspects. After the collection and observation of the data, the output was examined by Pearson correlation also, using charts and tables. The results indicated that "tight project schedule" present in all five categories- imposed the maximum risk. Also "design variations", "excessive approval procedures in administrative government departments" and "unsuitable construction program planning" were identified as next high risk factors.

Taghipour et al.[4], studied Supply Chain Performance Evaluation in IN The IT Industry. The appraisal of several performance measure agendas and metrics already accessible proposes that supply chain performance measure can be detected under different categories such as cost and non-cost. In this study, developed supply chain of IT industry based on BSC from existing decision making models. Then, industrial projects performance and performance evaluation measures have been determined using a designed questionnaire.

Khodakhah Jeddi et al.[5], studied The Analysis of Effect Colour Psychology on Environmental Graphic in Childeren Ward at Medical Centers. The hospitals are some of architectural spaces, which are assumed as important in terms of design and function due to giving medical services and referrals of various groups of people.

Taghipour et al.[6], studied the Study of the Application of Risk Management in the operation and Maintenance of Power Plant Projects. one of the methods used in good decision making, pay attention to risk management, which is known as an important part of project management and control. Risk management has evolved over time and its systematic method has provided managers with a definite path so that they reduce potential threats to a minimum and reach project goals by the least possible deviations. In this paper, subsequent to an introduction of fundamental concepts of risk, risk management, an account of risk management, methods and its techniques are presented. In the end, following a discussion on how it is practically used in projects in a real and practical sample, risk management and its application are implemented and essential investigations are undertaken into its effects.

Mahboobi et al.[7], discussed Assessing Ergonomic Risk Factors Using Combined Data Envelopment Analysis and Conventional Methods for an Auto Parts

Manufacturer. occupational injuries are currently a major contributor to job loss around the world. They are also costly for business. The absence of rational analysis is felt in this area, so mathematical analysis is needed to obtain the logical results of these injuries in order to find gaps or loss points of industry. OBJECTIVE: This paper assesses the effect of five demographic factors on ergonomic risk and occupational injuries using an integrated mathematical programming approach. The obtained results will help managers to carry out any required corrective actions or establish benchmarks.

Taghipour et al.[8], studied Assessment and Analysis of Risk Associated with the Implementation of Enterprise Resource Planning (ERP) Project Using FMEA Technique. Enterprise resource planning (ERP) is one of the latest management tools that can take advantage of information technology to comprehensively gather resources and information in all parts of the organization by an interlocking, system with fast speed and high quality and help users in all organizations and sectors by giving certain modules for managing different sectors such as projects, human resources, and services. Despite the many benefits this system can have for the organization, its implementation and deployment is very risky and costly.

Taghipour et al.[9], studied Construction projects risk management by risk allocation approach using PMBOK standard. Projects' managers in plenty of construction projects which are assumed that are under control, are facing risk as an unknown occurrences and they are attempting to control it and are suffering more costs. Though, by a comprehensible effort and applying risk management, risks are identified and controlled before happening or a plan is provided in order to deal with these occurrences and time and cost are saved. Thus, they have to be controlled and appropriately responded by risk management methods. In this regard, risk management process in PMBOK standard can be a suitable approach to solve this problem.

Taghipour et al.[10], studied The Evaluation of the Relationship between Occupational Accidents and Usage of Personal Protective Equipment in an Auto Making Unit. One of the problems that encounter each work society is occupational accidents. Today, despite the improvements of facilities and working conditions, the possibility of accident occurrence in workplaces and especially in industrial places is inevitable. Since the non-use or misuse of PPE is one of the main causes of accidents in industrial units, the aim of this study is to evaluate the association between occupational accidents and the use of PPE in the body section of a vehicle manufacturing unit. The results showed that there is a meaningful positive relationship between the factor of inadequate PPE and probable hazards of the industrial workplace.

Jalili et al.[11], studied Utopia is considered to be the physical form of an ideal human society where the goals are met. Rab-e Rashidi is one of the Islamic utopia that has practically manifested and this view on ideal city in today's modern urbanization can be received based on the perspectives of Kevin Lynch. The results demonstrate the social justice, attention to infrastructure, dynamics in in physical aspects of the city, mental image and climate considerations concepts which promote the quality of life in Rab-e Rashidi. Finally Rab-e Rashidi can be a comprehensive model of Islamic utopia for designing modern cities.

Taghipour and Yadi [12], studied Seismic Analysis (Non-Linear Static Analysis(Pushover) and Nonlinear DynAMIC) on Cable-Stayed Bridge. Pushover

analysis application development is greatly increased in recent years and numerous advanced methods to evaluate the seismic pushover are provided. Because these methods have been proposed mainly for building structures and given the fundamental differences between the behavior of bridge structures and buildings using pushover methods on the bridge structure with the uncertainties faced. Thus a pushover analysis is presented for evaluation of seismic bridge pylons and deck where the effects of displacement and deformation of the plastic joints, structural changes in the modal characteristics of change used plastic forms and effects of higher modes can be seen clearly.

Taghipour et al.[13], studied Evaluating Project Planning and Control System in Multi-project Organizations under Fuzzy Data Approach Considering Resource Constraints. Projects can be repetitive tasks in specified periods of time and also it may involve some functions which are performed just once. However, in any project, managers and experts consider three basic and important goals: least time, lowest cost and best quality, so all efforts are directed toward achieving these basic goals. Statistics indicate that projects are either conducted on estimated time or delayed and rarely are delivered before due date.

Taghipour et al.[14], studied Assessment of the Relationship Between Knowledge Management Implementation and Managers Skills. The Purpose of this study is to consider the effects of knowledge management implementation on manager's skills of Reezmouj System Company. Results showed that there is a relation between knowledge management.

Seddigh Marvasti r et al.[15], studied Assessing the Effect of FRP System on Compressive and Shear Bending Strength of Concrete Elements. Behavior of reinforced concrete structure depends on correct behavior of beam and column so much. Access to necessary bending strength, prevention of changing permanent configuration and prevention of bending failure of section cause to pay attention making resistant of concrete elements specially bearing beams of structures.

3. World Exhibition (Expo)

The world exhibition includes some fairs which are held in various countries of the world every several years and these fairs are deemed as the most important forums held throughout the world. These exhibitions are held under supervision by Bureau International des Expositions (BIE), locating in Paris, France.

This exhibition is a portal for display of the past, present and future of countries where social, economic, scientific achievements and cultural background and development outlook of countries are shown.

Expos are the most valid locations for many countries thereby they can display their own scientific and technological progresses and also economic strategies and problems of human communities. Expos are the world fairs where the participant countries attended to show their industrial potentials of the governments during the early years of holding them.

At the same time, these exhibitions have been the pioneers in modern museums and commercial and international fairs which took step toward peace, economy, health, environment and life improvement. Presently, Expos were no longer only as a location for displaying industry and technology, but they had been converted into a place for showing creative ideas and modern theories in architectural creation.

3.1. Expo (2020) Dubai

Expo (2020) is an exhibition at world scale for which the international exhibitions office in Paris issued sanction for establishment on 27 November 2013. Dubai city in United Arab Emirates (UAE) succeeded to achieve right of holding this Expo in 2020. It was the first time this Expo is held in Middle East region, North Africa and the south Asian zones. This Emirate zone in Persian Gulf competed for Expo hosting with Izmir (Turkey), Sao Paulo (Brazil) and Yekaterinburg (Russia). The agents of 168 countries held voting three rounds for selection of host to Expo (2020) in world exhibitions office in Paris. This emirate is well-known with urban effects and structures e.g. Caliph Tower as the highest tower in the world.

Expo (2020) Dubai aims to present a new outlook to world expos. With respect to their traditions and related preservation, this new outlook may leave a new concept about events and heritage from expos.

3.2. Pavilion as an Architectural Symbol in Expo

Lexically, pavilion means booth, tent and provisional residence and world Expo fair, pavilion is the space devoted to any country to introduce their culture, new achievements and technology in an exhibitory area to the world people.

Presence of Iran in Expo is the sign of capability of our country in architecture, engineering and art. For this reason, the accurate planning should be made for by taking approach toward presentation of culture, tradition, identity, and sustainable values of Persian architecture along with exploitation from new and modern technologies since architecture of such a construction should represent both requirements and effects of country of origin and be coordinated with natural and social platform in country of destination. In fact, architecture should observe approaches in both countries of origin and destination and respond to them. [16].

3.3. Culture, Space and Architecture

As a vessel for human life, architecture is the full-length mirror of culture in any community and it is closely interacted with structural, historical, political, economic and social features of the given society. The people of any country try in building an architectural work to protect from their values and follow their norms by benefiting from material objects. In other words, architecture includes any construction that changes consciously physical environment based on subjective and systematic framework [17].

Any community is administered by any system and any type of ideology governs over them it has specific goals and ideals. The main task of culture is to display such subjective ideas by manifestation of objective forms that play essential role in process of transformation of architecture. According to viewpoint of Herman Mathews, architecture has been and is a real device to measure culture of a nation. While a country can make furniture and beautiful luster, it builds the worst construction every day and this denotes adverse and dark circumstance in the given society and such conditions prove disorder and lack of potential to organize that nation [18].

Congruence and integration of architectural space in any period of Iranian architectural history is directly related to rate of impact of architecture from the given physical norms, values and products in that period and such an impact is also continued at present.

Persian architecture possesses certain bases in three classes of forms, patterns and concepts. These bases may be continuous and as the form is converted into the concept and in other words they move from objective qualities to subject qualities, they possess more duration [19].

3.4. Tradition and Architecture

When it is referred to tradition in Persian architecture, the forms, compositions, elements, routines and decorations are intended to be known as indices of Persian architecture and they have been always utilized in important and great and designed monuments and especially monumental and religious buildings and in addition to climatic, physical, environmental and functional reasons they also included cultural aspect and they been addressed as a feature and in some cases as a symbol. It necessitates for paying attention to this point that some elements and compositions and forms, which are known as characteristics and features of Persian architecture, have initially emerged under influence of factors rather than cultural factors, but by repetition and application and salience and possessing some features that could convert them into a distinct element or attribute, they have been gradually turned into a sign, symbol or feature. Thus, as it is implied about tradition in architecture, this point should be noticed that traditions have been formed by another language dynamically as traditional elements and features and over the time. Therefore, it can be expected that architectural tradition continue their dynamic motion over the time [20].

It is true in the existing climate of our country and within traditions and cultures and temperaments with which our nation has lived, today architect does modern work, but if s/he does this work and mission by proper and deep knowledge, will achieve traditional and Persian architecture. Such architecture may not be similar to the architecture in terms of form, shape and appearance in the past, but it will be of Persian type in terms of architectural principles [21].

3.5. Identity and Place

Various experts have expressed their ideas about subject of environmental identity and considered different elements for this concept. According to Rappaport's viewpoint, identity can be distinguished as an element from another. He assumes identity as a characteristic of environment that is not changed under various conditions. These features may be physical characteristics of environment e.g. form, dimensions, decorations, and construction style etc. and or specific current activities in environment or functions of an environment. Alexander is one of the scientists who have commented about environmental identity. In his opinion, identity appears in an environment in which natural and logical relationship has been established among individual and environment.

Walter Bohr is another person who is an expert concerning environmental identity. From his viewpoint, identity is the same as small and big differences that cause recognition of a place and legibility of environment and create sense of attachment and environmental sensitivity. Specificity of any environment means avoiding from monotony and the existing variation and attraction and it should exist in way of placement of spaces and access to them and in various uses as well [22].

If we look at architecture as an architectural work and consider human as creator of the artistic work, then we can discuss about identity in architecture because the human

claims that s/he can discover reality of existence and realize and express it in an artistic work and the given artistic work is the product of human conception and manifestation of the discovered fact by him/ her [23].

Today, we suffer from uncertainty and hesitation in terms of identity and cultural dimension and this may be reason why we have not properly perceived it [23]. In the event the isolation-seeking walls detach us from the surrounding world and we can only observe the internet and satellite views and pictures from the western world e.g. Qajar postal cards this results in this culture, the same art, industry and economy etc. which is neither western, nor eastern and not Iranian!!

3.6. Globalization

Globalization refers to a process during which the individual and community are linked together within the world extent. The requisite for cultural interaction and exchange is deemed as a significant process necessary to be addressed at the Age of Globalization. The intensification of collective self-awareness of nations is one of the reasons for importance of exchanges among cultures due to globalization process. One can refer to sense of citizenship in nations as one of different globalization dimensions in the World Community. The main objective of this community is to proximity of attitudes. The humans may achieve their positions by collective self-awareness in such a community. The cultural exchange may act as an effective strategy in improving attitudes and accomplishing the given collective awareness.

The globalization may generally affect human behaviors with all outcomes where the extent of this effect covers all known contexts by the humans and perchance the important topic of architecture and globalization stems from this origin and more obviously effect of globalization on architecture. Emphasis on dense space and time and or Inflationary Universe (i.e. definition of this subject as usual in physics not in spatial architecture) given by time which denotes physical of globalization. From this perspective, technology and communication facilities as well as amazing advancements in this regard may possess very high position.

4. The Main Strategies in Designing Iranian Pavilion in Expo 2020 Dubai

With respect to aforesaid issues and by putting these cases and criteria together, we may reach a practical strategy that can contribute us to achieve our goals i.e. reconstruction of our cultural identity in respective of the latest technology in Iranian pavilion and finding a meritorious position at international level.

Table 1. Presentation of main strategies in designing Iranian pavilion in Expo 2020 Dubai.

Main strategies in design of Iranian pavilion in Expo 2020 Dubai	Cultural- identity strategy	<p>There are two methods for architectural design in this project. The first is the general architectural design of building that is implemented synchronously with the conducted studies and it aims to propose cultural and national identity of Iran with respect to modern criteria of architecture and proving the main architectural principles with no dogma through employing them in the project and design of Iranian pavilion in Expo 2020. The next technique It consider it as a strategy for project design includes an objective that can guide deprived sense of identity from modern architecture to a new style. This is the same as philosophy of identity-based design that introduces details of Persian architecture.</p> <p>For better perceiving of importance of world Expo fairs where many countries display their past, present and future it is enough for us to refer to these facts that in this great showing scene the countries have always tried to indicate proudly the latest human achievements and capabilities regarding social, economic, scientific and cultural fields. Therefore, it is the best opportunity for displaying architectural strategies with identity approach. The identity of Iranian architecture tends to discover importance and nature of architecture and urban form as a part of identity of individuals and communities.</p> <p>In addition to these cases, a new period has started for Expos since about two past decades and all countries try to exhibit typically their own national identities and demonstrate a new identity for their own and even correct world attitudes to their own. In fact, booths of countries are promotional bases in these exhibitions and they try to use it as bullhorns to announce the voice of their designs to the world people incessantly for a few months and at loudest and fluent level. Thus, the best strategy is to prove Persian architecture as the architecture with scientific and principled identity.</p>
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Table 2. Presentation of main strategies in designing Iranian pavilion in Expo 2020 Dubai.

Main strategies in design of Iranian pavilion in Expo 2020 Dubai	Spatial and functional strategy	Creation of scenario for visitor	<p>The strategy which is considered for space in a Expo pavilion is designated to visitor at first place. It includes creating spaces for maximum communication with audiences with respect to competitive conditions between participant countries in Expo in attraction of visitors and taking suitable strategy and strong scenario that may form the spaces so that to create strong relation among exhibition and visitor. The scenario is designated for audiences who visit Iranian booth with respect to main subject of Expo may propose opportunity and mobility that need to stable balance and it creates suitable opportunity to express a nation which has been missed through modernity paradigm and also it provides a chance for cooperation communication at world level. Taking a product-centered approach, Iranian booth has introduced the manufactured products instead of supply and introducing Iranian identity and culture in the previous Expos and even in 2015 while it has even considered identity and culture, it was diverted from this path and again expressed its manufactured products. Fortunately, by means of subject of Expo 220, one can easily lead the same expression of cultural identity and communication at world level to creating better future and prepare the scenario of visitors to narrate Iranian identity and culture through the given climate so that the visitor exercise Iranian life experience and enter a space by traditional imagination and to be familiar with modern architectural approach under identity and cultural shell.</p>
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	Creation of open space to attract visitors	Another proposed strategy is concerned with creation of open space to introduce Iranian culture. In Persian traditional architecture, open space is an important part for relationship between interior spaces and outside and it creates special coordination among the spaces. The exterior and interior spaces of them are linked together so that either of which determines another form. Open space such as yard and garden has created special and unique beauty in traditional architecture in the constructions and it expresses architectural hierarchy. This strategy gives identity to this project and opportunity to visitor to gradually communicate with this space to be built in such a way that to lead the visitor to interior points at the first moments of entry and finally to guide and secure him/ her to the heart of building and to create sense of relational and prior acquaintance in order to prepare him/ her to accept the space and sense of belonging and attachment in individual and strengthen this sense gradually. The main core of this subject is to acquire experience for the visitor and it may strike in visitor's mind the experience of touristic trip to various points of Iran and thereby makes him/ her familiar with Iranian culture, customs and ceremonies and causes the visitor to notice a culture which is different from what it has been introduced as a silent and disable traditional architecture in media and world of architecture.
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4.1. Position of Iranian Pavilion in Expo 2020 Dubai

The Iranian pavilion is situated in Plot C36 with surface area of 5'952m² in the eastern side of this complex. This land includes area with 62m width and 96m length out of which only 4'410m² of area is allowed for construction and at least 30% of this area should be allocated to open space.

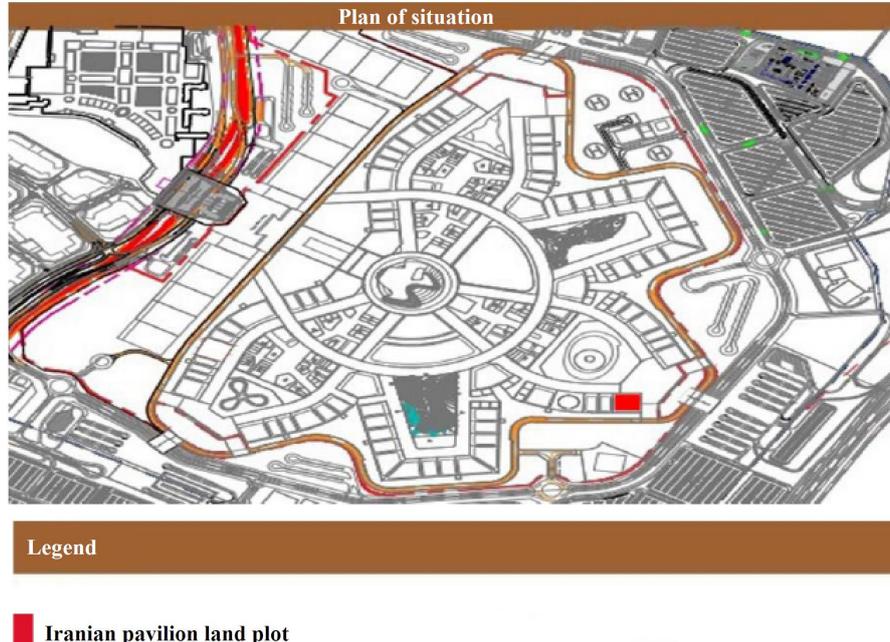


Figure 1. Position of Iranian Pavilion in Expo 2020 Dubai.

Whereas cultural identity of Persian architecture is the subject matter in this study and Persian architecture is eco-friendly architecture and this design is prepared according to climatic conditions at any region thus the given strategies should be based on climatic conditions of region. Considering the following conditions may contribute use as suitable strategies in this process.

- Providing the maximum shade from direct sunlight during warm season
- Ventilation system by the aid of regulation of air flow
- Use of external surfaces of reflector
- Suitable orientation to avoid from unfavorable winds and to reduce exposure to sunlight
- Increase in air circulation
- Design of suitable construction forms
- Appropriate color
- Growing and cultivation of plants surrounding the building to create shadow and cooling air

Table 3. Details of design of Iranian pavilion.

Details of design	
Land use	Commercial
Typology of building	Prefab pavilion (large)
Land plot	5952 sq.m
Maximum constructible area	4410 sq.m
Project maximum coverage	70%
Minimum height allocated to building	12.5 sq.m
Maximum number of stories	3 stories

4.2. Pavilion Design Alternatives

4.2.1. First Alternative

The idea of Persian garden has appeared noticeable in the given suggested concept. In addition, the portal of entrance at the starting point of site specifically remind of the form of designing Gate of Nations as the historical passage in linking of civilizations at Achaemenid era which represents well the Iranian culture and civilization. Similarly, 3 main volumes at the end of site which is composed of the main construction for the exhibition strikes well in mind 3 main approaches in this Expo.

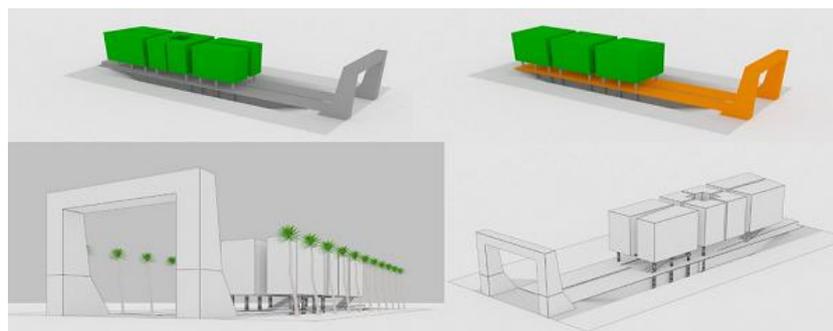


Figure 2. First alternative.

4.2.2. Second Alternative

Also, this concept includes some spaces formed for more interaction between human within single and frontal formative moldings and their symmetric form recalls well the concepts of Persian architecture, but in any case, the step has been defined as specific element at entrance and the given symmetry reminds of Persian pattern well

and it can be manifested with a separate shell similar to luxurious dress for the given main concepts.

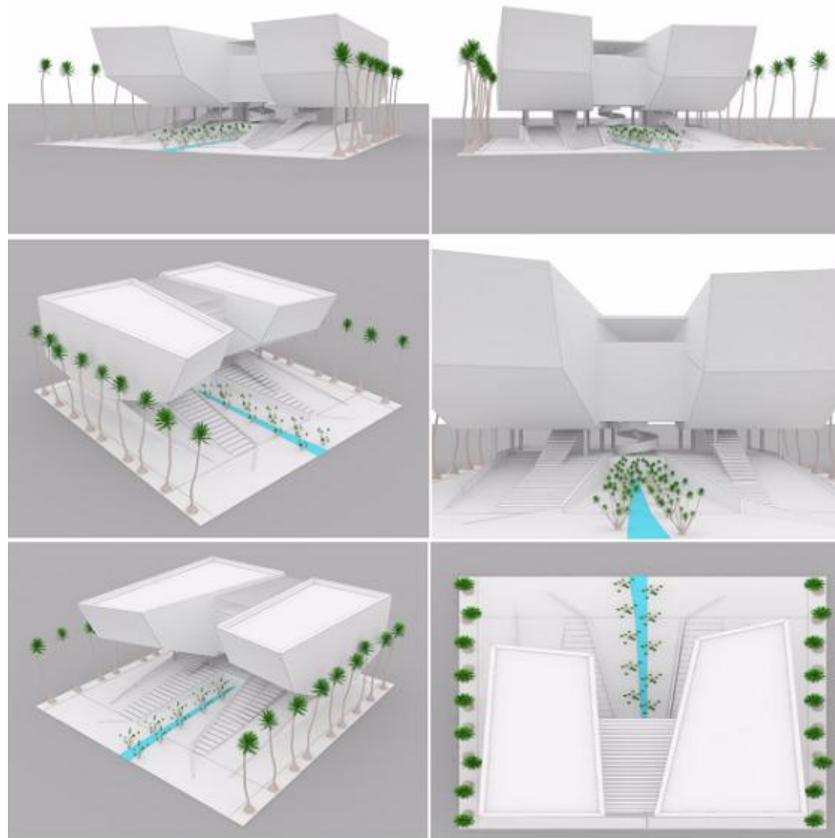


Figure 3. Second alternative.

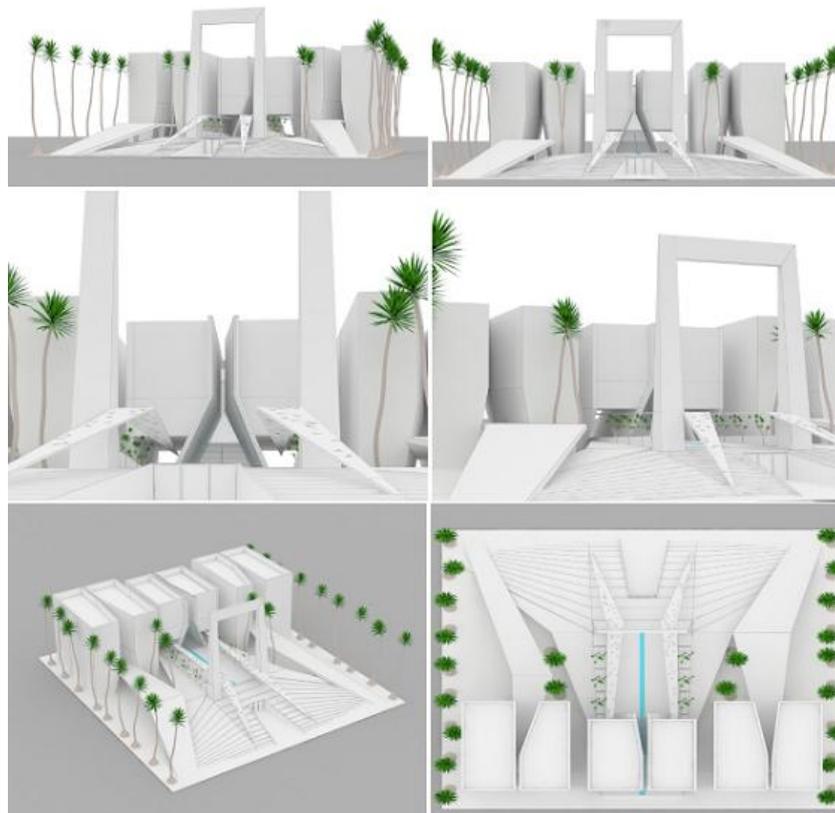


Figure 4. Third alternative.

4.2.3. *Third Alternative*

However this concept is typically a combination of both former ideas and completed well both themes. In addition to having symmetric concepts in design and through exploitation from Persian forms and idea of Gate of Nations, all three objects have been well put together so it can be seen that it has provided various accesses to different parts of project with equal potential of exploitation for the visitors. Moreover, it can be well observed the link among architecture in the past and future so that on the one hand Persian architecture has appeared in symmetries and entrance and also the middle volume with prominent and stepwise entrance remind well of design of Azadi (Sq.) Tower. (Figure 4)

4.2.4. *Fourth Alternative*

Regardless Iranian concept; however, the fourth concept has been mainly formed according to suitable exploitation and using of site land for design so one can approach it greatly to the main idea of project by means of a shell including Islamic-Persian texture.

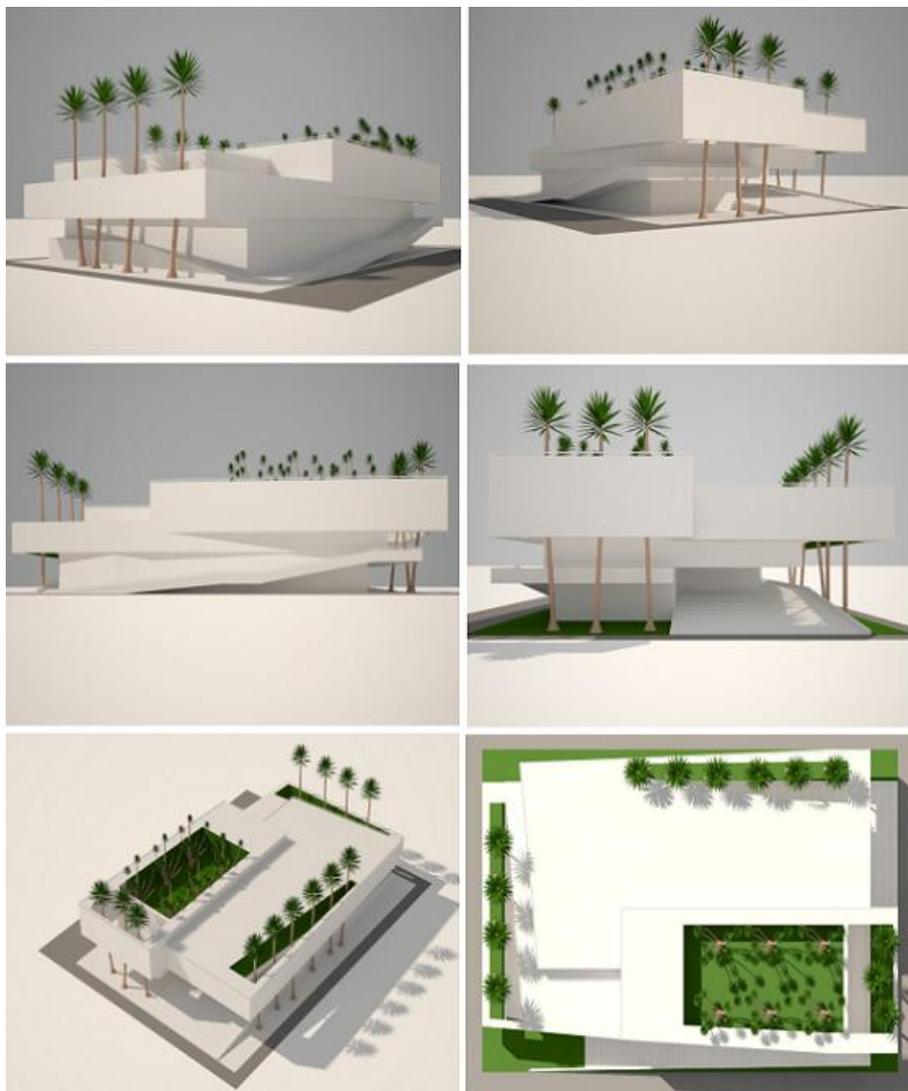


Figure 5. Fourth alternative.

4.2.5. *Fifth Alternative*

Rather than well accompaniment to Iranian and Islamic climate, but the fifth concept also recalls and introduces well Persian architecture in terms of material and view texture. This design which has been formed by inspiring from two major topics in Iranian architecture in the past and present, it recalls Persian iceboxes in the main form of construction and it represents the simplified form of Azadi Tower in terms of sense of space entrance. In addition, the cucumber-like shell of design formed by brick-coverage at the given main surfaces may recall those iceboxes and remind the front of Azadi Tower on the crown of top point. The interior shell of this project, which is benefited from Persian texture that comprises of entrances for the separate systems in various parts of this area has created concept for Expo as well. Moreover, the arch form at the front of the construction has also provided salient entrance for the visitors and the access routes has been created in the shell behind the project to create entrance and departure for individuals at any section and thereby to link well outside and inside regions together and despite introversion nature of construction form, the relationship is maintained among Iranian booth with outside and exhibition complex.

4.2.6. First Mode: Extrovert Form



Figure 6. Fifth alternative (first mode).

4.2.7. Second Mode: Introvert Form

In this concept, Iranian exhibition booth does not start from the building inside, but it begins from distant point since the physical matrix of building has been mapped in such a way that rather than visual attractiveness for the passerby and attracting them inside pavilion it can display some images of Persian culture and art.

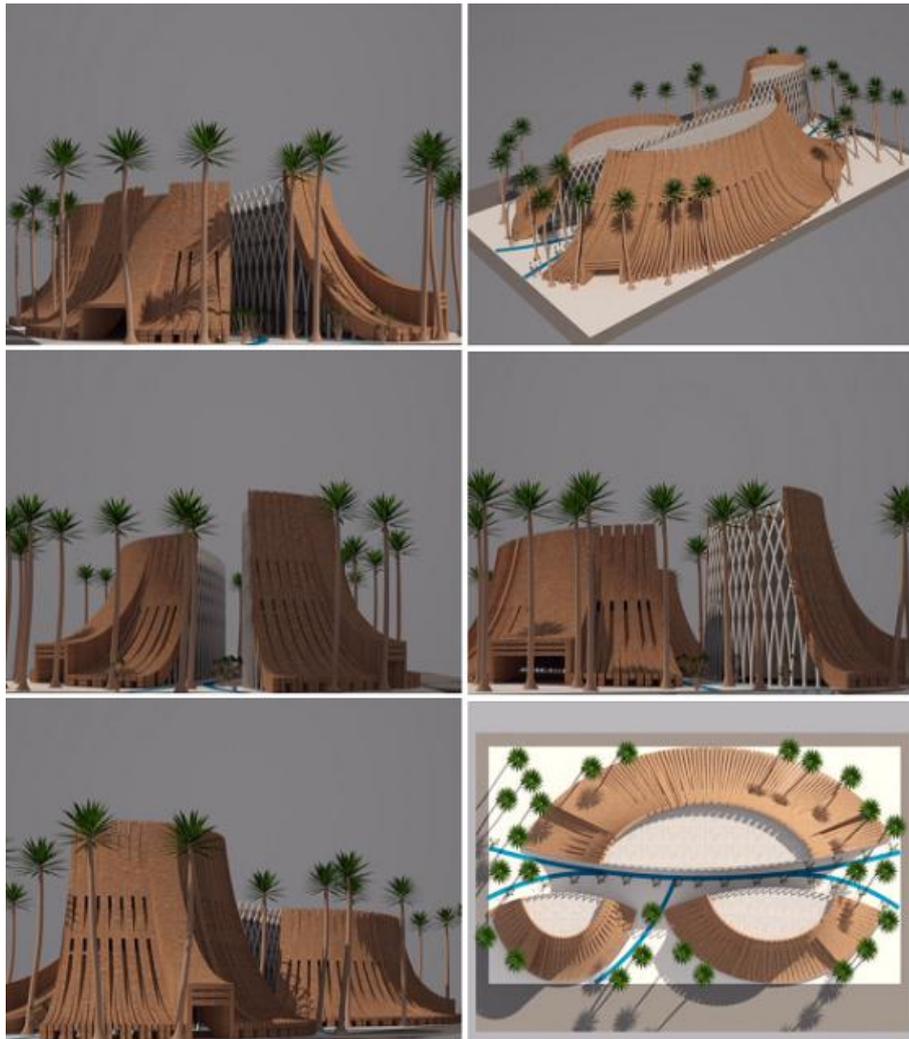


Figure 7. Fifth alternative (second mode).

4.2.8. Presentation of Offered Design

Table 4. Subspaces of design for Iranian pavilion project in Expo 2020 Dubai.

Small building A	The existing micro spaces on ground floor: The welcome unit for the officials/ Unit for stands represent relationship from the past to the future The existing micro spaces on the first floor: Room for sessions with officials The existing micro spaces on the second floor: Café shop and specific restaurant for officials
Medium building B	The existing micro spaces on ground floor: Amphitheatre hall, cafeteria and other recreational spaces The existing micro spaces on the first floor: Hall to display Iranian traditional products/ Sale space for traditional products The existing micro spaces on the second floor: Administrative unit including management and personnel
Large building C	The existing micro spaces on ground floor: galleries/ space of events/ media space/ cafeteria The existing micro spaces on the first floor: Gallery/ Monumental display hall/ Unit for stands represent relationship from the past to the future The existing micro spaces on the second floor: Restaurant and other recreational spaces

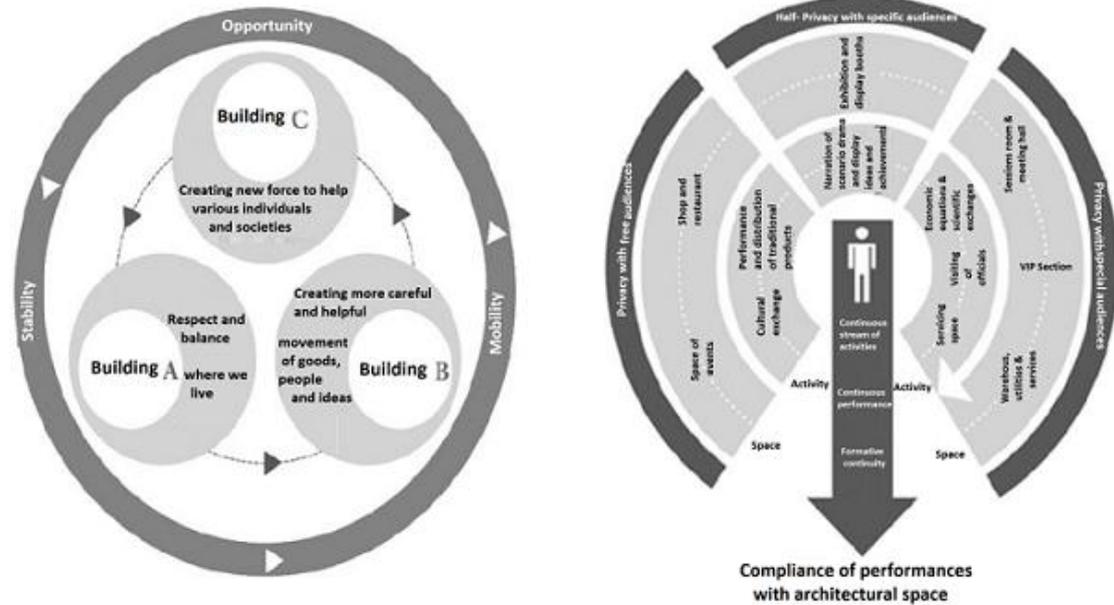


Figure 8. The processes of emerging of Iranian Pavilion formative plan in Dubai Expo 2020.

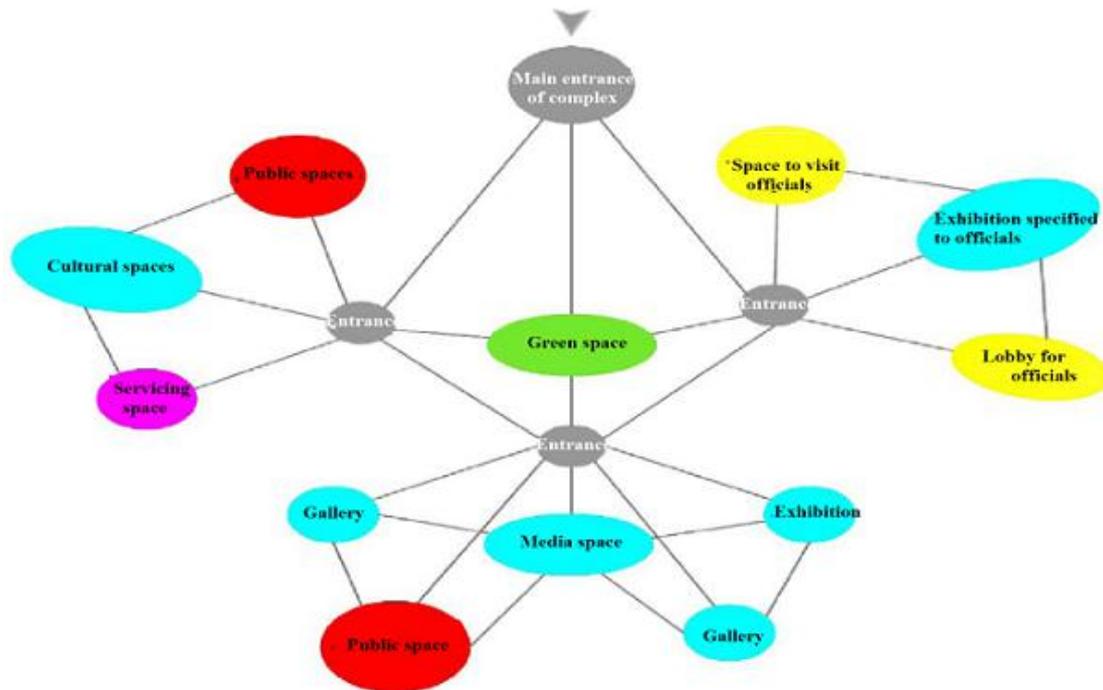


Figure 9. Bubble diagram of spaces.

5. Conclusion

It was primarily discussed about ideation of subject of Expo and concepts and noticeable cases in project design in this study. These concepts were prepared consequently from the studies and then the formative design framework was expressed for the project. With respect to the given features, five alternatives were considered among of them the fifth alternative was selected. In fact, design trend was formed for fifth alternative by considering introversion, open spaces, mystery and ambiguity and Persian architectural patterns.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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