

JEDDAH TADAWUL: JEDDAH STOCK MARKET

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Abstract

The project is stock market exchange center which is a place where the people gathering for trading together in one place. This project is new to Jeddah, which improve the economic, get good impact and new things to be shared in one place to make comfort and safety all in once. The stock market building is a place where different kind of people in different department share them knowledge in the same place to get a good result. Its allow connection with the other countries in a way of banking and share stocks. The project includes an open space like a hall for trading, and Bank branches. Several stock exchanges building from various countries were considered for the case studies. The proposed space program consists of administration, services, stock market facilities, educational facilities, recreational facilities, and ancillary facilities. Based on the site evaluation result, the selected site location is located between King Abdullah Road and Al-Andalus Road. This place serves as a good way for the older and business man to trade their money and stock in a safe and good environment.

Keywords--Stock Market Exchange, Trading, Economic, Safety, Share Stocks, Bank

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INTRODUCTION

The stock market is vital for listed companies to raise funds, while the debt market is usually more influential, but not publicly traded [1, 2]. In this way, the company can conduct public transactions by selling the company's shares on the open market and raise more financial capital for expansion. The liquidity provided by the exchange to investors enables their holders to sell securities quickly and easily [3]. Compared with other less liquid investments (such as real estate and other real estate), this is an attractive place to invest in stocks. Some companies actively increase liquidity by buying and selling stocks [4].

The exchange also acts as a clearing house for every transaction, which means they collect and deliver stocks and guarantee payment to securities sellers. This eliminates the risk that both parties to the transaction may default on a single buyer and seller. The smooth progress of all these activities promotes economic growth, because lower costs and business risks promote the production of goods and services and possible employment [5, 6]. Although there is controversy about whether the best financial system is based on banks or markets, it can still be assumed in this way that the financial system helps promote prosperity.

Recent events such as the global financial crisis have prompted people to scrutinize the effects of stock market structures (called market microstructures) more and more rigorously, especially the stability of financial systems and the transmission of systemic risks [7-9]. Therefore, this project proposed an integrated modern workplace and safety environment for stock market exchange.

CASE STUDIES

This project considered several securities and stock exchange building from various countries for case studies. The selected securities and stock exchange buildings equipped with the modern technology and attractive engineered construction and they are:

- Tadawul Tower, Saudi Arabia
- Shanghai Securities Exchange Building, China
- Shenzhen Stock Exchange by OMA, China

- Tehran Stock Exchange Competition, Iran
- One on One, Luxemburg

Tadawul Tower, Saudi Arabia

Tadawul Tower is designed by Nikken Sekkei Ltd. (Figure 1), located in Saudi Arabia's financial center in Riyadh [10, 11]. The stock exchange building has advanced technical functions, while highlighting the characteristics of the Middle East economic hub. Tadawul is one of the most technologically advanced stock exchanges in the world. The Capital Market Authority has introduced world-class regulations to the capital market and carried out many other reforms, such as the licensing of international banks, insurance and investment companies.

The design mobilized many of the most advanced technologies to ensure the sustainability of the desert environment. Featuring Tower Real Estate Company trading its own environment infrastructure and smart roles was free of moderation columns and the possibility of vertical expansion of roles, which increases the efficiency of use by tenants, as characterized by the design of the lobby features the unique interactive platform of its kind that can be used for multiple events [10].

Shanghai Securities Exchange Building, China

The Shanghai Stock Exchange Building is located in Pudong New District, Shanghai, China. This 26-story building is the location of the Shanghai Stock Exchange. It was designed by WZMH architects and completed in 1997 (Figure 2) [12]. The Shanghai Clearing House provides security guarantees for financial market participants and provides targets for the development of effective clearing house services. It also promotes exchanges and cooperation between international peer agencies. It provides clearing of foreign exchange central counterparties in the inter-bank market, including clearing, settlement, margin management, collateral management, information services, consulting services, and related management departments under other businesses.

Shenzhen Stock Exchange by OMA, China

The Shenzhen Stock Exchange building is designed by OMA with a floating base (Figure 3) [13]. The floating foundation has also

been boosted by the speculative boom driving the market. The foundation base has connected to the tower and has become an elevated podium. The lifting of base in the air will greatly increase its exposure and elevated position. This allows to "broadcast" the activities of the stock market to the entire city [13]. The space liberated on the ground can be used as a covered city square, which is sufficient for public events.

Tehran Stock Exchange Competition, Iran

The Tehran Stock Exchange competition was designed by Hadi Teherani's office and Design Core with two-story communication hall tower is majestically separated by the "sky garden" of the public observation platform "People of Tehran" (Figure 4) [14]. The new Tehran Stock Exchange has different urban planning scales and appearances. The unsupported entrance layer (Piazza) at the bottom is unique and suitable for use. Its water features, footbridges and upwardly rotating characteristic voids are reminiscent of some magnificent Iranian historical domes and traditional public buildings [14]. The concept of ecology and building services is based on Iran's long-standing "shock absorber", forming a traditional Persian architectural element that supports the building's natural ventilation to convey the most advanced technology [14].

One on One, Luxemburg

One-on-one was designed by Moreno Architecture, which is characterized by a bold building made of glass and metal, consisting of overlapping staggered volumes (Figure 5) [15]. The one on one's urban environment is both attractive and complex. The complexity of the site is due to the triangular geometry between the existing building and the two main roads. The building is located in a corner of the Luxemburg business district and enjoys a high reputation in the city center. [15].

The design challenge is to maintain a prominent volume without affecting the inner column behind the facade that requires flexibility and portability. Therefore, the structure consists of a column beam steel structure, where the steel structure is aligned with the facade to release the internal space. In addition, the central core of reinforced concrete integrates the circulation of all buildings (stairs and elevators), and provides the ideal size and shape for a flexible peripheral office layout [15].



Figure 1. Tadawul Tower, Saudi Arabia [11]



Figure 2. Shanghai Securities Exchange Building, China [12]



Figure 3. Shenzhen Stock Exchange by OMA, China [13]



Figure 4. Tehran Stock Exchange Competition, Iran [14]



Figure 5. One on One, Luxemburg [15]

SPACE PROGRAM

The assumption of the total area is about 20000m². The gross area which is buildable area is about 12000m². The outdoor area is about 8000m², which will be utilising as parking and landscape. The space program of the project is shown in Table 1. The administration department consists of reception areas, offices, Securities and Exchange Commission, trading floors, offices for registered stockbrokers. The educational facility includes lecture rooms, victor's center for the education of visitors to the exchange, and library and research facilities. The recreational facility consists of multi-purpose recreational areas, seminar rooms, and gymnasium. The ancillary facility consists of business center, media center, health care facilities, restaurants, security facilities, maintenance facilities, car parks employees and visitors, and service yards. The project considers 40% of outdoor area for parking space, which is about 3200m². Assuming that one parking space is about 12.5 m², thus there will be 256 parking lots. If consider 2 people in one car, then the building capacity would be 512 people.

Table 1. Space Program

Space Name	Area (m ²)	Percentage (%)
Administration	3600	30
Services	1200	10
Stock Market Facilities	3200	26.7
Educational Facilities	2400	20
Recreational Facilities	600	5
Ancillary Facilities	1000	8.3
Total Area	12000	100

SITE SELECTION AND ANALYSIS

The project will be located in Jeddah, Saudi Arabia. Figure 6 shows site 1 is located at Al-Andalus Road. Figure 7 shows site 2 is located at King Abdullaziz Road. Both sites were evaluated based on the aspects of land, circulation and sensory environment. The site evaluation result is tabulated in Table 2.



Figure 6. Site 1[16]



Figure 7. Site 2 [17]

Table 2. Site Evaluation

Evaluation Types	Criteria	Site 1	Site 2
Land Evaluation	Ownership status	5	5
	Regulation	5	5
	Site size	5	5
	Site shape	5	5
	Expansion potential	5	4
	Utilities availability	4	4
	Topography	5	5
	Proximity to related programs	5	3
	Existing use and possible displacement	5	4
Circulation Evaluation	Vehicle access and traffic impacts	5	5

Sensory Environment Evaluation	Parking availability, event and daily use	5	3
	Service access	5	3
	Pedestrian access	5	2
	Appropriateness of architectural scale and massing	5	4
	Views and visual impacts	5	3
Total Score	Open space impacts	4	4
	Image and character	5	3
	Symbolic associations-historical and cultural values	5	2
	Potential for creation of quality outdoor spaces	5	2
	Solar exposure, shadow and microclimate impacts	5	2
	Total Score	98	73

The selected projection is site 1, between King Abdullah Road and Al-Andalus Road (21°30'26.69"N, 39°10'15.34"E). The site area is around 20,000 to 25,000 m². The site situated in front of the mast flag in Jeddah, next to Jeddah Chamber of Commerce Headquarter, and Investment Authority also the Saudi Investment in Jeddah. The site can be accessed from two main roads which is Al-Andalus Road and King Abdullah Road. The site has opportunity for outdoor activities. Future expansion is available due to the vacant lands next to the site. The neighbour's project also related to the stock market exchange such as banks, and banks authority. The landmark is very significant such as Saudi Flag, Arabian business center-Jeddah KSA, The Saudi Investment Bank in Jeddah, Investment Authority and Jeddah Chamber of Commerce Headquarter.



Figure 8. Site Climate Analysis



Figure 9. Design Response

Figure 8 shows the site climate analysis, where the selected site experiences prevailing wind from northwest direction. Figure 9 shows the design response of the project. This area will be the

main elevation of the project the good wind comes from the left side of the building looking at the main landmark. The west south elevation looking for the sea side, it can be a place where need a little bit sun and also a good view. The south elevation will be the most difficult place to locate any space. This part can allocate the spaces that does not need for sun like studios and things survives area that does not needs for sun. The east elevation looking for the neighbours and the small street, this part of the project will be the spaces does not need for good view also for sun because the shades of the building.

ZONING AND PROJECT DESIGN

Figure 10 and Figure 11 show the site plan and 3D view of the project respectively. The new architectural standards for stock market building should meet the requirements such as more trading space, more light, more ventilation, and more convenience for the traders. The design overview will explore the current trends in designing or modern workplaces and office buildings. This will taking into account the surrounding environment and the buildings align to other stock exchanges in other parts of the world in order to achieve the design that meet international standards. The main perspective of the project is shown in Figure 12.

The stock market is the core of the global financial system and is supported by three main parts (companies, investors, and regulators). The stock market is one of the tools that can help companies raise funds. Individuals, charitable foundations, pension funds, and other investors enter the market to buy and sell stock in these companies. Regulatory agencies are bank securities that play a role in protecting investors from misuse and maintaining the integrity of the financial system.



Figure 10. Site plan

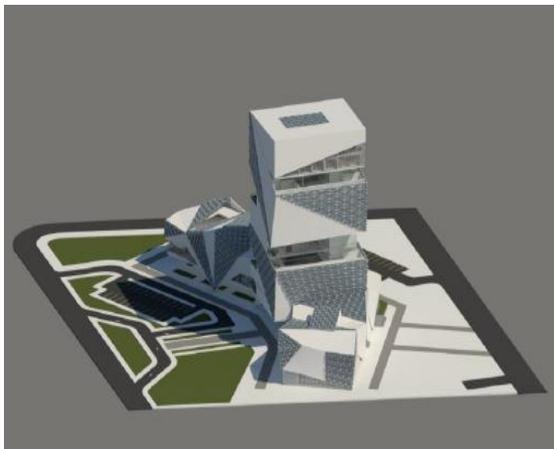


Figure 11. 3D View of the project



Figure 12. Main perspective of the project

CONCLUSION

The stock exchange building which will primarily facilities for stockbroker and members of the exchange such as the trading floors, offices for brokerage firms as avenue to Saudi market and its economy in the world market. The design will also include the provision of a training academy for potential; stockbrokers and member of the general public to acquire knowledge about the stock exchange and its operations and create a learning environment for human resource base of Golf area. The suggested site location for the project is located between King Abdullah Road and Al-Andalus Road, also the allocated site zoning consists of administration, services, stock market facilities, educational facilities, recreational facilities, and ancillary facilities. The project aims to provide an avenue for younger generation the younger speculators of tomorrow to become more familiar with the stock market.

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