

START-UP ACCELERATING CENTRE

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Abstract

The business incubator is generally defined as an organization specifically designed to enhance the development and achievement of leading corporations through a team of experts and consultants, providing support services including space and space, support and initial funding, training and consulting, office services, public services and communication networks. Several similar topics of cases studies were evaluated and used for the project design. The defined space program consists of five primary zones namely personality project zone, services area, admin zone, educational zone, and activity section. The project site location is selected based on the criteria evaluation of land, circulation and sensory environment. The selected site for the project is located at Al Basatin District, Jeddah based on the site evaluation result. This project expected to reduce the employment rate, increase the participation of women in the labour market as well as contribution of small and medium enterprises in the GDP growth.

Keywords--Business Incubator, Employment Rate, Start-Up Accelerating Centre

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INTRODUCTION

The beginnings of business incubators go back to the United States, first in New York State in 1959 [1, 2]. The concept followed by many countries in the world, especially the countries of the European Union, which benefited from that experience and established the first business incubator in Europe in 1986 [3, 4]. At the Arab level, Egypt is the first Arab country to establish a technology incubator.

The status of the medium and small enterprises sector has economic and social dimensions, which have made studies and research concerned with these institutions. Perhaps the concept of business incubators offered as an alternative and a model to support small and medium enterprises is a good example of accompanying them from all economic, social, administrative, financial, etc. The topic is also important in terms of the interrelationship between SMEs and business incubators and the problem of achieving sustainable development.

The economy of Saudi Arabia was saver in 2016 from the decrease in oil price [5]. This reflected negativity in the government ability to record Saudi new employ and with coming 2030 transformational change. The wake force and the recruitment of the new employ will be handle by privet skater in Saudi Arabia will depend mainly in small business but with economy decaling the success of the new business is not easy [6, 7]. The opportunity for small business to success need help and support from official professional consultant that will help them to success for their future and theses the impotence of this project which is the small business incubator and will call it as Start-Up Community.

CASE STUDIES

Three case studies related to this project are analysed in order to in depth understand the requirements of such project. The chosen case studies are:

- Simply Work 3.0 Co-working Space, Guangdong, China
- Yuanyang Express We+ Co-working Space / MAT Office, Chaoyang, China
- Life Sciences Incubator, Netherlands

Simply Work 3.0 Co-working Space, Guangdong, China

Simply Work, Co-working Space is designed by 11architecture Ltd. (Figure 1) [8]. The design of renovating the ground part of the industrial building into a shared work space can certainly create a taste, but it also reflects a design concept of a commercial office environment that resists transient reality. The project includes small offices, personal desks and a series of shared spaces, including meeting rooms, drink bars and lounges. Considering that natural light can reach deeper areas, the high ceiling section is divided into two floors. The floating lounge or "cloud seat" is one of the exceptional design functions, which fully utilise the ceiling height and create a vibrant scene in the space [8].

Some outdoor building materials are used for indoor spaces. For example, laying light concrete blocks to the entire ceiling height, and creating characteristic walls on important shared spaces in their patterns. Next, red bricks were placed in the interior and exterior spaces, blurring the boundaries and dealing with the height difference between the two. Similarly, scraping off the concrete pillar in the middle of the site reveals its original rough surface.

The "Cloud seat" is a casual lounge next to the drink bar. It is constructed with the steel components, covered by OSB panels, and rises to higher floors through multiple supporting steel columns [8]. In the design process, the objects are visually separated from the space and float in the air.

Yuanyang Express We+ Co-working Space / MAT Office, Chaoyang, China

The co working Space created by MAT Office covers an area of about 800 square meters and is divided into the first floor, the second floor and the underground floor (Figure 2) [9]. On the first floor, it is no longer a traditional hall corridor-office layout, but an open space. The bar counter provides general administration and amenities for the co-working space. The large discussion tables are suitable for groups and individuals. The booth area provides more privacy and is suitable for smaller groups. The project provides workstations for users to sneak in to avoid being disturbed by the crowd. In short, the space used by the university library has been integrated into the project.

In most office spaces, the basement is considered unfavourable due to the inconvenience of geographical location. However, in this project, the stairs leading to the underground were completely painted bright yellow, which provided a powerful visual guidance and inspired the previous negative space. The yellow staircase opens at the ground entrance and turns into a large staircase, down into a display space for the occupant team to conduct a conference or start a project. The public space on the basement level also contains programs such as "cat cave" and "sleeping cabin" for team members to socialize and relax [9].

The language of the "exhibition" on the first floor expands upward. The staircase space leading to the second floor is occupied by a suspended yellow steel frame [9]. These frames form a railing structure and extend to the top of the stairs. This is a small translucent meditation space that allows the team to organize and open their minds, thus becoming the focus of the design. Smaller private spaces (such as meeting rooms and office cubicles) are defined by inserting small boxes. Modular furniture made of OSB materials limits the office space to the second floor and underground. The separate office compartment is separated by 2.4 meters high transparent glass. The bright coloured floor is used to emphasize the concept of "insertion", the method is to remove the furniture from the original wall, which also means the immediacy, flexibility and variability of the co-working space [9].

Life Sciences Incubator, Netherlands

The life science business incubator is a current member of the NBIA Soft Landing International Incubator Program, and has special capabilities because it can provide valuable resources to various emerging companies (Figure 3) [10].LSI is a business center for start-ups and more mature companies in the field of biological sciences, including laboratories and offices. Accessibility, flexibility and efficiency have been central in developing a building with a professional, functional appearance. To accommodate future change in the number of participating companies in the LSI, the building is designed to use space efficiently.

The 6,200m² building has a joint entrance with the existing Alexander Numan Building, the incubator complex next door. Research on the sustainability score and life cycle cost of each design choice has led to integrated design. The team has achieved BREEAM Outstanding certification for the LSI, making it the first laboratory building in the Netherlands with this score. The design and built of the LSI is a collaboration between Mecanoo and Giesbers Ontwikkelen en Bouwen [10]. The LSI is a transparent and inviting building. The slanted facade with solar control glazing acts as a natural sun and heat block. Using sustainable materials positively impacts the life cycle costs. The use of glass panels reduces the costs for replacement and maintenance. The design feature is a light and airy atrium. The ensemble of bridges and staircases aimed at accommodating comprehensive venues is designed to encourage interdisciplinary cooperation.



Figure 1. Simply Work 3.0 Co-working Space, Guangdong, China [8]



Figure 2. Yuanyang Express We+ Co-working Space / MAT Office, Chaoyang, China [9]



Figure 3. Life Sciences Incubator, Netherlands [10]

SPACE PROGRAM

The total users of the building are approximately 741 people and each category of the users is tabulated in Table 1. The required land area of the project is about 21012m². This project defined the space program under five main zones namely personality project, services area, admin, educational, and activity section. The space program of the project is demonstrated in Table 2. The educational zone dominates the biggest space about 41% follow by activity section and administration about 25% each. The gross floor area and net area of the project is about 4688m² and 3619m². The parking is calculate by assuming 1 parking per each 50 of building total area, thus there will be 93 parking space for the vehicles.

Table 1. Building Capacity

Category	Number (n)
Educational	180
Administration	165
Activity	216
Unit project	180
Total	741

Table 2. Space Program

Zones	Percentage (%)	Net Area (m ²)	GFA (m ²)
Personality project	5	188.12	235.15
Services Area	4	137	171.25
Admin	25	886.8	1153
Educational	41	1488.16	1934.66
Activity Section	25	919	1194.7
Total	100	3619.08	4688.76

There are few design criteria and guidelines are considered in this project. The main entrance of the project will be located on the sup street attached to the parking area, and the entrance for the education will be back road to avoid a traffic jam. In the site the surrounded of the site there are many resident areas where the family can participant in project and event. The sun shine long hours that can be used as the day lighting in lighting the different function, and increase the worker's performance.

SITE SELECTION AND ANALYSIS

Figure 4 shows site 1 with site area of 34567m², located at Alsalam Street, Jeddah. The site near the Roshana Mall and the site surrounded by 4 roads. Figure 5 shows site 2 with site area of 83683.47m², located at Sultan Street, Jeddah. The site has a main street and easy access from street Almalk, the site at middle of Jeddah city. Figure 6 shows site 3 with site area of 21012m², located at Al Basatin District in a low density neighbourhood in the north of Jeddah city and can be easily access from king Abdul-Aziz Road and Alsalam Street.

The comparative site will be in Jeddah and the site has highest grade of requirements by comparison it will be the site of the project. The site should locate at middle of activity in Jeddah, which will represent the main business incubator. The site should be easily accessible through several streets. The site should locate in neighbourhood with high density of user in order to achieve the project goals. Table 3 demonstrates the site evaluation based on the category of land evaluation, circulation evaluation and sensory environment evaluation.



Figure 4. Site 1 [11]

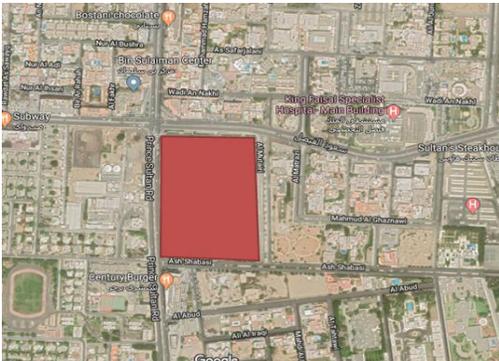


Figure 5. Site 2 [12]

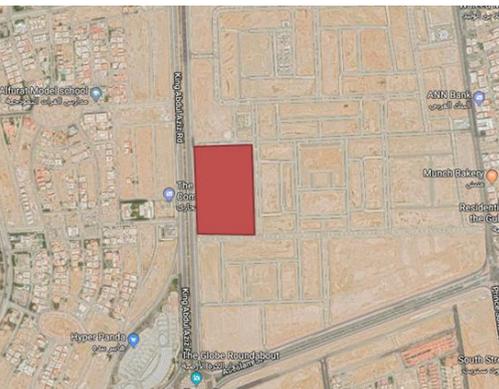


Figure 6. Site 3 [13]

Table 3. Site Evaluation

Evaluation types	Criteria	Site 1	Site 2	Site 3
Land Evaluation	Regulations	4	3	5
	Site size	1	1	5
	Site shape	1	5	5
	Expansion potential	2	5	3
	Utilities availability	4	4	5
	Topography	1	3	4
Circulation Evaluation	Proximity to related	4	1	5
	Vehicular access and traffic impacts	1	4	5
	Parking availability; event and daily us	3	5	4
	Service access	1	3	5
Sensory Environment Evaluation	Pedestrian access	3	5	4
	Appropriateness of architectural scale and massing	4	4	5
	Views and visual impacts	4	2	4
	Open space impacts	0	1	
	Symbolic associations - historical and cultural values	3	3	5
	Potential for creation of quality outdoor space	2	3	4
Total Score		38	52	68

Site 3 marks the highest score based on Table 3 and selected as the project site location. The site located in a low density neighbourhood in the north of Jeddah city and can be easily access from king Abdul-Aziz Road and Alsalam Street it's located near the important land mark in Jeddah (Figure 7). Also, there are many active projects that give value for the start-up project. The main entrance of the project will be located on the sub street where traffic law and the entrance from the sub street attached parking area entrance for open area and the service will be from the back road to avoid traffic jam. The site surrounded by many different components that can serves the site. There is two banks and the mosque near the site so that a good point and the value of the site between many residential that can attend the value in this site.



Figure 7. Site Accessibility Analysis

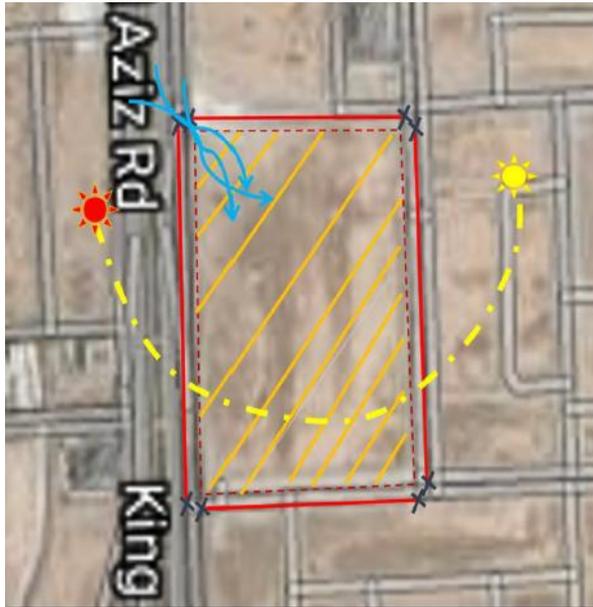


Figure 8. Site Climate Analysis

Figure 8 shows the site climate analysis. The earliest sunrise is about 5:40 am on early June and the latest sunset is about 7:10 pm on early July. The latest sunrise is about 7:00am on mid-January and the earliest sunset is about 5:40 pm on end of November.

The sun shines long hours, thus the daylight can be utilise as in lighting the unit in natural during the day, which create dramatic story. Wind usually comes from the north (26% of the time), northwest (23% of the time), and west (12% of the time).

Wind is unlikely to come from the southeast (1% of the time), east (2% of the time), south (2% of the time), and south west (5% of the time).The annual average relative humidity is 62.8%, and the monthly average relative humidity ranges from 57% in July to 73% in January.

The selected site overlooks the corniche. The site has high air quality because the region is near of the sea. The noise is from the main street, thus plantation of trees or garden should be considered to reduce the noise from the main street in order to provide comfort environment for educational facilities and garden event.

ZONING AND PROJECT DESIGN

Figure 9 demonstrates the bubble diagram of the project, which indicates the connection and relationship between each zone. Figure 10 shows the site zoning of the project. The site zoning is designed carefully to provide the most convenient and comfortable environment to the users.

The administration zone is located near the entrance and the educational zone is located away from the main street. The site plan of the project is demonstrated in Figure 11.

This service will help small business with a fruitful idea to be developed under a super vision and consultation and professional services by expert.

After develop of the project will develop the marketing plan and connection help privet holder with financial response like business man to provide a financial support for such project. Figure 12 and Figure 13 show the interior view and outdoor landscape of the project. The aerial view of the project is demonstrated in Figure 14.

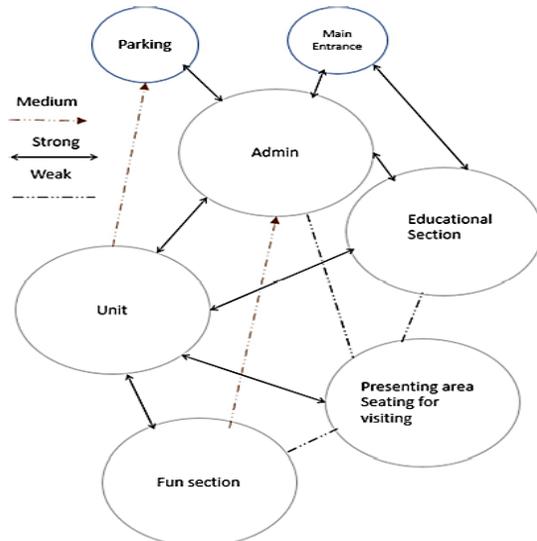


Figure 9. Bubble Diagram

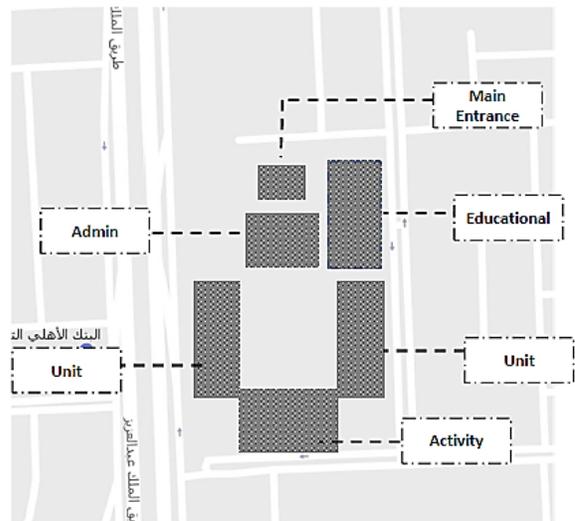


Figure 10. Site Zoning

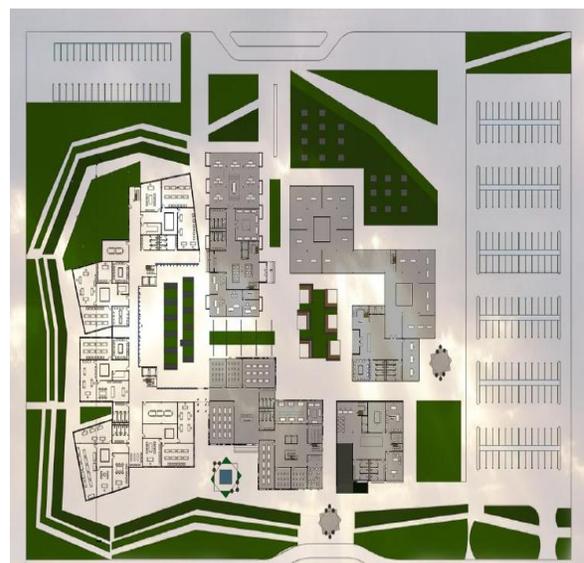


Figure 11. Site Plan



Figure 12. Interior View



Figure 13. Outdoor Landscape



Figure 14. Aerial View of The Project

CONCLUSION

This project builds a place could small business incubator that will provide different service includes financial services, human resources development services, advisory services, and administrative services, secretarial services and information, technical services, marketing services. The planned space diagram consists of personality project, services area, admin, educational, and activity section. The site is selected based on the land evaluation, circulation evaluation, and sensory environment evaluation. The selected site location for the project is located at Al Basatin District, Jeddah. This project develops a center that will help and support small business in order to a achieve success in new Saudi Arabia economies.

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