

## CHAPTER III

### ARCHITECTURAL ANALYSIS AND PROGRAMMING

#### 3.1 Building Function Analysis and Program

##### 3.1.1 User Characteristics and Capacity

###### a) User Characteristics

###### A) Start-up (Incubation Participant)

**START-UP LIFECYCLE** - While incubators provide support across the life cycle, accelerators are more focussed on 'Growth & Acceleration' stage



Figure 3. 1 Start-Up Lifecycle

Sources: Zinnov Research and Analysis

These are the stages of start-up. The seed stage is where the start-ups begin to get the word out about their product and gain their first customers. The growth stage is where the start-ups grow after they get their first investors. The acceleration and exit stage are where the start-ups show their considerable and unpredictable growth. To limit the capacity, This Start-up Centre will only facilitate start-up from idea to growth stage where the number of people is still predictable. The ideal team members for start-up in the early stage are in the following:

#### 1. The Hustler

The hustler is the person with business sense, visionary in terms of selling, and expert in marketing.

a. Chief Executive Officer (CEO)

The CEO is the person in charge of the management and administrative direction of the organization. He/she is responsible for directing the company's strategies so that it achieves its objectives.

b. Chief Marketing Officer (CMO)

The CMO is responsible for marketing activities, which include sales management, advertising, market research, and customer service

c. Chief Financial Officer (CFO)

The CFO provides expertise in finance and accounting. He/she is in charge of financial planning and assessing risks.

2. The Hacker:

The hacker is the person who struggle with the product and technology. They must have skills in programming or coding.

a. Chief Information Officer (CIO)

The CIO provides expertise in applying technology systems and product to maximize day-to-day efficiency and productivity within the company.

b. Chief Technology Officer (CTO)

The CTO is responsible for building technological products or services that meet the customer needs. He/she also manages the engineer or developer who design the products or services.

c. Engineer/Developer

The engineer or developer provides expertise in designing the products or services.

3. The Hipster:

The hipster is a designer.

a. Chief Product Officer (CPO)

The CPO is responsible for product designing, branding, and managing user experience (UX) research.

## B) Investor

### 1. Co-Founder/Managing Partner

Managing partner drives deep relationship with corporate partners, investors, and portfolio acquires. He/she also develop strategy to scale up the company focus.

### 2. Partner

Partner works closely with start-up founders to provide coordination and support.

### 3. Director of Operations

Director of operations is responsible of handling operational activities as well as fund operations.

### 4. VP of Investment

Vice president of investment focuses on deal sourcing, portfolio management, and value creation.

### 5. VP of Finance

Vice president of finance provides expertise in finance and accounting.

### 6. VP of Legal

Vice president of legal leads the venture capital's legal workstream, which includes deals management and execution as well as providing legal advice.

### 7. Head of Marketing

Head of marketing provides expertise in performance marketing and empowers his/her team to achieve more by using effective marketing strategy.

### 8. Head of Legal

Head of legal leads and manages deal planning and execution, and provides legal advice to portfolios.

### 9. Senior Legal Associate

Senior legal associate leads and manages deal execution and provides wide-ranging legal advice.

### 10. Head of People

Head of people responsible for recruiting people.

11. Head of Accounting

Head of accounting provides financial reports and manages company budgets.

12. Senior Investment Associate

Senior investment associate focuses on partnerships and portfolio management.

13. Investment Associate

Investment Associate focuses on deal sourcing, value creation, and supporting strategic partner decisions.

14. Finance Associate

Finance associate manages internal finance operations.

15. Accounting Associate

Accounting associate is responsible for financial reporting, on-time monthly closing and managing company taxes.

16. Tech Associate

Tech associate gives tech perspective and empowers the team to achieve more in less the time through efficient use of technology.

17. Developer

As a front-end web developer at VC, he/she builds web user interfaces for portfolios (UI/UX expert).

18. Campaign & Promotion

As part of the marketing team, campaign & promotion is responsible for portfolio value creation, specializing in campaign & promotion.

19. Public Relations Writer

As part of the marketing team, public relations writer develops and executes strategic communication plan, including brand management and media relations.

20. SEO Content Editor

As part of the marketing team, SEO content editor plans, writes, and edits content for VC's website and social media accounts.

### C) Facilitator

#### 1. Incubation Manager

The incubator manager is responsible for managing the operations and the programs, business development planning, hunting start-ups to support in and be the switchboard for start-ups to access relevant resources and connections.

#### 2. Head of Program

Head of program is responsible for leading multiple projects and teams at one time.

#### 3. Program Coordinator

The program coordinator specializes in a single program with one focused group.

#### 4. Program Officer

As part of the program team, the program officer works together as a team with the program coordinator.

#### 5. Partnership Coordinator

The partnership coordinator is responsible for managing and maintaining relationships among business partners and identifying new partnership opportunities.

#### 6. Partner

Partner works closely with start-up founders to provide coordination and support.

#### 7. Creative Coordinator

Creative coordinator provides expertise in marketing or advertising. Their responsible include monitoring the current marketing projects and coordinating vendors.

#### 8. Accounting Administrator

The accounting administrator is responsible for processing payments to external partners and on-time monthly closing financial reporting.

#### 9. Graphic Designer

Graphic designer provides expertise in editing and conceptualizing the visually based design.

D) Visitor/Guest

Visitors are people who only come to certain events or times.

E) Building Manager and Staff

1. President Director

The president director is the person in charge of the management and administrative direction of the company.

2. Vice President Director

The vice president director is the person in charge of the operations of the company.

3. Corporate Secretary

The person whose task is to arrange the schedules of the directors.

4. Business Development Director

The business development director is the person in charge of the business development of the company.

5. Operational Director

Operational director is responsible for day-to-day operations.

6. Head of People

Head of people is responsible for recruiting people.

7. Marketing Team

The people who provides expertise in marketing sales.

8. Finance & Accounting Team

The people who provides expertise in finance and accounting.

9. Front Office Department

The front office is the receptionist in the lobby whose task is to provide information.

10. Librarian

The librarian is in charge of keeping things organized and responsible for arranging the books borrowed.

F) Staff Canteen

Staff Canteen is tenant canteen workers whose task is to prepare and selling the food and beverage.

G) Service

1. Housekeeping Department

Consists of janitors and gardeners whose task is to clean and tidy up green spaces and environments.

2. Engineering Department

The engineering department is responsible for maintaining and repairing the mechanical and electrical.

3. Security Department

The security department is responsible for securing the area.

b) User Capacity

A) Start-up

<b>Start-Up Team</b>	<b>Number of People</b>
Chief Executive Officer (CEO)	1
Chief Information Officer (CIO)	1
Chief Technology Officer (CTO)	1
Engineer/Developer	1
Chief Product Officer (CPO)	1
Chief Marketing Officer (CMO)	1
Chief Financial Officer (CFO)	1
<b>Total</b>	<b>7</b>

B) Investor

<b>Venture Capital Team</b>	<b>Number of People</b>
Co-Founder/Managing Partner	2
Partner	1
Director of Operations	1
<b>Investment Team</b>	
VP of Investment	1
Senior Investment Associate	3
Investment Associate	2
<b>Finance &amp; Accounting Team</b>	
VP of Finance	1
Finance Associate	1

Head of Accounting	1
Accounting Associate	1
<b>Legal Team</b>	
VP of Legal	1
Head of Legal	1
Senior Legal Associate	1
<b>Marketing Team</b>	
Head of Marketing	1
Campaign & Promotion	1
Public Relations Writer	1
SEO Content Editor	1
Head of People	1
Tech Associate	2
Developer	1
<b>Total</b>	<b>25</b>

C) Facilitator

<b>Business Incubator/Accelerator</b>	<b>Number of People</b>
Incubation Manager	1
<b>Program Team</b>	
Head of Program	1
Program Coordinator	2
Program Officer	4
<b>Partnership</b>	
Partnership Coordinator	1
Partner	1
Creative Coordinator	1
Accounting Administrator	1
Graphic Designer	1
<b>Total</b>	<b>13</b>

D) Building Manager and Staff

<b>Building Manager &amp; Staff</b>	<b>Number of People</b>
President Director	1
Vice President Director	1
Corporate Secretary	1
Business Development Director	1
Operational Director	1
Head of People	1
<b>Marketing Department</b>	
Marketing Director	1
Campaign & Promotion	1
<b>Finance &amp; Accounting Department</b>	
Financial Director	1



Finance Associate	1
Accounting Associate	1
<b>Front Office Department</b>	
Head of Front Office	1
Front Officer	2
Librarian	2
Staff Canteen	20
<b>Housekeeping Department</b>	
Head of Housekeeping	1
Janitor	10
Gardener	3
<b>Engineering Department</b>	
Head of Engineering	1
Mechanical Electrical	2
<b>Security Department</b>	
Head of Security	1
Security	6
<b>Total</b>	<b>60</b>

Tabel III. 1 Building User Capacity

Source: Personal Analysis

3.1.2 Activities that happen

a) Start-Up's Journey

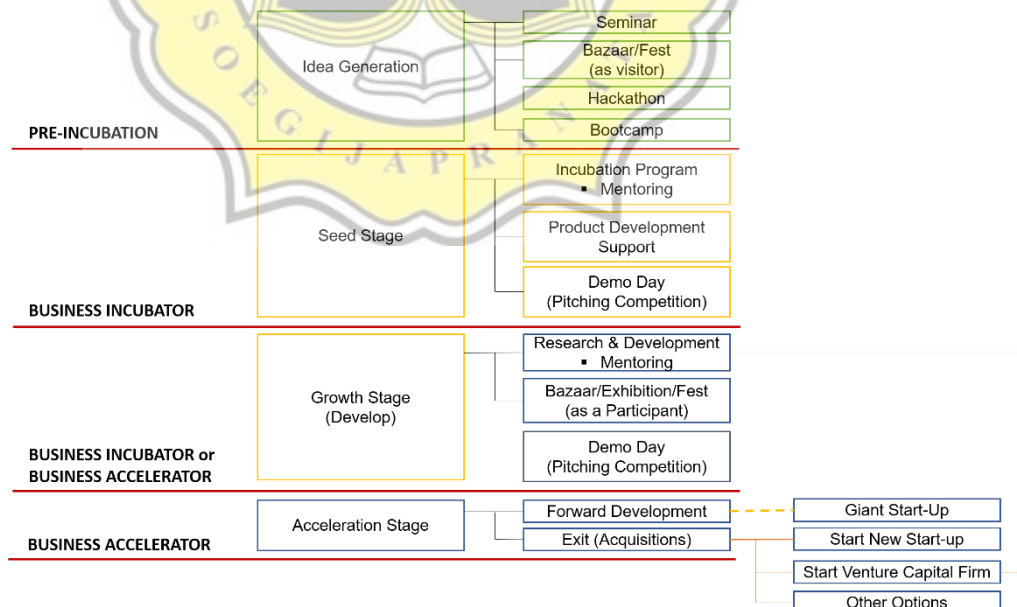


Figure 3. 2 Start-Up's Journey

Sources: Personal Analysis

b) Activity Movement Pattern

A) Active User's Activity Movement

A. Start-Ups

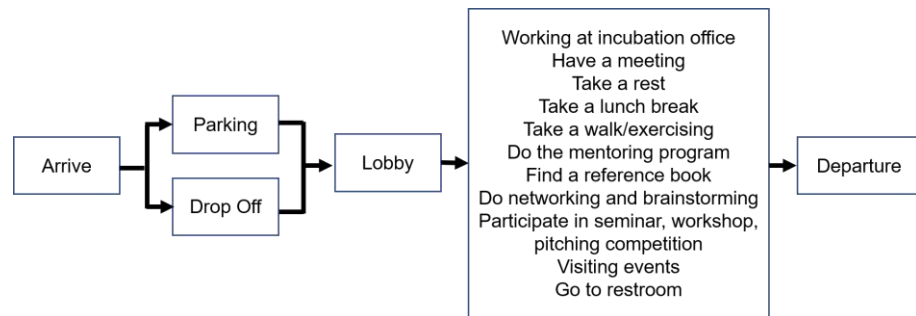


Figure 3. 3 Start-Up's Activity Movement

Sources: Personal Analysis

B. Investor

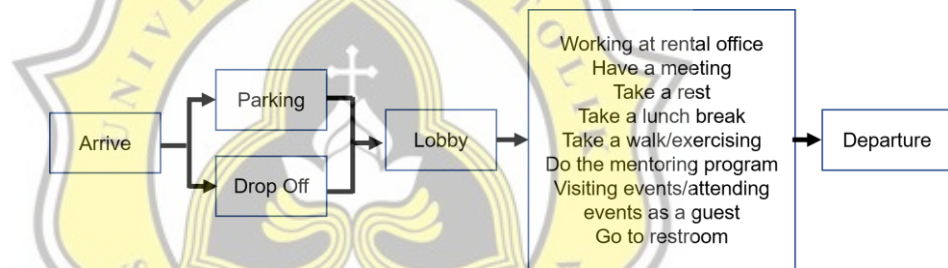


Figure 3. 4 Investor's Activity Movement

Sources: Personal Analysis

C. Facilitator

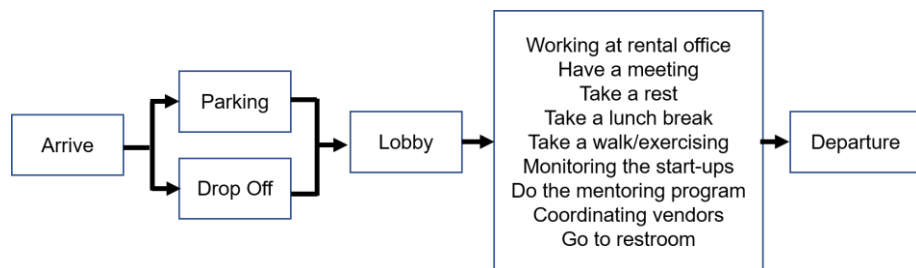


Figure 3. 5 Facilitator's Activity Movement

Sources: Personal Analysis

#### D. Building Manager

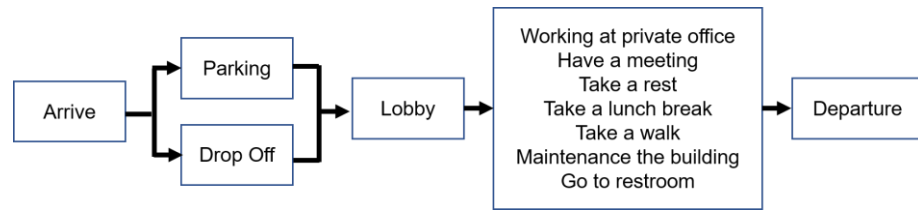


Figure 3. 6 Building Manager's Activity Movement

Sources: Personal Analysis

#### B) Visitor/Guest's Movement

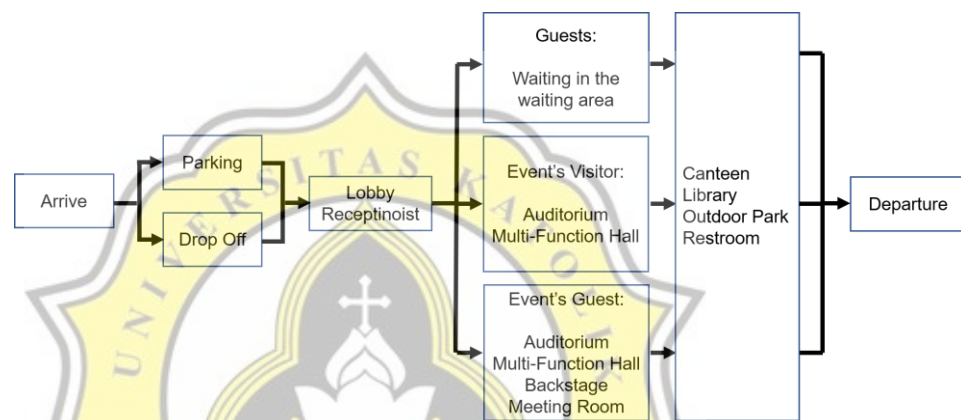


Figure 3. 7 Visitor/Guest's Activity Movement

Sources: Personal Analysis

#### c) Rooms/Spaces Needed for the Activity

Users	Activities	Space/Room Needed
<b>START-UP</b> The Hustlers: • CEO • CMO • CFO	Work focus on the business management	Workspace with a computer
	Print & photocopy documents	Common service room
	Have a meeting	Meeting room
	Take a rest	Play space / pantry / outdoor park
	Take a lunch break	Pantry/Canteen
	Find a reference book	Library
	Go to restroom	Restroom
	Have a meeting with guest	Meeting room/lobby
Do the mentoring program	Meeting room/sitting group area	

		Visiting events	Hall/auditorium & backstage
	The Hackers: • CTO • Engineer / Developer	Work focus on the product, programming, coding	Workspace with a computer
		Have a meeting	Meeting room
		Take a rest	Play space / pantry / outdoor park
		Take a lunch break	Pantry/canteen
		Go to restroom	Restroom
		Visiting events	Hall/auditorium & backstage
	The Hipster: • CPO	Work focus on the product design, UI/UX	Workspace with a computer
		Have a meeting	Meeting room
		Take a rest	Play space / pantry / outdoor park
		Take a lunch break	Pantry/canteen
		Go to restroom	Restroom
		Visiting events	Hall/auditorium & backstage
	VENTURE CAPITAL TEAM	Co-Founder / Managing Partner	Work on company focus
Have a meeting			Meeting room
Take a lunch break			Canteen
Do the mentoring program			Meeting room/sitting group area
Visiting events: seminar, hackathon, pitch competition, demo day			Hall/auditorium
Attending an event as a guest			Backstage
Go to restroom			Restroom
Partner		Checking emails and messages	Workspace with a computer
		Have a meeting with VC's team	Meeting room
		Have a meeting with start-ups	Meeting room / incubation office / canteen / sitting group
		Take a lunch break	Canteen
		Visiting events	Hall/auditorium
		Go to restroom	Restroom
Director of Operations		Work on fund operations	Workspace with a computer
	Have a meeting	Meeting room	
	Take a lunch break	Canteen	
	Go to restroom	Restroom	

	Investment Team	Work on portfolio management, deal sourcing, and analysing	Workspace with a computer
		Have a meeting with VC's team	Meeting room
		Have a meeting with start-ups	Meeting room
		Take a lunch break	Canteen
		Visiting events: pitch competition & demo day	Hall/auditorium
		Go to restroom	Restroom
	Finance & Accounting Team	Work on company taxes and financial reports	Workspace with a computer
		Print & photocopy documents	Common service room
		Have a meeting	Meeting room
		Take a lunch break	Canteen
		Go to restroom	Restroom
	Legal Team	Work on legal advice, deals management and execution	Workspace with a computer
		Print & photocopy documents	Common service room
		Have a meeting	Meeting room
		Take a lunch break	Canteen
		Go to restroom	Restroom
	Marketing Team	Monitoring marketing projects	Workspace with a computer
		Print & photocopy documents	Common service room
		Have a meeting	Meeting room
		Take a lunch break	Canteen
		Go to restroom	Restroom
	Head of People	Recruiting employee	Private workspace / meeting room
		Manage employee	Private workspace with a computer
		Take a lunch break	Canteen
Go to restroom		Restroom	
Tech Associate	Work focus on technology	Workspace with a computer	
	Have a meeting	Meeting room	
	Take a lunch break	Canteen	
	Go to restroom	Restroom	
Developer	Work as front-end web marketer, focus on user interfaces	Workspace with a computer	
	Have a meeting	Meeting room	

		Take a lunch break	Canteen
		Go to restroom	Restroom
FACILITATOR	Incubation Manager	Work focus on the business development and operations	Workspace with a computer
		Have a meeting	Meeting room
		Take a lunch break	Canteen
		Go to restroom	Restroom
	Head of Program	Manage the team	Workspace with a computer
		Have a meeting	Meeting room
		Take a lunch break	Canteen
		Go to restroom	Restroom
	Program Coordinator	Coordinating program	Workspace with a computer
		Have a meeting	Meeting room / canteen / sitting group
		Take a lunch break	Canteen
		Go to restroom	Restroom
	Program Officer	Making progress	Workspace with a computer
		Have a meeting	Meeting room / canteen / sitting group
		Take a lunch break	Canteen
		Go to restroom	Restroom
	Partnership Coordinator	Analysing partner's document	Workspace with a computer
		Have a meeting	Meeting room / canteen / sitting group
		Take a lunch break	Canteen
		Go to restroom	Restroom
	Partner	Checking emails	Workspace with a computer
		Have a meeting	Meeting room / incubation office / canteen / sitting group
		Take a lunch break	Canteen
		Go to restroom	Restroom
Creative Coordinator	Monitoring the marketing projects	Workspace with a computer	
	Coordinating vendors	Hall / auditorium / meeting room	
	Have a meeting	Meeting room	
	Take a lunch break	Canteen	
	Go to restroom	Restroom	
Accounting Administrator	Work on company financial reports	Workspace with a computer	

VISITOR/GUEST	Graphic Designer	Have a meeting	Meeting room
		Take a lunch break	Canteen
		Go to restroom	Restroom
		Editing and designing	Workspace with a computer
		Have a meeting	Meeting room
		Take a lunch break	Canteen
	Start-Up as a visitor	Go to restroom	Restroom
		Joining or visiting events: hackathon, seminar, bazaar, pitch competition, demo day, etc.	Hall / auditorium & backstage
		Attend a meeting with investor/facilitator	Lobby sitting group / meeting room
		Find a reference book	Library
		Have a lunch	Canteen
		Take a rest	Napping area / outdoor park
		Go to restroom	Restroom
		Investor as a guest	Attend an event as a guest
Attend a meeting with another investor/facilitator			Meeting room
Have a lunch			Canteen
Go to restroom			Restroom
Facilitator as a tenant (rent the space only for the event)		Have a briefing	Committee room
		Organize the guests	Private waiting room / backstage
	Have a meeting with building manager	Building manager's private workspace / meeting room / lobby sitting group	
	Store the equipment	Warehouse	
	Take a rest	Committee room / canteen / napping area	
	Go to restroom	Restroom	
	Other Guests: • Tenant • Reporter • Guests	Visiting events	Lobby, hall / auditorium
Have a meeting		Lobby sitting group / canteen	
Find a reference book		Library	
Have a lunch		Canteen	
Go to restroom		Restroom	
B	President Director	Work focus on the business management	Private workspace with a computer

		Have a guest	Private workspace
		Have a meeting	Meeting room
		Take a lunch break	Canteen / private workspace
		Go to restroom	Restroom
	Vice President Director	Work focus on the business operations	Private workspace with a computer
		Have a meeting	Meeting room
		Take a lunch break	Canteen / private workspace
		Go to restroom	Restroom
	Corporate Secretary	Manage the director's schedule	Workspace with a computer
		Take a lunch break	Canteen / staff pantry
		Go to restroom	Restroom
	Business Development Director	Managing the business development	Private workspace with a computer
		Have a meeting	Meeting room
		Take a lunch break	Canteen / private workspace
		Go to restroom	Restroom
	Operational Director	Managing the operations	Private workspace with a computer
		Have a meeting	Meeting room
		Take a lunch break	Canteen / private workspace
		Go to restroom	Restroom
	Head of People	Recruiting people	Private workspace
		Manage employee	Private workspace with a computer
		Take a lunch break	Canteen / staff pantry
		Go to restroom	Restroom
	Marketing Department	Have a meeting with client	Meeting room / lobby
		Print & photocopy documents	
		Have a meeting with team	Meeting room
		Take a lunch break	Canteen / staff pantry
		Go to restroom	Restroom
	Finance & Accounting Department	Work on company taxes and financial reports	Private workspace with a computer
		Print & photocopy documents	Common service room
		Have a meeting	Meeting room
		Take a lunch break	Canteen / staff pantry
		Go to restroom	Restroom
		Have a briefing with the team	Private workspace



Front Office Department	Work as company representative	Receptionist in lobby
	Take a lunch break	Canteen / staff pantry
	Go to restroom	Restroom
Librarian	Organising and managing the library	Library
	Conducting regular audits	Workspace in the library
	Take a lunch break	Canteen
	Go to restroom	Restroom
Staff Canteen	Selling foods & beverages	Tenant
	Prepare the F&B order	Small kitchen
	Stock up the cooking ingredients	Loading in/out
	Take a lunch break	Tenant / canteen
	Go to restroom	Restroom
Janitor	Maintaining the cleanliness of the entire building	Entire building
	Store the equipment	Janitor's room
	Take a lunch break	Staff pantry / housekeeping department room
	Go to restroom	Restroom
Gardener	Maintaining the beauty and health of all plants and greenspaces	Indoor and Outdoor park
	Store the equipment	Warehouse
	Take a lunch break	Staff pantry / housekeeping department room
	Go to restroom	Restroom
Engineering Team	Maintaining the mechanical and electrical	Panel room
	Store the equipment	Engineering team room
	Take a lunch break	Staff pantry
	Go to restroom	Restroom
Security Department	Have a briefing	Security post, outdoor park
	Monitoring CCTV	CCTV room
	Monitoring the activities movement	Security post, room entrance, lobby
	Having cups of coffee	Pantry
	Go to restroom	Restroom

Tabel III. 2 Spaces Needed

Source: Personal Analysis

d) Space Requirements

Space / Room	Lighting		Noise		Ventilation		Security	
	Natural	Artificial	Normal	Quiet	Natural	Artificial	High	Normal
<b>Start-Up's Incubation Office</b>								
Workspace	✓	✓	✓			✓	✓	
Pantry		✓	✓			✓		✓
Play Area		✓	✓			✓		✓
<b>Investor &amp; Facilitator Rental Office</b>								
Workspace	✓	✓		✓		✓	✓	
Private Meeting Room	✓	✓		✓		✓	✓	
Pantry		✓	✓			✓		✓
<b>Common Space</b>								
Lobby	✓	✓	✓		✓	✓		✓
Waiting Area / Sitting Group	✓		✓			✓		✓
Multi-Function Hall		✓		✓		✓		✓
Auditorium		✓		✓		✓		✓
Backstage		✓	✓			✓	✓	
Canteen	✓	✓	✓		✓	✓		✓
Meeting Room	✓	✓		✓		✓	✓	
<b>Recreational Facilities</b>								
Library	✓	✓		✓		✓		✓
Fitness Centre	✓	✓	✓			✓		✓
Napping Area	✓	✓		✓		✓		✓
Outdoor Park	✓	✓	✓		✓			✓
<b>Common Service</b>								
Print & Photocopy		✓	✓			✓		✓
<b>Building Manager &amp; Staff</b>								
Receptionist	✓	✓	✓			✓	✓	
Private Workspace	✓			✓		✓	✓	
Meeting Room	✓			✓		✓	✓	
Librarian Space		✓		✓		✓		✓
Canteen Tenant		✓	✓			✓		✓
Pantry Staff		✓	✓			✓		✓
<b>Security</b>								
CCTV Room		✓	✓			✓	✓	
Security Post	✓	✓	✓		✓		✓	
<b>Service Area</b>								
Restroom		✓	✓		✓			✓
Lavatory		✓	✓		✓			✓
Praying Room		✓		✓	✓			✓

Warehouse		✓	✓		✓			✓
Janitor's Room		✓	✓		✓			✓
Panel Room		✓	✓		✓			✓
MEP Room		✓	✓		✓			✓
WWTP Room		✓	✓		✓			✓
Generator Room		✓	✓		✓			✓
AHU Room		✓	✓		✓			✓
Drop Off Area	✓	✓	✓		✓			✓
Parking Area	✓	✓	✓		✓			✓

Tabel III. 3 Space Requirements

Source: Personal Analysis

e) Impact of Activities

A) The Auditorium and Multi-Function Hall

Be leased for internal and external events, the auditorium and multi-function hall can cause disturbing noises. Besides, the large number of event participants can also disturb the active users' activity circulation. Therefore, the auditorium and multi-function hall must use soundproof materials and place at a distance from private offices.

B) Generator and Waste Water Treatment Plant (WWTP) Room

The generator room and WWTP room can cause vibrations, disturbing sounds, and unpleasant smell, so their locations are placed at a distance from the main building

3.1.3 Inner Space

a) Space Capacity Study

Event's Name	Types of Event	Number of Participants	Space/Room Needed
Highpitch	Pitching Competition	200-380 Start-Ups	Auditorium
Tech in Asia Conference	Tech in Asia Conference is an event open for public. The events are:	Total visitors up to 5500 people 300 tenant participants	Multi-Function Hall

	<ul style="list-style-type: none"> <li>• Start-Up Bazaar</li> <li>• Pitching Competition</li> <li>• Talk Show</li> </ul>		
<p>Gerakan 1000 Start-Up Digital</p> <p>This event is an event held in many cities in Indonesia. The study only looks at the events held in Jakarta.</p>	<p>Pre-Incubation – Incubation Program:</p> <ul style="list-style-type: none"> <li>• Ignition (Seminar)</li> <li>• Workshop</li> <li>• Hacksprint (Hackathon)</li> <li>• Bootcamp</li> <li>• Incubation</li> </ul>	<p>Up to 8000 participants for seminar</p> <p>1000 participants were selected to participate Hacksprint program</p> <p>50 teams consisting of 3 people were selected to participate in the bootcamp</p> <p>3 teams were selected to participate the incubation program</p>	<ul style="list-style-type: none"> <li>• Auditorium</li> <li>• Multi-Function Hall</li> <li>• Incubation Office</li> </ul>
<p>Baparekraf for Startup (Bekup)</p>	<p>Pre-Incubation Program:</p> <ul style="list-style-type: none"> <li>• Interview</li> <li>• Bootcamp</li> <li>• In-depth Mentoring during one month</li> </ul>	<p>Up to 500 participants from 5 cities</p> <p>From each city, 20 pre-startups were selected to participate the bootcamp</p> <p>8 pre-startup were selected to join the mentoring program</p>	<ul style="list-style-type: none"> <li>• Multi-Function Hall</li> <li>• Incubation Office</li> </ul>

Local Startup Fest	<p>The events:</p> <ul style="list-style-type: none"> <li>• Start-Up Fest/Bazaar</li> <li>• Startup Pitch Battle</li> <li>• Talk Show</li> </ul>	<p>Up to 70 fest/bazaar participants</p> <p>5 participants for pitching competition</p> <p>Up to 600 people for talk show on the main stage and 200 people on the small stage</p>	<ul style="list-style-type: none"> <li>• Auditorium</li> <li>• Multi-Function Hall</li> </ul>
GK-Plug and Play	<p>Accelerator:</p> <ul style="list-style-type: none"> <li>• Incubation for 3 months</li> <li>• Mentoring</li> <li>• Demo Day (seed funding)</li> </ul>	<p>The number of incubation participants is different in each batch. From 400 start-ups, the accelerators select 9-18 start-ups to present on the demo day.</p>	<ul style="list-style-type: none"> <li>• Auditorium</li> <li>• Incubation Office</li> <li>• Meeting Room</li> </ul>
Digitaraya	<p>Accelerator:</p> <p>Incubation in one months</p>	<p>5 start-ups/batch</p>	<p>Incubation Office</p> <p>Meeting Room</p>
Startup Pilihan Tempo (Around November)	<p>Start-Up Awards Event powered by Digitaraya and supported by Gojek</p>	<p>Up to 100 participants</p>	<p>Auditorium</p>
Skystar Venture (Starting from February)	<p>Business Incubator:</p> <ul style="list-style-type: none"> <li>• Bootcamp</li> <li>• Incubation Program</li> </ul>	<p>From 60 start-ups, 11 start-ups were selected (via interview) to participate the bootcamp program</p> <p>8 start-ups were selected to participate the incubation program</p>	<ul style="list-style-type: none"> <li>• Multi-Function Hall</li> <li>• Meeting Room</li> <li>• Incubation Office</li> </ul>
Skala	<p>Accelerator:</p>	<p>The number of incubation</p>	<ul style="list-style-type: none"> <li>• Incubation Office</li> </ul>

	<ul style="list-style-type: none"> <li>• Incubation for 3 months</li> <li>• Demo day</li> </ul>	<p>participants is different in each batch. From 400 start-ups, the accelerators select 6-15 start-ups to participate the incubation program</p>	<ul style="list-style-type: none"> <li>• Auditorium</li> </ul>
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Tabel III. 4 Space Capacity Study

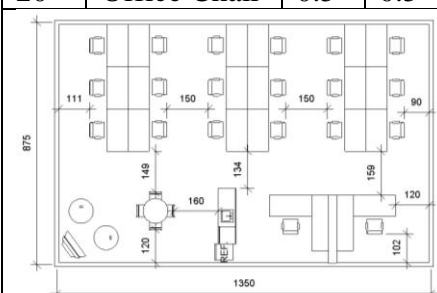
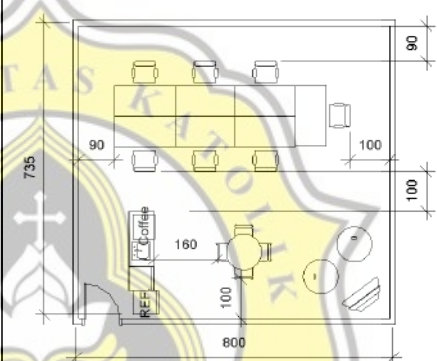
Source: Personal Analysis

The capacity study is conducted to determine the calculation of the capacity of the space specifically for rent. The study was conducted with the average number of visitors at the start-up events. From several examples of events, the conclusions obtained are as follows:

- A) Events with a capacity of up to 1000 people are held more frequently than events with a larger capacity.
- B) Hackathons, boot camps, and pitching competitions are the events held by almost all business incubators and accelerators.
- C) Multi-function hall tends to be used more frequently for events. Some events that require the space are boot camp events, hackathons, bazaars/fest. The capacity is calculated by the hackathon and bazaar participants because these two events are the most frequently held events and require more space for furniture. The multi-function hall is planned to have a capacity of up to 1000 people.
- D) The auditorium often uses for seminars, talk shows, and pitching competitions on demo days. Seminar events require a large capacity, while pitching competitions are usually internal events with fewer visitors. The auditorium planned to have a capacity of 600-800 people, as seen from the average seminar attendees.

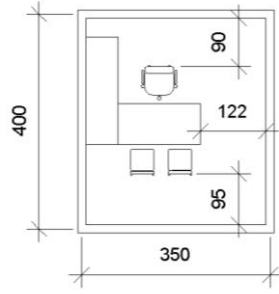

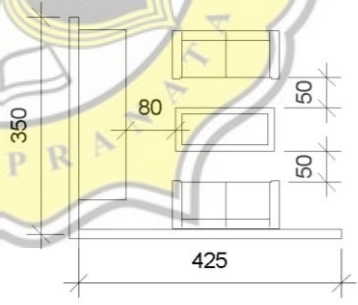
b) Space Quantity Analysis

Space/ Room	Unit	Capacity	Space Quantity Analysis				Area
			Unit	Furniture	p	l	
<b>Star-Up's Incubation Office</b>							
Early Stage Start-Up's Incubation Office	40	7	7	Computer Desk	1.2	0.6	58.8 m <sup>2</sup>
			1	Whiteboard	1.5	0.1	
			1	Kitchen Set	2	1	
			1	Circle Dining Table	1.2	1.2	
			1	TV Stand	0.8	0.6	
			2	Bean Bag	0.7	0.7	
			5		5	5	
			7	Office Chair	0.5	0.5	
						58.8 x 40 = 2,352 m <sup>2</sup>	
Scale Up Start-Up's Incubation Office	20	<20	20	Computer Desk	1.2	0.6	118.125 m <sup>2</sup>
			1	Bookshelf	1.2	0.6	
			1	Kitchen Set	2	1	
			1	Circle Dining Table	1.2	1.2	
			1	TV Stand	0.8	0.6	
			2	Bean Bag	0.7	0.7	
			5		5	5	
			20	Office Chair	0.5	0.5	
						118.125 x 20 = 2,362.5 m <sup>2</sup>	
<b>TOTAL</b>						<b>4,714.5 m<sup>2</sup></b>	

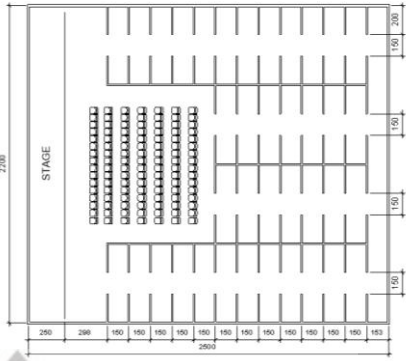
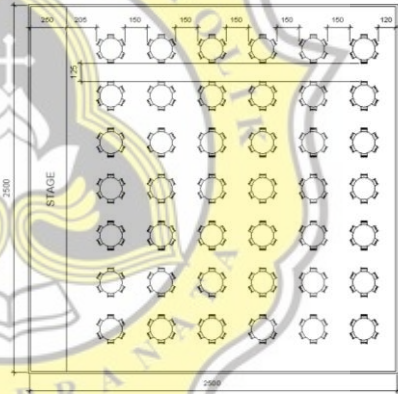
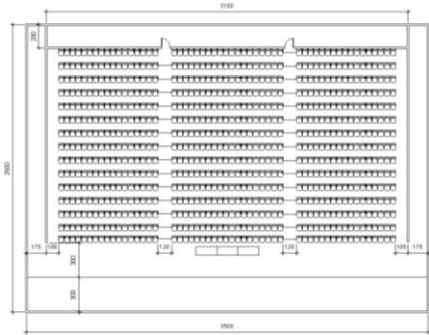


Investor's Rental Office							
Co-Founder/ Managing Director  (2/Team)	20	3	1	Computer Desk	1.5	0.8	14 m <sup>2</sup> x 2 = 28 m <sup>2</sup> per team
			1	Office Chair	0.5	0.5	
			1	Side Table	2	0.6	
			2	Beau Chair	0.5	0.5	
(Open Space Office)	10	18	18	Computer Desk	1.2	0.6	128.25 m <sup>2</sup>
			18	Office Chair	0.5	0.5	
			1	Kitchen Set	2	1	
			1	Circle Dining Table	1.2	1.2	
Head of People	10	3	1	Computer Desk	1.5	0.8	14 m <sup>2</sup>
			1	Office Chair	0.5	0.5	
			1	Side Table	2	0.6	
			2	Beau Chair	0.5	0.5	



							$14 \times 10 = 140 \text{ m}^2$
Meeting Room	10	10	10	Office Chair	0.5	0.5	$27 \text{ m}^2$
			1	Meeting Table	3.6	1.2	
			1	Credenza	1.8	0.5	
						$27 \times 10 = 270 \text{ m}^2$	
Waiting Area/Sitting Group	10	4	4	Sofa	0.8	0.8	$14.875 \text{ m}^2$
			1	Coffee Table	1	0.4	
			1	Entertainment Centre	1.8	0.7	
						$14.875 \times 10 = 148.75 \text{ m}^2$	
<b>TOTAL</b>							<b>2,401.25 m<sup>2</sup></b>
<b>Facilitator's Rental Office</b>							
Facilitator	15	<15	15	Computer Desk	1.2	0.6	$153.3125 \text{ m}^2$
			2	Side Table	2	0.6	
			1	Bookshelf	2.4	0.35	
			4	Entertainment Centre	2.8	0.75	
			1	Kitchen Set	2	1	
			4	Sofa	0.8	0.8	

			1	End Table	0.7 5	0.7 5	x 15 = 2,299.6875 m <sup>2</sup>	
			1	Meeting Table	3	1.2		
			22	Office Chair	0.5	0.5		
<b>TOTAL</b>							<b>2,299.6875</b> m <sup>2</sup>	
<b>Common Space</b>								
Receptionist	1	2	2	Table with Square End Corner Angled	2.1 5	1.2	11.61 m <sup>2</sup>	
			2	Side Table	1.5	0.6		
			2	Office Chair	0.5	0.5		
			1	Credenza	1.2	0.6		
Lobby	1	Up to 200	200	Human Dimensions (Standing)	0.6	0.6	72 m <sup>2</sup>	
Waiting Area/Sitting Group	3	16	16	Sofa	0.8	0.8	50.625 m <sup>2</sup>	
			4	Coffee Table	1.6	0.7		
						x3 = 151.875 m <sup>2</sup>		
Multi-Function Hall	1	Up to 300	1	Stage	-	2.5	625 m <sup>2</sup>	
			250	Folding Chair	0.4	0.4		

			42	Circle Work Table	1.5	1.5	
			<p>Scenario 1 (22x25 m): Up to 79 Tenants Bazaar/Fest (1.5 x 2) Up to 120 talk show viewers</p>  <p>Scenario 2 (25x25 m): Up to 42 teams consist of 6 people (252 participants)</p> 				
Auditorium	1	Up to 800	1	Stage	3	2	875 m <sup>2</sup>
			800	Auditorium Chair	0.5	0.5	
			5	Table	1	0.6	
			5	Beau Chair	0.5	0.5	
							

Backstage	2	40	40	Beau Chair	0.5	0.5	43.75 m <sup>2</sup>
			4	Sofa	0.8	0.8	
			1	Coffee Table	0.8	0.7	
						5	
Canteen	1	500	50	Dining Table	3	1.4	1050 m <sup>2</sup>
			500	Beau Chair	0.5	0.5	
			16	Tenant	3.5	4	
Meeting Room (Small)	5	10	10	Office Chair	0.5	0.5	27 m <sup>2</sup>
			1	Meeting Table	3.6	1.2	
			1	Credenza	1.8	0.5	
Meeting Room	3	20	20	Office Chair	0.5	0.5	15.5 m <sup>2</sup>
			2	Rectangular Table	1.5	0.6	
			4	Table with Square End	2.1	1.2	

				Corner Angled				
			2	Entertainment Centre	1.8	0.6		
			1	Credenza	1.8	0.5		
							x3 = 46.5 m <sup>2</sup>	
<b>TOTAL</b>							<b>3,010.735</b>	<b>m<sup>2</sup></b>
<b>Recreational Facilities</b>								
Library (2 Floor)	1	180	12	Work Table	3	1.2	336 m <sup>2</sup> / floor	
			120	Beau Chair	0.5	0.5		
			40	Bean Bag/Cushion	0.7	0.7		
			5		5	5		
			1	Coffee Table	1.8	0.9		
			6	Sofa	0.8	0.8		
			10	Bookshelf	2	0.4		
			5		5	5		
1	Librarian Space	4.3	2.7					
								x2 = 672 m <sup>2</sup>
Fitness Centre	1	25	4	Treadmill	2	1.5	78 m <sup>2</sup>	
			3	Bike	1.2	0.8		
			3	Air Walker	1	0.8		
			1	Barbell Machine	1.6	2		
			2	Pec Deck Fly	1	1.8		
			2	Lat Full Down Machine	1	1.8		

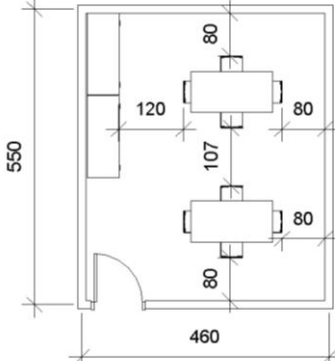
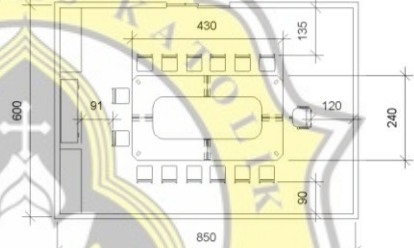
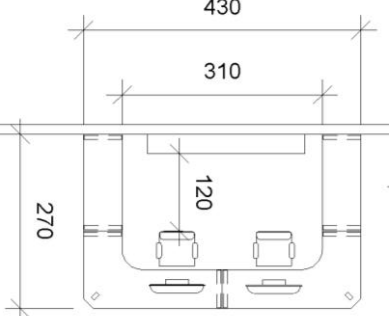
Napping Area	1	25	25	Bean Bag / Cushion	0.7 5	0.7 5	72 m <sup>2</sup>
<b>TOTAL</b>							<b>822 m<sup>2</sup></b>
<b>Common Service</b>							
Print & Photocopy	2	2	2	Photocopier	1.8	0.7 5	6 m <sup>2</sup>
			1	Cupboard	1.2	0.6	
							x 2 = 12m <sup>2</sup>
<b>TOTAL</b>							<b>12 m<sup>2</sup></b>
<b>Building Manager &amp; Staff</b>							
President Director Private Workspace	1	5	1	Work Table	2	0.6	32.625 m <sup>2</sup>
			1	Computer Desk	1.5	0.7 5	
			1	Executive Chair	0.6	0.6	
			5	Sofa	0.8	0.8	
			1	Entertainment Centre	1.8	0.6	
			1	Drawer	0.7	0.4 5	
			1	Coffee Table	1	0.4	

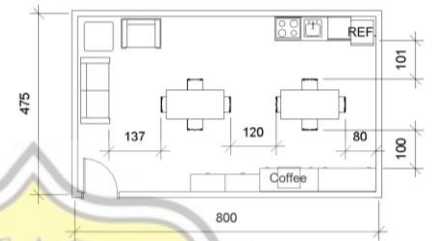
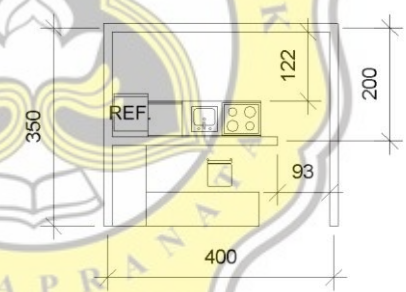
Vice President Director Private Workspace	1	4	1	Work Table	2	1	28.125 m <sup>2</sup>
			1	Computer Desk	1.5	0.8	
			1	Executive Chair	0.6	0.6	
			4	Sofa	0.8	0.8	
			1	Entertainment Centre	1.8	0.6	
			1	Drawer	0.7	0.4	
			1	Coffee Table	1	0.4	
Corporate Secretary	1	1	1	Computer Desk	1.5	0.8	12.5 m <sup>2</sup>
			1	Office Chair	0.5	0.5	
			2	Sofa	0.8	0.8	
Business Development Director Private Workspace	1	3	1	Computer Desk	1.5	0.8	21.25 m <sup>2</sup>
			1	Office Chair	0.5	0.5	
			1	Bookshelf	1.2	0.6	
			1	Drawer	0.4	0.3	
			2	Beau Chair	0.5	0.5	
			3	Sofa	0.8	0.8	

			1	End Table	0.4	0.4	
Operational Director Private Workspace	1	3	1	Computer Desk	1.5	0.8	21.25 m <sup>2</sup>
			1	Office Chair	0.5	0.5	
			1	Bookshelf	1.2	0.6	
			1	Drawer	0.4	0.3	
			2	Beau Chair	0.5	0.5	
			3	Sofa	0.8	0.8	
			1	End Table	0.4	0.4	
Head of People Private Workspace	1	3	1	Computer Desk	1.5	0.8	14 m <sup>2</sup>
			1	Office Chair	0.5	0.5	
			1	Side Table	2	0.6	
			2	Beau Chair	0.5	0.5	
Marketing Department Workspace	1	4	2	Computer Desk	1.5	0.8	22.5 m <sup>2</sup>
			2	Office Chair	0.5	0.5	
			1	Bookshelf	1.2	0.6	
			2	Beau Chair	0.5	0.5	



Finance & Accounting Department Workspace	1	5	3	Computer Desk	1.5	0.75	28.125 m <sup>2</sup>
			3	Side Table	2	0.6	
			3	Office Chair	0.5	0.5	
			1	Bookshelf	1.2	0.6	
			2	Beau Chair	0.5	0.5	
Front Office Department Workspace	1	4	3	Computer Desk	1.5	0.8	11.25 m <sup>2</sup>
			3	Office Chair	0.5	0.5	
			1	Bookshelf	1.2	0.6	
			2	Beau Chair	0.5	0.5	
Housekeeping Department Room	1	10	2	Dining Table	1.2	0.8	25.3 m <sup>2</sup>
			8	Beau Chair	0.5	0.5	
			2	Credenza	1.2	0.6	

							
Meeting Room	1	15	15	Office Chair	0.5	0.5	51 m <sup>2</sup>
			4	Table with Square End Corner Angled	2.1	1,2	
			2	Entertainment Centre	1.8	0.6	
			1	Credenza	1.8	0.5	
							
Librarian Workspace  (Already calculated in library space calculation)	1	2	2	Computer	1.5	0.8	-
			2	Table with Square End Corner Angled	2.1	1.2	
			2	Table	1.5	0.6	
			2	Office Chair	0.5	0.5	
			1	Bookshelf	2.4	30.5	
							

Staff Room (+ Pantry)	1	10	2	Dining Table	1.5	0.7	38 m <sup>2</sup>
			8	Beau Chair	0.5	0.5	
			3	Sofa	0.8	0.8	
			1	End Table	0.7	0.7	
			5		5	5	
			2	Locker	0.9	0.4	
			5		5	5	
			1	Kitchen Set	2	0.7	
			1	Refrigerator	0.6	0.6	
6		6	6				
2	Stove/Range	0.5	0.6				
							
Canteen Tenant  (Already calculated in canteen space calculation)	16	2	1	Kitchen Set	2	0.7	-
			1	Refrigerator	0.6	0.6	
			6		6	6	
			1	Table	2	0.6	
			1	Beau Chair	0.5	0.5	
							14 m <sup>2</sup>
Staff Restroom (Men)	2	3	1	Sanitary Gate	1.7	1	8.25 m <sup>2</sup>
			5		5	5	
			2	Urinary	0.3	0.2	
			5		5	5	
			1	Washstand	0.5	0.8	

Staff Restroom (Women)	2	2	2	Sanitary Gate	1.75	1	8.25 m <sup>2</sup>
			1	Washstand	0.5	0.8	
<b>TOTAL</b>							<b>338.925 m<sup>2</sup></b>
<b>Security</b>							
Security Post	2	4	2	Work Table	1.2	0.6	12 m <sup>2c</sup>  x 2 = 24 m <sup>2</sup>
			4	Beau Chair	0.5	0.5	
			1	Cupboard	1.2	0.6	
CCTV Room	1	3	3	CCTV Monitor	1.2	0.6	18 m <sup>2</sup>
			3	Office Chair	0.5	0.5	

<b>TOTAL</b>							<b>42 m<sup>2</sup></b>
<b>Service Area</b>							
Men's Restroom	16	3	2	Sanitary Gate	1.7	1	13.0625 m <sup>2</sup>  x 16 = 209 m <sup>2</sup>
			2	Urinal	0.4	0.2	
			2	Washstand	0.5	0.8	
Women's Restroom	16	3	3	Sanitary Gate	1.7	1	13.0625 m <sup>2</sup>  x 16 = 209 m <sup>2</sup>
			2	Washstand	0.5	0.8	
Lavatory	2	3	3	Shower	2	1	14.25 m <sup>2</sup>  x 2 = 28.5 m <sup>2</sup>
			2	Washstand	0.5	0.9	
Praying Room	1	20	20	Prayer Mat	1.1	0.6	77.5 m <sup>2</sup>
			4	Ablution Room	0.3	0.8	

Warehouse	1	10	-	-	10	8	80 m <sup>2</sup>
Janitor Room	16	1	1	Storage Module	0.9	0.9	1 m <sup>2</sup> x 16 = 16 m <sup>2</sup>
Emergency Stairs	15	-	1	Stairs Module	4.2	2.6	17.55 m <sup>2</sup>
							17.55 x 15 = 263.25 m <sup>2</sup>
Shaft Lift	20	15	1	Shaft Module	2.1	1.1	5.7 m <sup>2</sup>
							5.7 x 20 = 114 m <sup>2</sup>
Panel Room	5	1	1	Panel Box	1.5	1	1.5 m <sup>2</sup> x 5 = 7.5 m <sup>2</sup>
Shaft	5	-	1	Electrical Shaft	0.9	0.9	2 m <sup>2</sup>
			1	Plumbing Shaft	0.9	0.9	x5=10 m <sup>2</sup>
Mechanical Electrical	1	2	2	Electrical Panel Box	0.6	0.2	1.5 m <sup>2</sup>
			2	Control Box	0.6	0.2	
WWTP Room	1	2	3	Filtration Tank	0.3	0.6	9 x 10 m = 90 m <sup>2</sup>

			2	Collection Tank	1.0 2	0.6 4	
			4	Distribution Tank	1.0 2	0.6 4	
			2	Control Box	0.6	0.2	
Generator Room	1	2	2	Generator Engine	4.2	1.1 5	112.125 m <sup>2</sup>
			2	Control Box	0.6	0.2	
AHU (Air Handling Unit)	1	-	6	Panel Box	0.6	0.2	126 m <sup>2</sup>
			6	HVAC	2.7	2.2	
<b>TOTAL</b>							<b>1,326.9375 m<sup>2</sup></b>
<b>Green Space</b>							
Planted with Aquaponic	2	-	2	-	4.5	2.7	12.15 m <sup>2</sup>
			Waiting Area/Sitting Group				
Planted with Soil	6	-	-	Planted in the middle of the corridor	2	1.2	$2.4 \text{ m}^2 \times 6 = 14.4 \text{ m}^2$
<b>TOTAL</b>							<b>38.7 m<sup>2</sup></b>

<b>SPACE REQUIREMENTS (TOTAL) = 15,006.735 m<sup>2</sup></b>
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Tabel III. 5 Inner Space Quantity Analysis

Source: Personal Analysis

c) Scales

A) Intimate Scale

The intimate scale consists of rooms intended to create a friendly and comfortable work environment or atmosphere. The spaces classified in the intimate scale are the canteen, napping area, library, fitness centre, and sitting groups.

B) Human / Natural Scale

The human or natural scale consists of rooms whose spatial dimensions are reasonably adapted to the activities that occur in the room. The spaces classified in the human or natural scale are the private workspace or office, meeting room, committee room, backstage, canteen tenant, pantry, CCTV room, security post, and service rooms.

C) Monumental Scale

The monumental scale consists of rooms with larger dimensions according to the activities that occur. The spaces classified in the monumental scale are the public spaces such as the lobby auditorium, multi-function hall, and outdoor park.

3.1.4 Space Structure

a) Space Classification

Space Function Zoning	Space Needed	Space Zoning	Space Type
Start-Up's Incubation Office	Workspace	Semi-Private	Indoor
	Pantry	Service	Indoor
	Play Area	Semi-Private	Indoor
Investor/Facilitator Rental Office	Workspace	Semi-Private	Indoor
	Meeting Room	Private	Indoor
	Pantry	Service	Indoor



Common Spaces	Lobby	Public	Indoor
	Waiting Area / Sitting Group	Public	Indoor
	Multi-Function Hall	Semi-Public	Indoor
	Auditorium	Semi-Public	Indoor
	Backstage	Semi-Private	Indoor
	Canteen	Public	Indoor & Semi Outdoor
	Meeting Room	Private	Indoor
Recreational Facilities	Library	Public	Indoor
	Fitness Centre	Semi-Private	Indoor
	Napping Area	Semi-Public	Indoor
	Outdoor Park	Public	
Common Service	Print & Photocopy	Semi-Private	Indoor
Building Manager & Staff	Receptionist	Semi-Private	Indoor
	Private Workspace	Private	Indoor
	Meeting Room	Private	Indoor
	Librarian Space	Semi-Private	Indoor
	Canteen Tenant	Semi-Private	Indoor
	Pantry Staff	Service	Indoor
Security	CCTV Room	Private	Indoor
	Security Post	Semi-Private	Indoor & Semi Outdoor
Service	Restroom	Public	Indoor
	Lavatory	Semi-Private	Indoor
	Praying Room	Public	Indoor
	Warehouse	Semi-Private	Indoor
	Janitor's Room	Service	Indoor
	Panel Room	Service	Indoor
	MEP Room	Service	Indoor
	WWTP Room	Service	Indoor
	Generator Room	Service	Indoor
	AHU Room	Service	Outdoor
	Drop Off Area	Service	Semi Outdoor & Outdoor
	Parking Area	Service	Semi Outdoor & Outdoor

Tabel III. 6 Space Structure

Source: Personal Analysis

b) Spatial Organization

The spatial organization of space is fundamental to the creation of space composition. This Start-Up Centre is organized with the radial organization. The radial organization is a combination of both centralized and linear organizations. The central focal point that linear form radiates from is likened to the lobby, while the line is likened to the corridor that connects to another room/space.

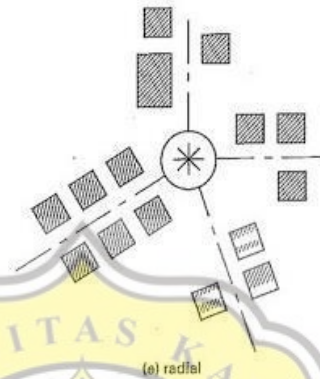


Figure 3. 8 Radial Spatial Organization

Sources: <https://www.arsitur.com/2017/11/pengertian-dan-organisasi-ruang-dalam.html>

3.2 Site Analysis and Program

3.3.1 Types of Outdoor Space

a) Outdoor Space Requirements

A) Outdoor Space Quantity Analysis

Outdoor Space	Unit	Capacity	Outdoor Space Quantity Analysis				Area
			Unit	Furniture	p	l	
Outdoor Amphitheatre	1	100	100	Human Dimensions	0.6	0.6	78.3 m <sup>2</sup>
Bus Shelter	1	20	3	4-Seater Bench	1.53	0.46	14.5 m <sup>2</sup>

Gojek / Grab Shelter	1	10	2	4-Seater Bench	1.53	0.46	10 m <sup>2</sup>
<b>TOTAL</b>							<b>102.8 m<sup>2</sup></b>

Tabel III. 7 Outdoor Space Quantity Analysis

Source: Personal Analysis

B) Parking Area

a. Parking area for the building manager & staff

There are 60 people of building managers who assumed to come everyday

Types of Vehicle	Assumption	Number of User	Number of Vehicle
Car	15%	9	9
Motorbike	60%	36	36
Public Transport	25%	15	-
Total			9 Cars 36 Motorbikes

Tabel III. 8 Building Manager's Parking Capacity Analysis

Source: Personal Analysis

b. Parking area for the start-up (incubation participant)

There are 680 incubation participants who assumed to come everyday

Assumptions of vehicle users

Car = 2 people

Motorbike = 2 people

Types of Vehicle	Assumption	Number of User	Number of Vehicle
Car	20%	136	68
Motorbike	50%	340	340
Public Transport	30%	204	-
Total			68 Cars 340 Motorbikes

Tabel III. 9 Start-Up's Parking Capacity Analysis

Source: Personal Analysis

c. Parking area for the investor and facilitator

There are 475 people who assumed to come everyday

Assumptions of vehicle users

Car = 2 people

Motorbike = 1 people

Types of Vehicle	Assumption	Number of User	Number of Vehicle
Car	40%	190	95
Motorbike	40%	190	190
Public Transport	20%	95	-
Total			95 Cars 190 Motorbikes

Tabel III. 10 Investor and Facilitator's Capacity Analysis

Source: Personal Analysis

d. Parking area for the visitor

Capacity studies are carried out specifically for visitor parking capacity at certain events. The study looks at the theatre buildings and halls in Jakarta. Based on the number of visitors and vehicle capacity, the conclusion of the percentage is as follows:

Building Name / Building Function	Visitor Capacity	Parking Capacity	Percentage
ICE BSD / Convention Exhibitions	Up to 50,000 people	5000 Indoor 7000 Outdoor	± 25%

Jakarta Convention Centre / Meetings, Incentives, Conferences, and Exhibitions (MICE)	Up to 18,500 people	6000 Indoor	± 35%
Jakarta International Expo (MICE)	Up to 13,0000 people (/day)	± 30,000: ± 10,000 cars ± 20,000 motorbikes	= ± 25% Car ± 7.75% Motorbike ± 15.5%

Tabel III. 11 Visitor's Parking Capacity Study

Source: Personal Analysis

High visitor numbers (1100 people) are assumed only at certain events

Assumptions of vehicle users 35% = 385 people

Car = 2 people

Motorbike = 1 people

Types of Vehicle	Assumption	Number of User	Number of Vehicle
Car	50%	192	96
Motorbike	30%	115	115
Public Transport	20%	77	-
Total			96 Cars 115 Motorbikes

Tabel III. 12 Visitor's Parking Capacity Analysis

Sources: Personal Analysis

Total Parking Area

i. Car = Car parking dimensions x number of cars

$$= (2.5\text{m} \times 5\text{ m}) \times (9+68+95+96)$$

$$= 12.5 \times 268$$

$$= 3,350 \text{ m}^2$$

ii. Motorbike = Motorbike parking dimensions x number of motorbikes

$$= (1\text{m} \times 2\text{ m}) \times (36+340+190+115)$$

$$= 2 \times 681$$

$$= 1,362 \text{ m}$$

b) Outdoor Space Requirements

Based on previous calculations, the total outdoor space required is as follows:

$$\text{Total Outdoor Space Area} = (102.8 + 3,350 + 1,362)$$

$$= 4,814.8 \text{ m}^2$$

3.3.2 Effective Land Area

Based on the calculation of the area of indoor and outdoor space, the calculated total area is as follows:

a. Indoor Space Requirements : 15,006.735 m<sup>2</sup>

b. Outdoor Space Requirements : 4,814.8 m<sup>2</sup>

The following are the applicable regulations or regulations regarding spatial layout for selected locations from the Tangerang Regency Regional Regulation Number 09 of 2006 concerning Siteplan:

a. Land Area = Total Space Requirements : Floor-Area Ratio (FAR)

$$= 15,006.735 : 5 = 3,001.347 \text{ m}^2$$

b. BCR = Land Area x BCR

$$= 3,001.347 \times 55\% = 1,650.74084 \text{ m}^2$$

c. Floor-Area Ratio (FAR) at 5

$$\text{FAR} = \text{Land Area} \times \text{FAR}$$

$$= 1,650.74084 \times 5 = 8,253.70425 \text{ m}^2$$

d. Number of Floors

$$= \text{FAR} : \text{BCR}$$

$$= 8,253.70425 : 1,557.9672 = 5.29 (5)$$

e. Green Open Space

$$= 30\% \times (1,650.74084 + 4,814.8)$$

$$= 30\% \times 6,465.54084 = 1,939.662252 \text{ m}^2$$

f. Total Area

$$= 3,001.347 + 4,814.8 + 1,939.662252$$

$$= 9,755.809252 \text{ m}^2$$

### 3.3 Artificial Environment Analysis

#### 3.3.1 Surrounding Building Analysis

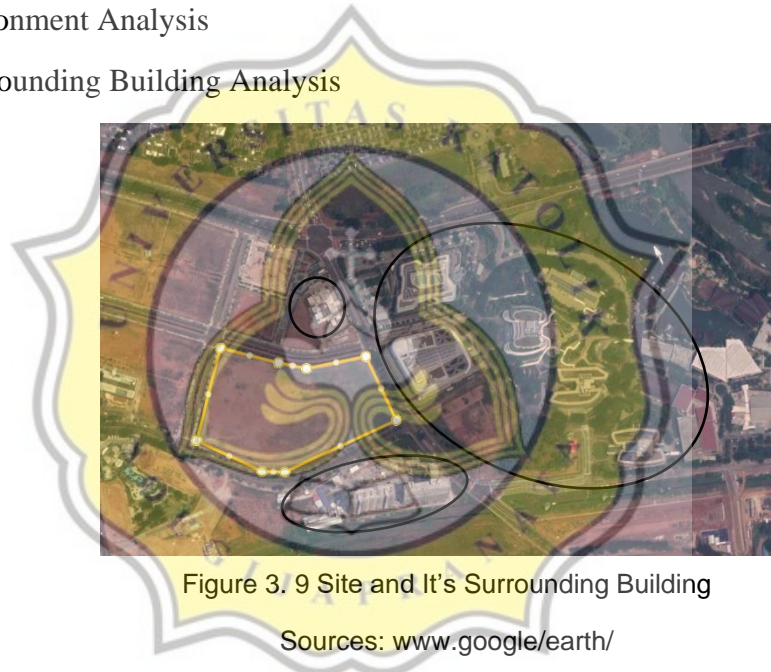





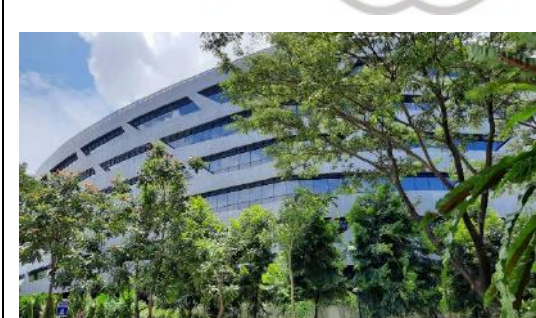




Figure 3. 9 Site and It's Surrounding Building

Sources: [www.google/earth/](http://www.google/earth/)

Building Exterior	Building Name	Analysis
	Green Office Park 1	Number of Floors: 5  Following the developer's rules, all buildings that built in the Green

	<p>Green Office Park 6</p>	<p>Office Park BSD area won the Green Building (GBCI) awards. The buildings are built with Building Coefficient Ratio (BCR) of 25-35%.</p>
	<p>Sinar Mas Land</p>	<p>The similarities of the buildings are: Using the stopsol glass, shading devices, and double facade systems such as perforated shading, light shelves, and reflective shading.</p>
	<p>Graha Unilever BSD</p>	
	<p>Green Office Park 9</p>	
		



	<p>Hygge Signature</p>	<p>Number of Floors: 1</p>
	<p>Skyhouse Tower</p>	<p>Number of Floors: 29</p> <p>Under Construction</p>

Tabel III. 13 Surrounding Building Analysis

Sources: Personal Analysis

### 3.3.2 Transportation and Utility Analysis

#### A) Transportation

Type of Transportation:

##### a. Private Vehicle

BSD City can be reached via 2 existing toll roads, the Jakarta-Serpong toll road and the Jakarta Outer Ring Road, and 1 future toll road (Serpong-Balaraja).

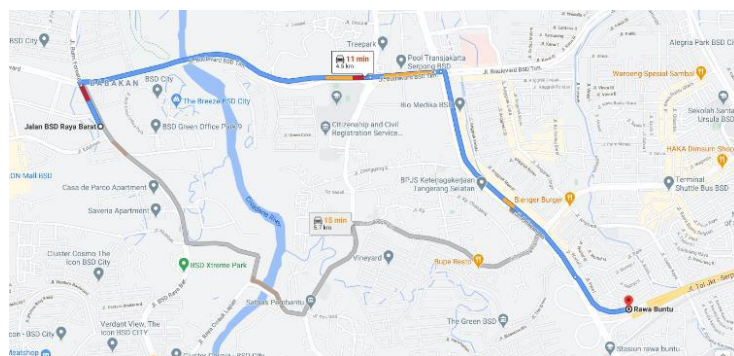


Figure 3. 10 Distance to Jakarta-Serpong Toll Road

Sources: maps.google.com

b. City Shuttle BSD Link (Free)

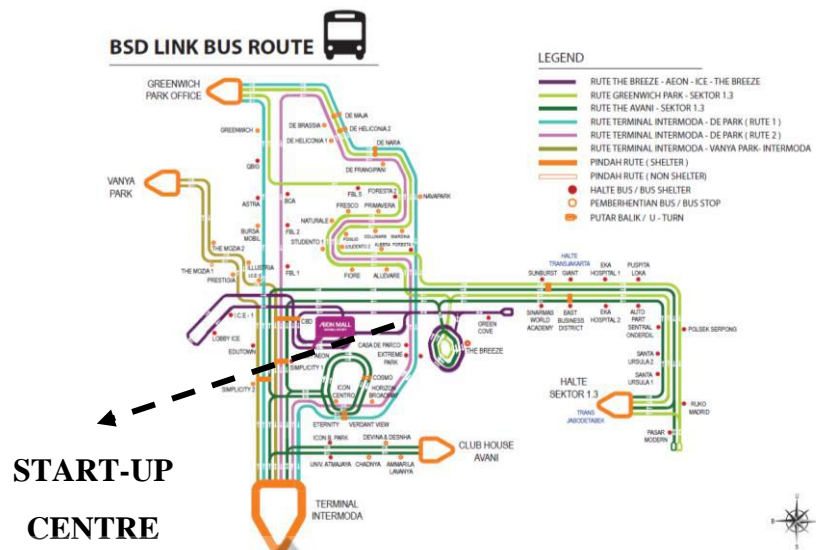


Figure 3. 11 BSD Link Route

Sources: bsd-city.com

c. KRL (Rawa Buntu Station)



Figure 3. 12 Distance to Rawa Buntu KRL Station

Sources: maps.google.com

B) Utility

a. Electricity Network

The electricity network at BSD has already used the underground cable system.

b. Water Network

The source of water comes from PDAM, Cisadane River water treatment, or artesian deep well.

c. Drainage

Drainage at the location uses a closed system so that the appearance looks cleaner. The drainage manholes are approximately 6 meters away from each other.



Figure 3. 13 Drainage

Sources: Personal Documentation

d. Pedestrian



Figure 3. 14 Pedestrian

Sources: [www.google/earth/](http://www.google/earth/)

The pedestrian at point A (side of the Edupark Road) has a width of 6 meters, while the pedestrian at point B (side of BSD Boulevard Barat Road) is 3 meters wide.



Figure 3. 15 Pedestrian at Point A

Sources: Personal Documentation

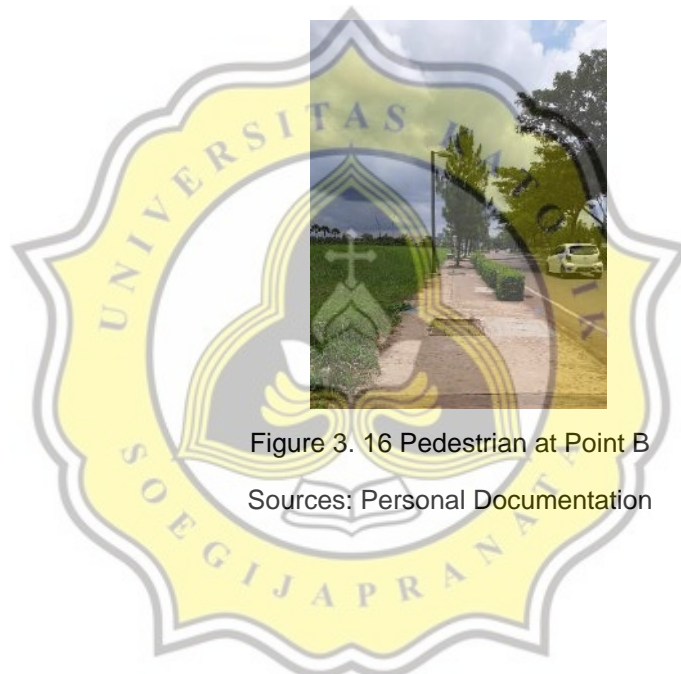


Figure 3. 16 Pedestrian at Point B

Sources: Personal Documentation

### 3.3.3 Vegetation Analysis

On the site, there is only green grass, while on the pedestrian, there are several trees including palm, pitch pine, and tamarind trees.



Figure 3. 17 Tamarind Trees

Sources: Personal Documentation



Figure 3. 18 Palm Trees

Sources: Personal Documentation

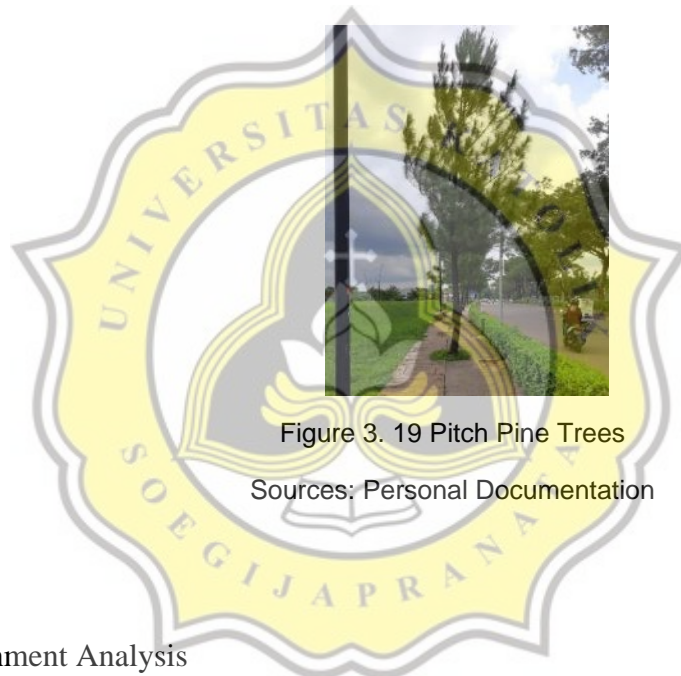


Figure 3. 19 Pitch Pine Trees

Sources: Personal Documentation

### 3.4 Natural Environment Analysis

#### 3.4.1 Climate Analysis

Temperature	28°C – 33°C
Wind	Direction: From South to West/East Wind Speed: 1.6 - 4.4 m/s
Humidity	75%-87%
Light Intensity	Average: 25,549 Max: 40,0357 taken at noon (12 pm), clear sky

Tabel III. 14 Climate Analysis

Sources: Personal Analysis



Figure 3. 20 Sun Path

Sources: Sunearthtools.com

### 3.4.2 Landscape and Topography Analysis

The land on the site has a relatively flat topography and is not overgrown with any tree. This matter makes the land preparation process less laborious. In the middle area of the site, there isn't any mound. But, the edges of each side are 1 meter higher than the centre.



Figure 3. 21 The Difference of Land and Road Elevation

Sources: Personal Documentation



Figure 3. 22 Site's Flat Topography

Sources: Personal Documentation

### 3.4.3 View From Site



Figure 3. 23 View From Site

Sources: Personal Documentation

The view that can be seen from the site is the mid-rise building, high-rise building, and lots of vacant lands.