

Where to set up office for startup in Singapore

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1. Introduction

1.1. Background

A contractor, who is new to Singapore, is looking to set up an office for his startup. However, there are many neighbourhoods and companies offering office rental services, making it very challenging for him to distil the massive information. We are tasked by the contractor to locate an office space for him. After some preliminary discussion with him, we agreed that given the contractor is a one-man operation at this moment, shared office spaces will make the most sense for him in terms of typical startup budget and space needed.

¹According to Colliers International, a global commercial real estate services organization, “Coworking spaces now take up 3.7 million square feet (sq ft) in net lettable area (NLA) of Singapore's commercial space. 83 per cent of flexible workspace resides in the Central Business District (CBD), 12 per cent in the city fringe and 5 per cent in the suburban area. The top seven operators now hold 65 per cent of the market share, with the top three – WeWork, IWG, and JustGroup – sitting on 51 per cent of the space.” See Table 1 for more information.

Table 1: Market share of top flexible workspace operations by NLA

Market share of top flexible workspace operators by NLA		
Flexible Workspace Operator	Estimated Portfolio Size (sq ft)	Market Share (%)
WeWork	850,000	22.0%
IWG	640,000	16.6%
JustGroup	498,000	12.8%
The Work Project	192,000	4.9%
The Executive Centre	141,000	3.7%
Servcorp	102,000	2.6%
The Great Room	91,000	2.3%
Top 7 operators		65.0%

Source: Colliers International
*Includes known future supply

As part of the project deliverables, we will make recommendations to the contractor on where to set up his office based on his requirements.

¹ <https://www.businesstimes.com.sg/real-estate/coworking-spaces-in-singapore-tripled-since-2015-to-37m-sq-ft-colliers>

1.2. Problems and Customised Solutions

Our target audience are startup entrepreneurs and business owners who want to find a suitable office space for their company. They are most likely new in the setting up of business and are looking for an office. Our solution specifically benefits foreign business owners who want to set up an office in Singapore. This is because these foreign business owners are new to the professional, social and cultural norms in Singapore. Our customised solution frees up their time and energy so that they can focus on building their business. The contractor fits nicely in our customer profile.

In general, there are 5 aspects to consider when determine where to set up an office:

1.2.1. Location, Location, Location

Location is important as it addresses the following:

- Can the contractor get to office easily? What mode of transportation is available? What is the time needed to get into office? How is the crowd like during peak hours?
- Can the prospects/clients get to the contractor's office easily?
- What are the amenities around the location? For example, coffee shops, restaurants, gym etc.

The location will also influence the type of dress code. In addition, the address and location will also reflect the image of the company. To be close to the network and proximity to partners/competitors where there is community buzz is certainly beneficial. Positive, young energetic environment also encourage/accentuate the spirit of entrepreneurship. Ultimately, location will affect the productivity and morale of the company.

1.2.2. Budget

A startup usually has a tight budget. Therefore, the price range will be limited. In addition, due to limited funds, startup needs every flexibility in the lease terms they can get.

1.2.3. Space (work and social)

Space determines the physical and environmental comfort for the contractor. It addresses the following:

- How much workspace is offered? Generally, a 70 square feet per person is required. In addition, are there meeting/conference rooms available to hold client meetings.

- How much free open space is available for social and personal activities like attending to personal calls?
- Does the place have adequate space for the future expansion of the company?
- What is the design and ambience?
- Is the community/environment welcoming and friendly?
- Does the space hold communal activities which allows the networking and build partnerships and business relationships in the shared office spaces?

1.2.4. Infrastructure and Technology

The following are the typical amenities that are expected at a coworking space:

Table 2: Type of amenities available in coworking spaces

Parking spaces	Aircon Systems	Wi-Fi	Mail and Front Desk services	Pantry/ Cafeteria
24/7 access	IT Support	Stationery	Phone services	Free Coffee/ Tea
Meeting rooms	Lockers and Storage services	Printer/Scanner services	Business address	Snacks

Some amenities are more important than the others based on the type of business operations.

1.2.5. Style

The building which the company resides conveys its brand/image. Does the contractor need to feel proud when he mentions his office to prospective clients and future partners?

1.3. Contractor's requirements **[numbered in brackets]**

1.3.1. Location, Location, Location

Contractor lives in Bishan, a central region in the island of Singapore. His preferred mode of transport is by Mass Rapid Transit (MRT) – a form of heavy rail rapid transit system. He prefers to limit his daily work commute to 35 minutes or less (each-way) from Bishan MRT station. This includes waiting time and travelling by foot. He does not want to take another transport like bus or taxi as this will increase his transportation cost. **[1]**. The Contractor is willing to walk for 1km or less to get to the office from an MRT station. **[2]**. The offices of the contractor's clients are located in the Central Business District

(CBD). The contractor hopes that his clients need only 20-25 minutes to travel to his office by private transport like cars or taxis. [3]. The contractor does not want to be located in CBD because it is too crowded and he does not like office wear – long sleeve shirt and pants, on a daily basis. [4]

For amenities, the contractor would like to have coffee shops, restaurants (for entertaining clients), food centres, beer places, gym and supermarkets in the neighbourhood. [5]. Finally, he likes a place where there is a community that fosters the spirit of entrepreneurship. [6]

1.3.2. Budget

The contractor's budget is \$500 Singapore dollars monthly, for 3 to 6 months. He may need to terminate the lease earlier with a 1 month advance notice. [7]

1.3.3. Space (work and social)

The contractor prefers a standard Fixed desk arrangement so that he can have a permanent space irrespective whether he is in the office. This also allows him to bring his equipment like monitors to the office. He also prefers to have adequate free open space for social and private moments. [8]

1.3.4. Infrastructure and Technology

The following are the contractor's preferred amenities at a well-equipped workspace: [9]

Table 3: Amenities requested by Contractor

*Parking spaces	✓	*Aircon Systems	✓	*Wi-Fi	✓	Mail and Front Desk services	✓	Pantry/ Cafeteria	✓
*24/7 access	✓	IT Support	✓	Stationery	✗	Phone services	✗	Free Coffee/ Tea	✓
*Meeting rooms	✓	Lockers/ Storage services	✗	Printer/ Scanner services	✓	Business address	✓	Snacks	✗

* - Must have, ✓ - Good to have, ✗ - Not required

1.3.5. Style (Commercial vs Industrial building)

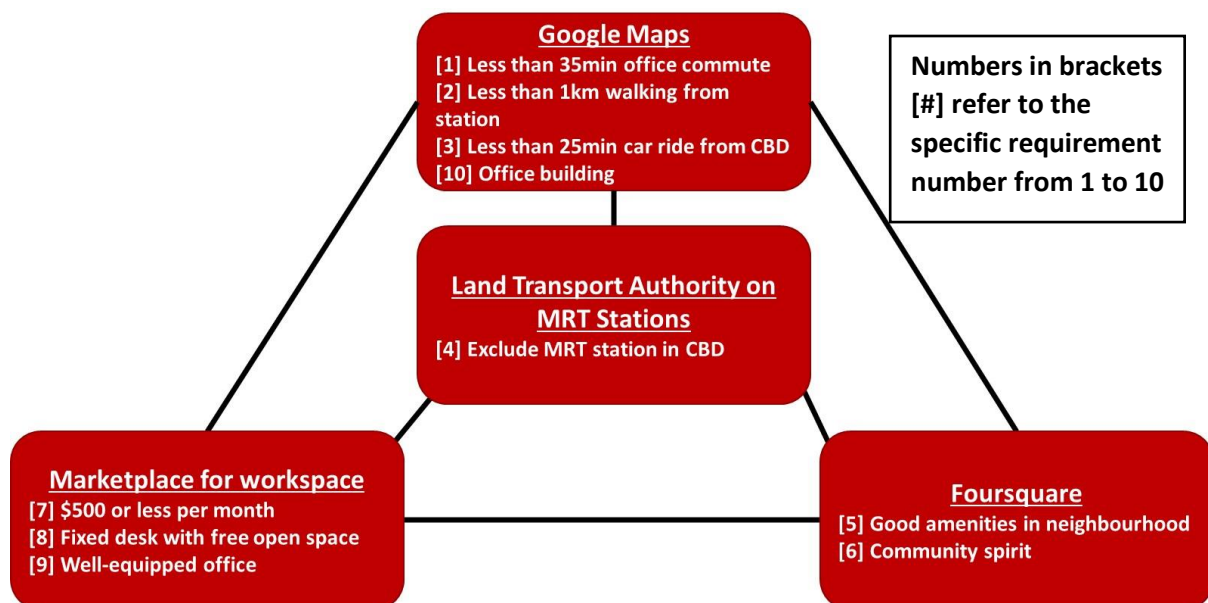
The contractor understands that office buildings outside of the CBD will not be as prestigious as those in the CBD. However, he likes to portray his company as a modest startup who has a spirit of creativity and entrepreneurship. He also likes to demonstrate to prospective investors that he is not spending unnecessarily as he is very conscious about the company's finances. [10]

2. Data

2.1. Data Requirements and Sources

To address the contractor's requirements, various data sources are needed. Figure 1 provides a simple diagram for the data sources required and how each addresses the 10 requirements:

Figure 1: Diagram showing data sources and their applications



2.1.1. MRT Stations

The key focus is on the MRT stations where the requirements are centered. This information can be obtained from SMRT Corporation and Land Transport Authority. The location of each MRT stations is needed to merge with the other data/information sources for analysis.

2.1.2. Marketplace

With the MRT stations, we can use a Marketplace for workspace to identify the available offices for consideration. Using a Marketplace makes data collection more efficient as it is a platform that hosts workspaces on offer. This helps to save time rather than searching around for individual companies offering workspace. In addition, the presentation of information in a platform is more standardised. This enables the comparison and evaluation of each office more systematic.

2.1.3. Google Maps

With information from MRT stations and Marketplace, we can locate the office in Google Maps. Google Maps can estimate the time need to reach the office, the mode of transport, including walking, to the office, the time needed to travel from CBD to the office, the type of building which the office resides and parking spaces available in the vicinity.

2.1.4. Foursquare

With the information from MRT stations, Marketplace and Google Maps, we can use Foursquare to explore the neighbourhoods of the MRT stations. We will use Foursquare location data to identify the most common venues in the vicinity of the MRT stations. This will give an indication of where are the common activities and how are the people engaged in the area. For example, if the common venues in the area are café and coffee shops, it implies that there are many breakout areas for casual meetings between colleagues and/or friends. This also inculcate an environment for entrepreneurship where people network and build relationships. The type of restaurants in the vicinity also indicates the ethnicities of the workers. In all, data from Foursquare will provide invaluable insights of the area.

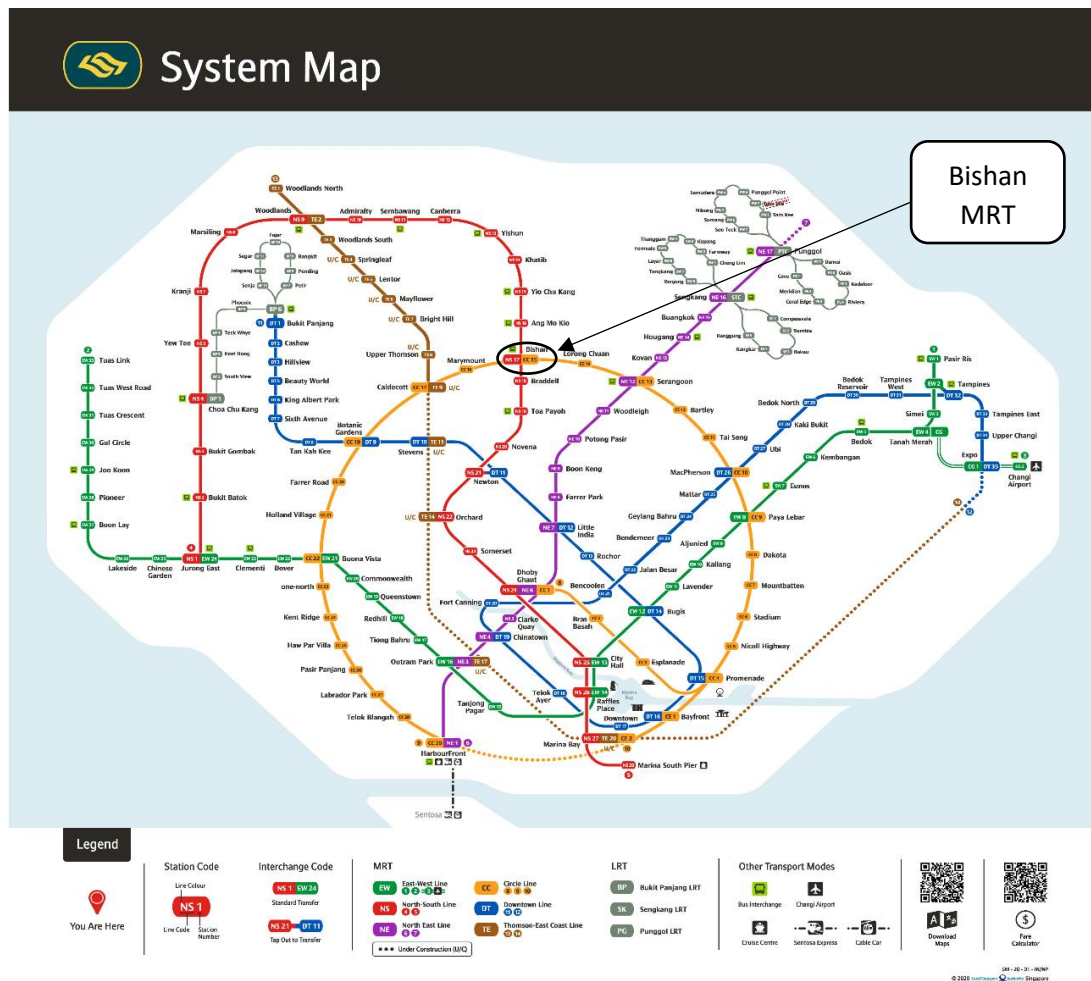
2.2. Data Collection

The following details a step-by-step approach to gather the data and information for the project.

2.2.1. MRT Stations

The following map shows all the current MRT stations in Singapore.

Figure 2: Map of MRT Stations in Singapore



Source: Land Transport Authority of Singapore

Using Bishan MRT station as the starting point, we will explore what are the MRT stations that fall within the requirements. For requirement [4], the contractor does not want the office to be in CBD. Using the Land Transport Authority's CBD map for taxis and private hire cars in Figure 3 below as a guide, we identify and exclude MRT stations which are located within the CBD.

Figure 3: CBD Map for taxis and private hire cars

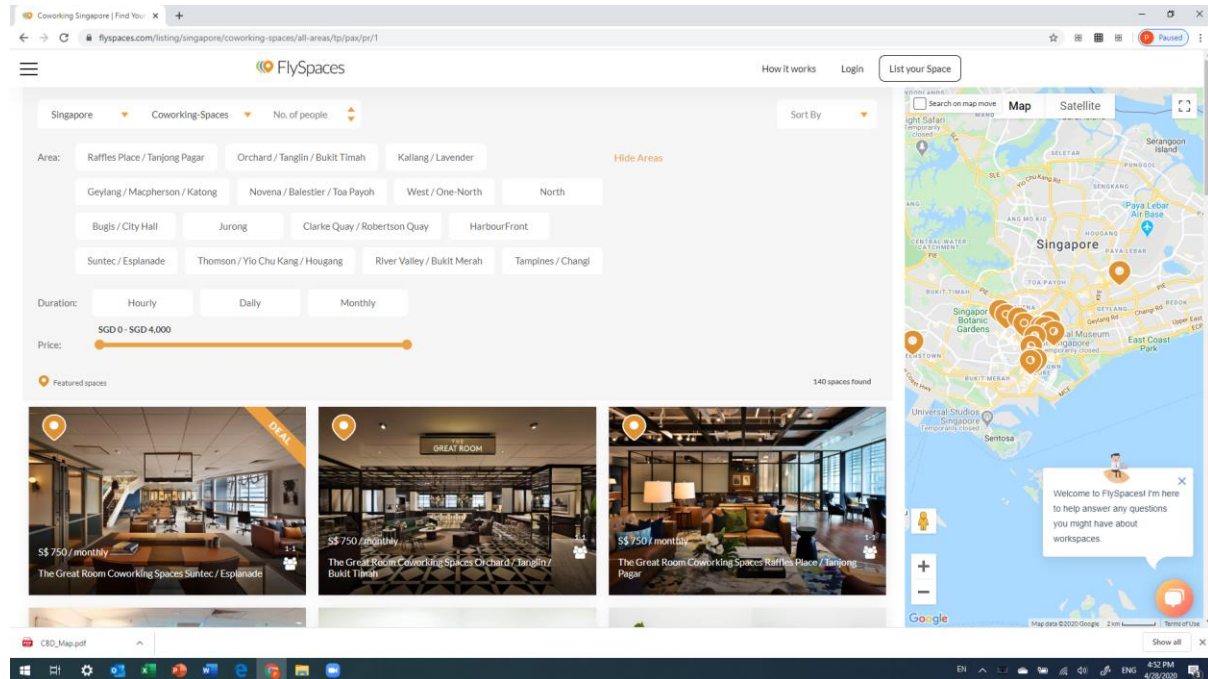


Source: Land Transport Authority

2.2.2. Marketplace for workspace

We have chosen FlySpaces.com as the marketplace for our data source. This is because the information at FlySpaces.com is very comprehensive and easy to use. It provides great user experience as compared to the other similar platforms. The following is FlySpaces' page for Singapore coworking spaces:

Figure 4: FlySpaces – Looking for coworking space in Singapore



Source: FlySpaces.com

In the Area section of FlySpaces in Figure 4 above, there are several regions and neighbourhoods. We will exclude CBD regions (using MRT Stations as guides) (A) Raffles Place/ Tanjong Pagar, (B) Orchard/Tanglin/Bukit Timah, (C) Bugis/City Hall, (D) Suntec/ Esplanade and (E) Clarke Quay/ Robertson Quay to satisfy requirement [4].

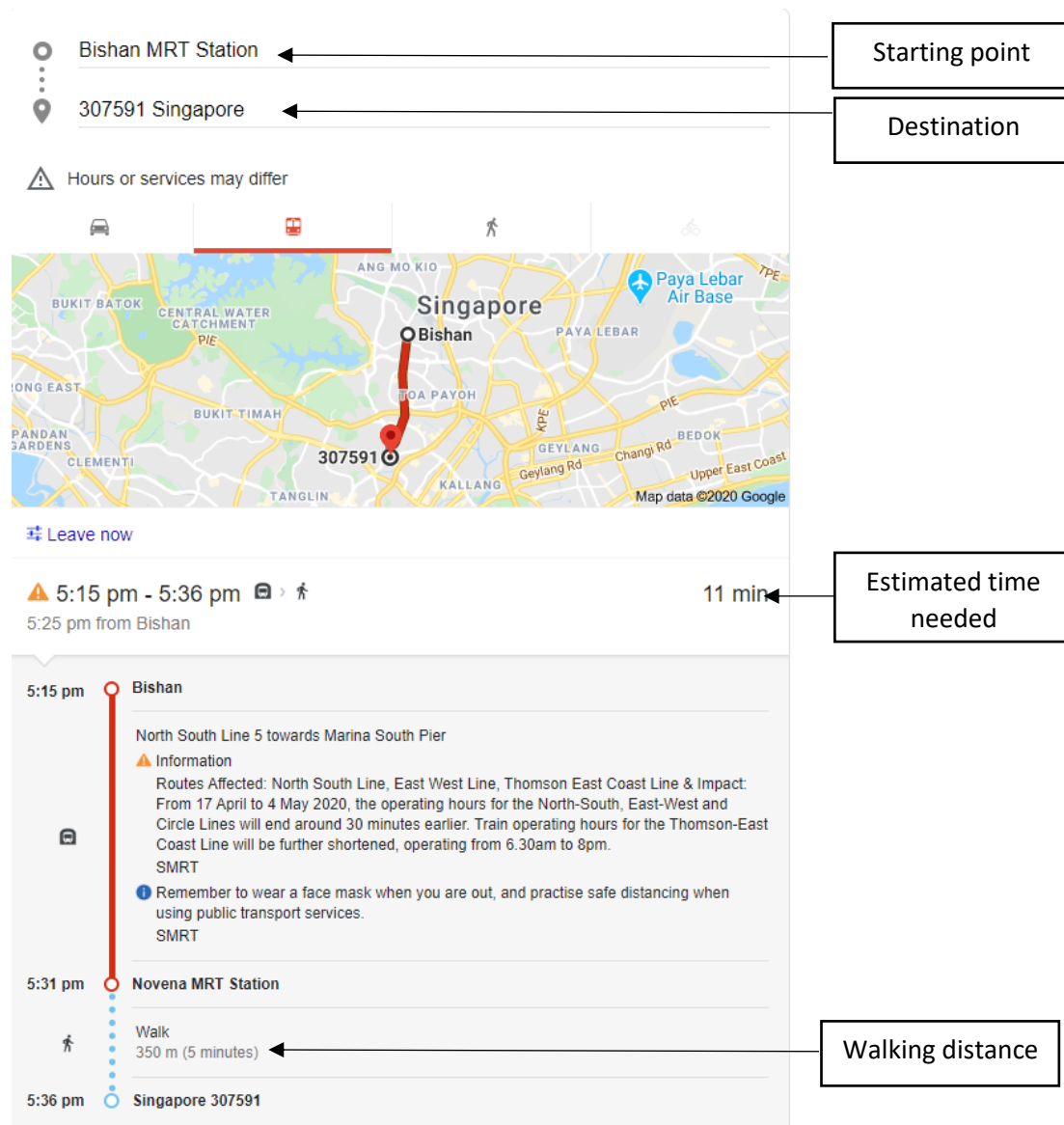
We will set Duration section to Monthly and the Price at \$500 for the Budget requirement [7]. We will also gather information on the Workspace [8] and Infrastructure and Technology [9]. Note that the coworking space may not list all their facilities on the platform. This is due to the given fact that any office would have some standard facilities like air-conditioning, lights and furnishing.

2.2.3. Google Maps

After we have located the candidate offices, we use their postal codes and collate the time needed to reach the office from Bishan MRT station [1] and the mode of transport and distance of walking required [2]. See Figure 5 below. Note that the collection of traffic times is dependent on the day and

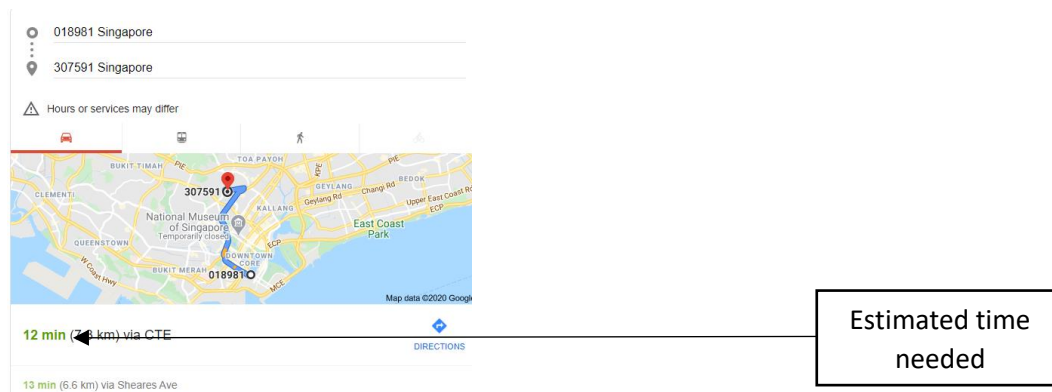
time of the day. To be more representative, we have collected the times in a weekday morning rush hours at 9am. Nonetheless, given the current COVID19 environment where non-essential workers are to stay at home, the estimated timing may be slightly underestimated since there is less than the typical working crowd in the morning rush hours.

Figure 5: Google Maps: From Bishan MRT Station to office



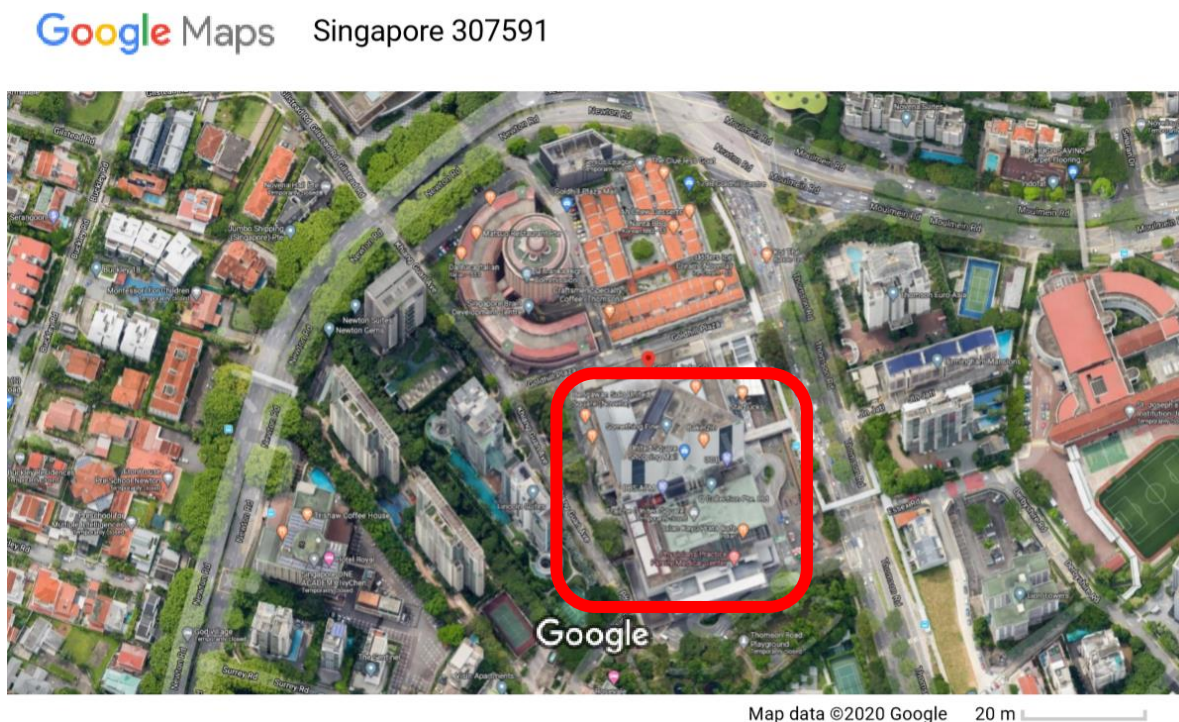
Google Maps, for example in Figure 6, will estimate the time needed for a client to travel from CBD to the office [3]. We assume the client's CBD office to be Marina Bay Financial Centre, Singapore 018981.

Figure 6: Google Maps: From CBD to office



Finally, we can visualise the external building which the office resides. The building could be commercial or industrial [10]. Typically, for a commercial building, the carparks are in the building while carparks for industrial buildings are outside the building. This can also supplement requirement on carpark which may not be listed. For example, in Figure 7 below, the coworking space resides in a well-known commercial building. You do not see any car parks around.

Figure 7: Google Maps: Singapore 307591 (Commercial Building)



Source: Google Maps

2.2.4. Foursquare

We will use Foursquare API to get the common venues near the MRT stations so as to identify the amenities in the neighbourhood [5]. We will also attempt to infer from the data for a community that fosters entrepreneurship [6].

3. Methodology

3.1. Exploratory Data Analysis

Based on FlySpace database, there are currently 135 Coworking space available. We plot the number of Coworking space available based on the neighbourhoods and price per month in Figure 8 below:

Figure 8: Number of Coworking spaces available

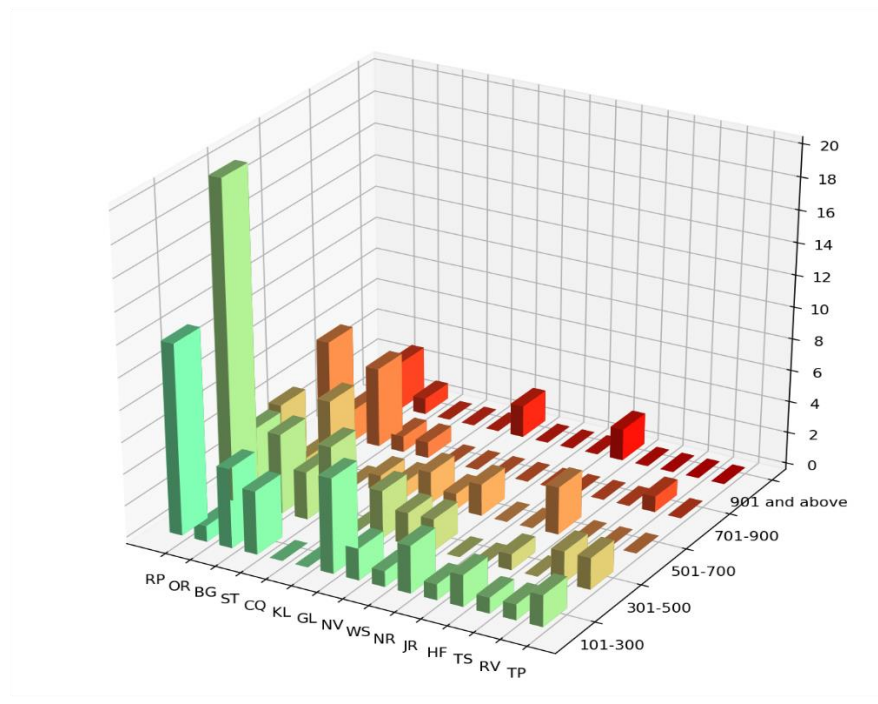


Table 4: Total coworking space available based on Area and Rental Rates

	Area	Symbol	Monthly Rental Rates (\$)				
			101-300	301-500	501-700	701-900	901 and above
1	Raffles Place/ Tanjong Pagar (CBD)	RP	12	20	4	6	0
2	Orchard/ Tanglin/ Bukit Timah (CBD)	OR	1	5	1	2	3
3	Bugis/ City Hall (CBD)	BG	5	5	5	5	1
4	Suntec/ Esplanade (CBD)	ST	4	3	0	1	0
5	Clarke Quay/ Robertson Quay (CBD)	CQ	0	5	1	1	0
6	Kallang/ Lavender	KL	0	0	1	0	0
7	Geylang/ MacPherson/ Katong	GL	6	3	2	0	2
8	Novena/ Balestier/ Toa Payoh	NV	2	2	1	0	0
9	West/ one-north	WS	1	2	2	0	0
10	North	NR	3	0	0	0	0
11	Jurong	JR	1	0	0	0	2
12	Harbour Front	HF	2	1	3	0	0
13	Thomson/ Yio Chu Kang/ Hougang	TS	1	0	0	0	0
14	River Valley/ Bukit Merah	RV	1	2	0	1	0
15	Tampines/ Changi	TP	2	2	0	0	0

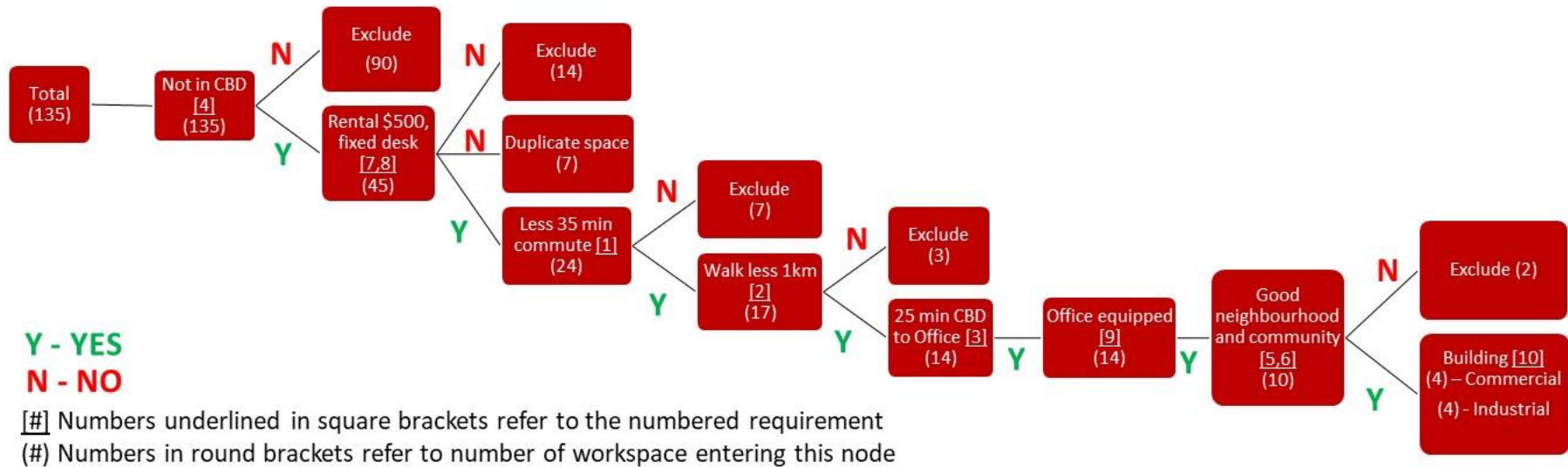
Overall, most of the spaces available are in the CBD neighbourhoods with 90 out of total of 135 spaces. 60 out these 90 spaces have rental rates at \$500 or below. 45 office spaces are not in the CBD region. Of these, 31 have rental rates at \$500 or below.

3.2. Machine Learning Techniques

3.2.1. Decision Tree

We use a decision tree to classify the coworking spaces. The total number of coworking space represents the root node while the decision nodes represent each of the contractor's requirement. Workspaces that fall into the terminal node will be excluded from the candidate pool. Figure 9 below shows the decision tree. Numbers in square brackets **[#]** are the contractor's requirements while numbers in round brackets **(#)** represent the sample size falling into the node.

Figure 9: Decision Tree on Coworking Space



Based on the requirements and classification above, there are 8 coworking spaces that satisfy the contractor's requirements. Of these, 4 reside in commercial buildings while the remaining 4 are housed in industrial buildings. A further analysis, involving in-depth review and comparison, will be conducted to come up with the final recommendations.



3.2.2. As part of the node for Neighbourhood amenities in Figure 9 above, we use Foursquare API to determine the most common venues in a given neighbourhood. This is used to address requirements [5] and [6]. Table 5 shows the top 15 most common venues in the neighbourhood.

Table 5: Most common venues in the Neighbourhood / MRT Station

	Neighborhood / MRT Station	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	11th Most Common Venue	12th Most Common Venue	13th Most Common Venue	14th Most Common Venue	15th Most Common Venue
1	Eunos	Coffee Shop	Chinese Restaurant	Asian Restaurant	Noodle House	Train Station	Gym	Pizza Place	Bookstore	Breakfast Spot	Bubble Tea Shop	Food Court	Vegetarian / Vegan Restaurant	Seafood Restaurant	Food Stand	Electronics Store
2	MacPherson	Food Court	Hobby Shop	Gym / Fitness Center	Office	Climbing Gym	Metro Station	Cafeteria	Furniture / Home Store	Thai Restaurant	BBQ Joint	Asian Restaurant	Other Repair Shop	Gym	German Restaurant	General Entertainment
3	Marymount	Chinese Restaurant	Outdoors & Recreation	Bakery	Thai Restaurant	Food Court	Yunnan Restaurant	Fried Chicken Joint	Electronics Store	Fast Food Restaurant	Filipino Restaurant	Flea Market	Food Stand	Gastropub	Furniture / Home Store	Diner
4	Novena	Café	Coffee Shop	Hotel	Japanese Restaurant	Italian Restaurant	Ramen Restaurant	Pharmacy	Restaurant	Sandwich Place	Chinese Restaurant	Bakery	Supermarket	Thai Restaurant	Asian Restaurant	Hong Kong Restaurant
5	Paya Lebar	Fast Food Restaurant	Shopping Mall	Coffee Shop	Asian Restaurant	Food Court	Vegetarian / Vegan Restaurant	Noodle House	Supermarket	Chinese Restaurant	Dessert Shop	Ramen Restaurant	Halal Restaurant	Hotpot Restaurant	Café	Snack Place
6	Tampines	Bakery	Café	Coffee Shop	Pharmacy	Bubble Tea Shop	Chinese Restaurant	Clothing Store	Shopping Mall	Dessert Shop	Fast Food Restaurant	Asian Restaurant	Gym	Hotpot Restaurant	Food Court	Mediterranean Restaurant
7	Ubi	Food Court	Asian Restaurant	Coffee Shop	Hobby Shop	Restaurant	Supermarket	Chinese Restaurant	Diner	Bus Station	Food Stand	Electronics Store	Fast Food Restaurant	Filipino Restaurant	Flea Market	Furniture / Home Store
8	one-north	Coffee Shop	Café	Indian Restaurant	Bus Station	Thai Restaurant	Pharmacy	Noodle House	Sandwich Place	Food Court	Pizza Place	Yunnan Restaurant	Filipino Restaurant	Italian Restaurant	Middle Eastern Restaurant	Dess

Although all the Neighbourhoods satisfy at least 3 out of 6 items in the requirement, MacPherson and Marymount do not have Coffee Shop or Café listed as common venues. We can infer that there are less places to meet up and discuss casually with others. This may not bode well for entrepreneurship in certain industries. Moreover, Coffee Shop and Café are places where the young professionals like to hang out.

We can also see the various ethnic restaurants in each neighbourhood. This provides a general feel of the people in the area. In areas where there are various different restaurants bode well for the area as it implies a multi-racial and multi-cultural environment. For example, in one-north, there are restaurants of Indian, Thai, Yunnan (Chinese), Filipino, Italian and Middle Eastern.

NOTE: Although data can help to answer most of the questions above, data inference is also essential to address the other questions.

4. Results

Using Decision Trees and segmentation, we have reduced the list of candidate offices to 8. Table 6 below provides a summary of the results and observations.

Table 6: Summary results for the 8 candidate offices

	Name of Workspace	Postal code	Data Source	Google Maps				Foursquare		Marketplace			Google Maps
			Requirements	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
			MRT Station	Shortest Time to office from Bishan MRT, Singapore 579827. (minutes)	Distance on foot (metres)	Time for client to reach office from CBD, assuming client is at Marina Bay Financial Centre, Singapore 018981. (minutes)	Not in CBD	Amenitiies in the neighborhood (out of 6)	Community with Coffee shop and Café in Top 5	Price \$ / Month	In addition to fixed desk, check photos posted on the workspace to get a better feel	Facilities (% of requirements fulfilled)	Style - Corporate, Industrial, Commerical, vs Professional, Casual, Vibrant
1	Regus Coworking Spaces	307591	Novena	11	350	11	TRUE	4	2	405	Professional	82%	Commercial
2	OneSpace Coworking Spaces	408555	Ubi	24	500	15	TRUE	4	1	300	Minimum	73%	Industrial
3	MENDAKI SENSE Coworking	419718	Eunos	30	700	15	TRUE	4	1	250	Minimum	64%	Industrial
4	Regus Coworking Spaces	409051	Paya Lebar	16	150	13	TRUE	3	1	228	Professional	73%	Commercial
5	Regus Coworking Spaces	389777	Paya Lebar	27	950	14	TRUE	3	1	188	Professional	64%	Commercial
6	The Drop Coworking Spaces	408555	Ubi	24	500	15	TRUE	4	1	180	Homely, small scale	55%	Industrial
7	Regus Coworking Spaces	529653	Tampines	34	400	21	TRUE	5	2	461	Professional	73%	Commercial
8	Ucommune Coworking Spaces	139950	one-north	27	750	15	TRUE	3	2	250	Casual with ample space	100%	Industrial

Note that for requirement **[8]**, we added a visual review on the workspace to get a better feel of the space set up. The above 8 candidates have their respective strengths and weaknesses. We have further consulted the contractor on which requirements does he place as more important than others. He cited that requirements **[7]**, **[1]** and **[5]** are the most important. In particular, for requirement **[5]**, the neighbour should have coffee shops, restaurants and food centres.

5. Recommendation and Discussion

5.1. Recommendation

Based on the results and contractor's ranking of the requirements, we recommend 3 workspaces, namely (1) Ucommune, (2) Regus - Paya Lebar @ 409501 and (3) Regus – Novena.

Rental rates at Ucommune is one of the lowest at \$250, with coffee shops, restaurants and food centres in the neighbourhood. Although it is slightly further (27 minutes of commute), it has a casual setup with ample space for social and private matters. It has all the facilities required. The most distinct feature is the community spirit of entrepreneurship as this is the where the Singapore government launched the neighbourhood as the startup hub and the corresponding ecosystem.

For Regus – Paya Lebar and Regus – Novena, they are located nearer to Bishan MRT station. While rental for the former is only at \$228, the rental for the latter is more expensive at \$405. Both have the essential amenities in their neighbourhoods and professional office in commercial buildings.

In all, the above 3 recommended workspaces are operated by very established companies. Ucommune is established in China while Regus is founded in Belgium since 1989 and has been listed in London Stock Exchange. Established companies provide the assurance that the workspace is less likely to face financial difficulties, especially during this stressful period.

Despite the data and analysis provided, we recommend the contractor visit the recommended coworking spaces to get a personal feel. The contractor may or may not like the vibe of the neighbourhood and workspace. In addition, the energy level of the place can only be experienced by personally being there.

5.2. Discussion

For this contractor, given his profile and preference, we have recommended 3 offices. When a new contractor/business owner were to approach us, although the same analysis can be conducted, our recommendations may be different. The recommendations will depend on the requirements stipulated in section 1.3 above. In all, the method/process/analysis can be repeated.

Although this exercise targets someone who is looking for an office space, it also benefits coworking space operators by providing general guidelines which someone goes about looking for an office space. With this intelligence, operators can design their landing page and algorithm to best serve their prospective clients. The current platforms or landing pages simply provide the information on the space available and let prospects do the filtering and sorting out. This has been and continues to be a challenge especially for someone who is new in town. By equipping the prospect with tools and analysis, tailored recommendations can be provided to each prospect. This can be done through data mining, machine learning and most importantly systemisation to improve user the experience significantly

6. Conclusion

In summary, based on the contractor's requirements for a workspace for his startup, we have recommended 3 workspaces for his consideration. We have used data analysis and techniques to address the contractor's complex problem of finding an office workspace. This methodology and approach can be replicated even when the requirements are different. This will prove invaluable to business owners trying to find an office space and the marketplace platform service providers to develop a seamless process that enriches users' experience.

Reference/Acknowledgement

Land Transport Authority of Singapore

Singapore MRT Corporation

FlySpaces.com

Google Maps

Foursquare