INTRODUCING OF ED.BIKE BUSINESS

1. Introduction

1.1 Background

For the purpose of Coursera Capstone , the assignment assumes ED.Bike as hypothetical start-up company. The company recently engineered a fine powerful paper in small thickness as much as possible. When covering a metal, the paper allows to capture solar, transform it into energy power. The company intends to use its innovation as electrical charger for bicycle. Having that special paper covering the body of a bike, it is enough to have it get charged by itself overtime. Though the cost of power to recharge the bike is insignificant, the manpower to collect the bikes and recharge them on a daily basis present a heavy expense for bikeshare companies. Therefore, the company believe that it is a game-changer in biking-share business. The innovation presents a comparative advantage by avoiding regular labor cost.

ED.Bike is lucky to be given patent and it will enjoy the monopoly of that technology for seven years going forward. Therefore, it does want to introduce its product as shared electric digital bicycle, move first, expand as soon as possible. By shared and digital mean that a platform will be made available, the service accessible by subscribers. subscribers will download a mobile application, be given an account and credential for regular self-service. The bicycle business system is kind of same as some established companies like Uber and Lyft do. The only difference will be in terms cost structure given that other companies deal with heavy daily cost.

1.2 problem statement

ED.Bike has got business but not able make it run yet. It can show case that the product is technologically working perfectly, it is momentarily protected against copyright. However, it does not have enough initial money to put the product on the market and have it used by customer to generate revenue. With few cash on account, the company think about running a trial of the business model in mind in few cities in order to attract potential investors with good offers. Our team of consultants is hired to make sense of how to locate good spots in Toronto city where they can expose few numbers of bikes, have them used and make some revenue; just to demonstrate that the business is attractive.

1.3 Data and consulting contract

ED.Bike does not want to pay for broader study on different venues in Toronto. It does assume that some businesses' concentration in area, such as coffee shops, bar … correlate with the rate of human traffic in

town. Therefore, it suggested that we identify neighborhoods with most populated by coffee shops. Therefore, our team is given a simple task; just to identify the neighborhoods with more concentration of coffee shops in Toronto.

Our team think about scraping details of post code and neighborhoods from Wikipedia and get the relative Geospatial coordination data (latitude and longitude) from cocl.us/Geospatial_data/Geospatial_Coordinates.csv file. It will use venues information details about each neighborhood from Foursquare location data to identifying how many coffee shops exist in each neighborhoods of Toronto area. If we are successful to enumerate the neighborhoods and their shares of coffee shop in Toronto, our assignment from ED.Bike, will be looking complete and amazing.

1.4 example of dataframe (next page)

In [24]:
```
neighbourhoods
```

Out[24]:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Malvern, Rouge	43.806686	-79.194353	Harvey's	43.800020	-79.198307	Restaurant
1	Malvern, Rouge	43.806686	-79.194353	Wendy's	43.802008	-79.198080	Fast Food Restaurant
2	Malvern, Rouge	43.806686	-79.194353	Wendy's	43.807448	-79.199056	Fast Food Restaurant
3	Malvern, Rouge	43.806686	-79.194353	RBC Royal Bank	43.798782	-79.197090	Bank
4	Malvern, Rouge	43.806686	-79.194353	Caribbean Wave	43.798558	-79.195777	Caribbean Restaurant
...	...	...	...	...	...	...	...
4901	South Steeles, Silverstone, Humbergate, Jamest...	43.739416	-79.588437	Panorama Park	43.747021	-79.583497	Park
4902	Northwest, West Humber - Clairville	43.706748	-79.594054	Tim Hortons	43.714657	-79.593716	Coffee Shop
4903	Northwest, West Humber - Clairville	43.706748	-79.594054	Economy Rent A Car	43.708471	-79.589943	Rental Car Location

In [25]:
```
neighbourhoods=neighbourhoods.drop(['Venue', 'Venue Latitude', 'Venue Longitude'], axis=1)
```

In [26]:
```
neighbourhoods=neighbourhoods.loc[neighbourhoods['Venue Category']=='Coffee Shop']
neighbourhoods.tail()
```

Out[26]:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue Category
4842	Weston	43.706876	-79.518188	Coffee Shop
4844	Weston	43.706876	-79.518188	Coffee Shop
4857	Westmount	43.696319	-79.532242	Coffee Shop
4881	Kingsview Village, St. Phillips, Martin Grove ...	43.688905	-79.554724	Coffee Shop