MANUFACTURING IN INDIA VS CHINA

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A. Introduction

A.1. Description & Disscusion of the Background

The analysis is on the comparison on the top richest cities in both China and India.

When it comes to choosing the best overseas manufacturer in Asia, two of the most common places for manufacturing are India and China. Both countries have very dynamic manufacturing capabilities and unique economic landscapes with proven skills, strengths and weaknesses that make both countries viable choices. However, it is imperative to weigh your choices carefully by considering specific external factors that will have an impact on your business.

Key Factors that Influence India vs. China's manufacturing:

Manufacturing wages,Labor force size and skill level,Logistics and infrastructure of India and China,Foreign Language Skills,Ease of Doing Business in India vs. China. These factors are used to analyse and compare the two contries their current position and gives some insight how a new business can move in easily. Also pick one one of the city from each country based on the GDP and look for the similarity and disimilarity using Foursquare. This can give the any business the culture and idea to invest.

A.2. Data Description

To consider the problem we can list the datas as below:

1. I used the reference from Wikipedia for the GDP details and WorldBank rating on the countries on various business related facotrs.
2. I used the Wikipedia to get the list of notable companies in both the country India and China
3. I used Forsquare API to get the most common venues of the city Mumbai and Shanghai
4. I used Google Map, 'Search Nearby' option to get the center coordinates of the each specific places.

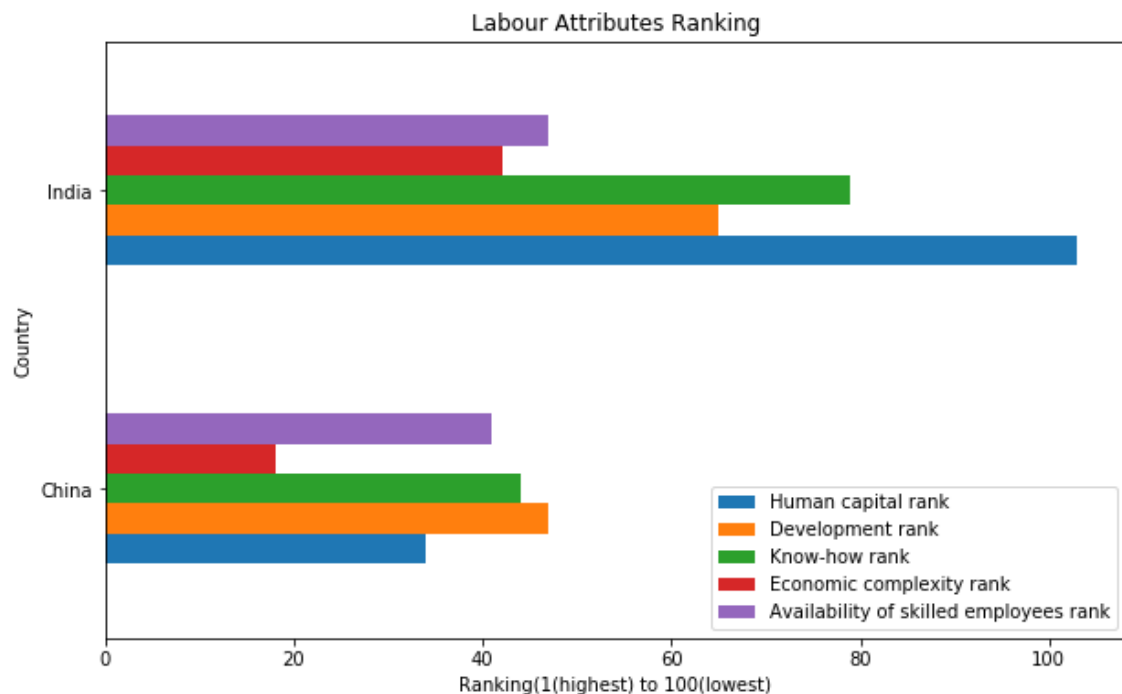|	Country	DB Rank	DB score (0 to 100)	Starting a Business rank	Getting Electricity rank	Getting Credit rank	Paying Taxes rank	Trading Borders rank	Enforcing Contracts rank
0	Cambodia	144	53.8	187	146	25	138	118	182
1	China	31	77.9	28	14	64	114	65	6
2	India	63	71.0	136	22	25	115	68	163
3	Thailand	21	80.1	47	6	48	68	62	37
4	Vietnam	70	69.8	115	27	25	109	104	68

Methodology: Understanding the ranking between China and India on various Business factors

Labor force size and skill level

Among the many manufacturing locations opposing China, India is unmatched in the size of its labor force. According to September 2019 data from the World Bank, India's labor force numbers about 519 million. China's labor force is still much larger with 783 million strong. But Indonesia's labor force, with 134 million workers, is a distant third for the region.

India falls behind many of its neighbors with regard to factors the World Economic Forum use to rank countries in their human capital report. India ranks 103rd overall, while China ranks 34th.

One area where India suffers a deficiency is in "know-how", which includes the breadth and depth of specialized skills at work. We see this directly at play in the quality and complexity of the country's top export products. This metric also measures employers' perceived ease at filling job vacancies.
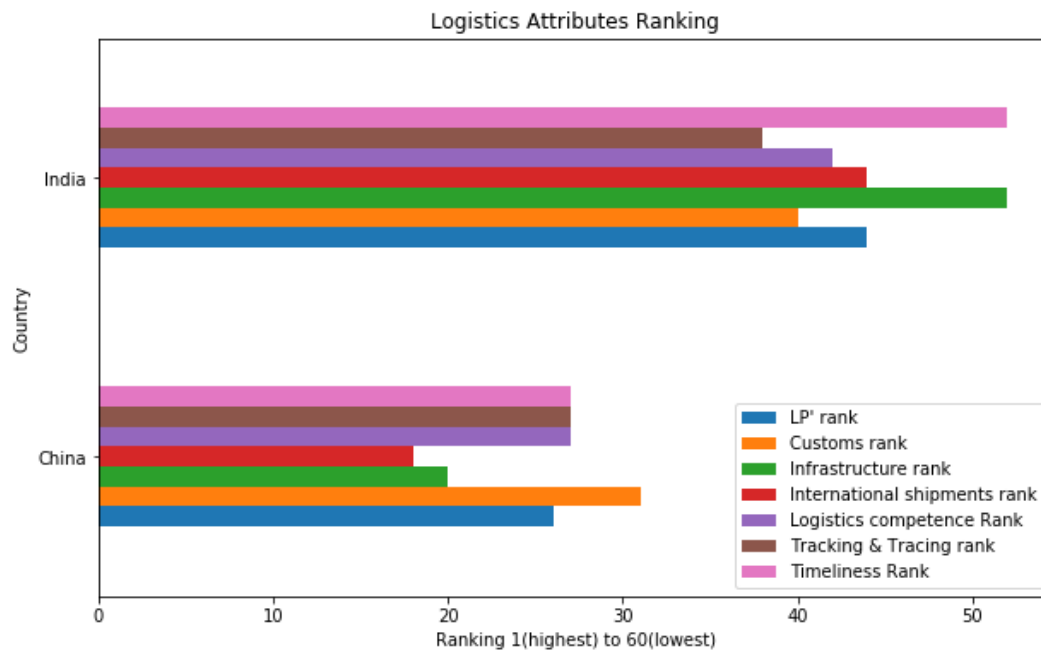

Labour Attributes Ranking

Logistics and infrastructure of India and China

The World Bank publishes its Logistical Performance Index (LPI) every two years, ranking countries according to several criteria, including:

Efficiency of the customs clearing process Quality of infrastructure Ease of arranging shipments at competitive prices Competence and quality of logical services Ability to track and trace shipments; and Timeliness of shipments & ability to meet delivery deadlines China ranks 26th among 160 countries studied, while India ranks behind China and others in Asia at 44th. India lags behind China in two areas, in particular—timeliness and quality of infrastructure.
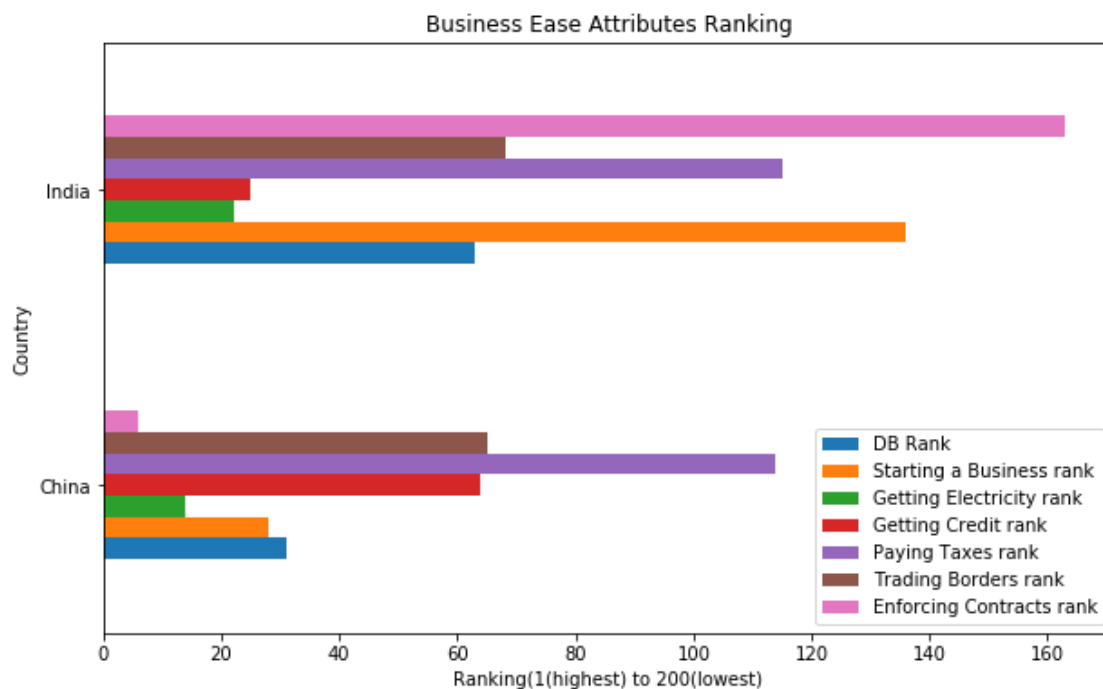
These factors greatly limit the flow of traffic and the capacity of India's roads and railways to support commercial trade. India's government is investing heavily in strengthening infrastructure, however. The government reportedly spent US$1 trillion on infrastructure between 2008 and 2017 and plans to invest about USD 1.4 trillion more in the next five years.

Logistics Attributes Ranking
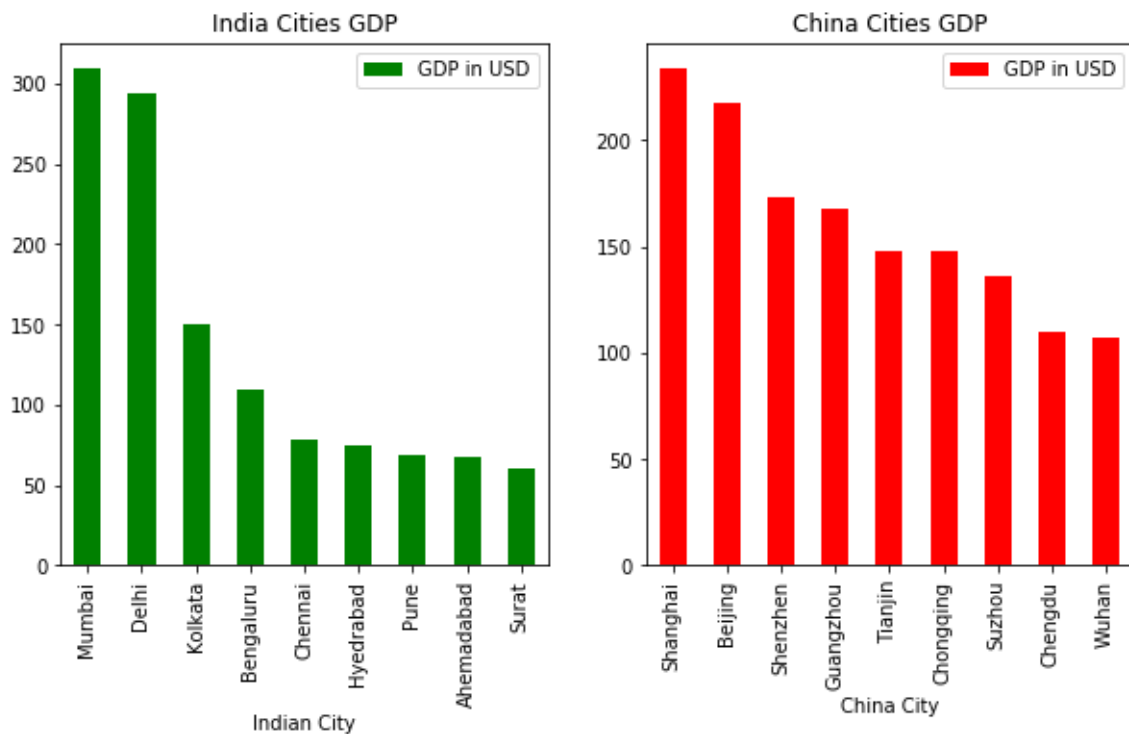
Ease of Doing Business in India vs. China

India still lags far behind China in terms of Doing Business rank. But there are some relevant redeeming areas where the country has performed well or is improving. Obtaining credit, for example is easier in India. And India and China scored similarly in terms of getting electricity, paying taxes and cross-border trade.

Continued reforms are also improving India's ease of doing business, including: Eliminating certain fees involved in registering a business Reducing the time and cost needed to obtain construction permits; and Enabling post-clearance audits for cross-border trade

Business Ease Attributes Ranking

Identify the City in both India and China and understand the similarity in city culture

As per the above bar chart in further analysis we will deep dive comparing the Cities with similar GDP across both China and India. Lets compare the Mumbai(India) and Shanghai(China)

<u>Compare the Notable companies among both Shanghai(China) and Mumbai(India)</u>

```
In [15]:   #Load the data from the HTML Link and process the data (Notable companies)
           INcomp_HTML = 'https://en.wikipedia.org/wiki/List_of_companies_of_India'
           CNcomp_HTML = 'https://en.wikipedia.org/wiki/List_of_companies_of_China'
           #Read the HTML into the Dataframe and use the required table
           INdata = pd.read_html(INcomp_HTML)
           CNdata = pd.read_html(CNcomp_HTML)
           INcomp = INdata[1]
           CNcomp = CNdata[1]
```

```
In [16]:   #Datapreprocessing for both India and China Notable Countires
           INcomp.drop(['Founded','Notes'],axis = 1,inplace=True)
           CNcomp.drop(['Founded','Notes'],axis = 1,inplace=True)
           INcomp['Number'] = 1
           CNcomp['Number'] = 1
           print('Total number of India Notable companies',INcomp.shape[0])
           print('Total number of China Notable companies',CNcomp.shape[0])

           Total number of India Notable companies 393
           Total number of China Notable companies 183
```

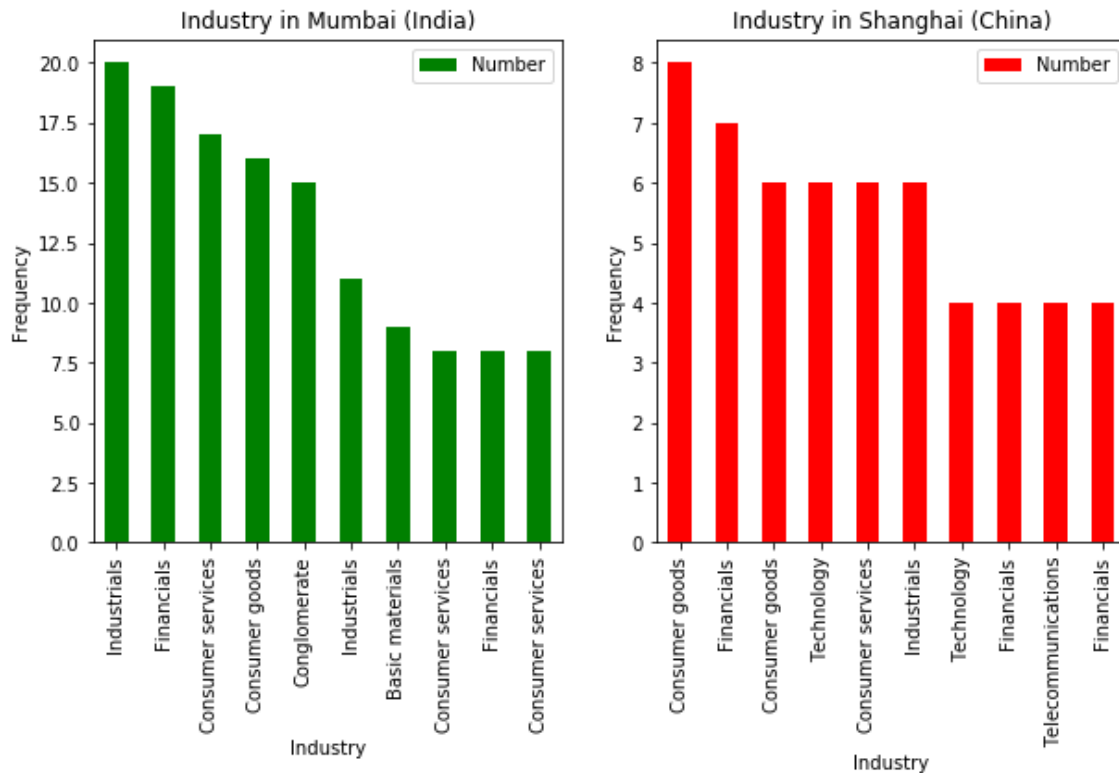## Comparison of the top sectors between Shanghai and Mumbai

The Industries,Financials,ConsumerServices and Consumer goods, seems to be more similar with compariosn of the small percentage of the Business details between both the cities, this gives an idea that these cities look more similar and the business can easily move to the new location vice versa.

Discussion section: Observation of India and China on Various factors

India's performance is well below China's and many other Asian countries' when it comes to contract enforcement. Those raising a legal dispute in Mumbai can expect the whole process— filing suit, awaiting trial and judgement and enforcement—to take almost four years. Meanwhile, a similar dispute in Shanghai is typically resolved in about nine months. The estimated cost of fees associated with raising a suit in Mumbai is also twice that of raising a suit in Shanghai—31 percent of the claim value. The World Bank also ranks "quality of judicial process" on an 18-point scale and awarded Mumbai 10.5 points to Shanghai's 16.5 points.

Where India is improving India still lags far behind China in terms of Doing Business rank. But there are some relevant redeeming areas where the country has performed well or is improving. Obtaining credit, for example is easier in India. And India and China scored similarly in terms of getting electricity, paying taxes and cross-border trade.
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Industry in Mumbai (India) — Industry in Shanghai (China)

FourSquare Venue analysis in Mumbai and Shanghai

This analysis just to check how similar both the places and how soon the business can attain the full phase based on the similarity.

Now, let's get the top 100 venues that are in Mumbai within a radius of 500 meters.
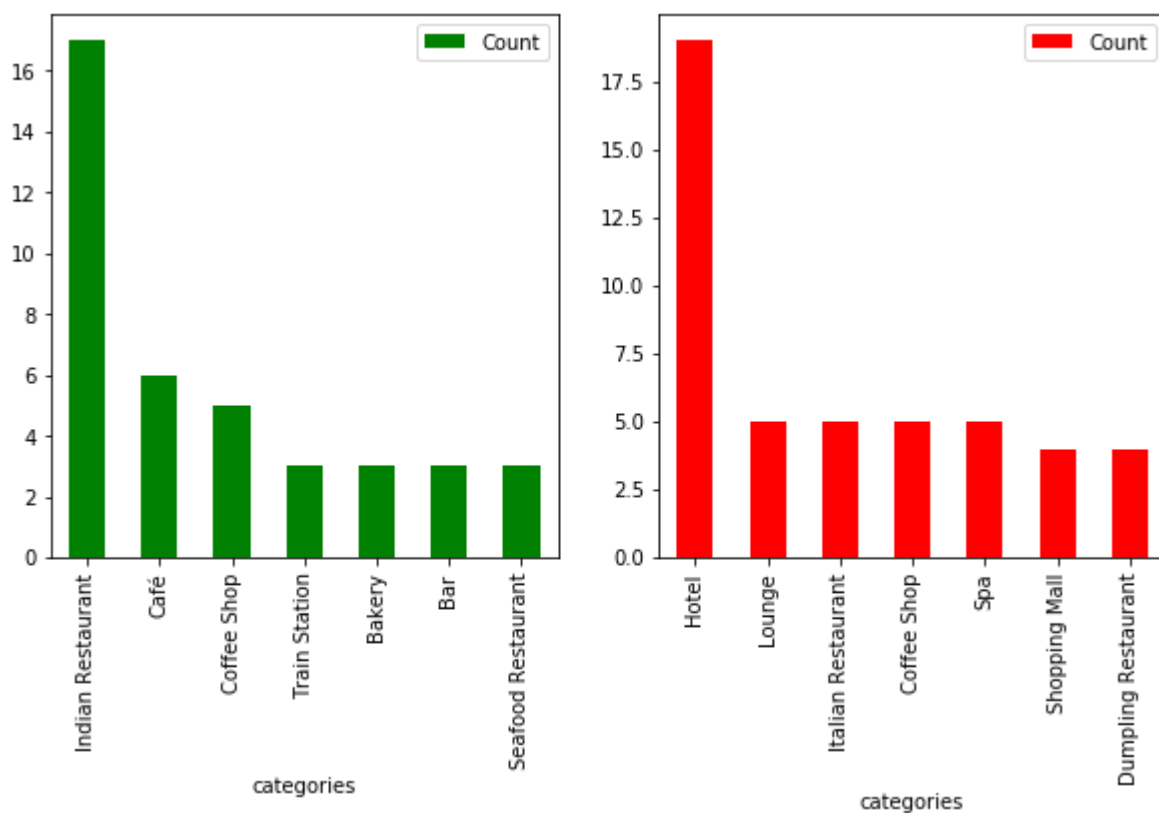
	name	categories	lat	lng
0	Royal China	Chinese Restaurant	18.938715	72.832933
1	Town House Cafe	Bar	18.938550	72.833464
2	Sher-E-Punjab	Indian Restaurant	18.937944	72.837853
3	Cafe Excelsior	Café	18.937701	72.833566
4	Britannia & Co.	Parsi Restaurant	18.934683	72.840183

Now, let's get the top 100 venues that are in Shanghai within a radius of 500 meters.

	name	categories	lat	lng
0	Shanghai Grand Theater (上海大剧院)	Theater	31.231030	121.467263
1	JW Marriott Hotel Shanghai at Tomorrow Square ...	Hotel	31.232216	121.465260
2	Jing'an Sculpture Park (静安雕塑公园)	Sculpture Garden	31.234794	121.463911
3	Hai Di Lao (海底捞火锅)	Hotpot Restaurant	31.237902	121.469456
4	Green Massage (青籁养生)	Spa	31.225242	121.469261

Visualize the similarity between the venues in both the cities

<u>Conclusion</u>

In conclusion, both countries provide solutions for different manufacturing needs, and there are a lot of factors to consider such as pricing, logistics, product expertise, foreign language and manufacturing processes. One should account for all factors that will affect their own specific product and circumstances and determine the best location for manufacturing when choosing between India and China.The compostiton of both the cities Mumbai(India) and Shanghai(China) looks more similar and hence the business can easily adapt to the new environment.

The manufacturing and trade landscapes differ greatly between India and China. India's comparatively low wages make it a much more cost-effective place to manufacture certain types of products.On the other hand, India's inferior infrastructure and tedious regulatory environment can give the most patient importers a migraine.