Investing in a Sushi Restaurant in London

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Introduction

Background –

Tai Chi is a Japanese investor settled in the city of London. He is one of the many descendants of Japanese emigrants who now call London their permanent home. Residential centers of the Japanese community in London have traditionally included areas such Acton, Finchley and Croydon. The City of London hosts many Japanese insurance companies, banks, and security houses. It also includes Japanese job agencies, interpretation & translation companies, and restaurants.

Business Problem –

Tai Chi plans to invest in an existing & upcoming Sushi restaurant in London neighborhood and is searching for potential options. He is a connoisseur of Japanese food & believes that a perfect piece of sushi can convince any non-believer that this is about much more than fish and rice. Besides, he thinks that Japanese dishes have long been providing Brits with a light and healthy alternative to their food therefore, have much more potential to explore in the London restaurant culture.

There are many factors that determine the investment in a restaurant business like its location, its accessibility, footfalls & popularity reviews. Proximity to other leisure businesses, in-house menu & services/facilities, energy & green considerations are important factors in restaurant business investments. This project tries to help Tai Chi analyze the demography, economy & consumption patterns of Londoners. I have studied the London consumers, visitors & neighborhoods through my report to select the most suitable investment option for Tai Chi.

Target Audience –

Tai Chi is the primary target audience for the data analysis undertaken by me through this project. In addition to him, all the potential investors in food industry, particularly in London can also draw insights from this project. The inferences drawn about the economic impact & demographics of London neighborhoods in particular & the United Kingdom in general would be of great help to food business market trend analysts along with restaurant operators. Food lovers, potential bloggers of Asian cuisines & restaurant chain suppliers can also take inputs from this report to support their research & recommendations.

Data Acquisition & Cleaning

For the analysis of Tai Chi's problem, I have tried to understand his situation from a broad perspective while secondly, from a granular perspective. The data acquisition therefore, involves both macroeconomic data sources like the ones about the economy & demographics of London/United Kingdom as well as micro-level data pertaining to the Sushi restaurants in London neighborhoods, their ratings & reviews.

Expenditure & consumption patterns of UK's households like Year-on-year annual household expenditure growth and its region-wise expenditure have both been studied by me in order to understand the purchasing power & disposable incomes of UK households. These act as important determinants for eating out in restaurants & cafes.

Data Sources & Selection –

A. **Macroeconomic data of London/United Kingdom** –

A.1 Demographic indicators –

i. ***Population & Ethnicity in London*** (source link) - I have tried to use Office for National Statistics (ONS) Annual Population Survey to analyze borough-wise share of London population as well as ethnic distribution of population in London. I have restricted my analysis for the year 2017 only as it is more relevant.

ii. ***Population growth in London*** (source link) - These population estimates and projections come from the latest revision of the UN World Urbanization Prospects & represent the Urban agglomeration of London, which typically includes London's population in addition to adjacent suburban areas. Growth rates have been compared for the period 2000-35 showing future projections & past records.

iii. ***Ethnicity in London vs Rest of United Kingdom*** (source link) - These population estimates and projections come from the latest revision of the UN World Urbanization Prospects. I have studied the ethnic mix of population in London vs. other regions in the United Kingdom as per the 2011 Census.

iv. ***Ethnicity in London Boroughs*** (source link) – Wikipedia page here produces data about the Demography of London. I have scraped the data in the table Race by borough section of this page to show the proportion of races by London borough (as found in 2011 census).

A.2 Economic, Consumption & Expenditure Indicators-

i. ***Number of International Visitors to London*** (source link) - Visitors from overseas broken down by duration, quarter and country of origin 2002 to 2017 (Quarterly data to Q3 2018). Table includes data on visits, nights and spending. All data has been taken from the International Passenger Survey (IPS). I have only used data for Visits (in 000s) by Country and considered only visitors from Japan during recent period (2012-18) to evaluate Japanese tourists visiting London.

ii. ***Year-on-year annual household expenditure growth in UK*** (source link) – I have used data from Office for National Statistics in order to understand consumer trends in UK. Household final consumption expenditure (HHFCE) for the UK, as a measure of economic growth. Here, I have used the UK's data pertaining to chained volume measure (this measure removes the effects of inflation) for the period 2011-18 to show year on year percentage growth in expenditure of households.

iii. ***UK's Household expenditure by region vs. UK average expenditure per week*** (source link) – This data source helps understand region-wise Average weekly household expenditure on goods and services in the UK, for financial year ending 2015 to financial year ending 2017. It tries to compare the £ per week expenditure in each of these regions (including London) with the UK average.

iv. ***Nationwide House Price Index for London and the UK*** (source link) - Nationwide Regional House Price Index (Quarterly since 1973) is one of several indicators for house prices published on a quarterly basis. I have considered housing indicator's data from 2013-18 only for estimating the Annual % change in house prices in London vs. that in the UK.

v. ***How businesses rate London as a place to do business in 2014*** (source link) - The 2014 London Business Survey (LBS) is an innovative survey designed by the Office for National Statistics. This dataset contains information on London as a business location and the factors affecting businesses presented by enterprise size & industry sector as a percentage of business units. I have tried to evaluate the survey results but scraped the data & tried to restrict my study to only Accommodation, food, travel and tourism industry in particular.

vi. ***Factors affecting businesses in London in 2014*** (source link) - The 2014 London Business Survey (LBS) is an innovative survey designed by the Office for National Statistics like the above one & studies the factors affecting businesses including the costs of energy and materials, taxes and business rates, government regulations,

travel infrastructure, IT/connectivity. Here too, I have restricted myself to data with respect to only Accommodation, food, travel and tourism industry in particular.

B. **Micro-level data London Neighborhoods, Sushi Restaurants** –

B.1 London Neighborhoods' Data Compilation –

Data related to areas in London along with their neighboring boroughs was found from the below 2 sources on Wikipedia page. London is administered by the City of London and 32 London boroughs.

i. ***List of areas of London*** (source link) – I have tried to scrape through the Wikipedia page to extract table listing down major locations in London with their Post Codes, OS grid reference (Ordnance Survey National Grid reference system is a system of latitude and longitude) & their respective London boroughs (a borough is an administrative division in various English-speaking countries).

ii. ***List of London boroughs*** (source link) – I have combined the data derived from the above source with the list of boroughs data here to enumerate a list of all the London boroughs with their corresponding coordinates.

B.2 London Neighborhoods Data Visualization (using Folium Choropleth Maps) –

London neighborhoods' location & corresponding latitude, longitude details were compiled from Wikipedia pages above to create a choropleth map. It comprised of all the London borough locations superimposed on the map of London city.

C. **Explore & Cluster Sushi Restaurants (Foursquare API location data)** –
Finally, I have leveraged on the Foursquare location data to execute my search for Sushi restaurants in London neighborhoods around the center of London city. I have explored & clustered all venues, their ratings, tips & reviews to help Tai Chi find the most suitable Sushi restaurant in London neighborhood for his investment.

Data Cleaning –

Data downloaded or scraped from multiple sources & webpages were cleaned & formatted by me as per the desired requirements for my analysis. These were then combined to perform further analysis in Python. I have used Macroeconomic data regarding demographics & economic indicators of United Kingdom & London pertaining to more recent years (mostly 2010 onwards up till 2017-18) in order to make it more relevant. In most cases, data for 2019 was not readily available on the web, hence not included.

There have been some limitations with the datasets which would have made the analysis difficult thus, some adjustments have been made in compilation. Firstly, demographics & economic data for

United Kingdom is an important factor determining the growth of restaurant industry. Office for National Statistics, one of the largest independent producers of official statistics therefore, has been primarily used to draw economic & ethnicity-related statistics for this project. Data regarding number of international visitors to London have been compiled for all the countries. However, this data has been cleaned primarily to obtain Japan-specific numbers so as to highlight the changes Japanese immigrants to London over the last few years.

Secondly, the data pertaining to London neighborhoods was scraped from Wikipedia page and converted to data frame tables. However, some Locations had multiple London boroughs against them for example *Acton* location had *Ealing, Hammersmith and Fulham* as its London boroughs therefore, for ease of mapping them to respective coordinates I have selected only one of the London boroughs against these locations. So, now Acton location has its London borough as Ealing and coordinates of Ealing are shown in the latitude & longitude columns.

Thirdly, while using location data services of Foursquare API to search for Sushi restaurant venues around London center there were some duplicate venue names filtered in the data frame. For example, the YO! Sushi restaurant or the Kulu Kulu Sushi restaurants are chains of Sushi restaurants located in different locations across London. Each outlets of these chains of restaurants was regarded as a separate venue. I have tried to compare the ratings of each of these outlets but considered only the highest rated outlet as one venue option representing the entire restaurant chain in my analysis.

Methodology

A number of Python libraries have been used in this project to perform data analysis & visualization. Below are some of them:-

1. **Pandas** provide high-level data structures and a vast variety of tools for analysis. I have tried to use many built-in methods for grouping; sorting, filtering, and combining data downloaded from excel files or scraped from Wikipedia pages. The data once sorted and filtered is put into Dataframes to perform further analysis and visualizations.

2. **Matplotlib** is the most popular data visualization library in Python. It allowed me to create figures and plots easily to support my analysis. I could build diverse charts, from bar charts to line graphs and evaluate macro-level data in particular. For example, Time series (Line Plot) chart that shows a trend over a period of time was used to show Year-on-year annual household expenditure growth in UK during 2011-18, thereby studying the consumer spending patterns in UK.

3. Geocoding refers to the conversion of addresses into coordinates and, vice versa (reverse geocoding). **Geopy** is an excellent Python library for (among others) geocoding and reverse geocoding that supports many APIs. In this project I used the **Nominatim API**, which is based on OpenStreetMap (OSM) data. The OSM data is subject to the Open Database License (ODbL). It does not necessarily require an address consisting of street, house number, and city, but also knows many business addresses and points of interest.

4. **Folium** is a powerful data visualization library in Python that was built primarily to visualize geospatial data. With Folium, one can create a map of any location in the world if its latitude and longitude values are known. Folium was extensively used by me to create map of London around its coordinates' center. These maps were also used to superimpose Sushi restaurants explored using Foursquare location data services around London's center. As these maps were interactive in nature, it was quite handy to zoom in and out locations once rendered.

Data visualization is a broader term that describes any effort to help people understand the importance of data by placing it in a visual context. Patterns, trends, and correlations can be easily shown visually which otherwise might go unnoticed in textual data. It is a fundamental part of the data scientist's toolkit. Creating visualizations to support my study about the economic trends in London was an integral part of my project. Multiple bar charts, line charts, horizontal bar graphs and pie charts ere used extensively to display movements in data with time, region and demography.

Demographic analysis involves measurement of the dimensions and dynamics of populations. These methods have primarily been developed to study human populations, but are extended to a variety of areas where researchers want to know how populations of social actors can change across time. Demographic analysis has been a key area of research in my project. A number of Census reports and National Statistic sources were used to understand the ethnicity & racial mix of the United Kingdom. For example, data from the International Passenger Surveys were used to estimate the international migration to London from Japan.

Economic data Analysis - Household spending is the amount of final consumption expenditure made by resident households to meet their everyday needs, such as: food, clothing, housing (rent), energy, transport, durable goods (notably, cars), health costs, leisure, and miscellaneous services. It is an essential variable for economic analysis of demand. As shown in my report, Year-on-year annual household expenditure growth in UK is a topic of major concern for economists as household's savings are declining while their consumer debts rising. This in turn makes UK's households net borrowers.

In addition to this, people are struggling under the weight of living costs due to high the Housing and energy expenditures. This is evident from the National House Price Index data in my analysis showing rising Annual % change in house prices.

Spatial analysis or spatial statistics includes any of the formal techniques which study entities using their topological, geometric, or geographic properties. **Geospatial analysis,** or just spatial analysis, is an approach to applying statistical analysis and other analytic techniques to data which has a geographical or spatial aspect. Such analysis was performed in this project with the help of Folium library particularly for rendering maps of London city and its neighborhoods processing spatial data, and applying analytical methods to terrestrial or geographic datasets, including the use of geographic information systems and geomatics.

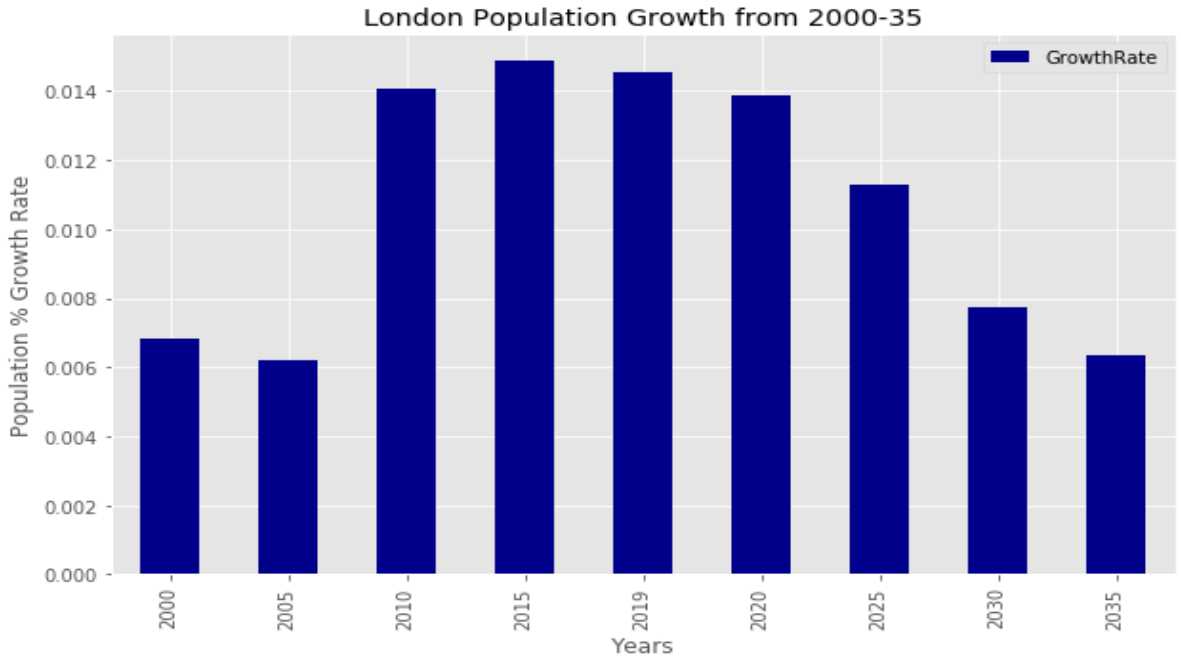
Location data services have become a critical and versatile tool for marketers measuring the impact of digital and traditional media on restaurant visits and sales. I used Foursquare Places API in my project to gather diverse information about location based experiences in London, about Sushi restaurant venues, users, their tips, and review. Exploring venues using search queries and using Foursquare ratings I selected the Top 5 Sushi Restaurants in London.

One hot encoding is a process by which categorical variables are converted into a form that could be provided to Machine Learning algorithms to do a better job in prediction. Using this technique for the neighborhoods of Top 3 Sushi restaurants I was able to print the top 5 most common venues and display a table with Top 20 most common venues for each neighborhood. This analysis helped me analyze the locations surrounding the 3 restaurants for their diversity, mix of customer footfalls, economic conditions, ethnic mix if any and demographic footprints.

Results

Tai Chi's business problem was based in London and concentrated mainly on the *Sushi and Restaurants*. Therefore, I tried to simplify my data selection and evaluation centered on these two words.

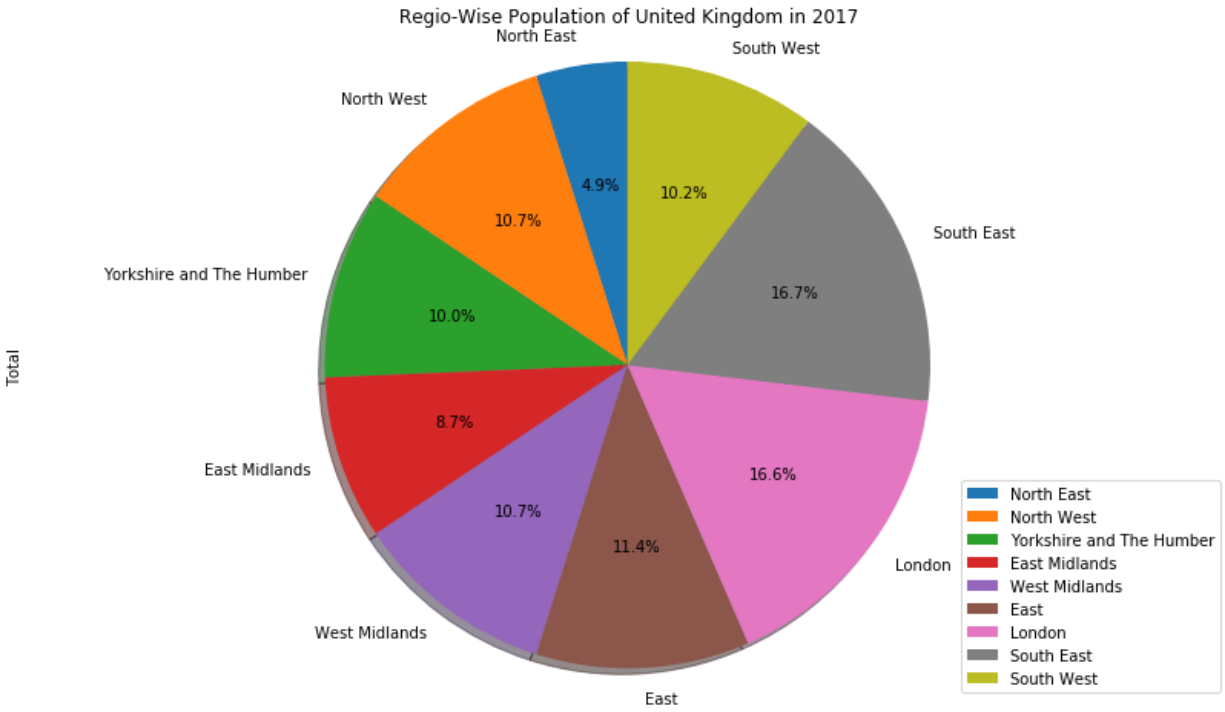
I started with analyzing the population growth rate in London starting from 2000 and projecting it till 2035. The graph in initial periods shoed a rising trend, primarily due to increasing prosperity combined with increased immigration. Just 20 years later, the population had increased to 7,172,036 at the time of the 2001 census, and further increases are expected to push the population past 9 million by 2021. However, around 2025 it showed a slump in the growth rate as shown in the bar chart below.



The movement of Londoners outside the city is happening mainly among those in their thirties and forties with children who are finding it increasingly difficult to adjust to high costs of living and afford homes in Greater London. However, this outflow of young families is somewhat offset by the influx of people in their 20s (mostly university graduates) coming to London to educate or in search of work. Thus, London seems to be becoming transient city where the young come to seek jobs and opportunities but leave the moment other priorities, such as buying a house, come into play.

Here, it was essential to study how London fared in terms of Population share in United Kingdom as compared to other regions like North East, South West etc. For this reason I plotted a pie chart showing the same.

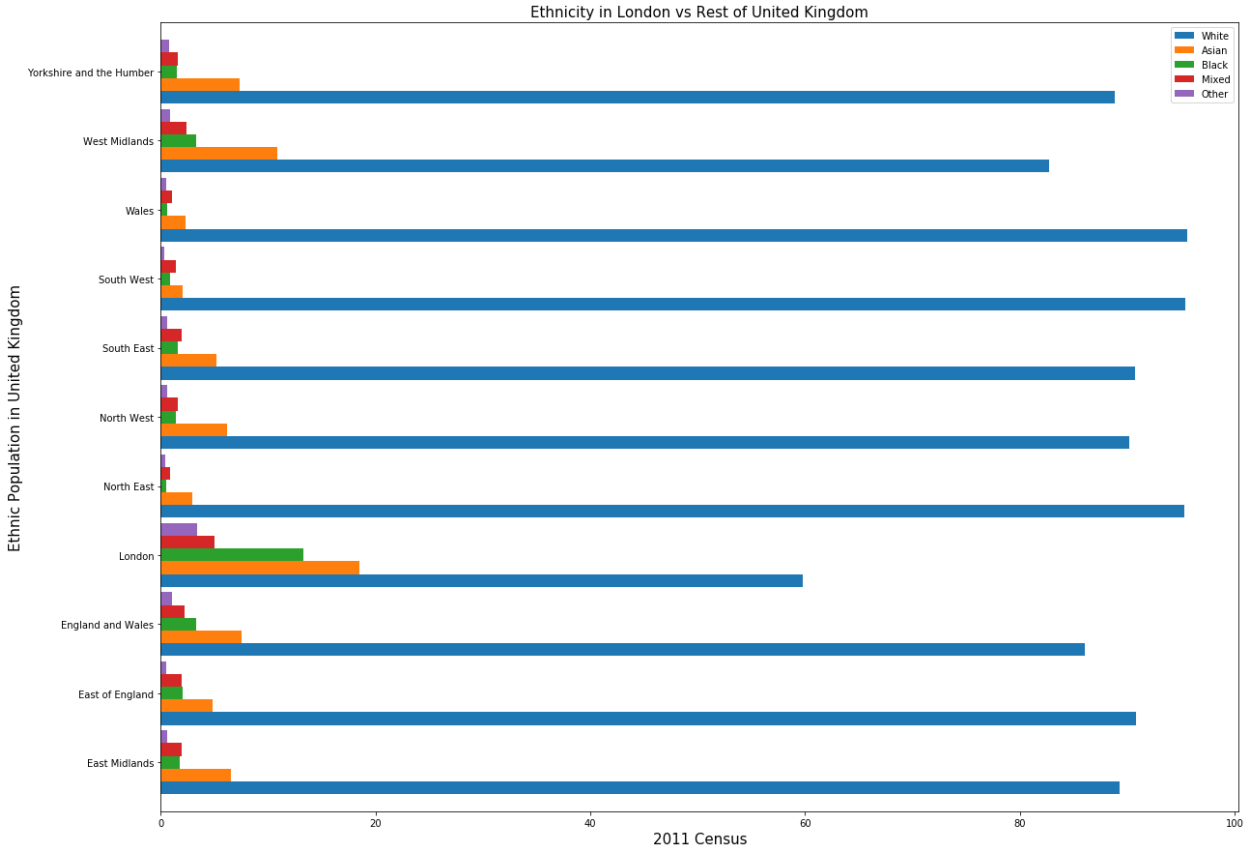
The Pie Chart on the next page shows the Total distribution of Population in major regions of United Kingdom vs. London for the year 2017 show that London's population made it by far the largest city in the United Kingdom, ahead of Birmingham, the second largest city in UK. We could also see from the chart below that London's population is the second highest (approx. 16.6%) in UK after South East (16.7%).



Now, I wanted to understand the ethnic mix of population in London compared to rest of United Kingdom regions. The numbers analyzed were based on 2011 Census figures. It was found that, London as a city is considerably more diverse than the rest of the United Kingdom. Across England and Wales, 86% of the population is White based on the 2011 Census, but in London that number falls to 69.7%. The White proportion of London's population increases when traveling away from the city center.

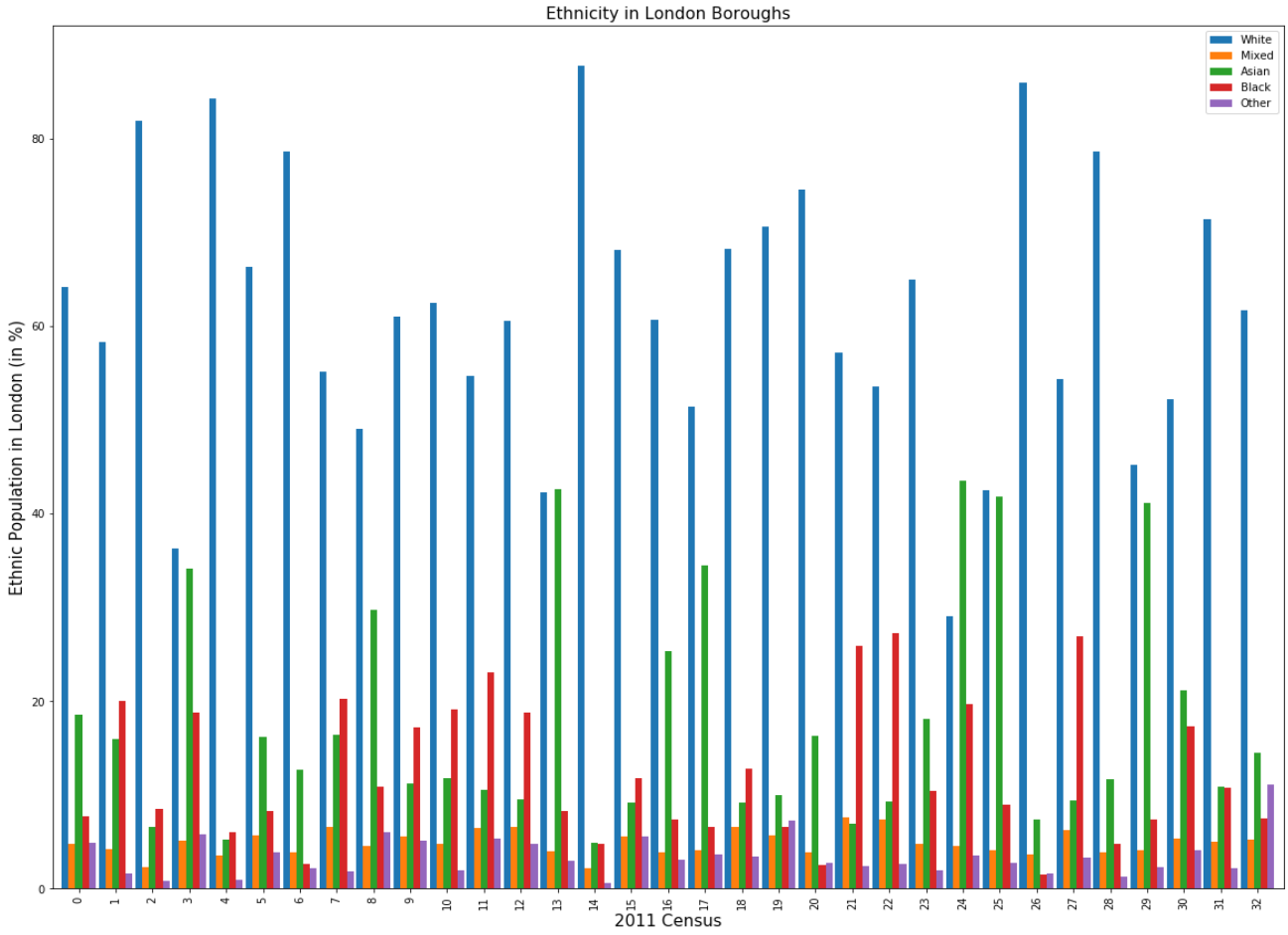
Another observation made was that although there was a decrease in % of White population in London compared to the rest of England, the Asian population seemed to be much higher in London (almost more than double) than in other parts. This observation substantiated the claim that London has been a very diverse city in UK with a strong mix of culture and ethnic backgrounds.

This could support Tai Chi's choice of London as an investment destination for a Sushi restaurant where food would be inspired by Asian culture as against European or British.



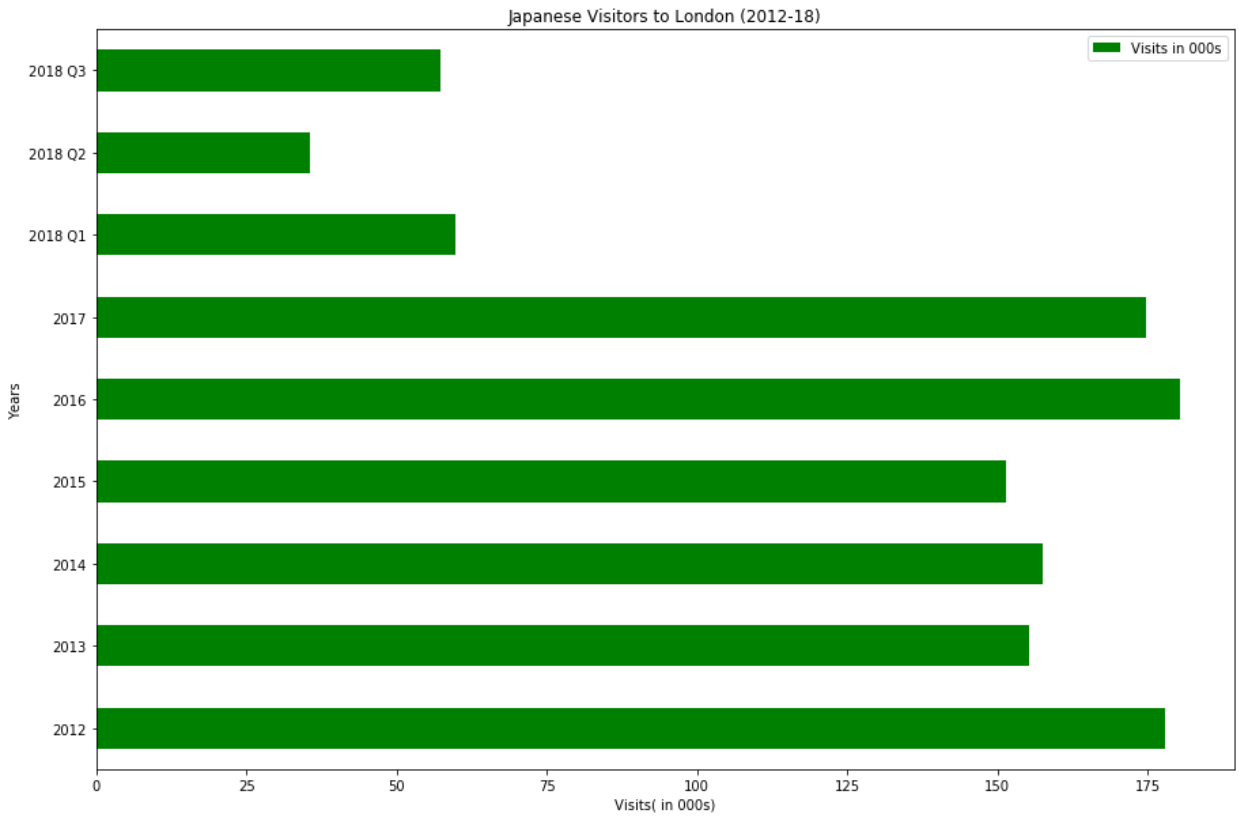
Our ethnicity related inferences drawn about London were further supported by evaluating Borough-wise Ethnicity in London. Like in rest of the England, Whites form the largest part of London's population in almost all the boroughs as shown in the graph on the next page. Asians are the second largest part, except for some boroughs like Harrow & Redbridge where they equal the Whites.

Newham was the only borough where Asians outnumber White population.



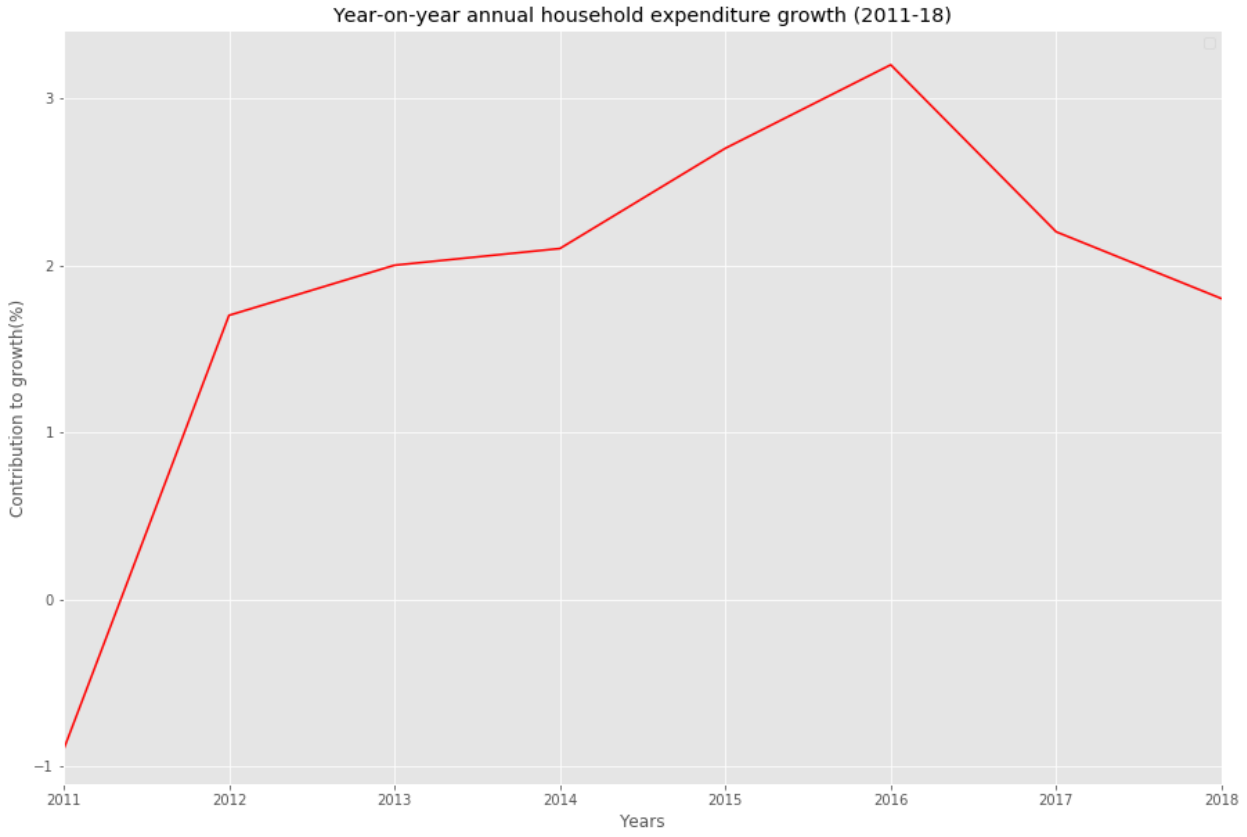
After making useful insights from ethnicity data both in London and UK in general I went on to assess the trends in migrant population to London. I intentionally restricted my analysis to Japanese visitors to London only.

This helped me find out about Japanese travelers coming to London which in turn were a major customer segment for Sushi restaurants and propagators of Japanese food and culture both in London and back home in Japan.



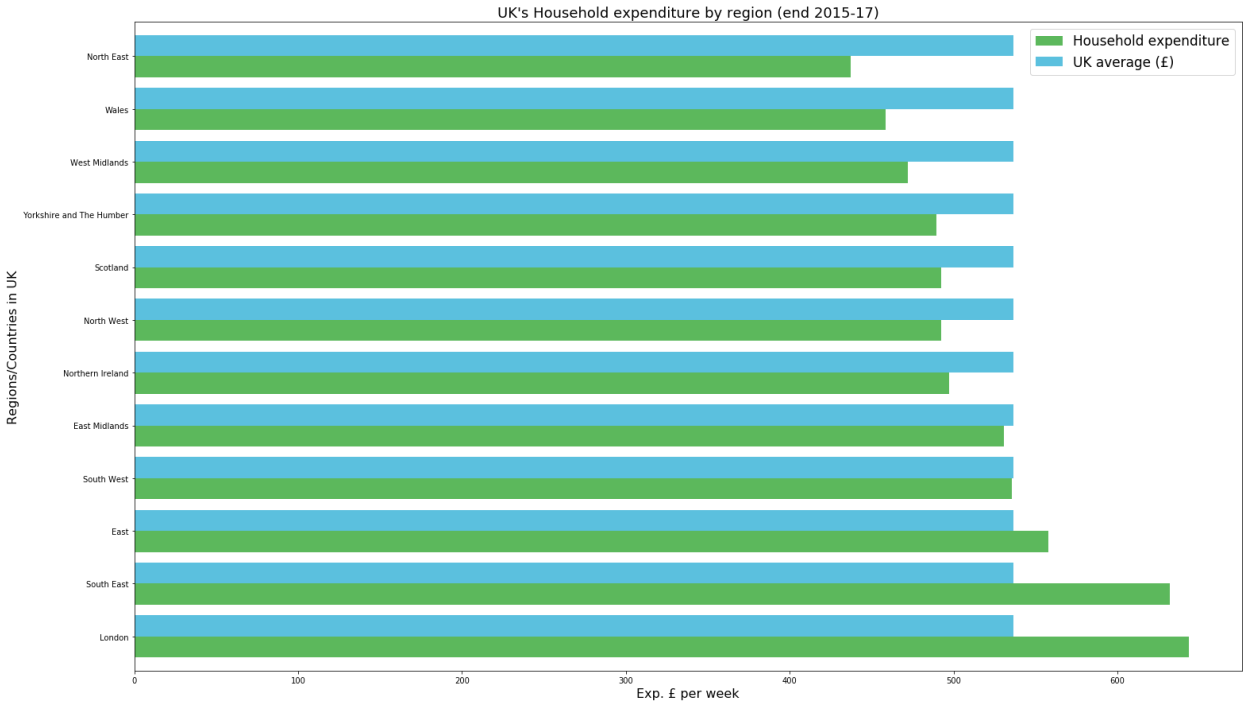
As we can see from the above horizontal bar plot, although the number of Japanese visitors increased substantially in the year 2012 & during 2016-17, thereafter there has been a decline during the first 3 quarters of 2018. Primary reason for this could be the uncertainty in pending Brexit decision in UK and any associated Visa related restrictions imposed by the authorities.

Consumption patterns and household spending were also important indicators of the cost of living and economic condition of families living in London. Thus, Household final consumption expenditure (HHFCE), as a measure of economic growth as analyzed next. Here, UK's only the data pertaining to chained volume measure for the period 2011-18 was used to show year on year percentage growth in expenditure of households in the UK.



The year on year percentage growth in expenditure of households in the UK showed an increasing trend as per the line graph above. However, the growth rate had declined in the last two years. However, cost of living and consumer's expenses still continued to be major concerns for the UK economy.

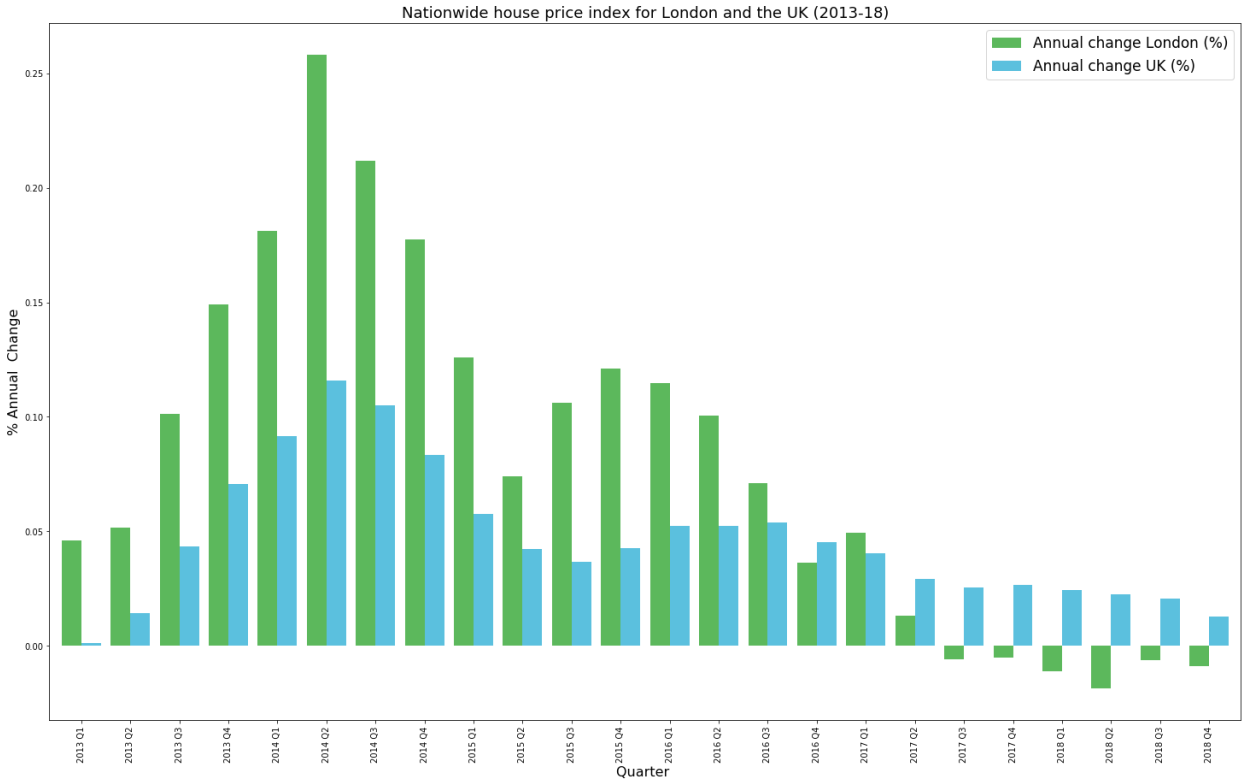
To further understand the issue, I tried to compare the (£ per week) expenditure in each of the regions (including London) with the UK average. The comparison was made for FY ending 2015-17. Consumer's expenditure & consumption patterns in London will help us understand the culture in London & priorities of Londoners as different from UK citizens in other regions.



When comparing between English regions and UK constituent countries, average weekly household spending differed by more than £200. England had the highest level of household spending for FY ending 2015-17. Average weekly household spending for England was £547.40 a week, compared with the UK average of £536.80 for the same time period

Another indicator, housing prices (Nationwide Regional House Price Index) published on a quarterly basis, for 2013-18 only estimated the Annual % change in house prices in London vs. that in the UK. A visualization of this data helped us to analyze the cost of living & Household spending patterns in London vs. other regions of UK.

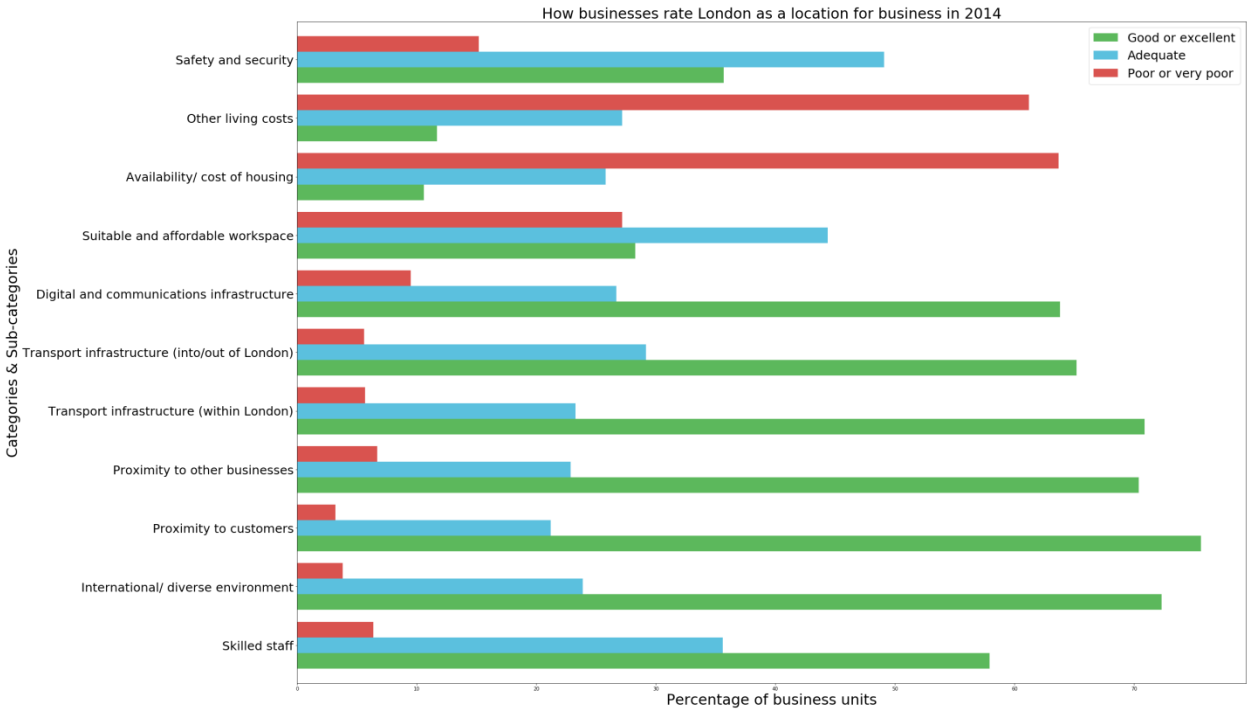
It was clear that the Annual % change in House prices in London had been very high compared to the same in UK. Also, it had shown an increasing trend every year till 2014 ending however, recently the trend has declined for London. Recent results even showed a negative % change in House Prices Index for London (from 2017 Q3 onwards), thereby showing housing to become cheaper & more affordable than rest of UK in recent times.



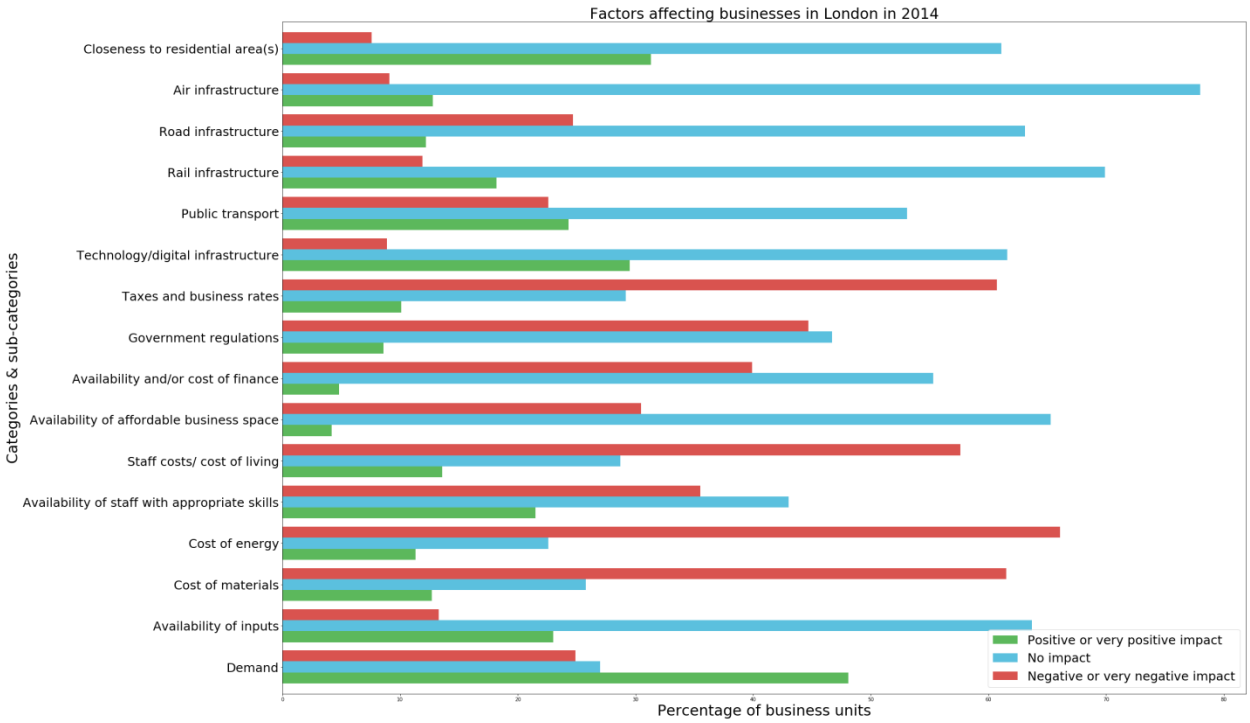
Although, a declining rise in house price was a positive trend, we could not assertively treat it as a long term change. Besides, a higher overall cost of living in London was still a major cause of concern.

Next, I moved further to evaluate the business outlook in London particularly restricting my study to Accommodation, food, travel and tourism industry. London Business Survey 2014 data contained key information on how businesses rate London as a business destination in 2014 based on some key factors. It acted as a major indicator assessing London as a potential business hub for investment & economic growth. The survey was presented by all enterprises, sizes & industry sectors as a percentage of business units. Businesses rated London on various key factors & bucketed it into 3 sub categories Good or Excellent, Adequate & Poor or very poor for each of the factors.

As we can see below, most of businesses rated London as a positive destination for business with regards to factors like Transport infrastructure, Digital & communication infrastructure, International environment, its proximity to customers & other businesses and availability of Skilled Staff. However, the availability & cost of housing and other living costs appeared to be major impediments to their decisions. Most of them in 2014, rated London as being poor as a destination for business in this regard.



Factors affecting businesses in London in 2014 was another measure containing information. Here also, businesses in the Accommodation, food, travel and tourism industry rated all the factors in London & put it into 3 sub categories Good or Excellent, Adequate & Poor or very poor. Staff cost of living, Taxes & business rates were some factors having negative impact on businesses in London. Other than these most of the factors like transport, technology infrastructure & demand had either no impact or positive impact for investors in business here.



After all this, I went on to concentrate on Micro-level factors pertaining to London neighborhoods. For this, I extracted details about London areas, its neighborhoods from Wikipedia pages, cleaned and formatted them into data frames consisting Locations, their corresponding London Boroughs and their location coordinates as shown below.

	London borough	Latitude	Longitude
0	Barking and Dagenham	51.5607	0.1557
1	Barnet	51.6252	-0.151
2	Bexley	51.4549	0.1505
3	Brent	51.5588	-0.281
4	Bromley	51.4039	0.0198
5	Camden	51.5290	-0.125
6	Croydon	51.3714	-0.097
7	Ealing	51.5130	-0.308
8	Enfield	51.6538	-0.079
9	Greenwich	51.4892	0.0648
10	Hackney	51.5450	-0.055
11	Hammersmith and Fulham	51.4927	-0.233

These were used to generate a map of all the locations superimposed on a map of London city. Blue circle markers were used to highlight each location on the map.

Now, my analysis moved on to exploring Sushi restaurants in London. Using this as the search criteria I explored venues around the center of London city. No radius limit was given.

	name	categories	address	cc	city	country	crossStreet	distance	formattedAddress	labeledLatLngs	lat	lng	neighborhood	po
0	YO! Sushi	Sushi Restaurant	Festival Riverside, Royal Festival Hall	GB	City of Westminster	United Kingdom	Southbank Centre	713	[Festival Riverside, Royal Festival Hall (Sout...	[{'label': 'display', 'lat': 51.50624666437051...	51.506247	-0.117494	London	
1	YO! Sushi	Sushi Restaurant	Unit 2/3, The Balcony, London Waterloo Railway...	GB	London	United Kingdom	NaN	1094	[Unit 2/3, The Balcony, London Waterloo Railwa...	[{'label': 'display', 'lat': 51.50324800882733...	51.503248	-0.113278	Waterloo, London, Greater London	
2	Sushi Eatery	Sushi Restaurant	40 Frith St	GB	London	United Kingdom	NaN	681	[40 Frith St, London, Greater London, W1D 5LN,...	[{'label': 'display', 'lat': 51.51305521326157...	51.513055	-0.131108	NaN	
3	Sticks'n'Sushi	Sushi Restaurant	11 Henrietta St	GB	London	United Kingdom	NaN	497	[11 Henrietta St, London, Greater London, WC2E...	[{'label': 'display', 'lat': 51.511038, 'lng':...	51.511038	-0.123655	NaN	W

The search result displayed a total of 30 Sushi restaurants located at different locations across London. All these venues were then displayed on the Folium map of London (see next page).

These were highlighted with red circle mark representing the center of London while the green circle marks located all the Sushi restaurant venues around it (as shown in the map on next page).

Assessing the ratings of these 30 restaurant venues was the next step in finding the best among the long list. Foursquare API location data services were used in this regard.

	Restaurant Name	Rating	Distance frm LDN's center(in mtrs)	Address	London Neighborhood
0	SUSHISAMBA City	9.1	3368	110 Bishopsgate	City of London
1	Sticks'n'Sushi	9.1	497	11 Henrietta St	Westminster & Camden
2	Sushi Atelier	8.9	1690	114 Great Portland Street,West End	Westminster & Camden
3	Sushi Surprise	8.6	3689	52 Scrutton St	Hackney
4	Sakana Sushi Japanese Kitchen	7.9	3913	43A Commercial St	Tower Hamlets

Based on the ratings the above Top 5 Sushi restaurants were selected from among the list of 30. As we can see above both the Top 2 restaurants SUSHISAMBA City and Sticks 'n' Sushi had the same ratings 9.1 therefore, we needed to study them further.

I then needed to explore and study the London Boroughs of Top 3 restaurants out of the list of Top 5 Sushi restaurants. I searched the location addresses o Top 3 restaurants in Foursquare API. After exploring the Top 3 restaurant venues, I then combined the results into a single data frame.

Next, I used one hot encoding to further process the combined data frame to find out the number of venues returned for each Category & Neighborhood address as shown below.

neighborhood	categories	name	address	cc	city	country	crossStreet	distance	formattedAddress	labeledLatLngs	lat	lng	postalCode	state	id
Bishopsgate	Bookstore	1	1	1	1	1	0	1	1	1	1	1	1	1	1
	Building	1	1	1	1	1	0	1	1	1	1	1	1	1	1
	Church	1	0	1	0	1	0	1	1	1	1	1	0	0	1
	Cocktail Bar	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	College Administrative Building	1	0	1	1	1	0	1	1	1	1	1	0	1	1
	Colombian Restaurant	1	1	1	1	1	0	1	1	1	1	1	1	1	1
	Coworking Space	1	1	1	1	1	1	1	1	1	1	1	0	1	1
	Fish & Chips Shop	1	1	1	1	1	0	1	1	1	1	1	1	1	1

From the above analysis it was found that Bishopsgate address, the location of SUSHISAMBA City Restaurant had a very diverse mix of neighboring venues comprising of a Church, a bookstore, a Co-working space, College buildings, a garden, a fitness center, historic site & even a park as against the other restaurant addresses.

Hereafter, I analyzed each neighborhood and examined the new data frame. For this, I grouped each neighborhood & took the mean of frequency of occurrence of each category. Once the groupings of neighborhoods were done, I printed each neighborhood with its top 5 most common venues as below.

```
-----Bishopsgate-----
           venue  freq
0  Office         0.10
1  Cocktail Bar   0.07
2  Men's Store    0.07
3  Park           0.03
4  Metro Station  0.03


-----Charing Cross-----
                venue  freq
0  Tech Startup         1.0
1  Arts & Crafts Store  0.0
2  Radio Station        0.0
3  Lawyer               0.0
4  Men's Store          0.0


-----City of Westminster-----
                venue  freq
0  Restaurant           0.07
1  Burger Joint         0.07
2  Pizza Place          0.07
3  Cocktail Bar         0.07
4  Arts & Crafts Store  0.04
```

Then, I sorted the venues in descending order to display the Top 20 most common venue for each neighborhood (see below).

Neighborhood	Bishopsgate	Charing Cross	City of Westminster	Covent Garden, Greater London	West End
1st Most Common Venue	Office	Tech Startup	Pizza Place	English Restaurant	Grocery Store
2nd Most Common Venue	Cocktail Bar	University	Burger Joint	University	Office
3rd Most Common Venue	Men's Store	Colombian Restaurant	Cocktail Bar	Coworking Space	Sushi Restaurant
4th Most Common Venue	Lawyer	Hawaiian Restaurant	Restaurant	Historic Site	Stationery Store
5th Most Common Venue	Optical Shop	Gym / Fitness Center	Hotel	Hawaiian Restaurant	Restaurant
6th Most Common Venue	Neighborhood	Grocery Store	Boutique	Gym / Fitness Center	University
7th Most Common Venue	Miscellaneous Shop	General College & University	Café	Grocery Store	Pub
8th Most Common Venue	Metro Station	Garden	City	General College & University	General College & University
9th Most Common Venue	Park	Fish & Chips Shop	Clothing Store	Garden	Hawaiian Restaurant
10th Most Common Venue	Pharmacy	Film Studio	Dumpling Restaurant	Fish & Chips Shop	Hostel
11th Most Common Venue	Coworking Space	English Restaurant	Indian Restaurant	Film Studio	Dry Cleaner
12th Most Common Venue	Train Station	Dumpling Restaurant	Men's Store	Dumpling Restaurant	Dentist's Office
13th Most Common Venue	Historic Site	Dry Cleaner	Neighborhood	Dry Cleaner	Juice Bar
14th Most Common Venue	Gym / Fitness Center	Dentist's Office	Office	Dentist's Office	Metro Station
15th Most Common Venue	General College & University	Coworking Space	Optical Shop	Colombian Restaurant	Photography Lab
16th Most Common Venue	Garden	College Administrative Building	Arts & Crafts Store	Train Station	Film Studio
17th Most Common Venue	Colombian Restaurant	Hostel	Pub	College Administrative Building	Building
18th Most Common					

From the above analysis it was evident that only neighborhoods Bishopsgate & West End had a Sushi Restaurant among its top 20 Most Common Venues. While, West End had a Sushi restaurant as its third most common venue, Bishopsgate has it on 20th.

After studying the neighborhoods of restaurant venues in detail let's move on to evaluating the customer reviews/tips for the Top 2 Sushi restaurants themselves. SUSHISAMBA City and Sticks'n'Sushi are the most highly rated Sushi restaurants in London. Both these venues have 9.1 rating as per Foursquare. Although, their ratings are same Sticks'n'Sushi located on 11 Henrietta St is much closer to London's center (only 497 meters) as compared to SUSHISAMBA City situated on 110 Bishopsgate (3368 meters).

So, now in order to select the best one among these 2 venues I needed to get the user's tips for both these restaurant venues from Foursquare. After exploring the count of tips for each of the 2 restaurant options, I found that SUSHISAMBA City seemed to be more popular with 480 counts of total tips. On the other hand, Sticks'n'Sushi seconded with a much lower count of reviews/tips i.e. only 242.

In the end, if I try to summarize the details for each of the Top 2 Sushi restaurants the results would be somewhat like ones displayed below:-

Category	SUSHISAMBA City	Sticks 'n' Sushi
Foursquare Rating	9.1	9.1
Distance from London's center	3368 meters	497 meters
Boroughs/Address	110, Bishopsgate	11 Henrietta Street
Neighborhood venue details	More diverse venues	Less diverse venues
Foursquare Total Count of Tips	480	242
Cuisine variety	Japanese/ Peruvian/ Brazilian	Japanese - sushi and yakitori

Just to add, I tried to summarize below, in brief the experience of eating in both these restaurants as stated in the customer reviews for each of these restaurants:-

SUSHISAMBA City – *"Perched atop the City's Heron Tower on the 37th and 38th floors at 110 Bishopsgate, London SUSHISAMBA City famously serves a unique fusion of Japanese/ Peruvian/ Brazilian food. The location features the highest outdoor dining terraces in Europe, offering unparalleled, 360 degree views of the city. The menu offers an inventive culmination of three cuisines, while the guests are treated to a Brazilian churrasco and moqueca, Peruvian anticuchos and seviches, and Japanese tempura and sushi.* *SUSHISAMBA's conceptual small – plate style of service encourages a shared dining experience. Complementing the cuisine, the restaurant offers a vast selection of signature cocktails as well as an extensive sake and wine list, the open kitchen and fiery robata grill offer brilliantly roasted and flavored meats, vegetables and fish that capture the restaurant's culinary prowess."*	**Sticks 'n' Sushi –** *"This chain is big in Copenhagen and the Covent Garden branch joins an existing neighborhood favorite in Wimbledon Village. It's a huge high-ceilinged downstairs dining room with bare-brick feature wall, while downstairs there's a sushi and yakitori bar. It is rather beautiful with the ground floor minimalistic & flooded with natural light. This restaurant is based on mixing it up, serving sushi with grilled yakitori dishes."*

Discussion

From this analysis, I found that London is among the most favored business destinations not only in the United Kingdom but also in the world. Although, the cost of living specifically the housing prices tend to be much higher than other regions, the declining Housing Price Index post 2017-end is a positive change in this regard. Businesses in the Accommodation, food, travel and tourism industry have positively rated London due to its robust infrastructure, skill set & technology advancements, in spite of its high costs.

Evaluating the demography of London presented it as ethnically very rich with a fairly rising Asian population over other regions. In addition to this, the growing number of Japanese visitors to London will tend to make it an emerging hub for Asian food & cultures in the years to come. Micro-level analysis of London neighborhoods provided me with a comprehensive view of London's city areas, its composite mix of venues in different boroughs and the spread of restaurants particularly Sushi restaurants around the city center.

It made me realize that Asia's rise as the globe's dominant economic force is also being mirrored in the restaurant world. Asian food has a lot going for it due to it being big on flavor, relatively healthy & cheap to produce. It is considered as a major growth area in contrast to some European cuisines that are rapidly approaching saturation point in certain areas. I came to find during this project that, the most popular Asian-style dish was sweet and sour chicken, followed by Thai green curry, and then Sushi. The rise in popularity of this cuisine is also due increasing number of tourists from UK taking holidays in South-east Asia, making them more likely to choose Asian dishes when back home. Consumers are becoming far more adventurous in their tastes. With the number of pan-Asian restaurants growing in London and Tai Chi's plan to invest in an upcoming Sushi restaurant would add a new dimension & flavor to the food horizon in London.

Finally, although the restaurant sector has performed well in recent years with market growth underpinned by long-term demographic and consumer trends market conditions have become more competitive and consumers are facing pressure on their real incomes from rising inflation and cost pressures. Advances in technology have led to more visibility for smaller providers, and growing popularity of delivery services such as Deliveroo and Uber Eats. Entry of substitutes, such as app delivery platforms, take-away chains is now challenging restaurants. Increasing ambiguity over the future of Brexit has forced households to opt for eating out less often, cook more at home and use promotions / discount codes.

Conclusion

This project was aimed to providing substantial data to support Tai Chi in selecting a neighborhood Sushi restaurant in London for his investment. However, the final decision will depend on many other factors such as financial inputs, operational agreements & business-related terms and conditions agreed upon by all the stakeholders involved.

After all, the future of Tai Chi's restaurant in London would depend on how well it is able to sustain with the quality and service in addition to providing a unique experience to food lovers.