

1. Introduction and Problem Definition

Dubai, an Emirate in the United Arab Emirates, is one of the world's most vibrant cities. Apart from being a tourist destination, it also acts as a financial and trading hub for middle east and even for the world.

To holiday or live or work in such a place, is both a privilege and a challenge posed by the plethora of choices that are available for both visitors and residents. It also poses a dynamic environment from a planning perspective for both, the city's administrators and investors intending to purchase or set-up businesses.

Data can play a key role in answering several such questions like:



We explore here a data driven approach to address 3 such business problems queries.

1. How are the **administrative areas** (known as **Communities**¹) of Dubai compare to each other in terms of the social places in them, a common consideration for residents, investors of social establishments, advertisement placements etc.
2. How are the communities populated and what is the growth pattern?
3. What is the availability of Hospitals in the Communities especially with respect to the population in them? The target audience can be prospective residents, investors, and town planners.

¹ <http://www.dubaifaqs.com/communities-in-dubai.php>

Business Problem to Analyses :

SI No.	Business Problem	Analyses	Extended Audience
BQ1	Which communities of Dubai should be most thriving for investing in residential properties and social establishments?	<ul style="list-style-type: none"> • Comparison of the no of venues of all categories in the Communities. • Population in the community 	<ul style="list-style-type: none"> • Investors of social establishments (Restaurants, Gyms Café etc). • Media Companies for Advertisement placements. • Service Delivery Companies • Town planners.
BQ2	Are adequate hospitals available in all the communities?	<ul style="list-style-type: none"> • No of Hospitals in the Communities • Population in the community 	<ul style="list-style-type: none"> • Prospective residents. • Healthcare investors • Town planners.
Required for comparison in both analyses above.		<ul style="list-style-type: none"> • Comparison of Population density of the communities and their trend in population growth. 	

2. Data

Dubai has a rich culture of open data made available by the Smart Dubai Office; a government entity entrusted to facilitate Dubai's citywide smart transformation. These datasets are available from their Dubai Pulse Website which acts as a clearing house of open data from various Dubai Government Departments. Apart from this we also used Foursquare APIs to get social or crowd sourced data for Dubai.

1. Dubai Admin Boundaries for Communities. Geospatial data (KML format) provided by **Dubai Municipality – Govt. of Dubai**. for the 2nd level second level of administrative divisions called Communities (226 of them across Emirate of Dubai).
https://www.dubaipulse.gov.ae/data/dm-location/dm_community-open
2. Dubai Population Estimate (2017, 2018 & 2019²) by Communities provided by **Dubai Statistics Center – Govt. of Dubai**.
<https://www.dsc.gov.ae/en-us/Themes/Pages/Population-and-Vital-Statistics.aspx?Theme=42>
3. Foursquare Developers Access to venue data: provided by **Foursquare** through the **Places API** which offers real-time access to Foursquare's global database of rich venue data and user content to power location-based data requirements.
 - Details of top venues in and around a location.
 - Data of hospital locations identified by category – Hospitals, Medical Centers in Foursquare's Venues' Category hierarchy³.<https://developer.foursquare.com/docs/places-api/endpoints/>

² 2019 : https://www.dsc.gov.ae/Report/DSC_SYB_2019_01%20%2002.xlsx,
2018 : https://www.dsc.gov.ae/Report/DSC_SYB_2018_01%20%2002.xlsx,
2017 : https://www.dsc.gov.ae/Report/DSC_SYB_2017_01%20%2002.xlsx

³ <https://developer.foursquare.com/docs/build-with-foursquare/categories/>