



Cars Market Analysis In Egypt

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بيانات الاتصالات
وتقنيات جيا المعلومات



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01

Business Understanding

Before we begin...



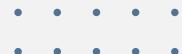
Objectives

- Identifying factors that affect the demand for used cars.
- Analyzing pricing trends for different car makes, models, and years.
- Impact of used car prices on the overall automotive industry and economy



Target Audience

- Car dealerships and resellers.
- Buyers looking for used cars.
- Financial institutions offering auto loans.
- Insurance companies evaluating used car values





02

Generating Questions

6 Main questions to answer



Price Analysis

- What factors affect the price?
- How is the price range varying over different locations.



Brands and models

- The most popular brands for cities.
- The price range for each brand.



Transmission & Fuel Type

- How transmission type affect price.
- How common are fuel type for each car model

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• • • • •



Car Kilometers

- How does no. of kilometers changes over brands.
- What is the avg kilometers for each city.



Car Body Type

- The most preferred color for each body type.
- Avg price for each type.



Engine Size

- How does engine size vary over car types?
- What is the avg engine size for each manufacture year

kaggle

03

Gathering & Understanding Data

The used dataset is a combination of 2 datasets, one is scraped from **hatla2ee** website, and the other is uploaded on Kaggle website.



Brand	Model	Body	Color	Year
BMW	X6 M	SUV	White	2024
BMW	520	Sedan	Black	2023
Chery	Tiggo 3	hatchback	Brown	2023
Chevrolet	N300	Sedan	Black	2023
Chevrolet	Optra	Sedan	Dark blue	2023
Hyundai	Accent RB	Sedan	Silver	2024
Hyundai	Elantra HD	Sedan	Dark grey	2023
Hyundai	Tucson	SUV	Green	2023
Hyundai	IX 35	Hatchback	Petroleum	2023
Kia	Xceed	SUV	Gray	2024
Kia	Sportage	SUV	Black	2024
Kia	Cerato	Sedan	Black	2023
Mercedes	A200	hatchback	Black	2023

Fuel	Kilometers	Engine CC	Transmission	Price	location
gas	300,000	1600	Automatic	1,600,000 .م.ج	Port Said
gas	25,000	1000	Manual	35,000 .م.ج	El Haram
gas	64,000	1000	Manual	42,000 .م.ج	6th of October
Benzine	80,000	1400	Manual	80,500 .م.ج	Qalyubia
gas	80,000	1600	Manual	110,000 .م.ج	Madinaty
Benzine	120,000	1324	manual	40,000 .م.ج	Cairo
Benzine	135,000	1000	manual	17,500 .م.ج	Helwan
Benzine	135,000	1600	manual	18,000 .م.ج	Cairo

Understanding Data Columns

Column	Description	Column	Description
1. Brand	Car Brand (Hyundai, Kia,...)	7. Kilometer	The Distance traveled
2. Model	Car model (Verna, Cerato,...)	8. Engine CC	Engine Capacity (in CC)
3. Body Type	Type of body (Sedan, SUV,...)	9. Transmission	Gear type (Manual or Automatic)
4. Color	Color of the car	10. Price	The price of the vehicle in EGP
5. Year	Manufacturing year	11. Location	The location of the vehicle
6. Fuel	Fuel Type (Gasoline, diesel,...)		

04

Cleaning Data



Cleaning Data



Handling Nulls

- Type, fuel and engine size missing cols.

```
=TEXTJOIN(" ";TRUE;D2:E2)
```

D	E	F
Brand	model	car name
Hyundai	Accent RB	Hyundai Accent RB
Hyundai	Verna	Hyundai Verna
Daihatsu	Charade	Daihatsu Charade

car name	Body
Hyundai Accent RB	Sedan
Hyundai Verna	Sedan
Daihatsu Charade	Sedan
Suzuki Celerio	hatchback
Suzuki Swift	Sedan
Renault Megane	Sedan

```
=VLOOKUP(C13701;car_body;2)
```

C	D
Chevrolet Lanos	Sedan
Hyundai Verna	Sedan
Chevrolet Lanos	Sedan
Chevrolet Lanos	Sedan

Cleaning Data



Handling Nulls

- Type, fuel and engine size missing cols.
- After handling Null Values, the remaining rows is 62.7K

⋮ ⋮ ⋮



Normalizing data

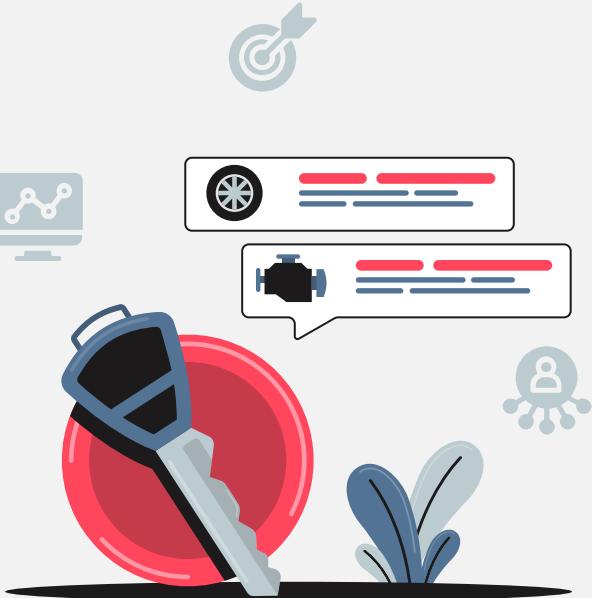
- Normalizing data values like price to egyptian pounds (egp) and so on...

•



Feature Engineering

- Creating an “Age” column derived from manufacture year.
- Creating an “Governorate” column derived from car location.
- Creating an “Price range” column derived from car price.



05

Analyzing Data

Data Overview

62,739

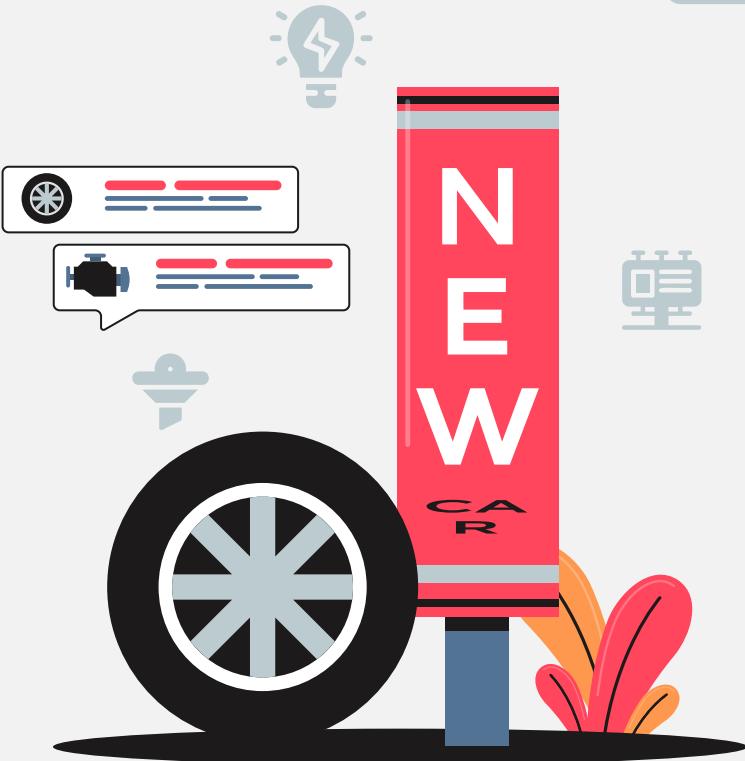
No. of listed cars

2011

Average manufacture year

626,699 EGP

Average price



Uploading to SSMS



SQLQuery1.sql - ZALABIA\SQLEXPRESS.Cars (ZALABIA\Zalabia (52))* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

New Query MDX DML XML DAX Execute

Cars

average price

Select *
FROM CarsDataset

Results Messages

	Brand	Model	Body	Color	Year	Fuel	Kilometers	Engine_CC	Transmission	Price	location	Age_Years	Governorate	Price_Range
1	Chevrolet	Avalanche	Hatchback	Beige	2008	gas	300000	1600	Automatic	1600000	Port Said	17	Port Said Governorate	Mid
2	Fiat	127	Hatchback	Beige	1986	gas	25000	1000	Manual	35000	El Haram	39	Giza Governorate	Eco
3	Fiat	127	Hatchback	Beige	1986	gas	64000	1000	Manual	42000	6th of October	39	Giza Governorate	Eco
4	Fiat	Punto	Hatchback	Beige	2003	Benzine	80000	1400	Manual	80500	Qalyubia	22	Qalyubia Governorate	Eco
5	Fiat	Ritmo	Hatchback	Beige	1983	gas	80000	1600	Manual	110000	Madinaty	42	Cairo Governorate	Mid
6	Fiat	Ritmo	Hatchback	Beige	1983	Benzine	120000	1324	manual	40000	Cairo	42	Cairo Governorate	Eco
7	Fiat	127	Hatchback	Beige	1984	Benzine	135000	1000	manual	17500	Helwan	41	Cairo Governorate	Eco
8	Fiat	127	Hatchback	Beige	1984	Benzine	135000	1600	manual	18000	Cairo	41	Cairo Governorate	Eco
9	Fiat	126	Hatchback	Beige	1984	Benzine	135000	1000	manual	20000	El Salam City	41	Cairo Governorate	Eco
10	Fiat	127	Hatchback	Beige	1984	Benzine	135000	1000	manual	25000	Damanhur	41	Beheira Governorate	Eco
11	Fiat	127	Hatchback	Beige	1984	Benzine	135000	1000	manual	25000	Suez	41	Suez Governorate	Eco
12	Fiat	Punto	Hatchback	Beige	2000	Benzine	180000	1000	Manual	70000	Qalyubia	25	Qalyubia Governorate	Eco
13	Hyundai	I10	Hatchback	Beige	2018	Benzine	40000	1000	Manual	172500	Alexandria	7	Alexandria Governorate	Mid
14	Hyundai	I10	Hatchback	Beige	2015	Benzine	40000	1000	Manual	150000	Alexandria	10	Alexandria Governorate	Mid
15	Hyundai	Matrix	Hatchback	Beige	2009	Benzine	160000	1600	Automatic	166800	Cairo	16	Cairo Governorate	Mid
16	Hyundai	Matrix	Hatchback	Beige	2006	Benzine	160000	1400	Automatic	145000	Cairo	19	Cairo Governorate	Mid
17	Kia	Picanto	Hatchback	Beige	2008	Benzine	120000	1200	Automatic	395000	Heliopolis	17	Cairo Governorate	Mid
18	Mazda	323	Hatchback	Beige	1997	Benzine	130000	1500	manual	46000	Monufia	28	Monufia Governorate	Eco
19	Mini	Cooper	Hatchback	Beige	2015	gas	36000	2000	Manual	1550000	Alexandria	10	Alexandria Governorate	Mid
20	Mini	Mini Coo...	Hatchback	Beige	2013	Benzine	50000	1600	Automatic	450000	Mansoura	12	Dakahlia Governorate	Mid
21	Mini	Mini Coo...	Hatchback	Beige	2012	gas	200000	2000	Automatic	560000	Damieta	13	Damietta Governorate	Mid

Query executed successfully.

ZALABIA\SQLEXPRESS (10.0 SP1) | ZALABIA\Zalabia (52) | Cars | 00:00:01 | 30,351 rows

Ln 2 Col 17 Ch 17 INS

Ready

Applying SQL Queries

-- 1. What is the average price and total count of cars for each brand?

```
SELECT Brand,
       AVG(Price) AS Average_Price,
       COUNT(*) AS Total_Count
  FROM CarsDataset
 GROUP BY Brand
 ORDER BY Average_Price DESC;
```

-- 2. How is the price distributed (Avg, Max, Min) across each Governorate?

```
SELECT Governorate,
       AVG(Price) AS Average_Price,
       MAX(Price) AS Max_Price,
       MIN(Price) AS Min_Price
  FROM CarsDataset
 GROUP BY Governorate
 ORDER BY Average_Price DESC;
```

161 %

Results Messages

	Brand	Average_Price	Total_Count
1	Lexus	7416666	3
2	Porsche	5622142	14
3	Maserati	3820000	2
4	Cadillac	3766666	3
5	Land Rover	3560900	50
6	Mercedes	3332470	1289
7	Bentley	3275000	2
8	Tesla	2703333	9
9	Infiniti	2553125	8
10	Zeekr	2500000	1
11	Cupra	2487000	5

161 %

Results Messages

	Governorate	Average_Price	Max_Price	Min_Price
1	Giza Governorate	983121	1260000	10000
2	Cairo Governorate	884567	1625000	10000
3	Beheira Governorate	693017	2670000	25000
4	Port Said Governorate	557178	4000000	22000
5	Qalyubia Governorate	504138	8350000	13000
6	Gharbia Governorate	492177	4850000	13000
7	Kaf el-Sheikh Governorate	476667	3900000	16000
8	Alexandria Governorate	476144	8500000	11000
9	Red Sea Governorate	456829	2500000	25000
10	Damietta Governorate	453907	3250000	15000
11	Dakahlia Governorate	449829	4300000	15000

Applying SQL Queries

-- 3. What are the top 5 most common and popular car models in the market?

```
SELECT TOP 5 Model,
       COUNT(*) AS Model_Count
  FROM CarsDataset
 GROUP BY Model
 ORDER BY Model_Count DESC;
```

	Model	Model_Count
1	Optra	1506
2	Corolla	1328
3	Sunny	1301
4	Vema	1161
5	Lanos	1061

-- 4. What is the ranking of Body Types based on their average price?

```
SELECT Body,
       AVG(Price) AS Avg_Price
  FROM CarsDataset
 GROUP BY Body
 ORDER BY AVG(Price) DESC
```

	Body	Avg_Price
1	Coupe	2299534
2	convertible	1816086
3	SUV	1803234
4	Sedan	521930
5	Hatchback	489508
6	Van	466553
7	Pickup	434414

Applying SQL Queries

-- 6. What is the percentage of each transmission type within each car brand?

```
SELECT Brand,
       Transmission,
       COUNT(*) AS Count
  FROM CarsDataset
 GROUP BY Brand, Transmission
 ORDER BY Brand;
```

161 %

Results Messages

	Brand	Transmission	Count
1	Alfa Romeo	manual	5
2	Alfa Romeo	Automatic	1
3	Audi	Manual	19
4	Audi	Automatic	93
5	Baic	Automatic	10
6	Bentley	Automatic	2
7	Bestune	Automatic	4
8	Bestune	Manual	1
9	BMW	Manual	150
10	BMW	Automatic	912

-- 8. What is the average price for each price range?

```
select Price_Range, AVG(Price) as AVG_Price
from CarsDataset
group by Price_Range
```

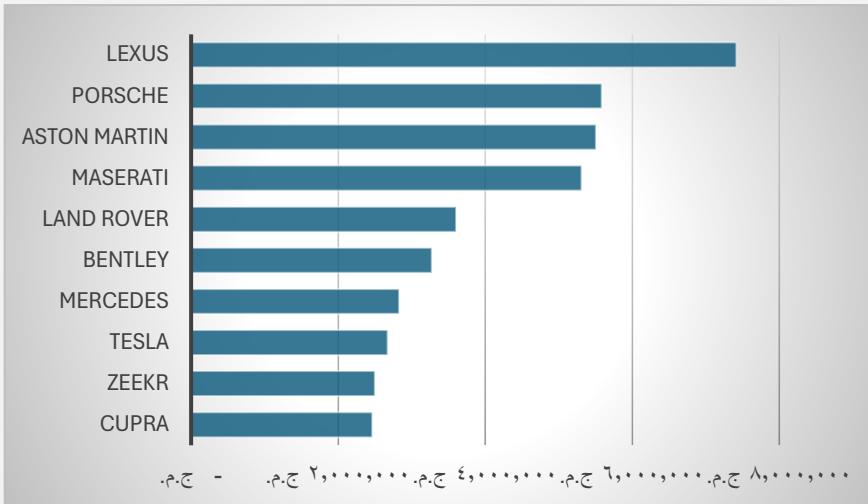
161 %

Results Messages

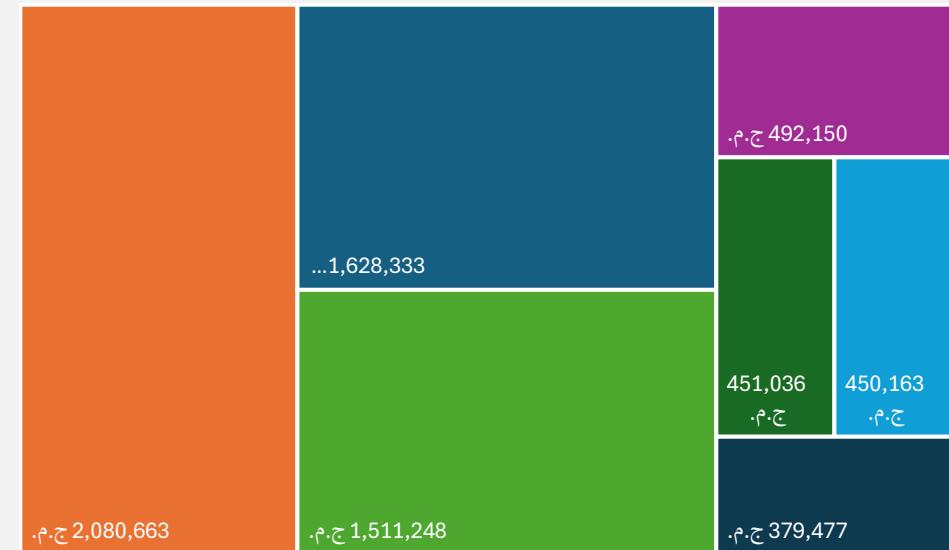
	Price_Range	AVG_Price
1	Mid	540835
2	Eco	58144
3	Expensive	3256055

Factors affecting the price

AVG price by car brand



AVG price by car type

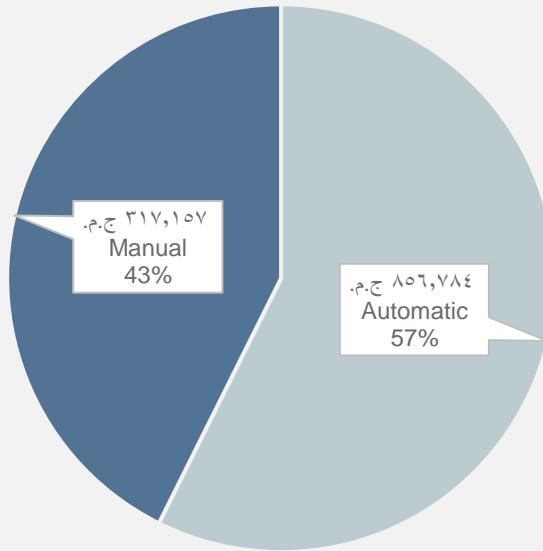


■ convertible ■ Coupe ■ hatchback ■ Pickup ■ Sedan ■ SUV ■ Van

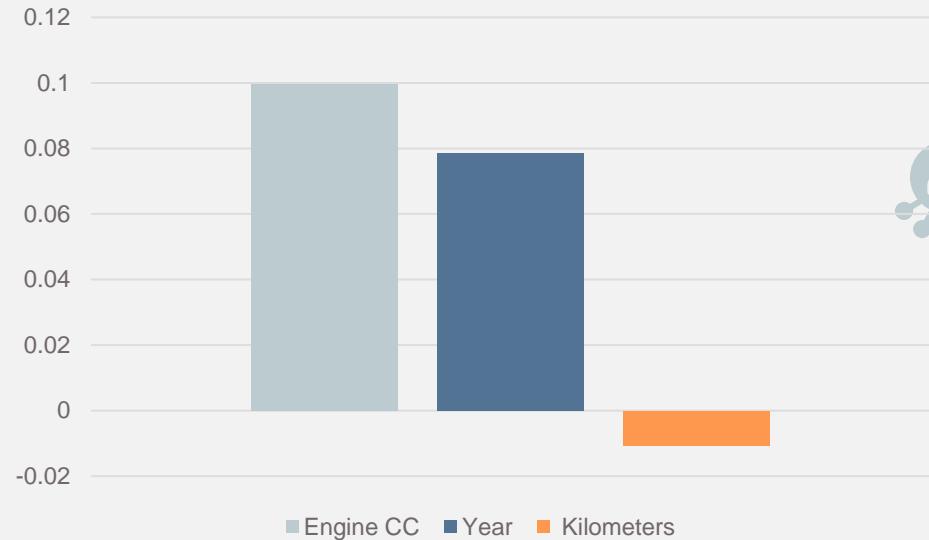


Factors affecting the price

AVG price by car transmission



Other factors affect the price

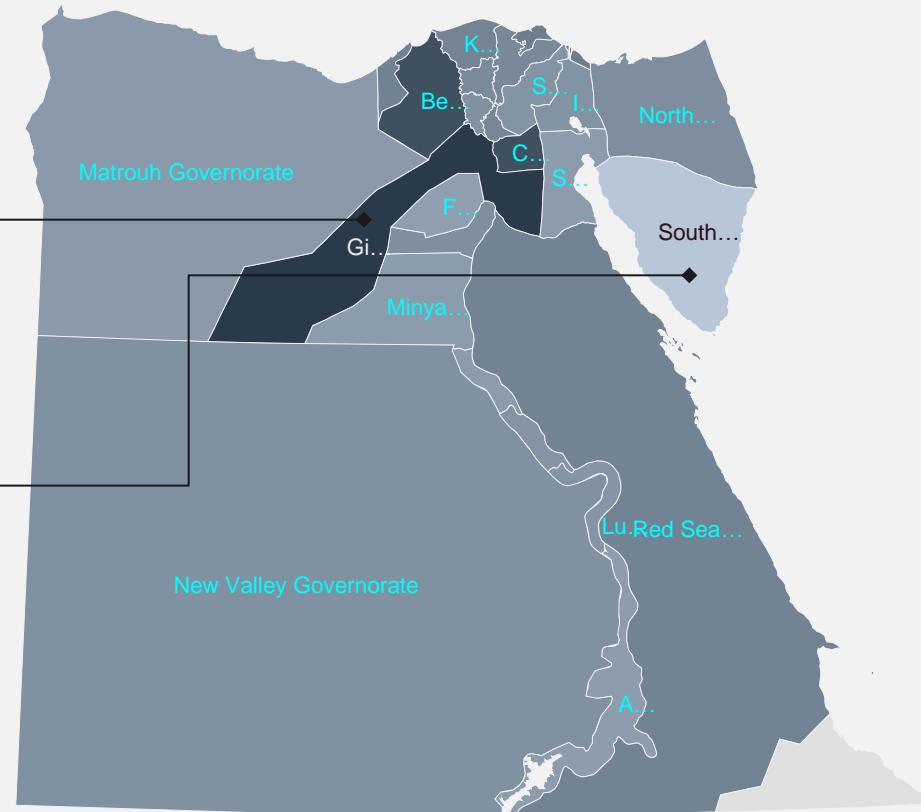


Price change over governorates



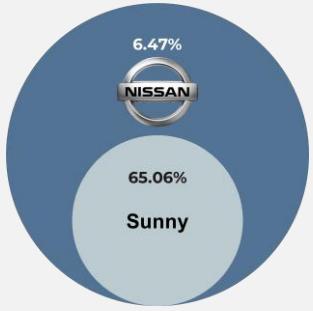
Avg Prices

The minimum prices in **South Sinai**, while the maximum prices are usually in **Giza**.





Most common brands in the market



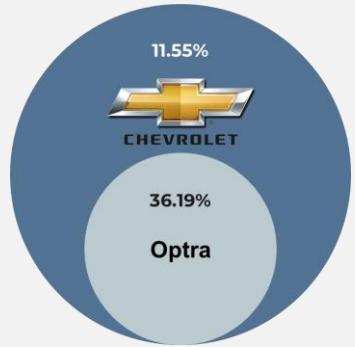
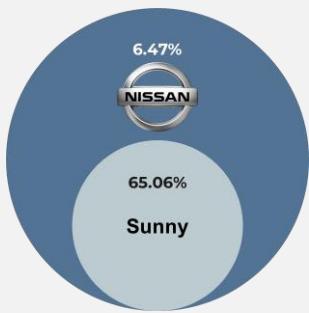
544,260 EGP

2015





Most common brands in the market



544,260 EGP

296,148 EGP

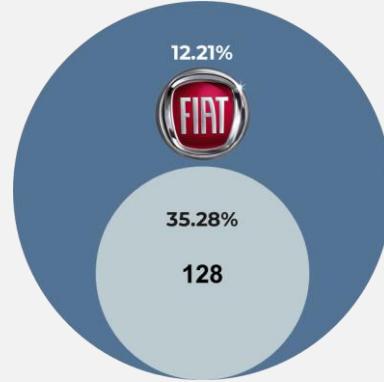
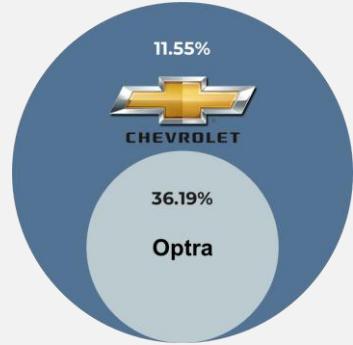
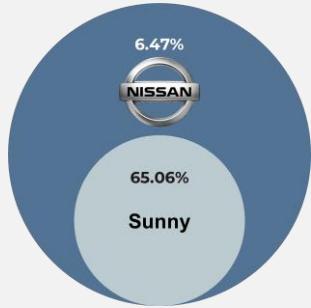
2015 :

2015





Most common brands in the market



544,260 EGP

296,148 EGP

23,725 EGP

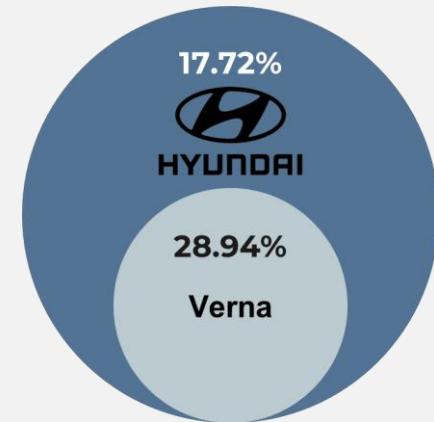
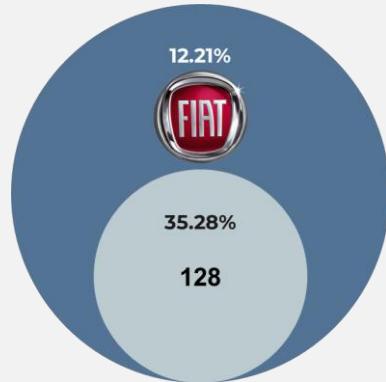
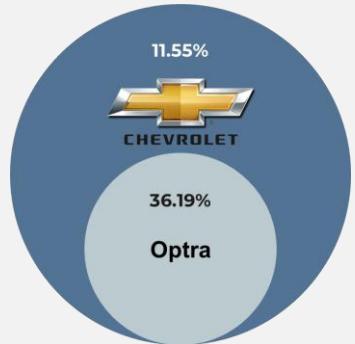
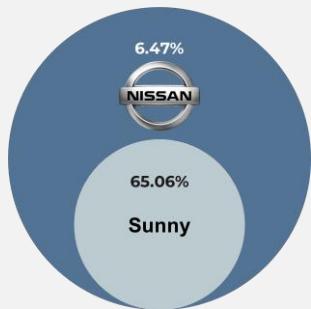
2015 :

2015

1985



Most common brands in the market



544,260 EGP

296,148 EGP

23,725 EGP

209,743 EGP

2015 :

2015

1985

2013

The newest Cars in the market



TESLA

Tesla motors entered the Egyptian market in **2022** with average price **2.6** Million EGP

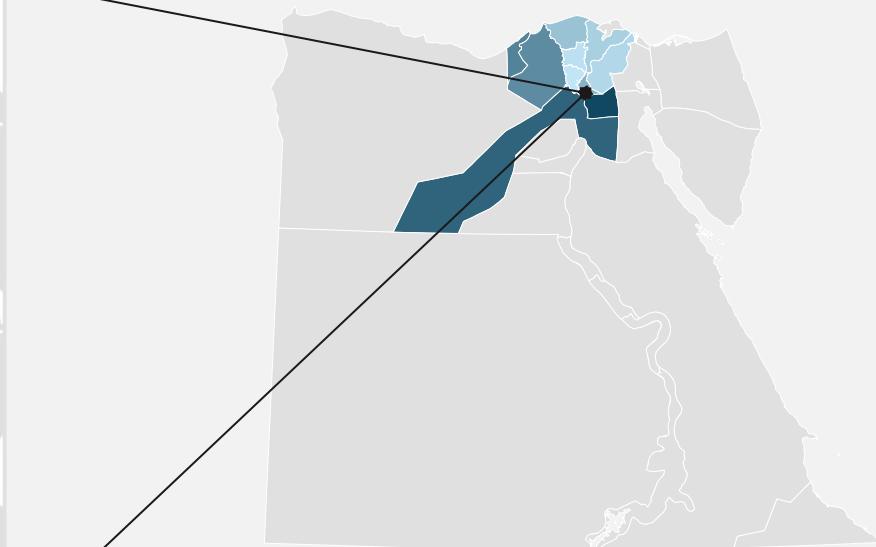
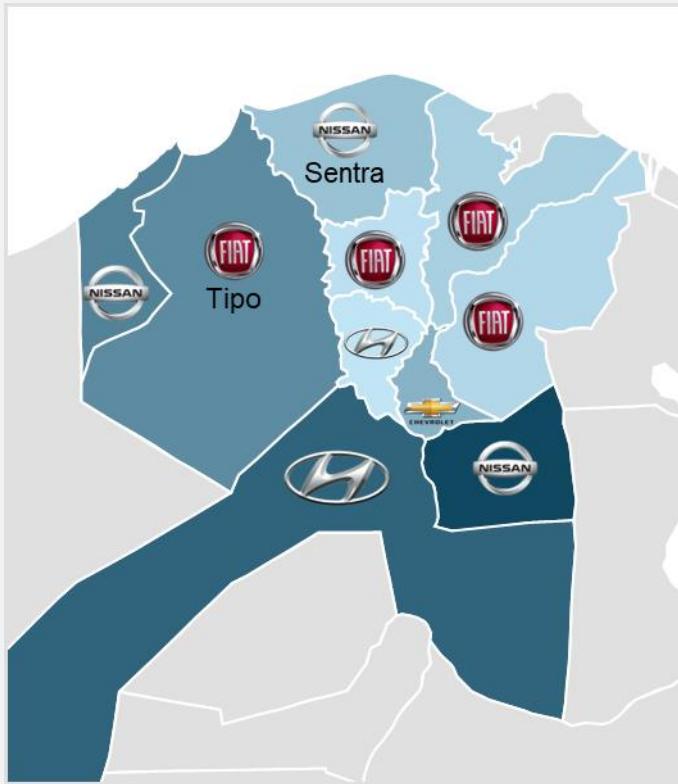


CUPRA

Cupra is the newest brand that enter the Egyptian market in late **2022** with average price **2.4** Million EGP

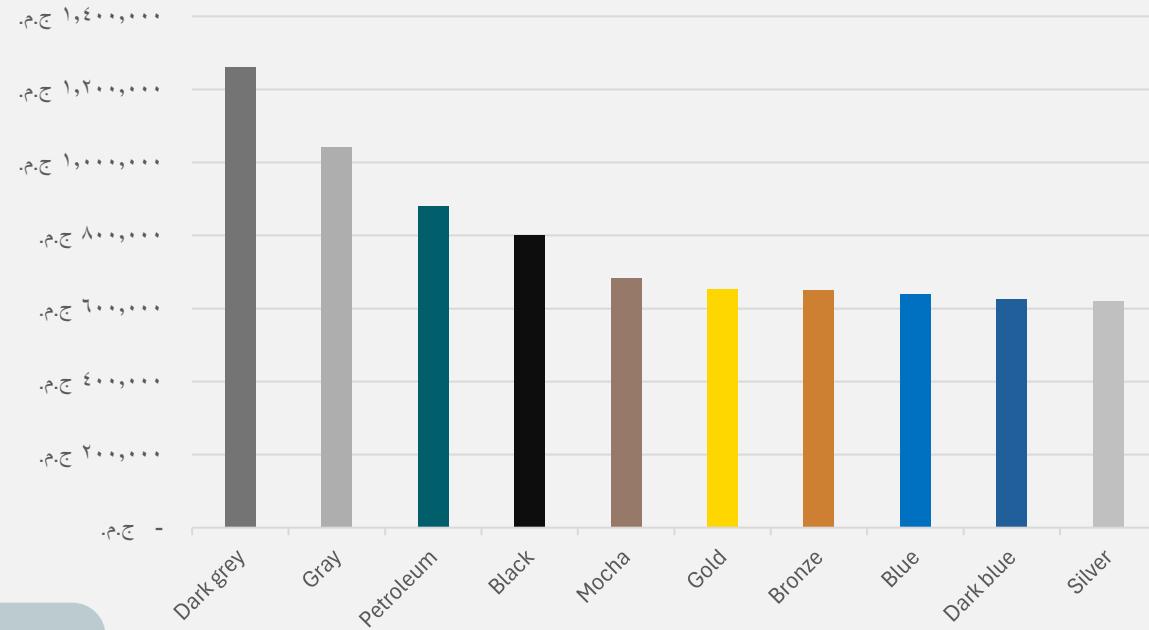


Most common car for governorates



Powered by Bing
© GeoNames, Microsoft, TomTom

Price trends by color



Market by Class

Medium class

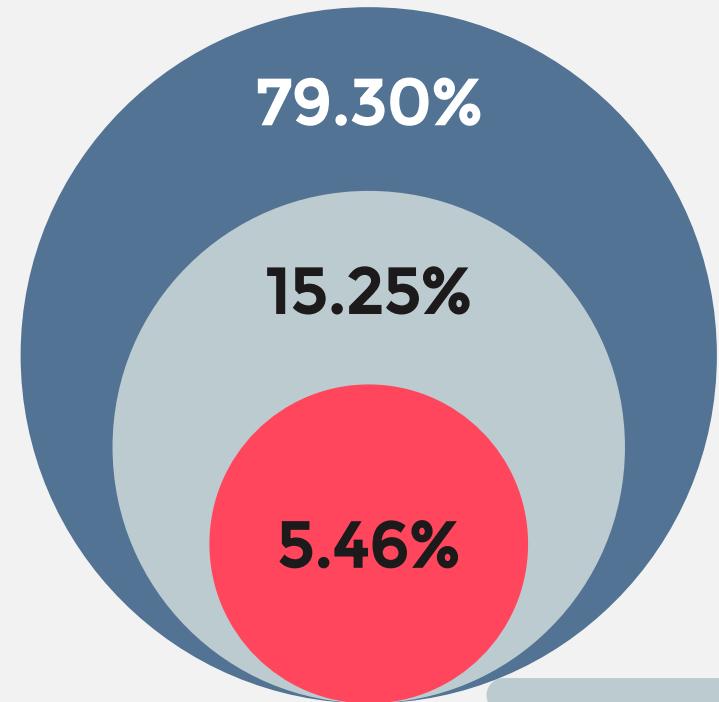
- The medium class started from **1M EGP** to **2M EGP**.
- The most common car brand in this class is **Hyundai** with **18.6%**

Economic class

- The economic class is under **1M EGP**.
- The most common car brand in this class is **Fiat** with **58.19%**

High class

- The high class is above **2M EGP**.
- The most common car brand in this class is **Mercedes** with **26.15%**



06

Conclusion



Conclusion



Car Price

For minimum car prices we suggest to buy from **South Sania** or **Faiyum** with low **engine capacity** and appropriate **manufacture year**.



Car brand

Hyundai Verna is the most Dependability car in the Medium class and in Egypt. However, **Fiat** is the most common brand in the economic class, And **Mercedes** is the most common in high class



Transmission

Automatic Transmission cause more in price by about **50%** However, it's more common in the market than manual with **57%**



Car color

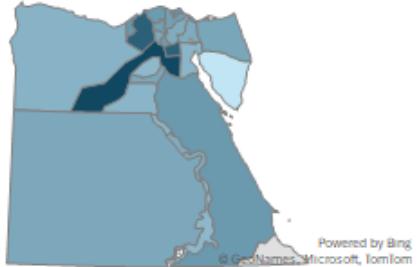
The Expensive cars tend to be Gray colored.



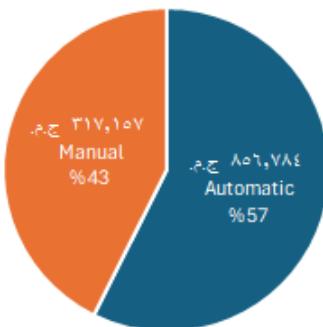
Egyptian Car Market

Average price by governate

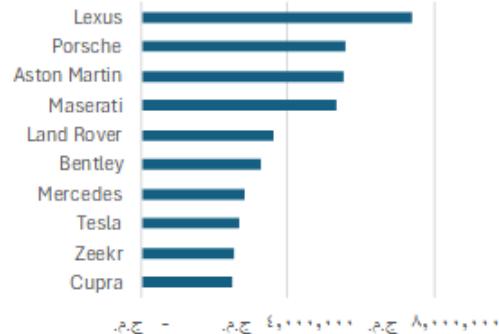
Average of Price
١٢٧,٤٦١ ٨٣٩,٨٤٨



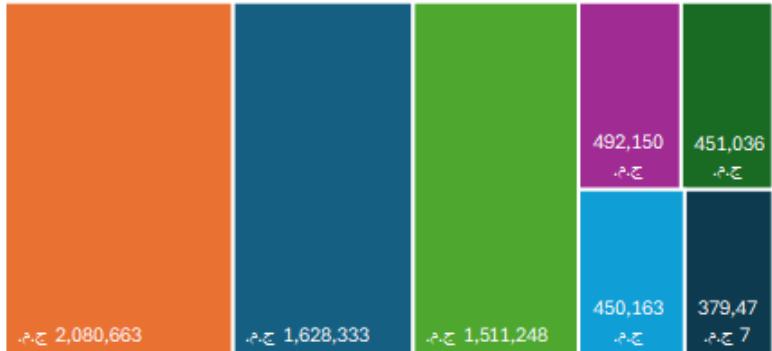
Average price by transmission



Average of Price by car brand

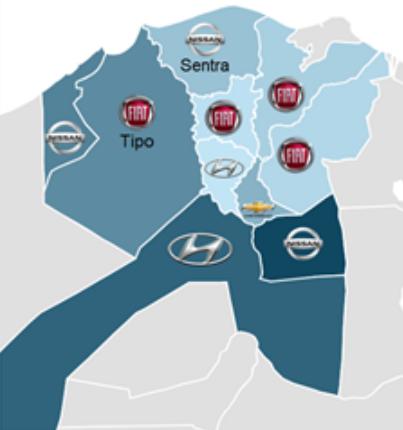


Average price by body type

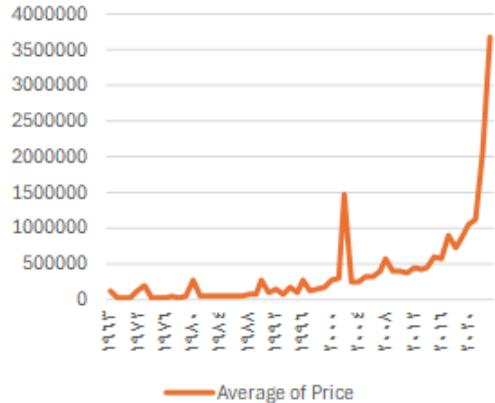


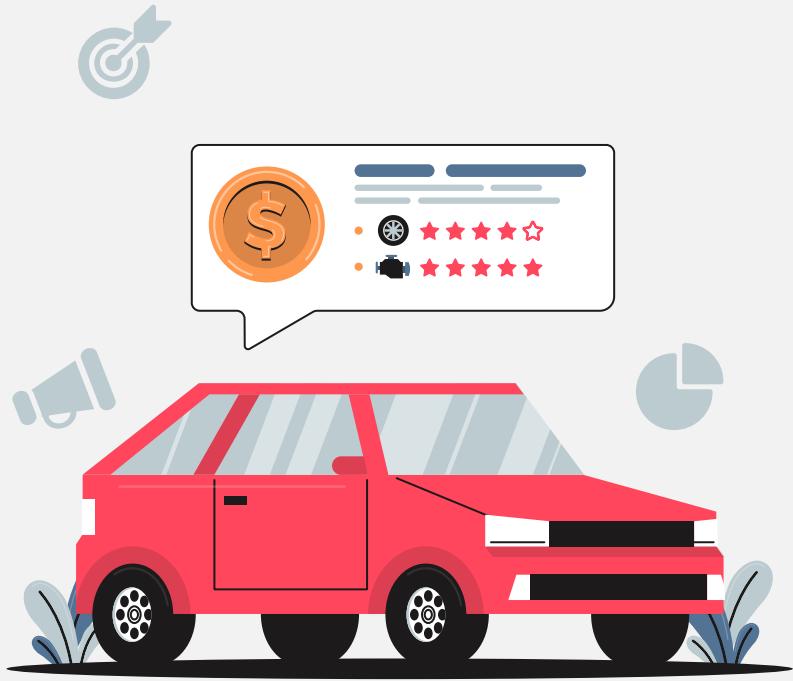
convertible Coupe hatchback Pickup
Sedan SUV Van

Most common car by governorate



Average of price over manufacture years





THANKS!

By: Mahmoud Shimy & Selim Mekawy

