

PROJECT 1

DATA ANALYTICS BOOT CAMP

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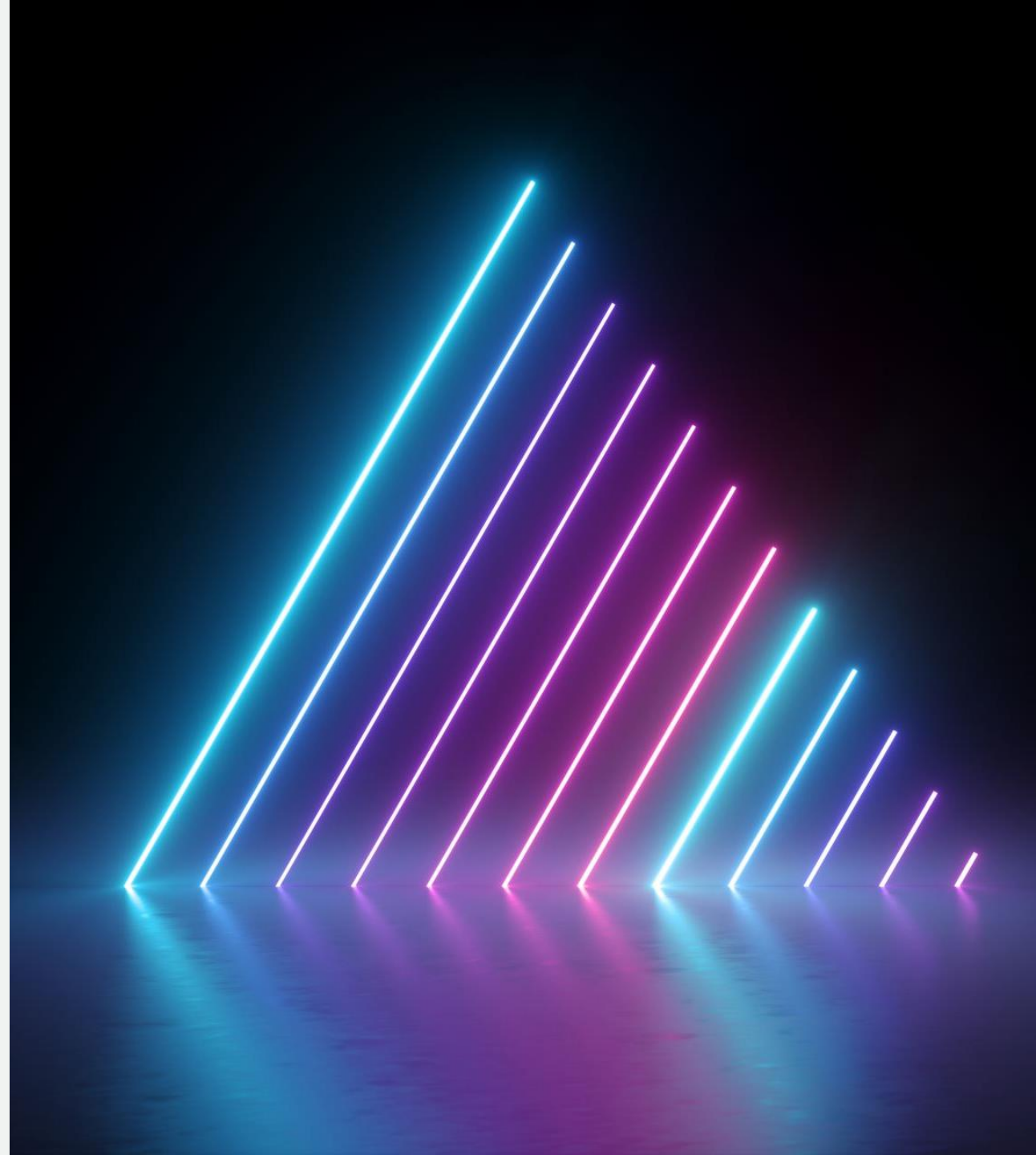
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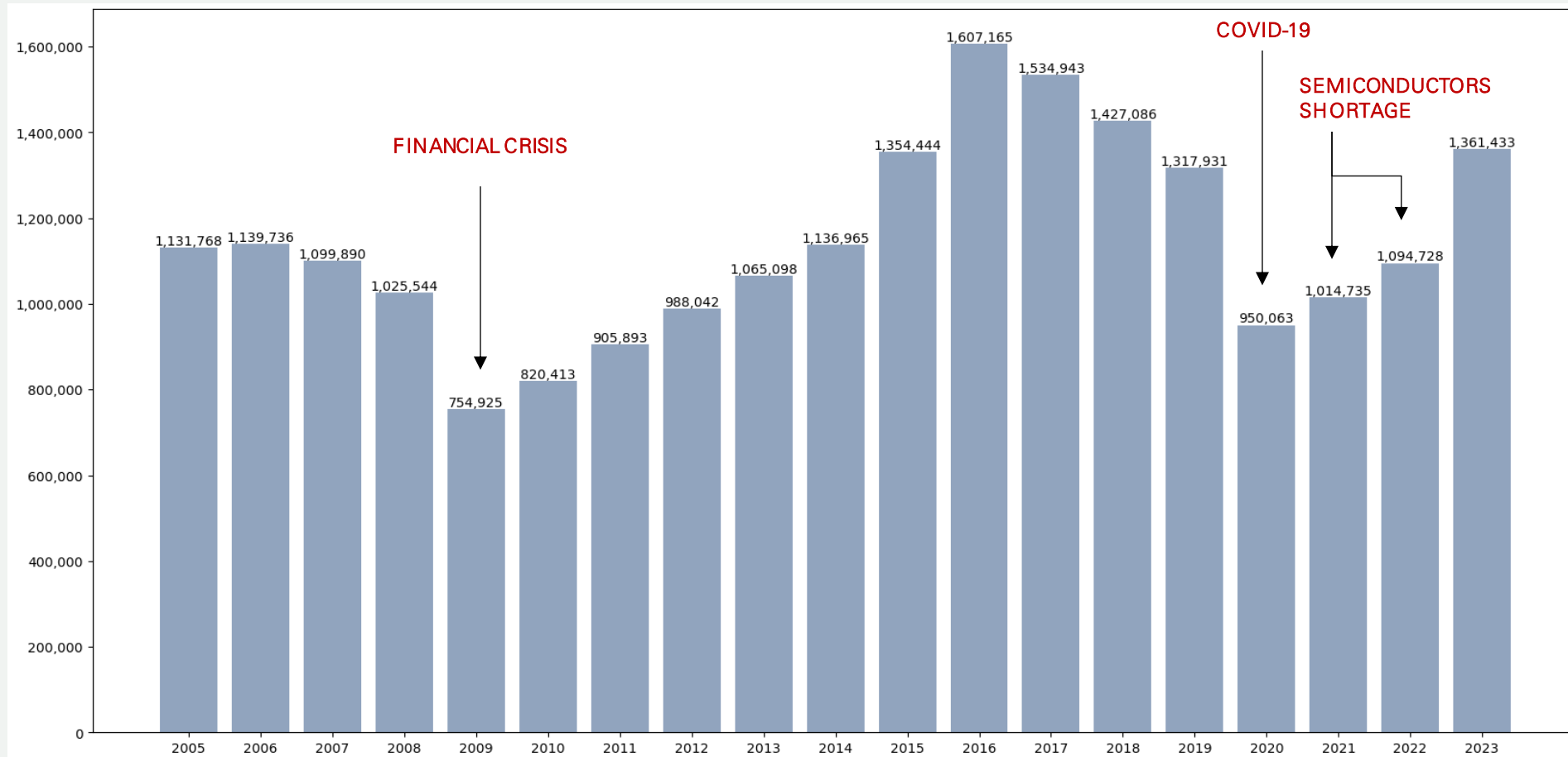
PROJECT SCENARIO

- We are a consulting company specialized in various sectors, such as the automotive industry.
- A Chinese automotive manufacturer hired us to assess them. They are working on a Business Plan since they have interest in launching its Brand in Mexico.
- The aim of this Project is to analyze the RAI AVL ("Registro Administrativo de la Industria Automotriz de Vehículos Ligeros") data from INEGI to get conclusions about the questions provided by the client.

MAIN QUESTIONS TO BE ANALYZED

- How has the automotive industry volume evolved throughout the years?
- What year has the highest number of vehicles sold? Why?
- What year has the lowest number of vehicles sold? Why?
- Which have been the dominant brands throughout the years?
- Which models have been in the podium of sales throughout the years?
- Which are the most important segments in Mexico?
- Which is the proportion between produced locally vs. imported sold vehicles?
- Has this proportion evolved throughout the years?
- How has the import sourcing evolved throughout the years?

AUTOMOTIVE INDUSTRY THROUGHOUT THE YEARS



FINDINGS:

- Lowest year of sales in 2009: 755 k units sold
- Highest year of sales in 2016: 1.6 million units sold
- Automotive industry seems to be cyclical and react to macro-economic variables

AUTOMOTIVE INDUSTRY THROUGHOUT THE YEARS

Empresas

Venta de autos en México rompe récord en 2016

Con Nissan y General Motors a la cabeza del mercado, durante 2016 se vendió en México la cifra récord de un millón 603 mil 672 automóviles, de acuerdo con datos de la Asociación Mexicana de Distribuidores de Automotores.

Por Axel Sánchez enero 04, 2017 | 19:50 pm hrs

Al cierre de 2016 se registró la venta de un millón 603 mil 672 **automóviles**, la cifra más alta en la historia para el mercado mexicano y un incremento de 18.6 por ciento comparado con lo registrado un año antes.

Información de la **Asociación Mexicana de Distribuidores de Automotores** (AMDA) reportó que solo en diciembre se registró la comercialización de 192 mil 567 autos, la cifra más alta para un doceavo mes del año y 19.9 por ciento superior a lo registrado en el mismo periodo de 2015.

Guillermo Rosales, director general adjunto de la AMDA, comentó que esto se debió a factores como la estabilidad en los precios de los vehículos, a pesar de la fortaleza del dólar sobre el peso, también a un incremento en el otorgamiento de crédito automotriz y por una reducción en la importación de autos usados.

Nissan terminó el año como el líder del mercado con 25 por ciento, seguido por **General Motors** con 19.2 por ciento, **Grupo Volkswagen** con 15.4 por ciento y **Toyota** con 6.5 por ciento.

POSITIVE FACTORS MENTIONED:

- ✓ Stability in vehicle prices
- ✓ Strength MXN / USD parity
- ✓ Higher automotive credit authorizations
- ✓ Reduction in used cars imports

AUTOMOTIVE INDUSTRY THROUGHOUT THE YEARS

EMPRESAS

El Covid-19 baja el número de autos vendidos en México a niveles de hace 10 años

La pandemia de coronavirus prolongó el declive en la venta de vehículos que el sector arrastra desde abril de 2017. Aunque, a diferencia de otros años, en donde hubo algunos meses de crecimiento, en 2020 todos fueron números negativos. Los fabricantes cerraron el año con ventas acumuladas por 949,353 unidades, 28% menos que en 2019, cuando los pisos de venta desplazaron 1.3 millones de vehículos.

La cifra está alineada con las previsiones que el sector realizó a medida que avanzaba el covid-19 por el país. “La pandemia de coronavirus marcó el rumbo de la economía mundial y el mercado automotor mexicano no fue la excepción”, dice Guillermo Rosales, director general adjunto de la Asociación Mexicana de Distribuidores de Automotores.

Source: expansion.com



Source: converge.com

Everyday Items Affected by the Chip Shortage

You might have a hard time buying these items that require semiconductors

ITEM 01 Televisions

The chip shortage has made it more difficult to manufacture new televisions, leading to a price increase of around 30% for larger TVs since the summer of 2020.



ITEM 02 New & Used Cars

According to The Associated Press, inventory is down 48% year over year, and trucks and SUVs are particularly hard to find. In turn, this has increased demand for secondhand cars.



ITEM 03 Laptops & Computers

Laptops and computers are certainly among the first things that spring to mind when you think about microchips. Therefore, it should come as no surprise that the semiconductor shortage is affecting the tech industry.



ITEM 04 Smartphones

Many phone manufacturers are struggling to keep up with demand as they rely on chips to power their devices. This has caused delays and issues for phone production, and it doesn't seem to be improving anytime soon.



Learn more at: www.microchipusa.com 501 E Kennedy Blvd Suite 1400
Contact us at: (888) 251-5467 Tampa, FL 33602



Source: <https://www.wired.com/story/chip-shortage-electronics-prices-tvs-displays/>
<https://apnews.com/article/lifestyle-business-health-coronavirus-pandemic-prices-50f88a5819ce6db3bale2192dc68db8b>

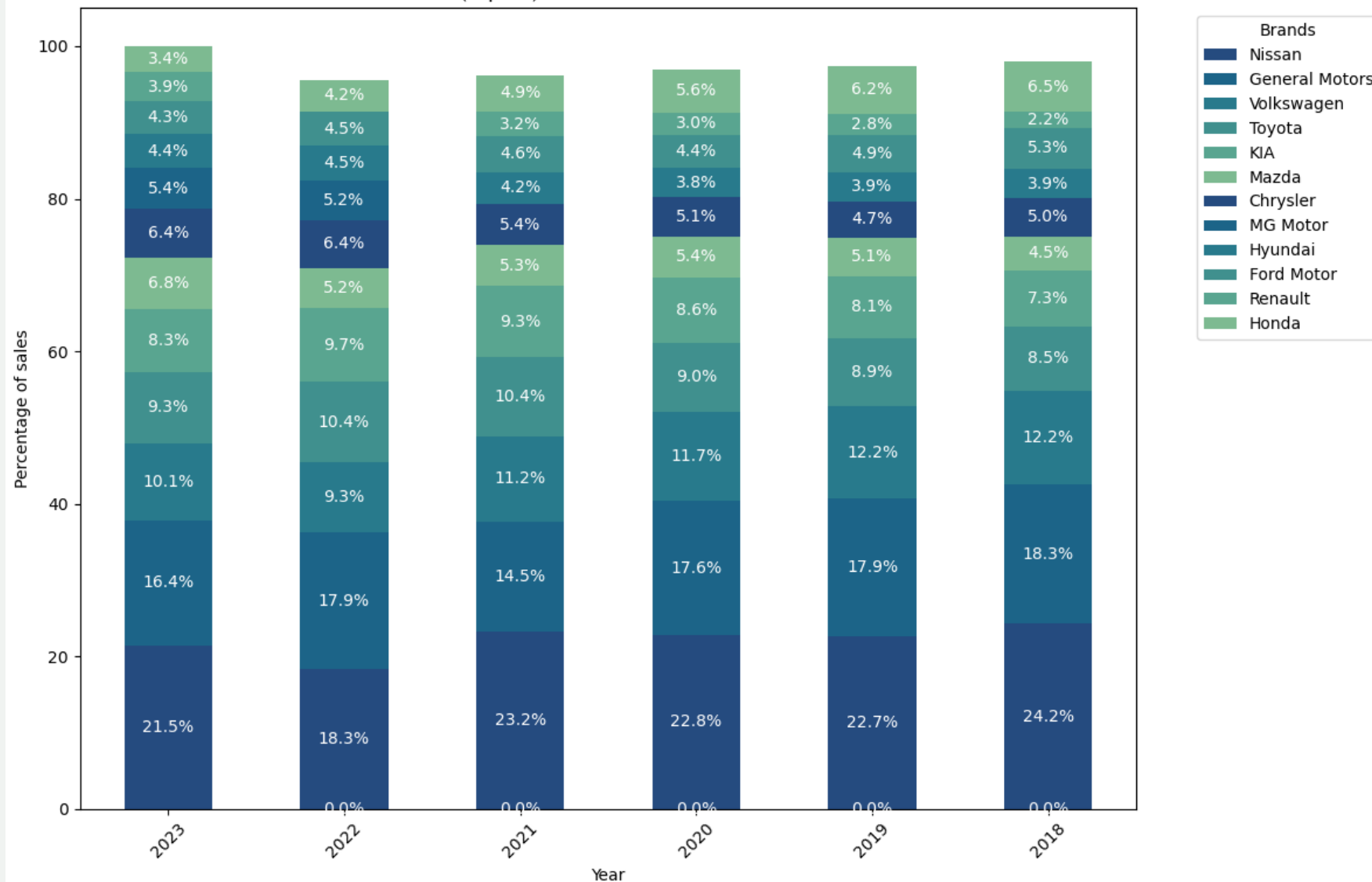
Source: microchipusa.com



WHICH BRANDS DO YOU THINK ARE THE
TOP SELLERS IN MEXICO?

DOMINANT BRANDS





























































(Top 10) Sales from 2023-2018



Nissan leads the automobile sales market in Mexico, with one out of every five cars sold in the country being a Nissan.

Additionally, it is noteworthy that from the years 2022 to 2023, MG Motor has gained traction and currently holds the eighth position in terms of sales percentage in Mexico.

DOMINANT BRANDS

RANK	2018	2019	2020	2021	2022	2023
1						
2						
3					 TOYOTA	
4	 TOYOTA	 TOYOTA	 TOYOTA	 TOYOTA		 TOYOTA
5						
6	 HONDA	 HONDA	 HONDA	 CHRYSLER	 CHRYSLER	 mazda
7	 Ford	 mazda	 mazda	 mazda	 mazda	 CHRYSLER
8	 CHRYSLER	 Ford	 CHRYSLER	 HONDA		
9	 mazda	 CHRYSLER	 Ford	 Ford	 Ford	 HYUNDAI
10	 HYUNDAI	 HYUNDAI	 HYUNDAI	 HYUNDAI	 HYUNDAI	 Ford

Consistency of Nissan: Nissan has consistently maintained its position as the leading brand in car sales in Mexico both over time and in the year 2023. This suggests a strong presence and acceptance of the brand in the Mexican market.

Rise of MG Motor: The rise of MG Motor is notable, transitioning from not being featured in the historical period to occupying the eighth position in sales in 2023. This increase in market share indicates significant growth and greater acceptance of the brand among Mexican consumers.

SEGMENTS EXPLANATION

SUVs



NISSAN Kicks

SUB-COMPACTS



RENAULT Kwid

COMPACTS



MAZDA 3

PICK UPS



DODGE RAM

LUXURY



BMW 320i

MINIVANS



TOYOTA Avanza

SPORTSCARS



JAGUAR Xk



PEUGEOT 2008



VW Virtus



NISSAN Sentra



CHEVROLET ZTZ1



AUDI A4



HONDA Odyssey



PORSCHE 911 Carrera



KIA Seltos



CHEVROLET Spark



TOYOTA Corolla



FORD Ranger



MERCEDES BENZ C300

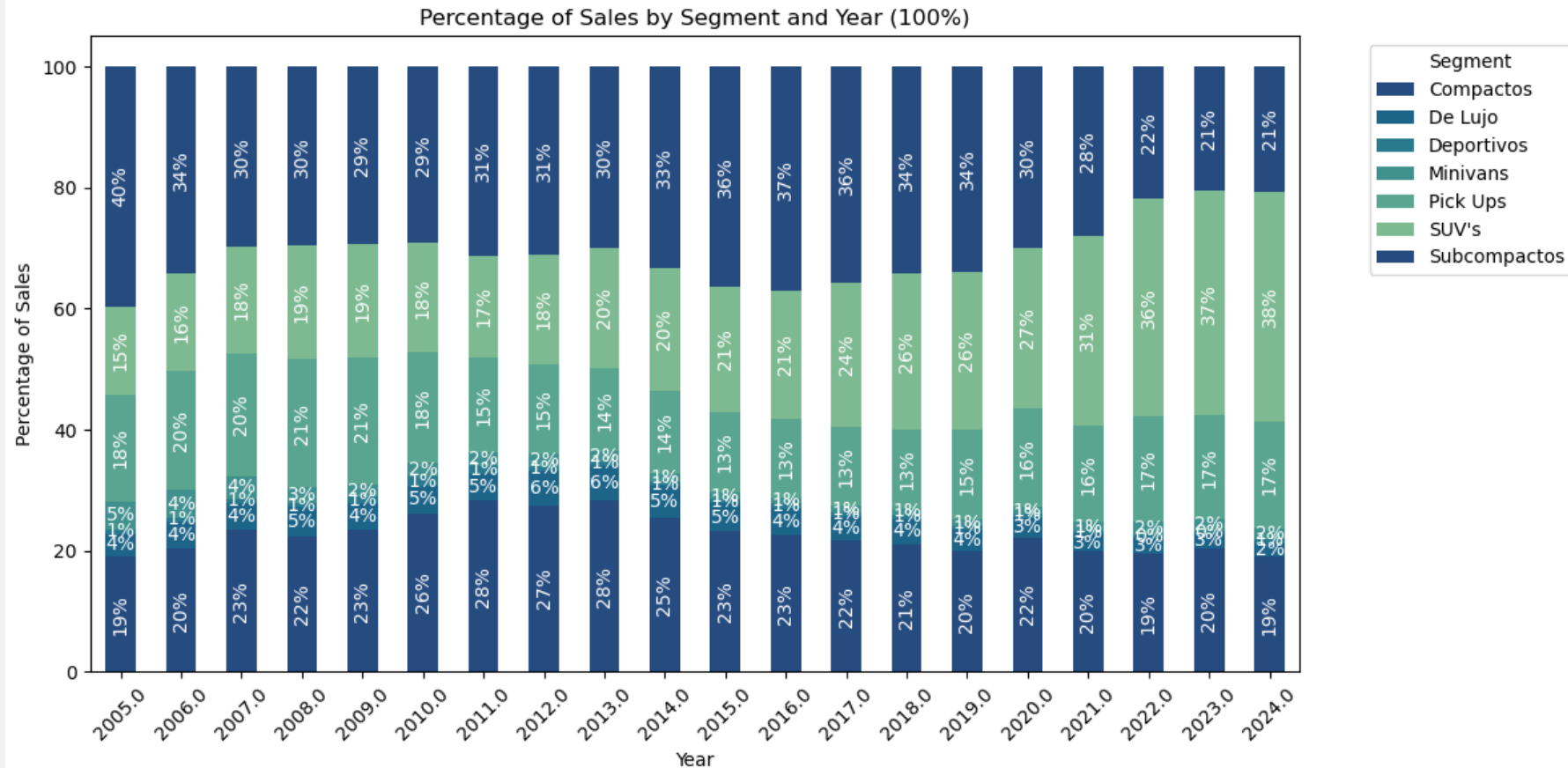


CHRYSLER Pacifica



VW Golf GTI

SEGMENTS EVOLUTION



FINDINGS:

- The percentage of luxury cars bought throughout the years has remained the most consistent, fluctuating by only 3%.
- The market share for subcompact cars has been almost halved over the last twenty years, most of which has been absorbed by SUVs which increased by more than 20%.

Are New SUVs Cheaper Than Cars?

Will SUVs Become the New Entry Level?

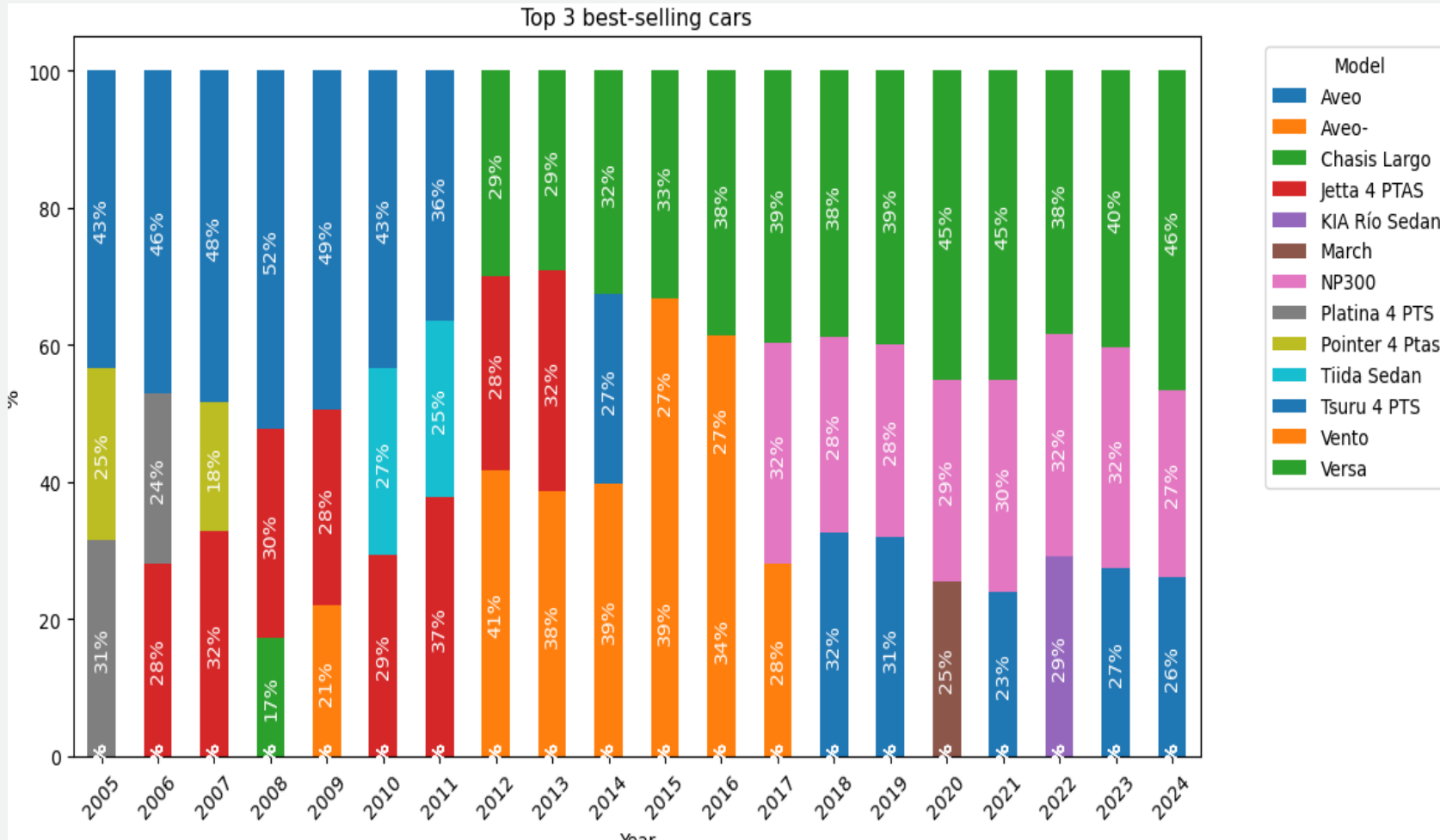
As new subcompact SUVs are introduced, they provide a budget-friendly alternative to the batch of recently discontinued sedans and hatchbacks — models like the Chevrolet Sonic, Ford Fusion, Honda Fit, Hyundai Veloster, Toyota Yaris and Volkswagen Golf.

Vehicle sales across several brands indicate that shoppers are favoring cheap subcompact SUVs over their small-car counterparts. The subcompact Hyundai Kona SUV is nearly five times more popular than the Accent sedan based on Hyundai's annual sales report through September. The same goes for the Kia Seltos and Soul, which each outsell the Rio sedan by wide margins. The Nissan Kicks is considerably more popular than the Versa sedan, while the Chevrolet Trailblazer and Trax handily outsell the Spark hatchback and Malibu sedan.

Source: www.cars.com/articles/



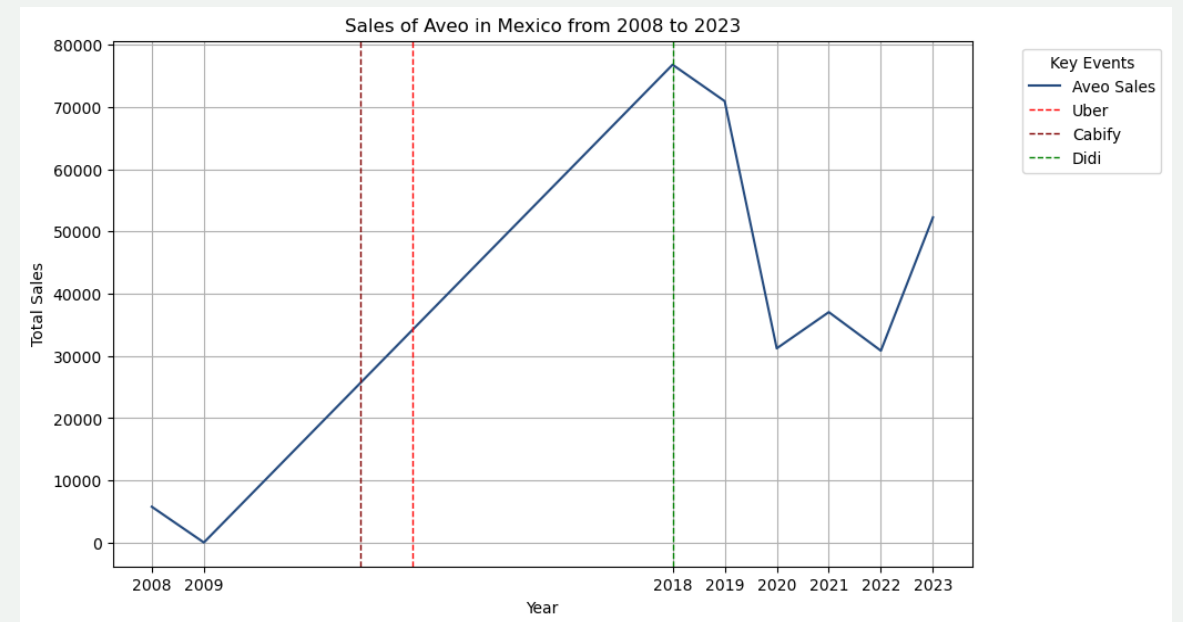
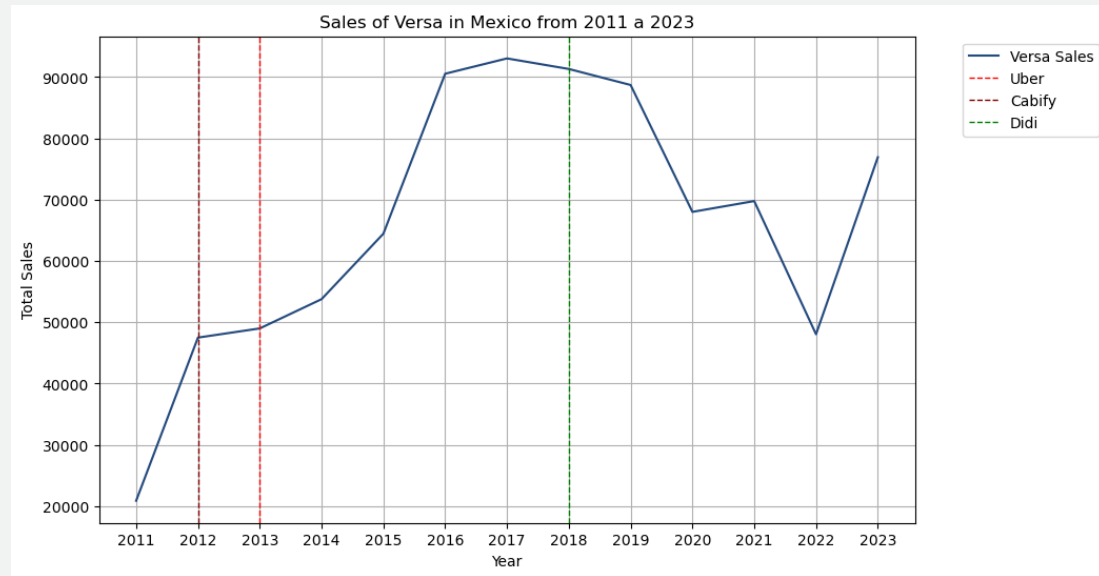
DOMINANT MODELS



FINDINGS:

A year after its launch, Versa was positioned within the top 3 best-selling cars, however, starting in 2013, which coincides with the arrival of Uber to Mexico, its sales have increased exponentially. We can observe this same behavior with the Aveo even though its launch was in 2008.

DOMINANT MODELS



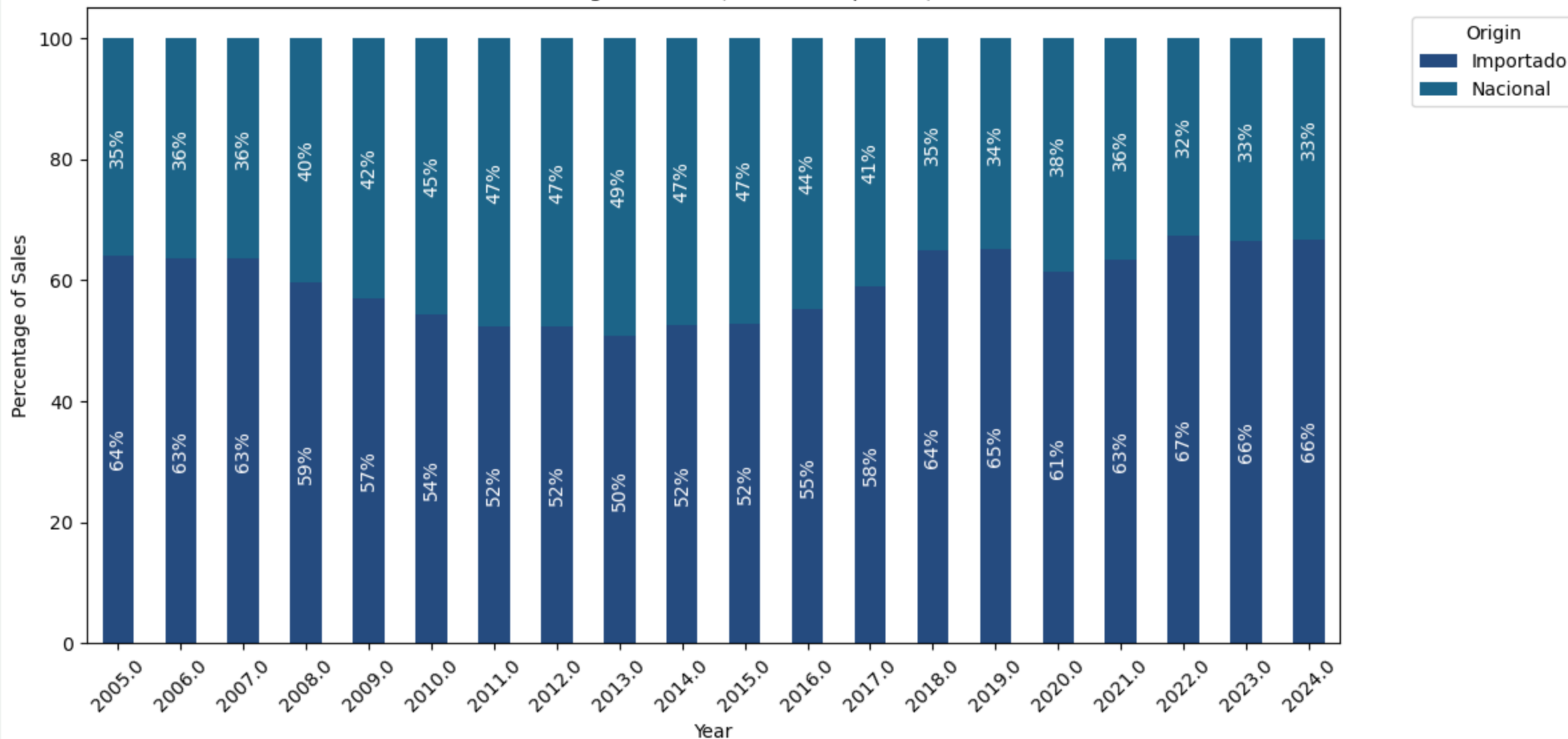
DOMINANT MODELS

- Were Versa sales higher after 2013 when Uber entered the market?
- Were Aveo sales higher after 2013 when Uber entered the market?

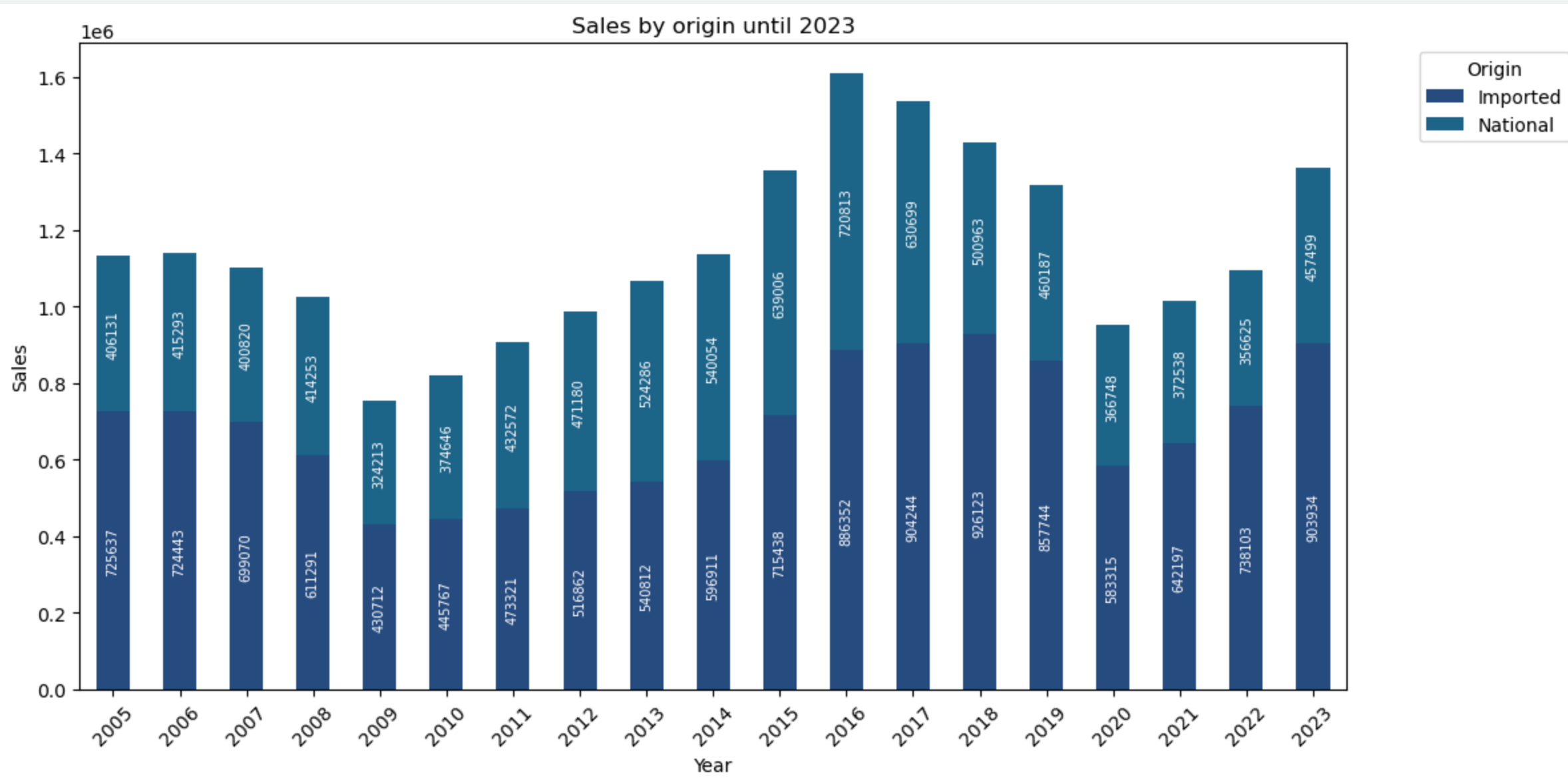
Model	H0	HA	T-Statistics	P-Value	Resultado
Versa	Versa sales before and after 2013 are the same	Versa Sales After 2013 Are Higher Than Sales Before 2013	-5.44685	2.0697e-07	There is a statistically significant difference between the means, therefore the null hypothesis is rejected.
Aveo	Aveo sales before and after 2013 are the same	Aveo Sales After 2013 Are Higher Than Sales Before 2013	-7.1198	2.926614e-10	There is a statistically significant difference between the means, therefore the null hypothesis is rejected.

LOCAL VS IMPORTED VEHICLES PROPORTION

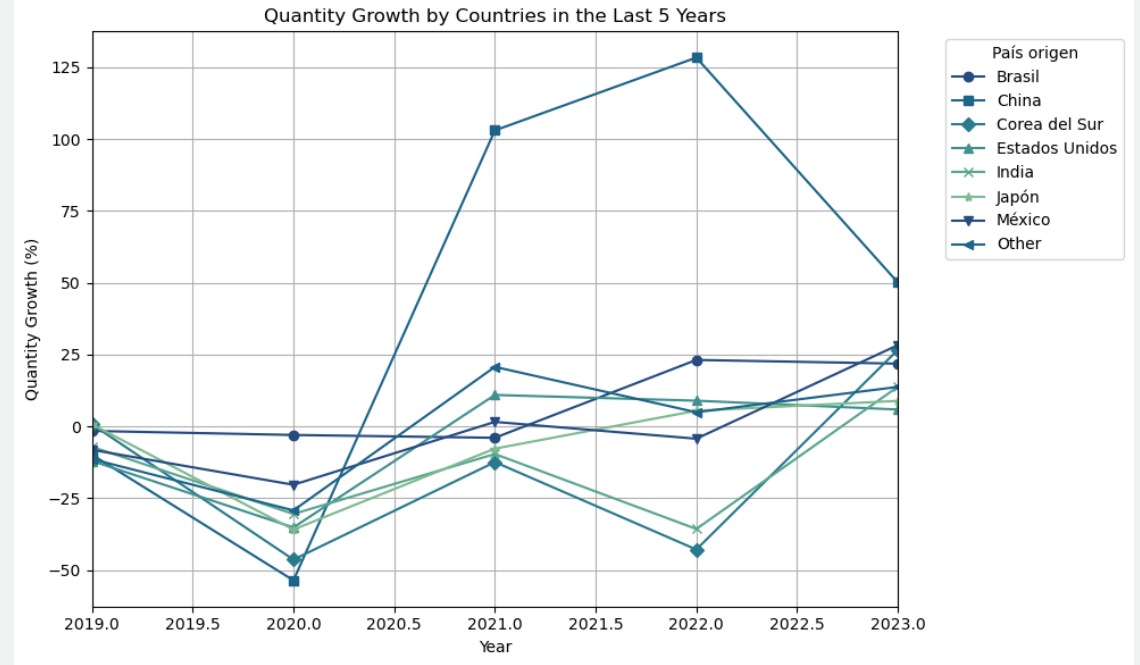
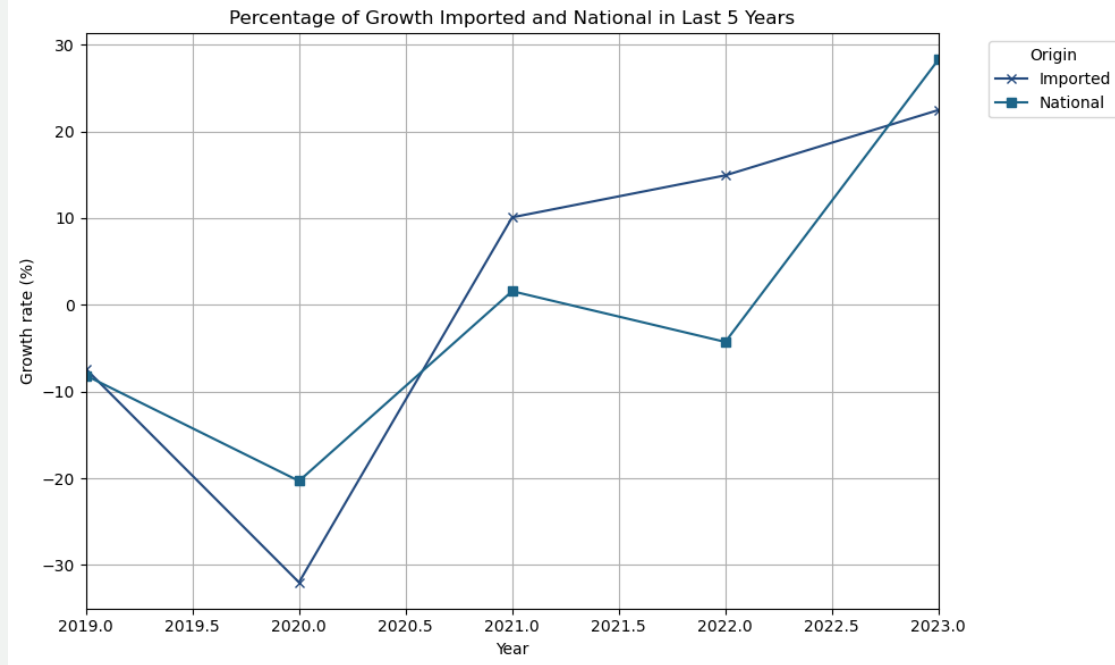
Percentage of Sales (Local vs Imported)



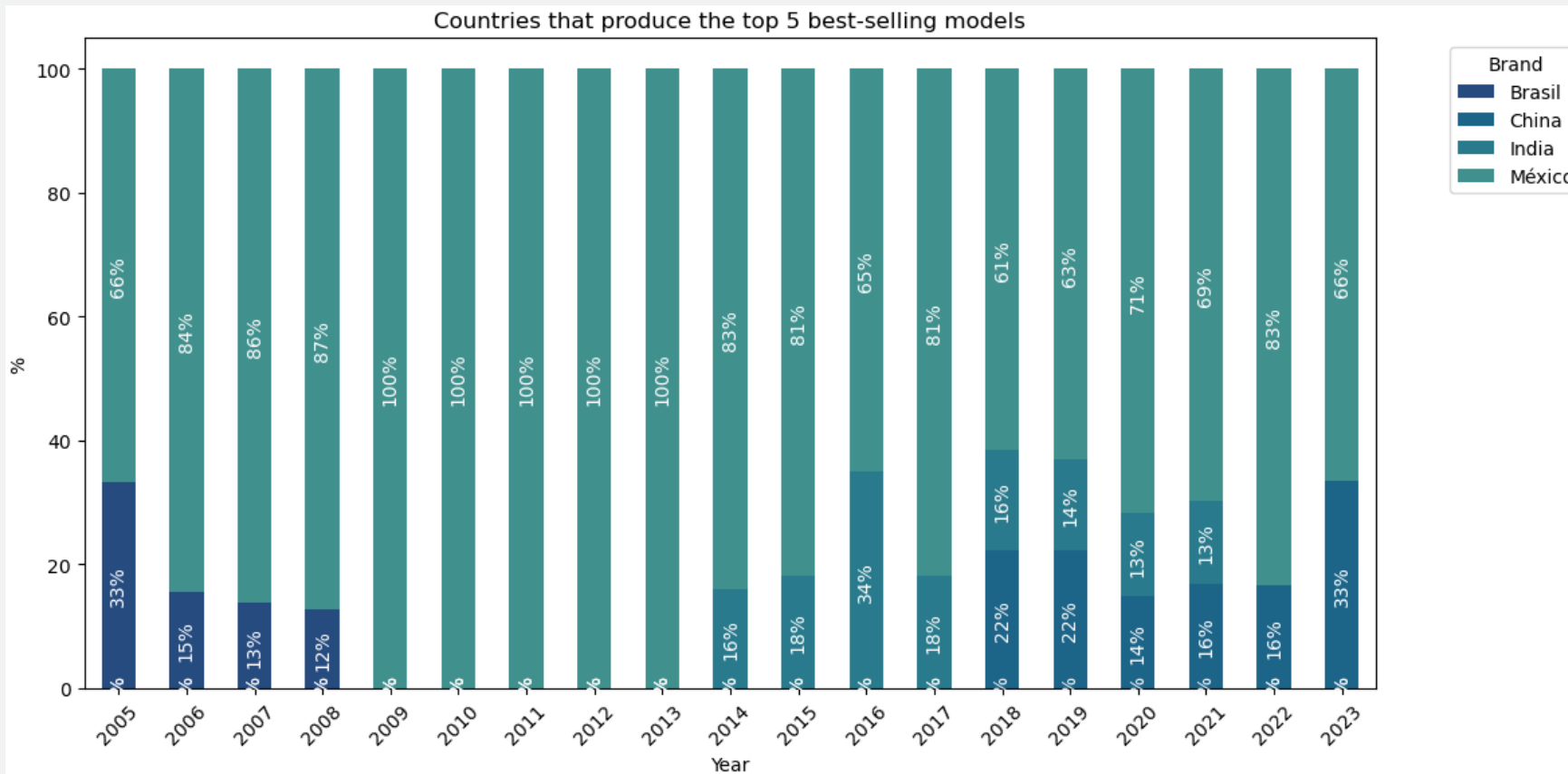
LOCAL VS IMPORTED VEHICLES PROPORTION



LOCAL VS IMPORTED VEHICLES PROPORTION



IMPORT SOURCING EVOLUTION



FINDINGS:

- China grows year after year.
- The best-selling cars continue to be produced by Mexico.
- Since 2013, India has been manufacturing some of the best-selling models, however, starting in 2021, it left the top 5.

CONCLUSIONS

- The automotive industry volume has experienced fluctuations over the years, with periods of growth and decline. Overall, there has been an upward trend in vehicle sales, but specific fluctuations depend on various factors such as **economic** conditions, consumer preferences, and market dynamics .
- The year with the highest number of vehicles sold in the last 20 years is 2016. Several factors seem to have contributed to the success of the automotive market in this year. Stability in vehicle prices, despite the strength of the dollar against the Mexican peso, provided confidence to consumers and stimulated sales. In addition, the increase in the provision of automotive credit and the reduction in the importation of used cars also played an important role.
- The year with the lowest number of vehicles sold in the last 20 years is 2009. This decline in sales can be attributed to the global financial crisis of 2008, which led to economic downturns, reduced consumer spending, and tightened credit markets, impacting the automotive industry.
- The dominant brands throughout the years in Mexico include Nissan, General Motors, and Volkswagen. These brands have consistently held significant market shares and maintained strong positions in the Mexican automotive market. Nissan has consistently maintained its position as the leading brand in car sales in Mexico both over time and in the year 2023. This suggests a strong presence and acceptance of the brand in the Mexican market.

CONCLUSIONS

- The models that have consistently been on the podium of sales throughout the years include the Nissan Versa and the Chevrolet Aveo. These models have demonstrated sustained popularity and high sales volumes, contributing to the success of their respective brands. Economic factors such as fuel prices, vehicle affordability, and disposable income levels also influence segment preferences. Subcompact and compact cars are often more fuel-efficient and affordable than larger vehicles, making them appealing choices, especially during periods of economic uncertainty. Also compact cars are among the most used vehicles for ride-hailing services like Uber in Mexico.
- The most important segments in Mexico include subcompact cars, compact cars, and SUVs. These segments cater to a wide range of consumer preferences and needs, with **SUVs experiencing significant growth in recent years**.
- Historically, Mexico has been a significant producer and exporter of automobiles, with many major automakers establishing manufacturing plants in the country to take advantage of its skilled workforce, proximity to key markets, and favorable trade agreements such as the North American Free Trade Agreement (NAFTA) and its successor, the United States-Mexico-Canada Agreement (USMCA). As a result, a considerable portion of vehicles sold in Mexico were produced locally. However, Mexico also imports vehicles from various countries to meet consumer demand for specific models or segments not produced domestically. The proportion of imported vehicles sold in Mexico has fluctuated over the years, influenced by factors such as changes in consumer preferences, shifts in manufacturing strategies by automakers, and adjustments to trade agreements.

CONCLUSIONS

- In recent years, there has been a trend towards an increasing proportion of imported vehicles in the Mexican market, driven by factors such as the diversification of vehicle offerings, the globalization of the automotive industry, and changes in trade dynamics. This trend reflects the growing competitiveness and openness of the Mexican automotive market, as well as the ability of consumers to access a wider range of vehicle options from both domestic and international sources. Overall, while locally produced vehicles continue to play a significant role in the Mexican automotive market, the proportion of imported vehicles sold in Mexico has evolved over the years, reflecting changes in market dynamics and consumer preferences.
- The import sourcing has evolved over the years, with an increasing presence of vehicles imported from countries such as China and India. This reflects changing consumer preferences, globalization of the automotive industry, and trade agreements affecting import dynamics. Preferences, globalization of the automotive industry, and trade agreements affecting import dynamics.

THANK YOU

