

POLITECNICO DI TORINO



THE AUTOMOTIVE INDUSTRY IN PAKISTAN

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Abstract

The automotive sector is one of the fastest-growing sectors in Pakistan. The main focus is on developing small mobility vehicles such as Motorcycles and bikes. The development in this sector is hindered by many factors such as political instability, lack of funding, less interest of the foreign institutional investors, and inadequate supporting industries such as universities and research centers. Despite these challenges, Pakistan focuses on leapfrogging in this industry and bringing foreign investment in green mobility and sustainable development. In this thesis, the automotive sector is analyzed in-depth considering new infrastructure development such as CPEC, new Government Policies for ICT, and Smart Cities. All these policies are explored from a strategic and innovative point of view. Pakistan's auto sector has oligopoly thanks to systems of protection and offers a lack of competitive structure. The illegal trade and import of used foreign cars have damaged the local manufacturing ecosystem. The industry has seen a positive response from a foreign investor after securing IMF programs. With the new government's establishment, the relationship with neighboring countries has improved, giving rise to significant investment in Green Mobility and Sustainable Development.

Chapter 1. Introduction

1.1 Historical Overview

Automotive is one of the world's largest economic sectors by revenue. The automotive industry has historically been one of the world's most critical industries. Europe is the cradle of the automotive industry with the development of the internal combustion engine in the mid eighteenth century that started in Germany and France. Later, American quickly dominated this industry in the first half of the Twentieth Century with Henry Ford innovating mass production and setting global standards; later, the GM and Chrysler, along with Ford, emerged as the Big Three US automotive industry. The Big Three resources were funneled during the crisis of World War, and later European and Asian countries such as Japan increased their production to meet the growing demand. After World War II America was producing more than 75% of the total vehicles in the World. Although the automobile was to have its most significant social and economic impact in the United States, this art was perfected in Germany and France toward the end of the Nineteenth Century by such men as Gottlieb Daimler, Karl Benz, Nicolaus Otto and Emile Levassor.

The Mass production of automobiles is usually attributed to The mass-produced automobile (Ford Ist gen) thanks to Henry Ford. However, many others were also seeing the possibilities in a mass market. Ransom Eli Olds made the first primary bid for the mass market with a famous curved-dash Oldsmobile buggy in 1901. The design was flawed as it could not withstand the rough condition of roads and the environment. The same problem applies to all other manufactures who tried to imitate Oldsmobile design. However, later Ford, with their famous design of model T stepped in and created a suitable design for that time and shaped the modern car; after designing this, Henry Ford worked on producing this car cheaply.

Figure 1.1 shows a brief timeline of the automotive industry in the design development sector.

The successful Ford design inspired competition and innovation, but the primacy remained unchallenged until the mid-1920s as it refused to recognize that Model T is outmoded. Many

competitors are offering better design and more luxurious cars at a price point that is more lucrative for lower income purchasers through a growing used-car market.

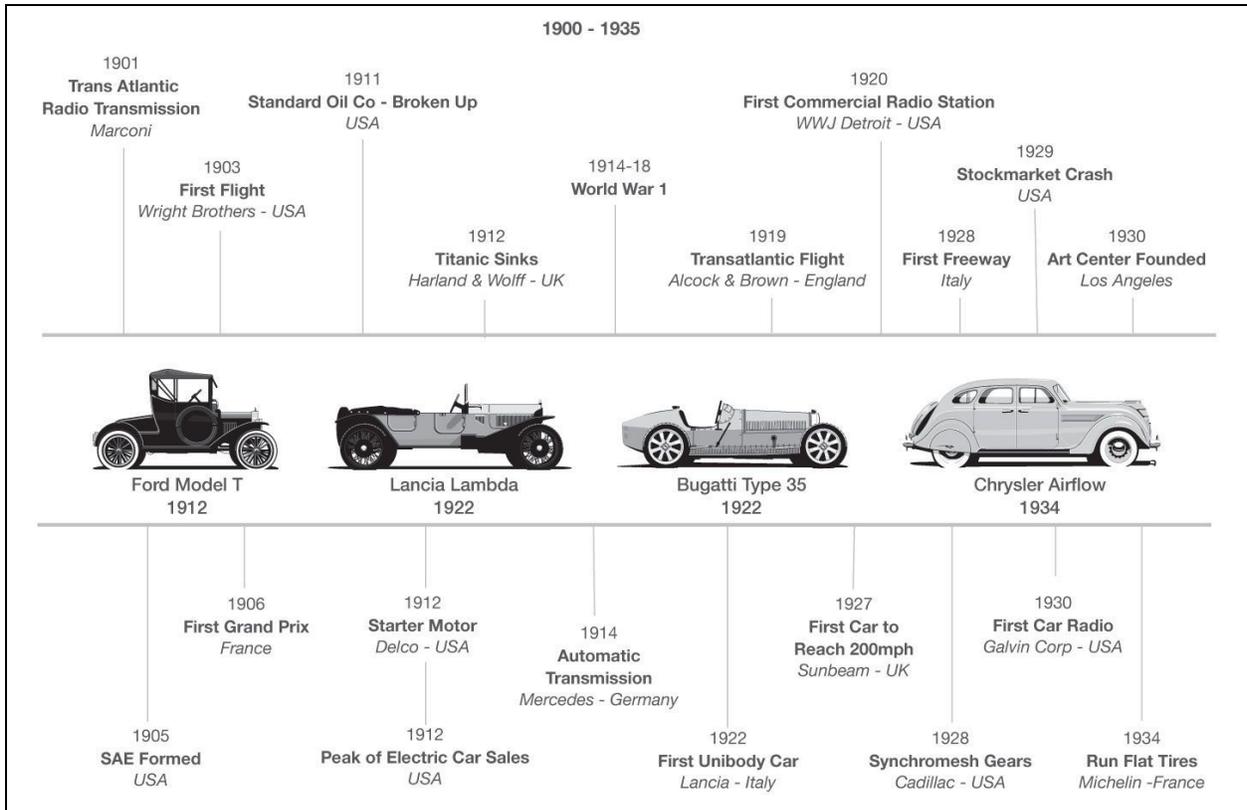


Fig 1.1 Early Timeline of Automobile Industry

In the beginning, Europe lagged behind the US in car manufacturing because of considering low quality of life, less purchasing power, smaller national markets and more tariff policies. The trend toward concentration was discernible i.e., In the UK, the production rose from 73,000 to 239,000 in just five years from 1922 to 1927. Simultaneously, the increased competition and industry refinement of the production process reduced the number of competitors from 90 to 41. After world war II, the demand for vehicles has increased in the US, somewhat also enlarged by military needs. This situation has invited several newcomers to the industry, but none of them succeed. The automotive industry trend of consolidation in terms of mergers and large-scale organization, continued unchecked.

By the 1980s, the USA's automotive industry had only four important players GM, Ford, Chrysler and AMC. Meanwhile, Europe and Japan's competition continued to increase and reduce the market share for these big four.

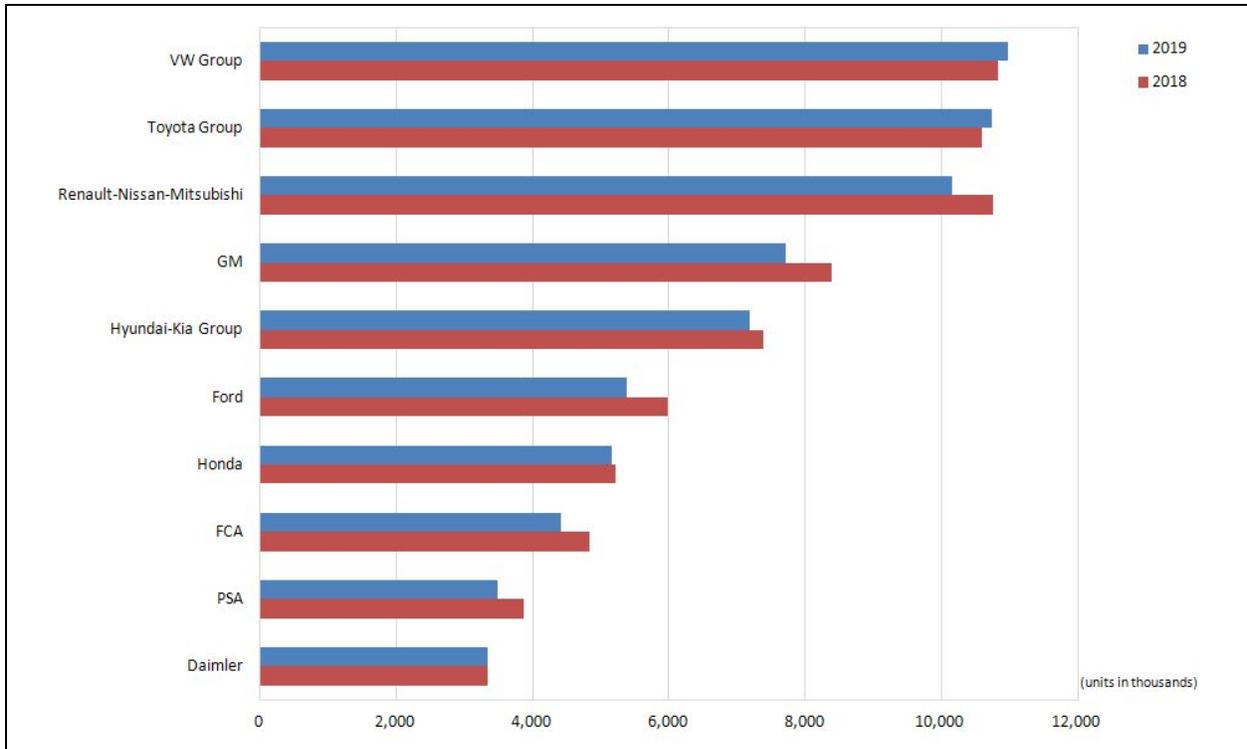


Fig 1.2 Recent Market Share of Top Automaker in term of Sale

Fig 1.2 reveals that after world war II, even though the US is a significant player, the market share has been captured by European and Asian countries such as Japan. The recent technological and economic boom in China led to the development of supporting industries that give rise to automakers such as BYD, the Chinese leader in Green mobility.

The modern automotive industry is enormous. In the USA, this sector is alone the largest manufacturing enterprise in terms of the total value of products, value-added by the manufacturer, and the number of wage earners employed. For other countries, these proportions are somewhat smaller, but Japan, South Korea, and Western European countries have been rapidly approaching the United States level. The auto industry has reached its maturity, and there is a paradigm shift in technology. Climate change and environmental factors are driving factors for green mobility. New automakers such as Tesla, Rivian, and BYD are already driving towards innovation in electric vehicles and self-driving autonomous vehicles. Tesla is already the most significant player in EVs. Market capitalization is over \$382billion, more than the other three significant automakers combined; this is a significant indication that industry is drifting towards the EV and smart mobility is the new future.

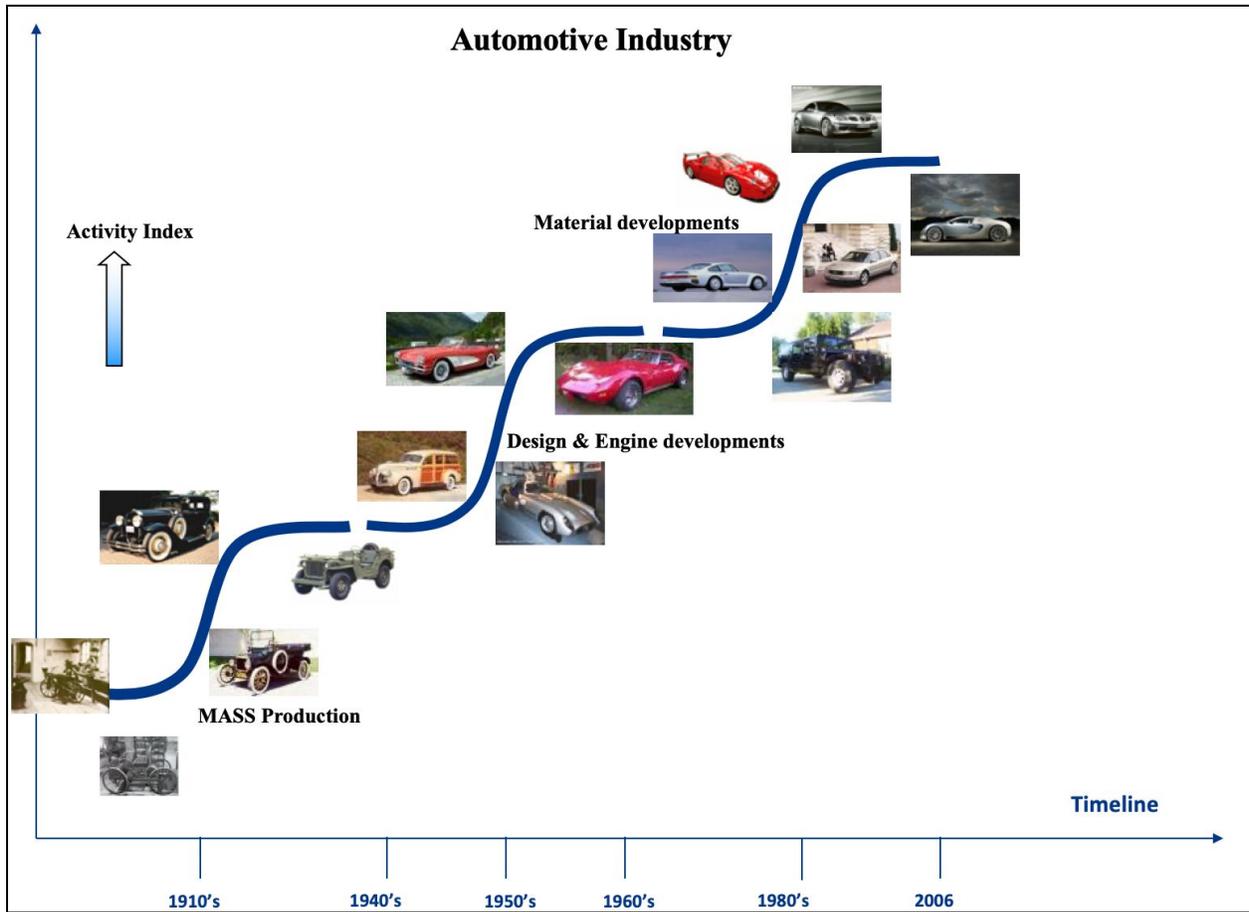


Fig 1.3 S-Curve in Automotive Industry

Chapter 2. The Economy of Pakistan

2.1 Overview

Pakistan's economy is predominantly agricultural, with agriculture (notably cotton), fisheries, and forestry contributing about 20 percent of GDP. It has large deposits of Natural Gas; gas reserves were estimated in January 2014 to be 600 billion cubic meters. From the 1950s, manufacturing took off rapidly. The economy was developed through a series of five-year plans. From the 1960s, protectionist policies were adopted, followed by nationalizations in the 1970s and, from 1988, encouragement of private enterprise and privatization of state-owned banks and manufacturing enterprises.

Pakistan's economy is ranked 23rd most extensive globally for purchasing power parity, and 42nd largest in terms of nominal gross domestic product. The population of Pakistan is estimated at around 220 million that makes him the 5th most populous country globally. In terms of nominal GDP, Pakistan is ranked among the least developed countries and ranked 154th globally. However, Pakistan has a massive undocumented economy and is estimated to be 36% of its overall economy, which is not considered when calculating per capita income.

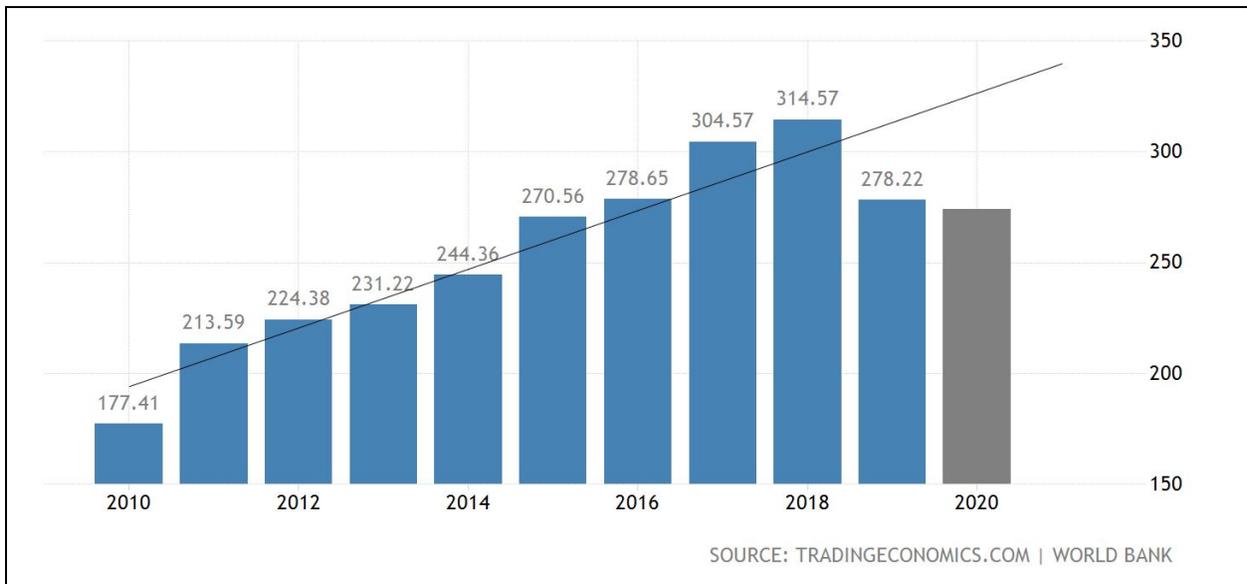


Fig 2.1.1 Real Annual GDP of Pakistan

According to recent trends, the GDP growth rate of Pakistan is 5.6%, and its GDP is supposed to be in the top 20 in the world in the next 10-20 years. There are three main sectors of Pakistan's economy: The Primary Sector consists of Agriculture, Mining, and fishing. The Secondary Sector that makes more than 20 percent of the economy is the Manufacturing Sector, which consists of heavy industries, OEM and textile machinery.; and lastly, the Tertiary Sector, alias the services sector, which includes Services and Intangible Goods, like Tourism, Financial Services, or telecommunications.

The three major sectors contributing to GDP are shown in the figure below.



Fig 2.1.2 Contribution of Agriculture Sector in Pakistan GDP



Fig 2.1.3 Contribution of Manufacturing Sector in Pakistan GDP

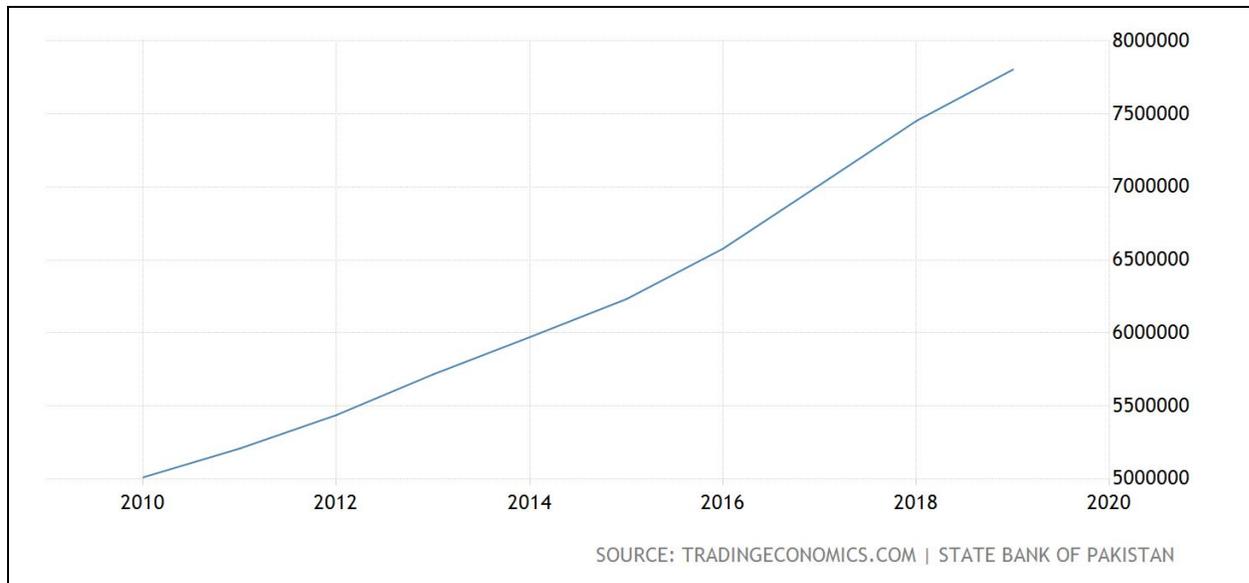


Fig 2.1.3 Contribution of Services Sector in Pakistan GDP

As every nation relies on their primary sector, the same is true for Pakistan, but still, as a developing nation, it manages to shift its interest over Services and Manufacturing Sector, although Agriculture constitutes the backbone of this country.

2.2 Economic Geography of Pakistan

Most industrial districts of Pakistan are located in major cities such as Karachi, Lahore, Faisalabad. Karachi is the main Port, so it is the backbone of businesses in Pakistan and has major educational institutions that provide a young talented workforce to these businesses; it is the home to significant manufacturing industries. Karachi occupies the highest position as the top-ranking district with the largest size of value-added among all Pakistan's industrial districts. Karachi's status as the largest industrial center remained unchanged because of uninterrupted high growth from the initial period up to recent years. Sindh Industrial Trading Estate (SITE) is located in Karachi and Designated as an Industrial Area in 1963, S.I.T.E is the oldest and the largest designated Industrial Area of Pakistan, encompassing 9700 acres (19 km²) of land. It contains approximately 2,400 factories.

Other prominent industrial hubs are located in the Province of Punjab. It has the highest per-capita G.D.P. and gets the most funding from the Government. Also, the literacy rate is highest in this region. The federal capital "Islamabad" is not the most prominent city when it comes to industrialization. However, it has its prominent role in the Services Sector, along with the federal capital, the city of Rawalpindi is a central economic hub. It provides service to mostly Northern Areas of Pakistan because its strategic location has proximity to the less developed khyber-Pakhtunkhwa province of Pakistan and its major cities such as Peshawar and Abbottabad.

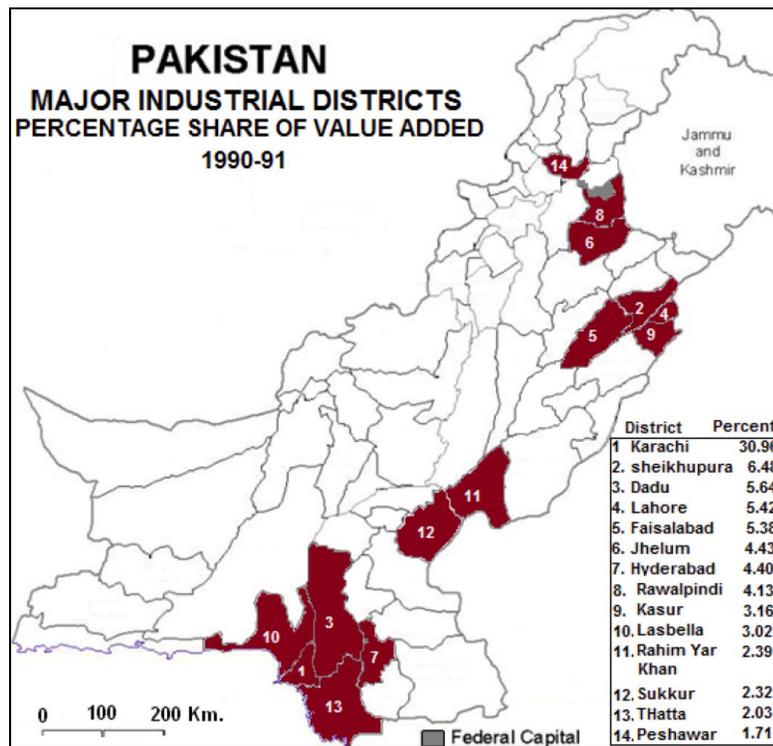


Figure 2.2.1 Major Industrial District of Pakistan ranked according to the Share of Value added

Pakistan is blessed with diverse terrain and weather that make him suitable for agriculture and mining. Seaport enables to do trade, and currently undergoing a project of CPEC is a game-changer for this region in terms of infrastructure development and thus making more accessible the transport of goods and bringing foreign investment in the high tech sector because of the better transport system and good infrastructure.

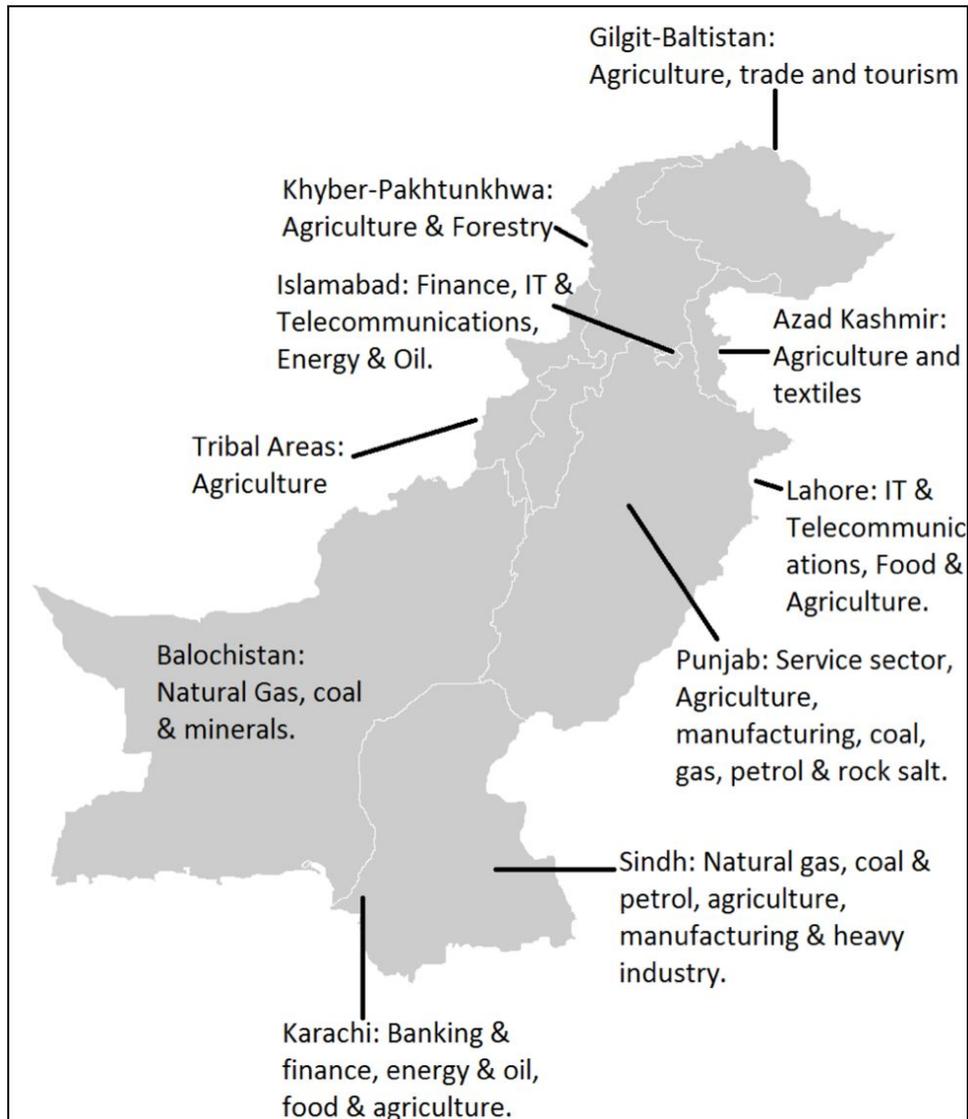
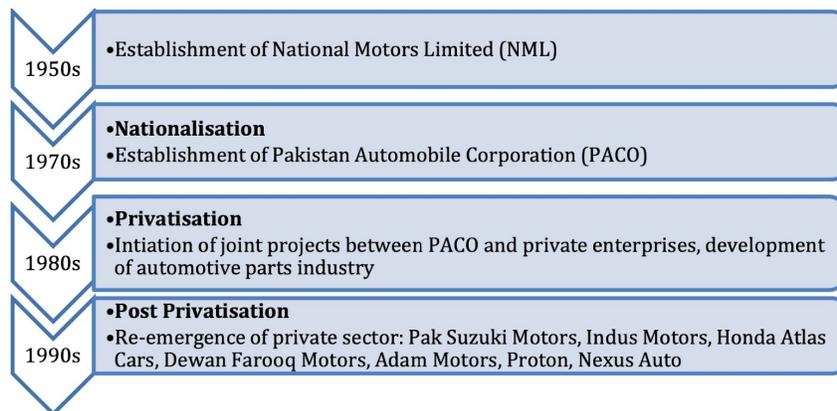


Fig 2.2.2 Map of Pakistan showing Provinces and major Industrial Sectors in each Province

Chapter 3. The Automotive sector in Pakistan

3.1 Historic Development in Pakistan’s Automotive Sector

In Pakistan, only three companies dominate the car industry i.e., Toyota, Honda, and Suzuki. The car industry is one of the country's fastest-growing industries, accounting for 4% of Pakistan's GDP and employing a workforce of over 1,800,000 people. Currently, there are 3200 automotive manufacturing plants in the country, with an investment of Rs. 92 billion (US\$870 million) producing 1.8 million motorcycles and 200,000 vehicles annually. According to the Ministry of Industries & Production, Pakistan produced its first vehicle in 1953 at the National Motors plant in Karachi. The plant was opened in conjunction with General Motors, who arranged the facilities to produce Vauxhall cars and Bedford trucks. Subsequently, buses, light trucks, and cars would be assembled at the same plant. In the same year, Ford trucks partnered with Ali Automobiles, who introduced Ford Anglia, Ford pickups, and the Ford Kombi. Exide Pakistan also began the production of car batteries in 1953. Haroon Industries partnered with Dodge Motors in 1956. The 1970s saw the nationalization of many companies. In 1972, the Pakistan Automobile Corporation (PACO) was formed, and the trend towards consolidation started merging smaller OEMs to one major automaker to exploit economies of scale and learning economies. The figure below shows the timeline of major policies and milestones throughout the development of the Pakistan Auto Sector.



Based on JICA (2011) and CCP (2013)

Fig 3.1 Evolution of Automotive Industry in Pakistan

3.2 Major Players

The Pakistani automobile industry's major players are Suzuki, Toyota, and Honda, with a market share of 62 percent, 28 percent, and 9 percent, respectively. The remaining producers have a minor share of 1.4 percent in the automobile market and include Dewan Farooque Motors Ltd, Sigma Motors Ltd, Hinopak Motors Ltd, and Ghandhara Industries Ltd.

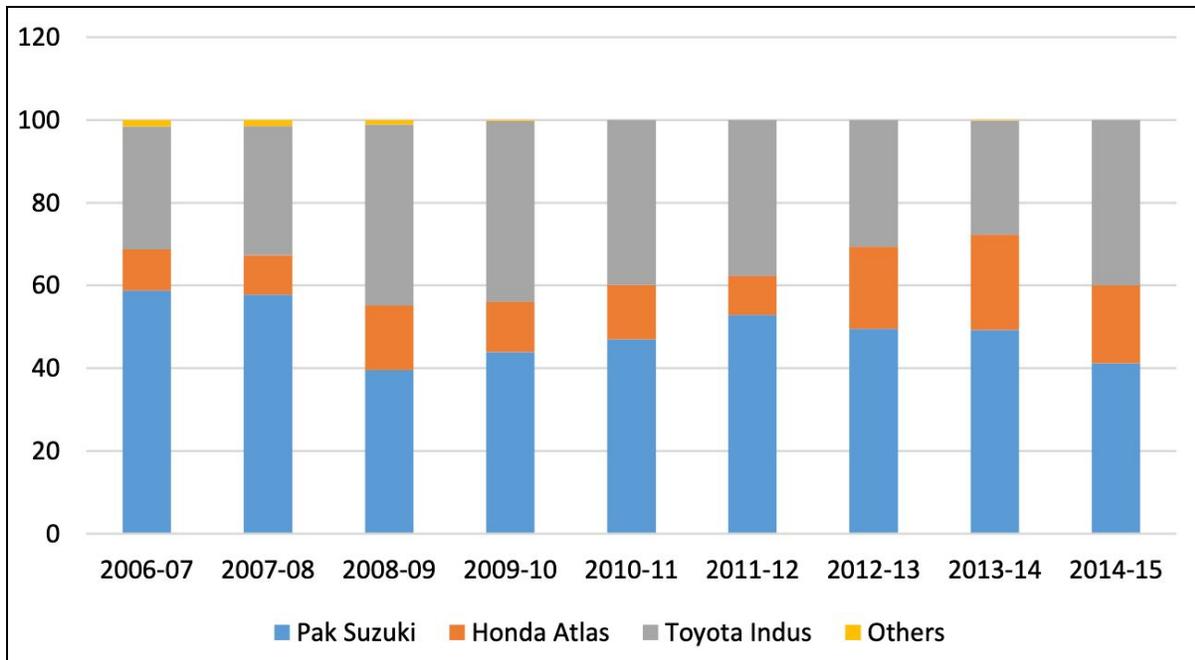


Fig 3.2 Major Players and their Market Share in Pakistan

3.2.1.PAK SUZUKI MOTORS

Pak Suzuki Motor Company Limited (PSMCL) is a Pakistani automobile company and is a subsidiary of Japanese automaker Suzuki; initially, it was a joint venture between the Government of Pakistan and Suzuki.

It is the Pakistani assembler and distributor of cars locally manufactured by Suzuki, its subsidiaries, and foreign divisions. Currently, Pak Suzuki is the largest car assembler in Pakistan.

Pak Suzuki is the Pakistan Automotive industry's market leader and has a market share of more than 60% (as of December 2011). The industry's lack of competitive structure, Pak Suzuki has had a market share of more than 50% since its inception and has a small car segment monopoly. Having assembled both the Carry and Jimny locally since 1976, Suzuki's first locally built product was the 800 ccs ST Carry 90 van and truck, the total production was 250000 per year in the beginning.

Now Suzuki is more focused on small cars and is the biggest assembler in Pakistan. The move towards small cars is in line with people's more positive attitude towards small cars and affordability because of their assembly in Pakistan. They fit the Euro-II emission standards better than the Carry and Suzuki Mehran that uses carbureted engines.

3.2.2 INDUS MOTORS COMPANY

Indus Motor Company Limited, known as Toyota Indus, is a Pakistani automobile manufacturer. It is a joint venture between Toyota Tsusho, the House of Habib, and Toyota Motors based in Karachi. The Company's primary product offerings include Hilux in the light commercial vehicles, several Corolla variants in the passenger cars category, segment, and the Fortuner Sports Utility Vehicle.

3.2.3 HONDA ATLAS

Honda Atlas is a Pakistani automobile assembler and manufacturer and a joint venture between Atlas Group and Honda Motor, based in Lahore. Since 1992, Honda Atlas is the manufacturer and authorized assembler of Honda vehicles in Pakistan; it is the largest assembler of motorcycles in Pakistan and has a dominant position in the luxury car segment. It has two major plants in Pakistan, one in Karachi, which has a production capacity (for both Cars and Motorbikes) of 1.35 million units a year, and in Sheikhpura, which has a production capacity

(for both Cars and Motorbikes) of 1.2 million units a year. Atlas Honda Pakistan also exports motorcycles to neighboring countries such as Bangladesh, Sri Lanka.

The table below shows a consolidated list of all the major manufactures and their products. As mentioned above Pak Suzuki is the single largest manufacturer of cars, vans and autos in small segments.

Manufacturers	Products	Installed Capacity (Units/ annum)	Turnover (PKR million)	Contribution to Exchequer (PKR million)
Pak Suzuki Motor Co. Ltd.	Cars, LCVs, Vans, Motorcycles	150,000	58,531	17,302
Indus Motor Co. Ltd.	Cars, LCVs, SUV	54,800	77,000	24,700
Honda Atlas Cars (Pakistan) Ltd.	Cars	50,000	30,275	10,664
Dewan Farooque Motors Ltd.	Cars, LCVs	20,000	-	8
Sigma Motors Ltd.	Jeeps	1,320	998	236
Hinopak Motors Ltd.	Trucks, Buses, P. Movers, LCVs	6,000+1,800	7,528	650
Gandhara Nissan Ltd.	Cars, Trucks, Buses	8500 (Cars 6,000 + Trucks 2,500)	1,624	340
Master Motor Corporation Ltd.	Trucks, Buses, Pick ups	-	1150	289
Millat Tractors Ltd.	Tractors	-	20,133	1,426
Atlas Honda Ltd.	Motorcycles	750,000	38,011.857	7,700
DYL Motorcycles Ltd.	Motorcycles	200,000	3,942	722
Ravi Automobile Pvt. Ltd.	Motorcycles	75,000	1,027	46
Sazgar Engineering Works Ltd.	Rickshaws	20,000	2,725.64	605

Source: PAMA, 2013³

Table 3.1 All Major Auto Players and their Product Description

3.3 Production Structure

In Pakistan, the automobile sector has grown significantly ever since its birth in the mid-50s and has now become a multi-billion-rupee industry, with over 2,000 original equipment manufacturers (OEMs) and vendor units (formal and informal) manufacturing/assembling a range of products, and operates under various agreements of franchising and technical cooperation with the leading global manufacturer. The automotive sector of Pakistan now

includes the following significant sub-sectors: (a) automobiles/cars, (b) motorcycles/rickshaws, (c) tractors, and (d) trucks/buses/ trailers. Within each of these, there are assemblers and parts manufacturers, respectively.

According to recent studies, most automobile manufacturers focus on two-wheeler manufacturers 90-100, followed by rickshaw manufacturers 40-50. At the same time, there are 10-12 four-wheelers and 5-7 manufacturers of tractors in Pakistan. Classification based on engine size reveals a single producer (Pak Suzuki) producing a car in the 800cc engine segment.

Recent developments in R & D and increased budget allocation have made the automotive industry achieve a high level of local content, i.e., 80% of tractor parts are manufactured locally. Commercial vehicles such as trucks and buses have the lowest local content level, highlighting their dependence on imported parts.

Auto Sector Categories	Local Content Level (%)
Tractors	88-87
Motor cycles	77-83
Cars	50-70
Buses / Trucks	45-47
Commercial vehicles	30-40

Table 3.3.1 Local Content Level in different Auto Sector categories

The table above reveals that the level of parts that have been produced locally, as a major portion of Pakistan's auto needs are fulfilled locally except from buses, trucks and vehicles used for commercial purposes.

The industry's competition is also increasing and can be seen significantly in the Motorcycle industry, as the production has increased from 117,858 in 2000-2001 to over 1.6 million in 2013. Due to the entry of new manufacturers, with relatively low priced makes, which has increased competition and prevented large price increases by the established manufacturers. Meanwhile, buses and trucks' production has declined over 50 and 12% respectively; this is the indication of the stagnation of the transport sector. The automotive sector has shown impressive growth in the last decade while it is relatively small and at early development stages.

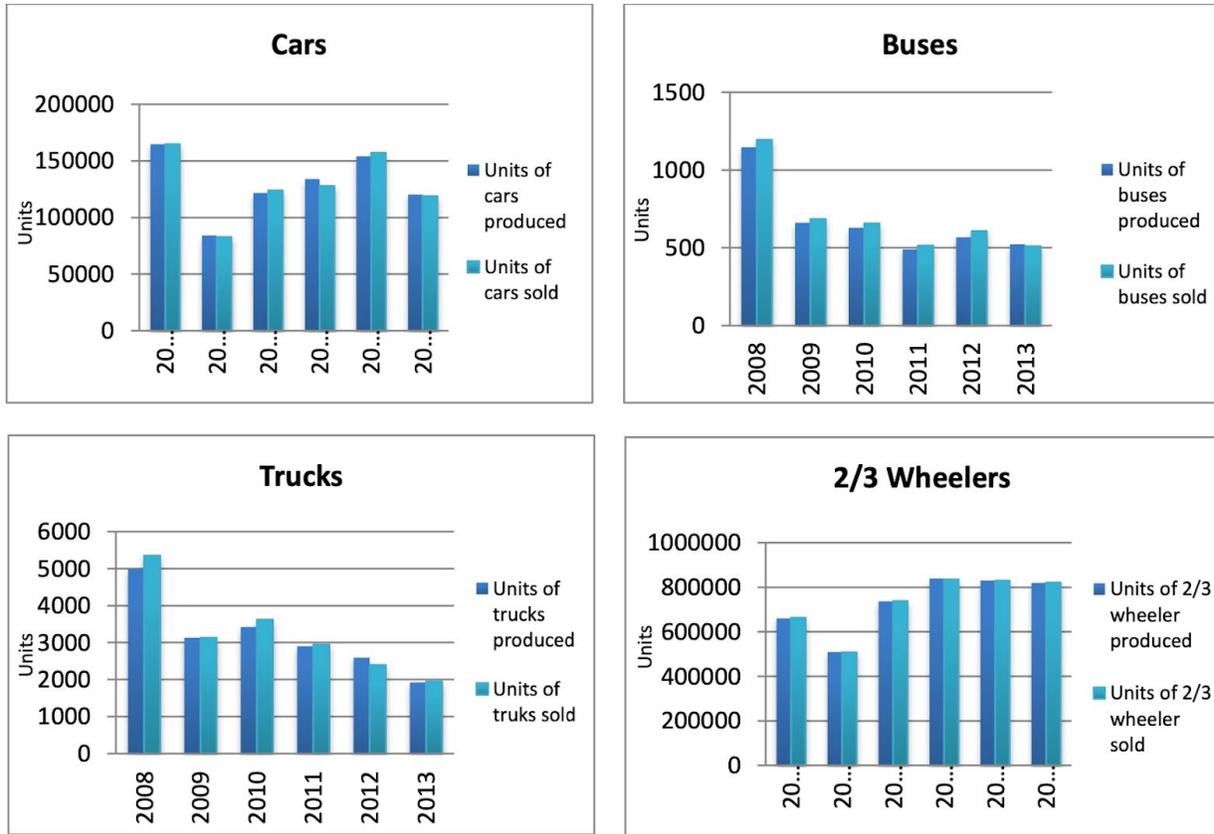


Fig 3.3.1 Comparison of different Auto categories Produced and Sold in 2013

Another critical aspect of production is the optimization of the supply chain. As in Pakistan, automakers' core competence is assembly, so the different components are produced by different OEMs, despite poor infrastructure and lack of R & D in the supply chain. Several of Pakistan's vehicle manufacturers cooperate in working to improve the performance of their supply chains, for instance, by sharing best practices and standard tools and training. At the same time, they maintain independent management of their supply chains, in compliance with relevant competition law.

Tier 1 and Tier 2 suppliers are located mostly in Punjab's industrial districts and consist of SMEs producing modules, components, and parts of the engine. The Parts required for small vehicles are locally manufactured, but parts for Buses and trucks are imported. These SMEs have bilateral

agreements with foreign manufacturers. In Figure below the model for supply chain is presented, and the hierarchical level and with their relations are presented.

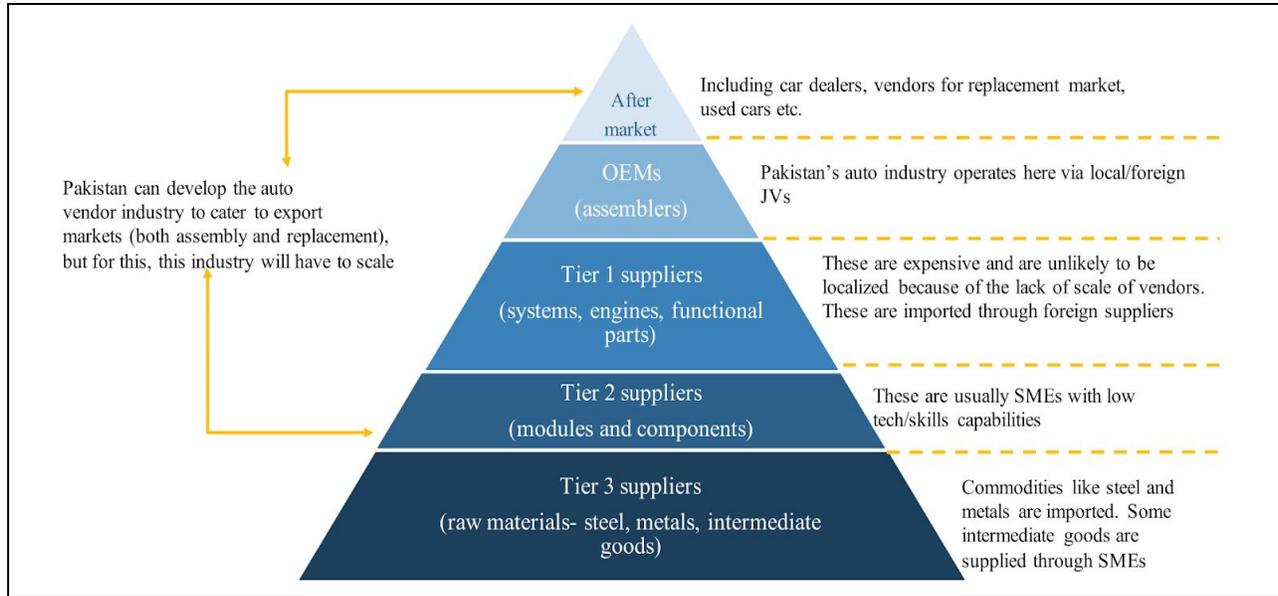


Fig 3.3.2 Supply Chain Model optimized for Assembling Vehicles

3.4 Automotive Trade in Pakistan

Pakistan is among 40 countries that produce vehicles, and the main focus is assembling and manufacturing small vehicles. The significant aspect of Pakistan's auto sector is that people prefer imported cars compared to locally manufactured, because of the useful features and brand reputation. Japan is a leading country when it comes to exporting vehicles to Pakistan. Other countries include China and the Republic of Korea. Many luxury brands are also opening their customer centers in Pakistan to grab a slice of the economy. Government policies are strict and impose a high tariff on imported vehicles. Different auto brands working in Pakistan manufacture vehicles locally in all the major categories from small to heavy, and transport vehicles. The production data from these sectors revealed that the growth has been negative in the last few years (2013 and 2014) while the import of cars has increased over the years despite

Government strict policies on imports, such as not having more than three years old and imposing a high tax.

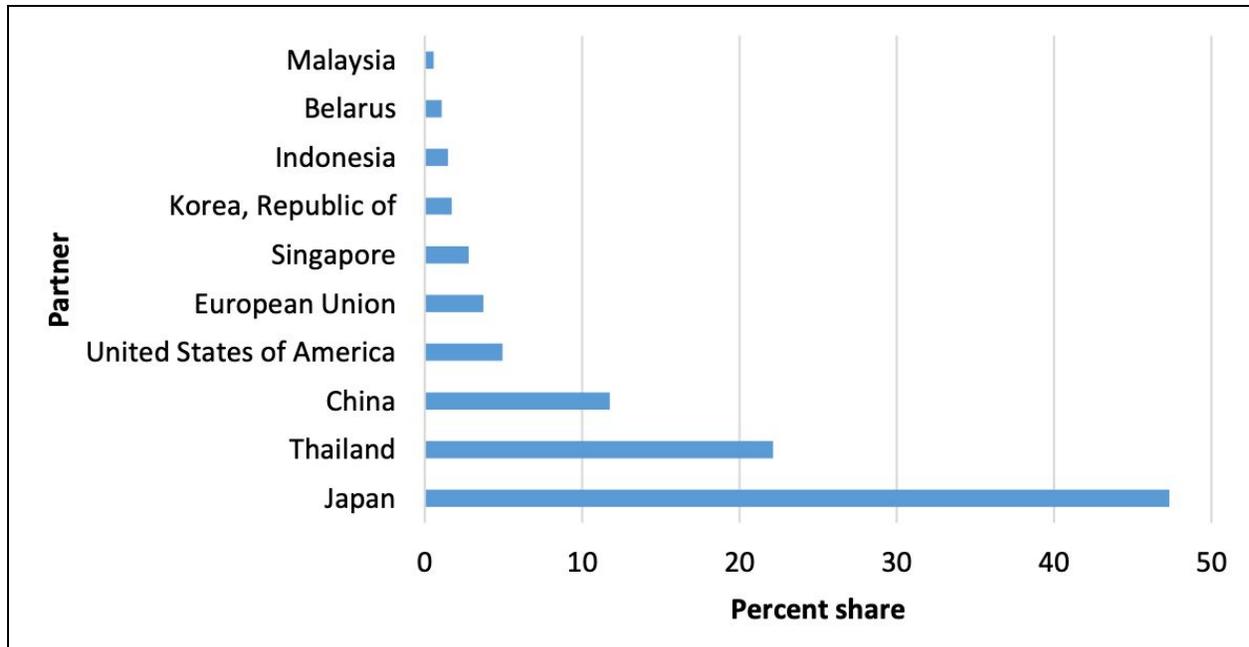


Fig 3.4.1 Main Import Partners and their Share

A significant sector in Pakistan trade in the automotive sector is the import of used cars; on average, 3,000 used cars are being imported. This seemingly lucrative option has many drawbacks for the economy and the consumers, as most buyers do not know about the car's quality, whether they are auctioned in the right conditions and if their mileage meters are tempered. This also causes Rs 10.8 billion in losses to the local auto parts manufacturers. The import of used cars is banned for commercial purposes.

Pakistan's automotive sector is at the early stages of development compared to the neighboring countries of India and China. Pakistan cannot export cars because of the franchising agreements with Japanese car manufacturers. There is no indigenous car brand that can compete with them in innovation in car design and fuel efficiency. Also, a price floor is imposed on the local assemblers and manufacturers by their respective international holdings.

Motorcycles, 2&3 wheelers, are an important segment of the Pakistan auto industry, and Pakistan is in the top 10 based on volume. The entire global motorcycle industry is dominated by the

Asian market, with China and India collectively having shares of 60 percent between them. Pakistan exports 1.4 percent of its current production rate. The regional competitors India, China, and Thailand, moved out of the 70cc market, Pakistan can export in this niche. The global standard in terms of quality control and the engine has also changed, making Pakistan lose its advantage in this sector. The price, quality, and design are evaluated based on new standards. Pakistan's previous market of exporting bikes to Afghanistan has been halted because of the absence of not technical tariff barriers i.e., no customs clearance and illegal trade.

Pakistan predominantly is an agricultural economy to the use of tractors is evident Pakistan has the regional highest use of tractor only after Vietnam. Pakistan manufactures its tractor locally and gained experience over the year in perfecting this art in quality control and price, and has enormous potential to expand its market in Afghanistan, Turkey, Kenya, and Sudan. Even though there is a massive export market it cannot be exploited to its potential because of inconsistent government policies of imposing high sales taxes of 17% in FY 2014. This raised the cost by 17 %, and local manufacturers could not avail export rebates offered by the government, direct exports are not possible and happen indirectly. This policy did not do well for Pakistan's tractor industry, making room for the Iranian tractor industry to expand its share in Afghanistan. Pakistan's exports of tractors have increased to 18 million USD. It has many advantages than the Indian market, such as vendors in Pakistan having lower operating costs and marginal cost. Leading to equipment manufactured in Pakistan costs less than other countries. The Pakistan currency has also depreciated against the USD, making Pakistani products cost less in other countries. The transportation cost is also minimal while trading with India because the industrial districts of Pakistan are near Indian Punjab.

Pakistan has relatively high success in exporting auto parts, and it increased to 18.4 million USD in 2019; the significant partners were the USA, Europe, and several African countries. The significant areas of exports are automotive parts and transmission for motor vehicles. The trade deficit is still significant and is at -326.6 as of 2019

The table below summarizes all the major auto imports and exports of Pakistan, since Pakistan economy is mostly based on imports so the exports are low and have decreased over time from 99 million USD in 2009 to mere 55 million USD in 2015.

HS Code No	Description	Share %	
		Imports	Exports
8701	Tractors	14.5	44.7
8702	Buses	6.3	-
8703	Cars	49.4	2.6
8704	Trucks and Vans	13.2	5.3
8705	Chassis with Engines	1.3	-
8706	Bodies	-	-
8707	Parts and accessories	7.0	21.1
8708	Works Vehicle	0.1	-
8709	Tank and Armored Vehicle	0.4	-
8710	Motor Cycles	6.2	21.1
8711	Bicycles	-	-
8712	Parts of Cycle	1.3	.

Table 3.4.1 Various types of Automotives and their Import/Export Share

3.5 Informal/illegal Trade in Automotive Industry

There is a large scale informal trade of auto parts that occurs between India and Pakistan. Also, the import of non-custom paid vehicles has smuggled in Pakistan from the Pak Afghanistan border. Many Governments allowed the import of used cars to facilitate overseas Pakistanis; the policy, once made to facilitate people, became an illicit business to smuggle billions of dollars through illegal channels.

Large scale illegal trade between India and Pakistan occurs in Lahore; around 22 realtors are situated in this area, followed by Karachi and Rawalpindi with 18 and 10 realtors and have monthly turnover between 0.1 to 0.3 million USD. Various auto parts such as engine chassis,

gearboxes are smuggled into Pakistan through the Wagah border. Dubai-Karachi routes and the Afghan border have also been used to bring Indian auto parts. According to some estimates, Indian tires smuggled through the Afghan transit route have an annual turnover of 243 million USD, Indian products are readily available in the Pakistani market, and the quality of Indian auto products is better than Chinese products. Motorcycles and auto-rickshaws have been smuggled into Pakistan via the Dubai-Karachi route. The auto parts worth 250 million USD were smuggled into Pakistan through Lahore routes. As the import of most products from India is banned and has high tariffs, importing via illegal channels makes them a cheaper option for vendors.

3.6 Trade Prospective with India

With the dawn of the tech boom in Asian countries such as China and India, regional trade has increased. Pakistan, neighboring countries are now a potential market for Pakistan to export its goods. Recent studies revealed that it accounted for more than 25% of Pakistan's total exports globally. The trend of Economic growth in the region will keep rising, on average, 3 percent annually. The government of Pakistan has also realized that integration in the region is vital for its growth. Bilateral trade agreements with neighboring countries have raised its exports to more than 11% with Afghanistan. South Asian countries have low integration and contribute only 3% of SAARC World trade of 970 billion USD. Various factors cause the poor integration of this region, for instance, poor infrastructure, war, political instability, and lack of supporting industries.

India is a massive market for Pakistan, but the complicated relationship between the two countries makes it inaccessible for Pakistan. Both countries have taken significant steps for making ease in doing business by granting Pakistan the status of the most favored nation by India. The name was changed later to the Non-Discriminatory Market Association, but the overall growth in remaining stunted as India's automotive lobbies contested the decision.

They have a pivotal role in the international market. Pakistan has to grab a slice of the Indian automotive sector. It has a growth rate of 12% from 2008 to 2013 and is projected to grow to 115 billion USD by the end of 2020. With Pakistan being able to penetrate the Indian market, even a little share of 5% will contribute 7 billion USD to Pakistan's economy. India has pivoted

its role in the world for doing business compared to Pakistan because of good government policies and better availability of resources in the shape of an educated workforce and the lower marginal cost of production. Many International tier 1 manufacturers such as general electric and Bosch group have started production in India. It is also a central hub for outsourcing activities. The auto sector of India has been able to exploit economies of scale. The manufacturing sector is complex enough to export large scale orders to many countries. India is ranked 10 in the world when it comes to exporting automotive parts, and this sector is mainly composed of cars, others are auto parts such as chassis, engine transmission parts, and vehicles for agricultural use. The table summarizes trade with India, as it's pretty balanced in terms of trade deficit. However Pakistan can increase its export to India as its most viable market for Pakistan.

Pakistan's imports from India			Pakistan's exports to India		
Product code	Product label	Value in 2013, (000US\$)	Product code	Product label	Value in 2013, (000US\$)
870590	Special purpose motor vehicles	179	870899	Motor vehicle parts	214
870120	Road tractors for semi-trailers (truck tractors)	86	870840	Transmissions for motor vehicles	63
870990	Work truck parts	46	871690	Trailer and other vehicle parts	1
870919	Work trucks not electrically powered	9			
870899	Motor vehicle parts	4			
Total		324	Total		278

Table 3.6.1 Pakistan Trade with India and Product breakdown in Million USD

Recent Political developments in India introduce policies that favor auto sectors such as license-free imports, high R&D budgets, lower tariffs, and Foreign direct investment without prior approval from Government. All these policies lead India to become a hub for international automakers design facilities. The strong presence of information technology and software companies provided essential support to these automakers to increase their R&D and leverage on the shared resources. Trade between India and Pakistan has been volatile because of political uncertainty, but recently India has shown interest in doing business and joint ventures with tier 1 and tier 2 manufacturers.

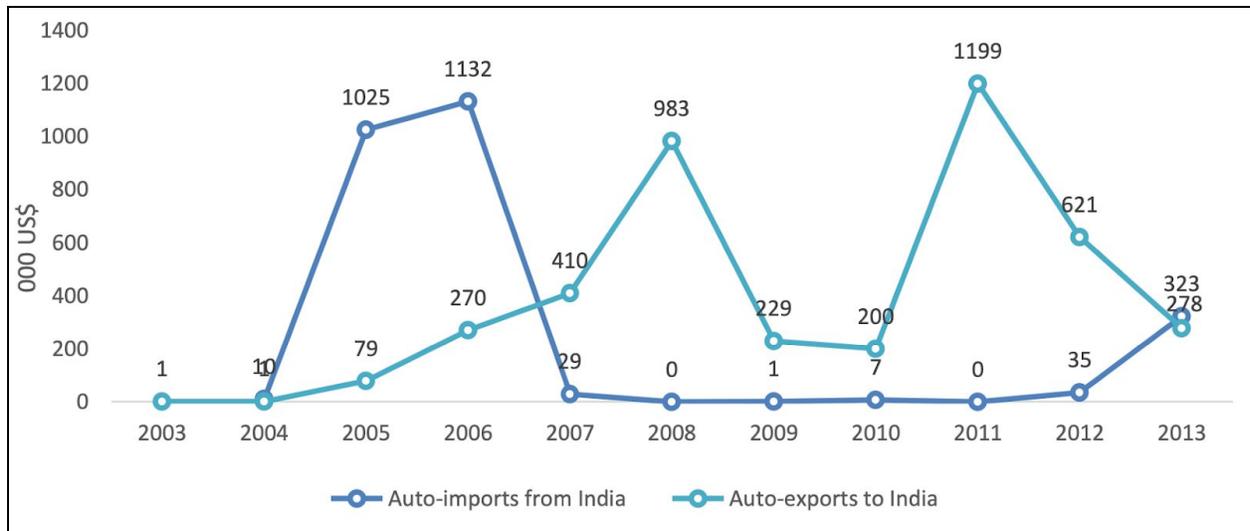


Fig 3.6.1 Import and Export of Auto with India in Million USD

Pakistan's trade potential is 4 billion USD for India; its 16 billion USD. There are specific import restrictions imposed by India on Pakistani products. Those products make a significant part of the auto sector and have a value of 1.2 billion USD; because of these trade restrictions on products, the full potential can not be exploited. To exploit full trade potential, tariff and non-tariff measures we have dealt with bilateral cooperation.

4. Strategic Analysis Review

4.1 Porter's Five Forces

4.1.1 Bargaining Power of Buyers

This force remains relatively small, as few substitute products are available as few brands compete with each, and Suzuki has a monopoly over the small car sector. There are strict government policies in place for the import of vehicles and have a high tariff imposed. These vendors' sales model is franchising; this makes all the power concentrated with the principle, leaving no room for negotiation with the franchises. The illicit trade business of importing used cars and exploiting policies once used to facilitate overseas Pakistanis provides an alternative to the fixed price car offering by three major foreign car brands in Pakistan. People's perception of cars is highly elastic as they are perceived as luxury goods, hence limiting the demand in a period of economic turmoil.

4.1.2 Bargaining Power of Suppliers

Traditionally this force remained weak as few suppliers; their share of value-added was low, and companies preferred in-house manufacturing of parts needed for making a car. The trend in global economies has changed, with Asian countries exploiting the economies of scale and learning economics, the supply chain is more streamlined, and most significant cars industry follow the golden rule stated by consultancy firm McKenzie as never to vertically integrate unless it is vital for the growth of the company. The major automakers work on the assembling of vehicles compared to manufacturing. Pakistan's auto industry followed the same trend as there are more than 400 suppliers of auto parts, and the share of valued added has increased over 85 percent, making the bargaining power of suppliers stronger.

4.1.3 Threat of Substitute Products

The threat of substitute products remains moderate and depends upon one own choice of choosing between different modes of transport or having its car. There are several substitute products available such as public transport, train, and motorcycles. For many people having their car is a matter of prestige and a preferred method of travel; this makes substitute products less for them. Some people also prefer using public transport and may find it cheaper as they do not need to worry about maintenance and other variable costs. In Pakistan, many factors favor this force, such as poor infrastructure and inadequate and time-consuming transport systems. Most people have large families, so they do not prefer a motorcycle, but as most of the population belongs to lower-middle-class families, they opt for this option. There are substantial import duties imposed on the import of new cars, and the import of used cars for commercial purposes is banned; all these factors make the threat of substitute products less. The other factor that makes the threat of substitute products high includes illicit trade business with neighboring countries of India and Afghanistan that offer the import of used cars without paying customs duty. Also, the market for a used car is massive and offers a better substitute for new cars.

4.1.4 Industry Rivalry

The industry lacks competitive structure and has an oligopoly and rivalry among these auto companies is low as of right now. The Pakistanis auto industry's main threat is changing policies regarding a ban on importing used cars and imposing high custom duties on new cars; if this policy is changed, the competition will be fierce among established brands in Pakistan for market share. There are few brands, and consumer loyalty is strong, exit barriers are high because of sunk cost. The auto industry is mature and intensifies the competition among brands to capture market share.

4.1.5 Threat of New Entrants

This force is weak when taken into collectively for the whole auto sector if the focus is on different sectors of these changes. Pak Suzuki has enjoyed a monopoly in small car segments since the auto sector's birth in Pakistan. Entering the car market is not easy; it involves high upfront investment in the shape of the sunk cost that goes to establishing manufacturing facilities and training the workforce. Also, once entering the market, the competition with the already existing brand is high. They have a high brand reputation and low capacity utilization around 53%, thus proving the gap between demand and supply.

With Suzuki losing share in the small car segment, numerous local brands from Pakistan are trying to penetrate this segment, but this will not be a significant threat to an already existing brand in Pakistan because of its brand reputation and already established networks of franchises.

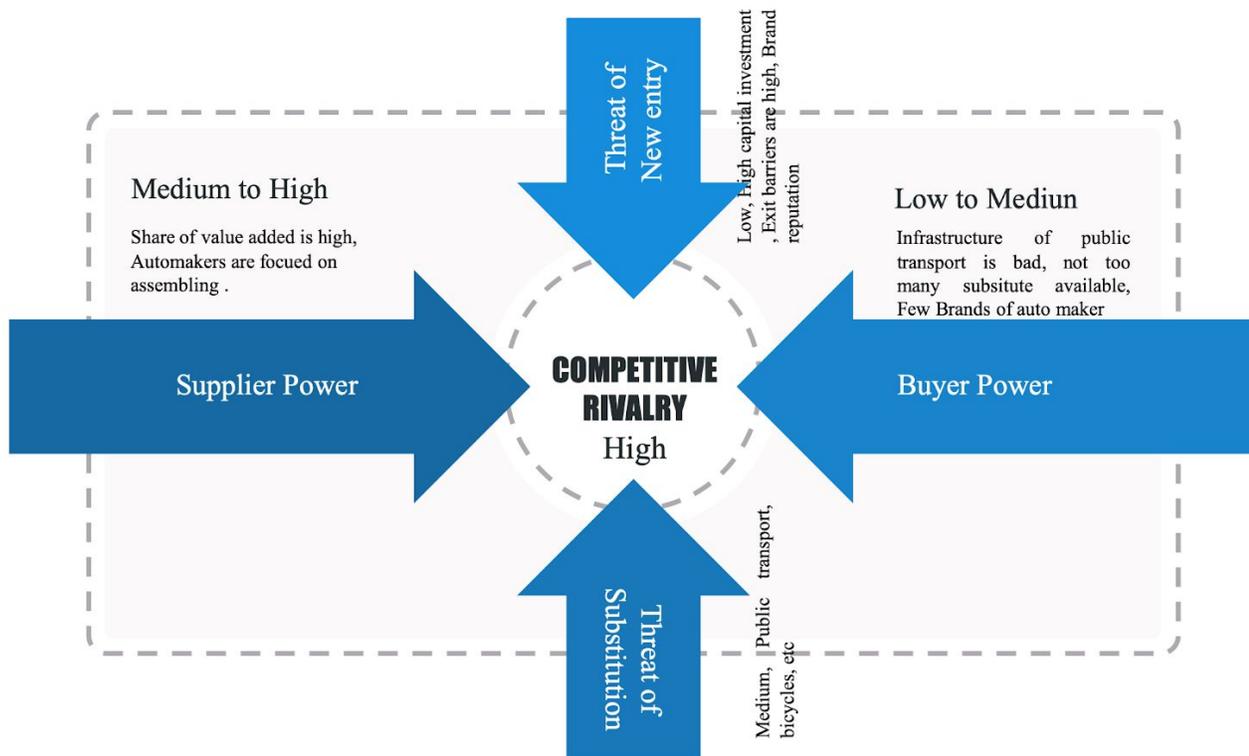


Fig 4.1.1 Porter Five Forces Model in Auto Industry of Pakistan

4.2 SWOT Analysis

4.2.1 Strengths

The local auto industry of Pakistan has many strengths and enjoys various benefits. The number of car owners in Pakistan is around 14 out of every 1000 people which is lowest in comparison with other emerging countries, the number represents a huge market in terms of growth for the Pakistani auto industry. The industry leverages the shared resource with the manufacturing industry as they invest a major part of their earnings in R&D, this improves the quality of cars over the years. The protectionism policy of the government also favors local car industry as the import of used car is banned for commercial purpose, also used cars have been sold below their expected selling price because of the scarcity of parts needed in case of repair and also cost is high, the major strength of the local auto industry is the availability of parts at a low marginal cost compared to the imported ones. Initially, the quality controls for local cars were inadequate and wealthy people of Pakistan lean towards imported cars because of better quality and brand reputation. The local car industry improves their quality and finally matches with international standards of quality control making their quality their strength.

4.2.2 Weaknesses

The auto industry in Pakistan is a victim of the volatile political system, change in policies, and ongoing conflict with neighboring countries. The decision of WTO about the local content requirement as an anomaly to liberalize World trade further damages the local auto part manufacturers. The lack of skilled workers regarding new machinery to meet the international standards in quality is a real challenge for local automakers, the inflation is another leading cause for automakers to not take the new project as the uncertainty in prices can lead to huge losses. Global automakers are already establishing new standards in EV, the shift of Pakistan auto industry to follow trends and transition towards electric vehicles is a real weakness.

4.2.3 Opportunities

Pakistan is an emerging economy, and opportunities are in abundance, the same applies to the auto sector of Pakistan. The rapid urbanization, increased buying power, and educated youth all present major opportunities for the auto sector. The financial sector of Pakistan is showing growth since the financial crisis of 2008 and the low-interest rate car mortgage made people buy more cars. This is a growing trend and presents an opportunity to be availed by automakers. The foreign direct investment in the manufacturing sector can also improve the quality of cars produced. China's flagship project of belt and road initiative is taking place in Pakistan with the development of networks of roads and trainline, this will lead to the development of infrastructure and will bring foreign companies to open their manufacturing units in Pakistan with low transportation costs. The government policies are to discourage the import of cars, so the room to grow in the Pakistani market is high as the competition is less for already established auto brands.

4.2.4 Threats

The paradigm shift in the automotive industry is a leading threat for the Pakistani automotive industry as they don't have the required resources and a complementary asset to follow the trend. The world is already compiling with the UN standard of emission and quality. Pakistan is leading behind in this sector. The illicit transit trade between India, Pakistan, and Afghanistan is damaging the local industry, the decrease in tariffs and importing cars are potential threats to the local economy. The political uncertainty and changing policies are making investors lose trust in the economy resulting in a lack of investment. Inflation and rising cost are potential threats to the auto industry.

4.3 Porter's Diamond Model

To understand in depth about the profitability of Pakistan automotive industry, we will use the Porter's Diamond Model, in this model we analyze the supporting industries, Political and environmental factors, and overall economic situation for the automotive industry.

4.3.1 Demand Condition

The demand conditions have significantly increased since post-recession in the mid-2000s, the economy of Pakistan has a growth rate of over 5 percent in last four years, this leads to an increase of demand in the auto sector, other leading factors include the financial sector, that lowered interest rate, Fuel prices, pays a significant role in decision making when it comes to buying a car, are decreased over time, the efficiency of the engineer in petrol consumption per mileage has improved, furthermore, there are numerous policies of government to buy a commercial vehicle to start the business without interest rates increased the demand.

The public transport sector of Pakistan is improving, with the development of new infrastructure such a metro buses in major cities like Lahore and Peshawar, the orange line metro train project in Lahore seems promising in term of providing a cost-efficient alternative to using cars to the local people of Pakistan, this might negatively affecting the demand conditions for local auto-manufacturers.

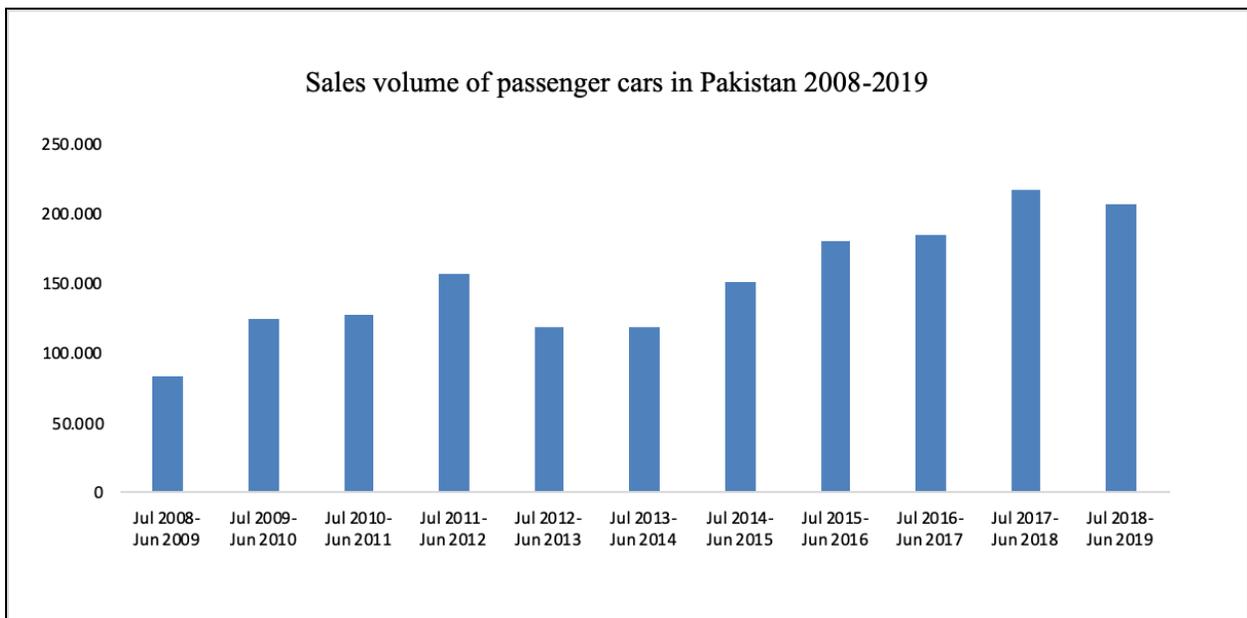


Fig 4.3.1 Sales Volume of Cars from 2008 to 2019

4.3.2 Context for Firm Strategy and Rivalry

The Pakistan auto industry is dominated by big three players, Toyota, Suzuki, and Honda, resources are readily available to them but Pakistan not being their major market their focus is shifted to other more lucrative markets such as Thailand and India. The Pakistani government wants these companies to invest heavily in this sector that is why all the request by these companies have fulfilled such as policies to impose high duty tariff on the import of new cars and to extend the age limit for imported used cars from three to five years, and both request have been fulfilled by the Pakistani government. Despite all the effort to make it difficult for local people to import cars, the imports have increased as people are willing to pay a little more for quality and brand reputation. The model launched in the Pakistani market by these companies is outdated and mostly replicas of the famous brands that give the consumer the perception of cheap. Investment in research and development by these companies is still minimal as they don't face severe competition, but this is changing with the rising middle class, the buying power is increasing so their preference for German and Italian auto brands has increased and can be seen in the increase in the numbers of imported cars. The import of cars declined in the first half of FY 2019 and reduced over 50 percent to 230million USD, the leading cause attributed to the decline is the depreciation of Pakistani currency that lost almost 35 percent of its value also stick government policy to impose high duty resulted in the decreasing trend of importing cars.

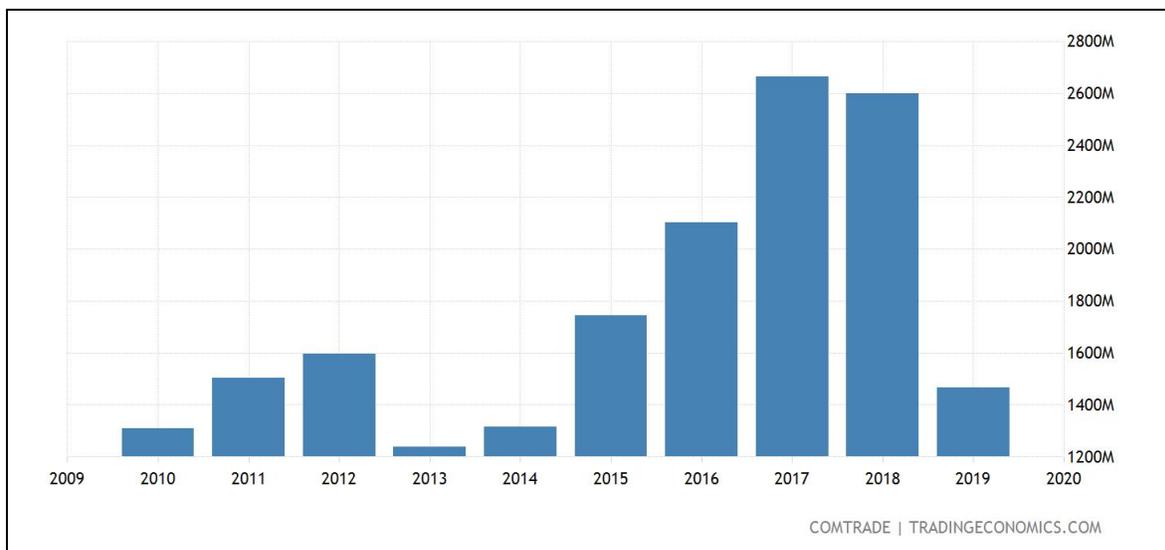


Fig 4.3.2 Imports of Auto other than Rail and Tramway

4.3.3 Relating and Supporting Industries

The current localization and rapid urbanization in the car industry have increased the number of supporting industries. The research and development sector of Pakistani universities has improved and these universities are making in international ranking because of improved standards of education and enhanced focus on research. The supporting industries in Pakistan mainly comprise manpower, availability and infrastructure development. There are numerous infrastructure development is taking place such as Gwadar Sea Port that is considered as the main hub for the trade-in future and capacity of docking more than 30 freight transport carriers, also the China Pakistan economic corridor will give rise to a major development in the transport section making it easier for companies to establish hub and manufacturing units. The condition of roads is not up to par with international standards, so the development in this sector will also improve in the efficiency and speed currently offered by Pakistanis auto companies.

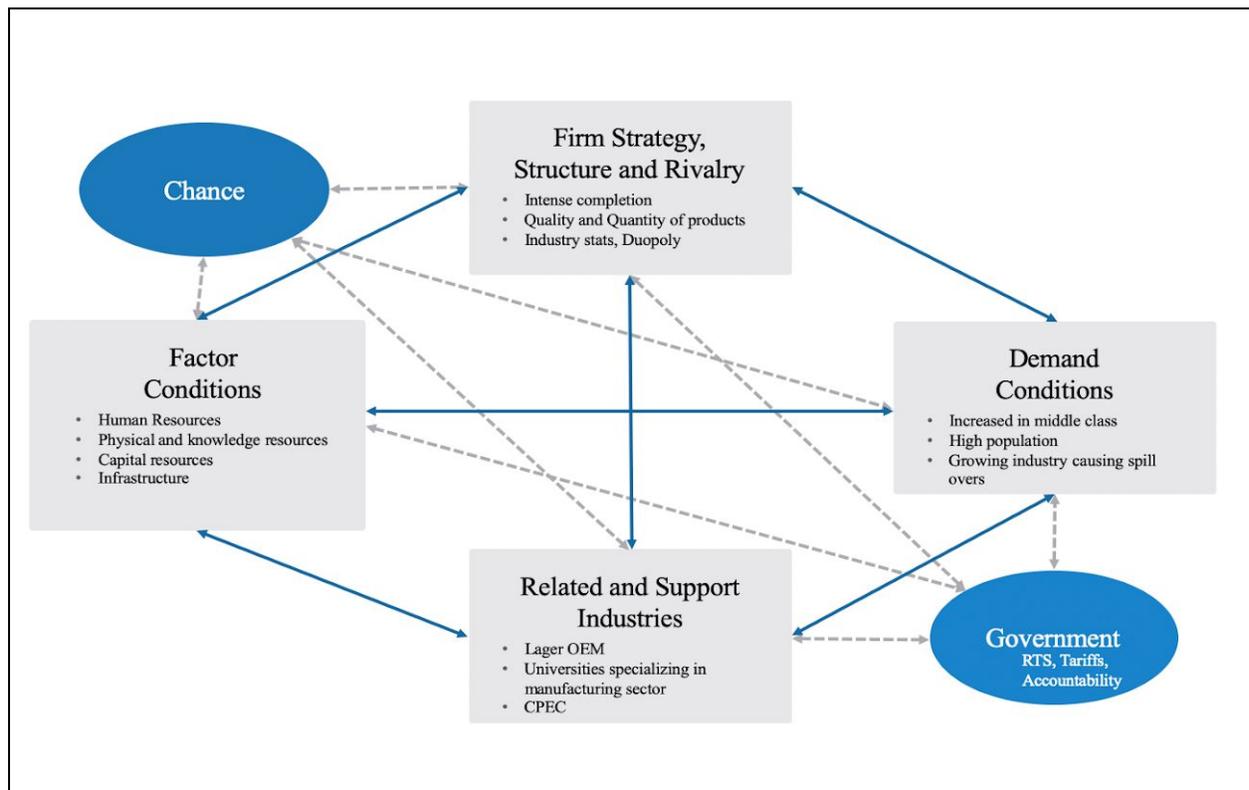


Fig 4.3.3 Porter Diamond Model for Pakistan Automotive Industry

4.4 Shifting Consumer Behaviour and Preferences

Today the global auto industry is the most lucrative, reaching its maturity level, with the rapid urbanization and increase in disposable income and the improvement of the financial system has increased the sales of cars over 36 percent in the year 2006 compared to previous years,

In Pakistan the buying power of consumers has increased in the last decade and the trend in the auto industry is rapidly changing and the most prominent trend in the purchase of imported cars, as consumer perception about foreign cars is positive and considered as better quality compared to local cars. According to a survey conducted by Pakistan's largest web portal in collaboration with Lahore University of Management Science has concluded the following.

- Total participant of the survey was 19, 155
- Participant with age 21-45 were surveyed
- 50 Percent of the surveyed population has a median wage of more 60 thousand Pkr
- 50 percent of surveyed people own bike, 24 percent owned a car and 26 percent owned both car and bike
- 74 percent of surveyed people have a valid driving licence with 26 percent people did not have a valid driving licence.
- Most popular car brand was Toyota with 35 percent followed by Suzuki with 28 percent and Honda with 27 percent
- In bike Honda remains as the most popular brand
- Honda Civic remain most popular car when it comes to comfort and performance
- 63 percent of Bike owners says that they want a new bike and want to upgrade to higher cc

Automotives, high involvement products make consumers have a rigorous approach while making decisions about investing in cars. The prices set by automakers in a high inflation economy attracts a lot of criticism from consumers, a survey conducted by Pak-wheel, that has people for all walks of life aged till 50 have claimed that more than 55 percent of them buy second-hand cars, and 32 percent are using new cars aged 2-4 years, the number of people using second hand or used cars aged 7-10 years is massive and it outnumbers the people using the new

cars, highlighting the poor economic situation of Pakistan in comparison to Asian average, 65 percent people using new cars and only 7 percent people using old cars statistics reveal that this number is low in Pakistan, the recent improvement in the financial sector has led people to buy new cars through car loans and mortgages. The price is a crucial element when it comes to buying cars. A survey reveals that the most attractive price segment is sub 1 million Pkr while 30 percent of people buy cars costing more than 1 million Pkr and in the range 1.5 million to 2 million Pkr. The price of Sedans and family size cars in Pakistan cost well above 2 million Pkr, taking into account the registration and taxes, this is contrary to consumer preference of having a price below 1 million Pkr, that is why people opt for used cars instead of buying new.

5. Future Outlook of Pakistan Automotive Industry

Pakistan is an emerging economy despite rapid growth, it is still lagging in following the trend regarding the auto industry. The global auto industry is in a period of a paradigm shift, the war on establishing standards in new technologies is high. USA and European automakers are fighting standard wars in EV technology, but right now American automaker Tesla Inc is the leader in EV. Pakistan contrary is deeply affected by climate change and present in top 5 countries in term of air pollution, so the need for EV is the call of time, but the poor infrastructure and fragile economy lag Pakistan to full fill the UN standard for carbon emission, while most EU countries such as Norway are already giving subsidies and encouraging the use of EV. According to some estimates around 47 percent of all vehicles in Norway are EV. Governmental policies are effective in encouraging the use of EV as almost all the buyers in Norway are getting EV compared to traditional diesel engines or gas-powered vehicles.

5.1 Global Trend in Automotive Industry

As general overview five prominent trends have been spotted in the global automotive industry

1. EV technology continues to grow and consumer interest in this technology is increasing.
2. Autonomous vehicles technology is at stand still in most countries.
3. Consumers remain reluctant and show little interest in multimodal mobility.
4. Data protection and privacy still remains a huge concern for most people.
5. Climate change remains a big issue, particularly affecting the developing countries.

The shared mobility is important to achieve the suitability goal, the data driven economy with the advent to 5G has made digitalization possible and the autonomous driving feature will make the market valuation of the data driven mobility up to 1.5 trillion and this trend will continue to increase in the coming years. Even though shared mobility is increasing, the sales of cars will continue to rise at a rate approx 2 percent that is lower than current rate.

5.1.1 Adoption Trends of Electric Vehicles

EVs adoption rate is growing thanks to the competition between major players such as Tesla and other emerging startups such as Lucid Air and Rivian, making it possible for end consumers to have EVs at a competitive price. Tesla's giga factory in Nevada and a new establishment in China will make the production cost more lower for end consumers. EVs are becoming viable to end consumers, however the speed of adoption varies from region to region . In the coming years the penetration rate of EVs will increase because of strict emission regulation, widely available infrastructure and lower cost and estimated that in 2030 around 10-50 percent of new cars sales will comprise of EVs. The adoption rate is higher in cities where the emission regulations are tighter and the government has subsidies in place i.e. tax breaks. The competitiveness of EVs compared to traditional engine vehicles is increasing because of gradual decrease in the battery cost around 150 to 200 dollars per kilowatt hour over the course of next decade. The major portion of EVs also include plug-in hybrids, so the internal combustion engine remains relevant in the next decade. In Europe the adoption rate of EVs is highest in Norway followed by Germany and France. The adoption of plug-in hybrids is actively supported by the EU and several national and regional governments.

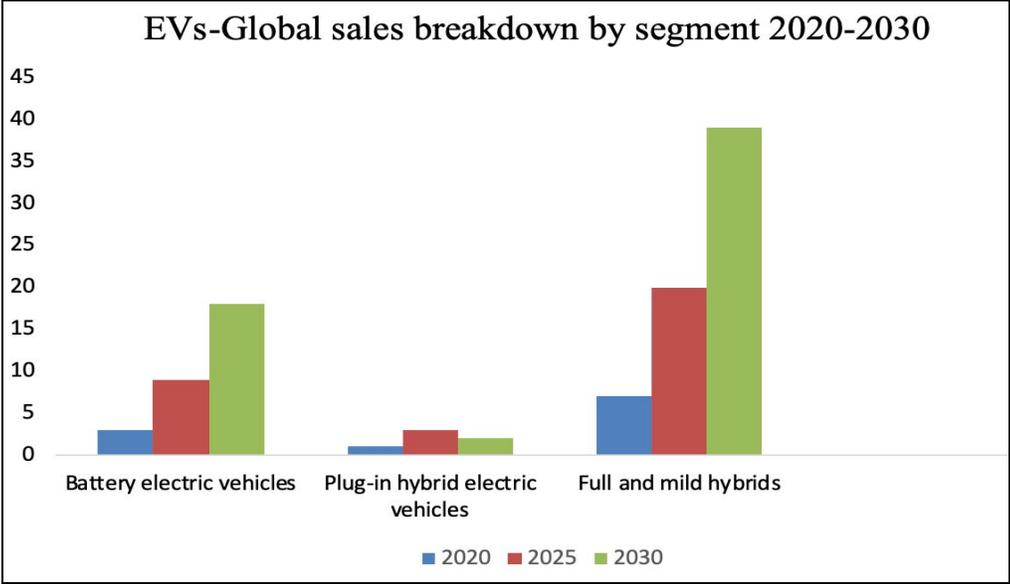


Fig 5.1.1 The Global Sales breakdown by segment of Electric Vehicles

5.1.2 Trends of Autonomous Vehicles

The autonomous vehicles are considered the pinnacle of human success in automotives, however there is a huge political debate about the ethical question surrounding the AVs, Data protection and privacy remain a huge concern, also the Law of the Horse i.e. should we need a new regulation for new technology or not and the question of regulating AI in autonomous vehicles is a topic of debate. As the 5G is becoming readily available the problem of real time connectivity will be solved and this will open the door of communication between cars without any lag and making instantaneous decisions. According to some estimates if the regulatory system is resolved around 15 percent of vehicles sold in 2030 will be AVs, the growing trend of advance driver assistants plays a crucial role in understanding the consumer behaviour and allowing the regulatory system to come up with new provisions addressing the issue arising by the use of it. Tesla already introduced the self driving mode with a condition of using it while paying full attention as it is not a substitute for a driver, they are collecting data of 10 million miles every day to make a more advanced version of it by using the data when drivers make decisions in contrast to the driving assistant.

According to estimates by consultancy firm Mckinsey, the market for assisted driving system or different sensor will increase to 43 billion by the end of 2030, the fastest growing sensor is LIDAR, that scan the area and make a 3d image of it, and is currently used in many augmented reality applications developed by smartphones.

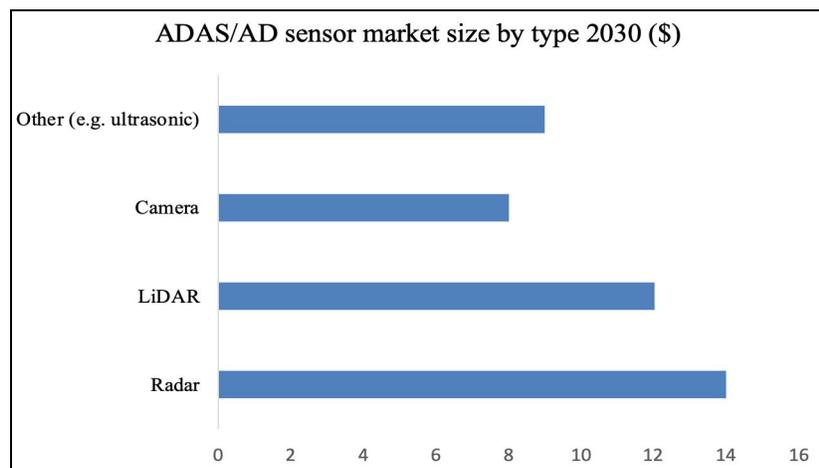


Fig 5.1.2 ADAS/AD market size by type in billions of dollar, source Statista

The growth of AVs is stunted in most part of the World, and consumers perception based on current technology remain divided, people in India and China are embracing the idea almost the twice the rate compared to other countries, and the concern about biometric data are alarming and which entity can better manage the data still remains an open question and is up for debate.

5.1.3 Consumer Mobility Behaviour

With new development of model concerning smart cities, consumer mobility behaviour is changing, leading to 1 out of every 10 vehicles sold in 2030 will share mobility, giving rise to the market for fit-for-purpose mobility solutions. Different intermediary service provide connecting consumers and driver such as Uber, Didi and Cream has eliminated the need of having own car for most people as it proved a hustle free and cheaper alternative to own car, also the parking price and availability of space is issue which most people face and compel to use the services of uber and other apps. Individuals are increasingly using different modes of transportation, goods and services are provided by ISS information society services on demand and a compact urban environment has complemented the traditional business model of car sales and on demand mobility solutions discourage users to have a private car.

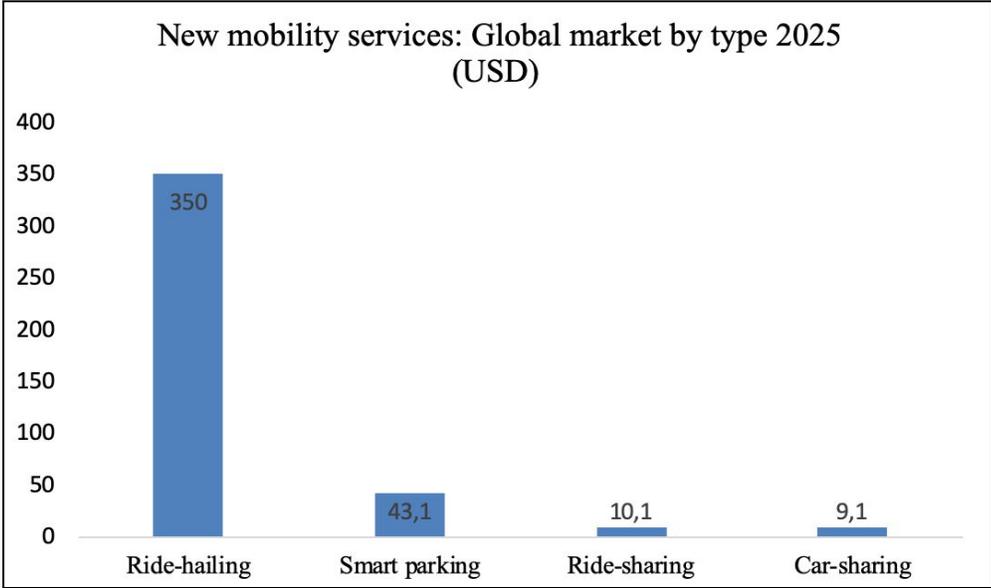


Fig 5.1.3 New Mobility Services by type 2025 in USD, source statistia

The number of people using ride hailing apps has increased and is estimated to bring 350 billion USD in revenues. People using these apps have cited advantages such as lower cost, ability to multi-task and reduce concern about finding a place to park. In most parts of the world the use to ride hailing services such as uber are considered to be a better option compared to traditional taxi services and younger people are in a dilemma whether they should even own a vehicle or not by looking at advantages they avail form ride hailing services.

5.1.4 Incumbents and Paradigm shift

The landscape of mobility industry is more diversified and complex, this makes incumbent to face competition on both end, one on new emerging technologies such as electric and autonomous vehicles and at the same time to increase the efficiency of internal combustion engine to meet the emission standards and make them competitive and more cost effective in comparison to electric vehicles. The cooperation between new entrants and incumbents can lead to new strategic agreements and can leverage the core competencies of each other. The complex industry comprising the mobility services provider i.e uber , tech giant such as Apple, Google and Original equipment manufacturer i.e Tesla have increased pressure on Incumbents, this will lead to a subsequent consolidation of these incumbents or new form of strategic partnerships. The important factor is the software sector that is becoming the differentiating factor among these players. Divergent markets will open new opportunities for these players, and initially they will be more focused on small selected steps along the value chain and will focus on more economically attractive segments. As the incumbents can't predicts the future and have to face the inevitable , however they can do their role in the evolution of industry in more strategic ways and can take the following steps

- Prepare for the uncertainty
- Strategic Partnerships
- Restructure the value proposition
- Drive the transformational change

5.2 Pakistan in Global Automotive Industry

Pakistan is an emerging market and got this MSCI index after a decade of fighting for this title. The GDP of Pakistan is really well suited for it to be an emerging economy but its capital markets have limited size and are suited for it to be frontier markets, so this rather volatile situation has caused speculation among foreign investors and made Pakistan suffer major investments loss . The political instability and war on terror has increased the internal pressure and caused 73 billion dollar loss to the economy. The major portion of Pakistan's economy is agricultural, while a significant portion consists of the manufacturing sector constituting almost 20 percent of Pakistan's economy. The auto industry in Pakistan is in its early stages of development and it is dominated by oligopoly in car segments ie Toyota, Suzuki and Honda Atlas . The table below reveals that there are few OEM and markets lack competitive structure .

Vehicle type	Vehicle name	Company	Market share
Car-1300 2000cc	Toyota Corolla	Indus Motors	42.99%
Car-1000cc	Cultus	Pak Suzuki	45.85%
Car-800 cc	Mehran	Pak Suzuki	66.31%
Jeep-4*4	Potohar	Pak Suzuki	73.12%
Pick up/L.C.V.	Shehzore	Hyundai	49.15%
Motorcycle	Honda	Honda	68.85%
Truck	Nissan Truck	Nissan	39.64%
Bus	Hino	Hino	80.56%
Farm Tractor	Massey Ferguson	Millat	51.44%

Table 5.2.1 Market Share of Leading Companies 2005

The auto sector in Pakistan lacks competitive structure as they enjoy the protection against foreign manufacturers by means of tariff and no tariff barriers , and the local OEM didn't have a competitive environment because of oligopoly or monopoly in the market structure.

If we calculate the HHI for different vehicle types , to better understand the competitive structure and concentration of firm, the following result are obtain

HHI for cars =4, 948

HHI for LCVs =5,400

HHI for Trucks and Buses =3,950

HHI for Tractors =4,250

The results suggest that Pakistan's auto industry has oligopoly and high concentration ratios, leading to the lack of free competition.

Pakistan auto exports have decreased, because high political tension with its neighbouring country India, who is its relatively a big market, high inflation and devaluation of currency all these factors made Pakistan's export plunge down.



Fig 5.2.1 Annual Exports of Pakistan in the World , source: trend economy

Pakistan in terms of exports constitutes a minor part of the World economy, and ranked at 8 in the world for trade deficit. The imports of Pakistan in the auto sector have seen a steady increase from 2013 to 2017, and are considered as a valuable market for asian manufacturers such as Japan and China. Thailand is becoming a hub for auto assemblers and its exports to Pakistan is increasing.



Fig 5.2.2 Annual Imports of Pakistan in the World , source: trend economy

Pakistan's new government made by current Prime Minister of Pakistan in 2018, has put transparency and economic reform as a top priority, since then major International players such as USA, Saudi Arabia and United Arab Emirates has pledge funds, and did investment in various sectors of Pakistan, also securing IMF program will increase the trust of other creditors such as Asian Development Bank and World Bank. The US-PAK relationship is in a period of ups and downs and as the USA opt to Pakistan for peace talk with Afghanistan, this could further improve the situation of Pakistan in the world and could open new doors of investments. In Conclusion Pakistan's role in the global Auto industry is merely a small player that has a potential to go through leapfrogging to the next generation of automotives . The rate of innovation is low however the manufacturing industry is gaining momentum and can become a major hub for manufacturing auto parts and as an assembler of vehicles.

5.3 Impact of CPEC on Industry

China-Pakistan economic corridor is an important strategic project to enhance the economic connectivity with China, through a series of infrastructure development in Pakistan. The project consists of developing a network of highways that will connect the port city of Gwadar with the north westren region of China. The project was initially estimated at 46 billion USD, but recent estimates valued it over 86 billion USD. This project is vital for Pakistan's economy and some may argue that it is a game changer for Pakistan and will have major spillover effects on other neighboring countries as it will ease trade, reduce time and will provide a better transit to the landlocked Central Asian countries. Pakistan's GDP is expected to increase by 7.5 % by the end of 2030 and Pakistan's vision 2025 projects that GDP will grow 8% annually and rapid urbanisation will increase up to 70%, considering the rapid development and urbanisation the demand for energy consumption will increase exponentially, to meet these need the China-Pakistan economic corridor plays a crucial role. Major sectors targeted by CPEC are energy, transport, Gwadar port and industrial development.

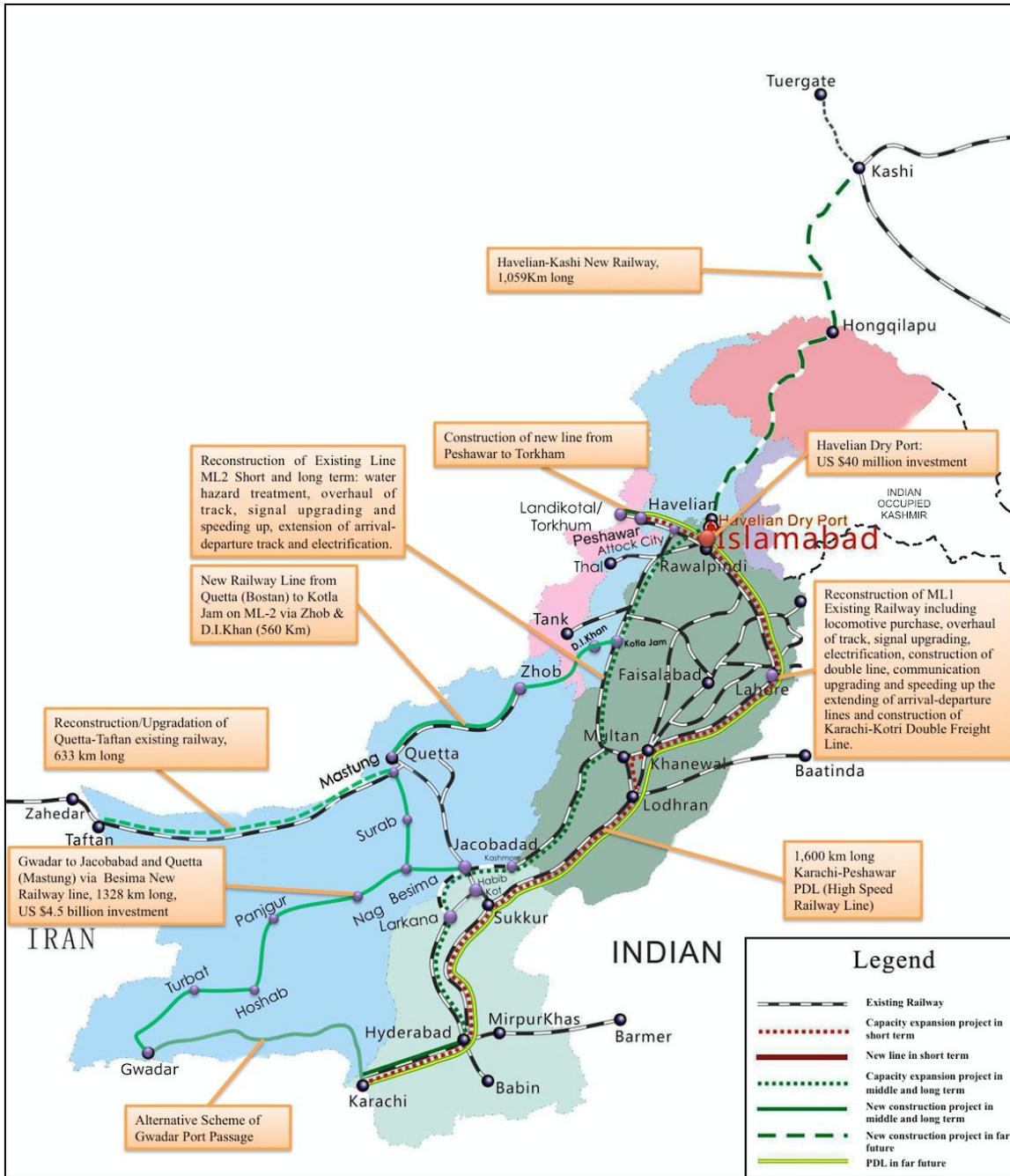


Fig 5.3 Map of CPEC Railway Route

5.3.1 Industrial Corporation

To enhance the employment condition and foster growth, nine free industrial zones will be established until 2025. Local production accompanied by local raw material will ramp up the

urbanization process and create approximately 2 million jobs. The increased development in the manufacturing sector will reduce imports and give rise to a strong national manufacturing industry. These nine free industrial zones will have a significant number of original equipment manufacturers. Even though the already established OEM fulfills Pakistan's internal need for automotive, the new OEM will further increase the supply as Pakistan expects to increase its exports in the auto sector to the neighboring Asian countries and some African countries who already present a viable market for Pakistan.

6. Conclusion

Based on the above analysis, it can be concluded that Pakistan automotive industry faced many issues in the early 2000s; this includes less capacity utilization, lack of competition, low competitive structure and high protection rate. Also, government policies were inconsistent, making it difficult for foreign investors to trust Pakistan's economy. The automotive sector has developed in a period of over five phases since the mid-50s. It now constitutes 20 percent to the economy as Pakistan's manufacturing sector constitutes a significant sector contributing to its GDP. The assembling sector employs more than half a million people. Recent studies show that this sector is still in its initial development phase and cannot compete on the international stage. However, the recent improvement in the financial sector and new governmental policies has given momentum to this sector. The sector growth has significantly impeded illegal, illicit trade with India and Afghanistan. It damages the export of Pakistan, which leads to a huge trade deficit of nearly eighty percent. The import of used cars or new cars is banned for commercial purposes while only facilitating overseas Pakistan. Even though it favored local original equipment manufacturers, it has an adverse effect. It decreases the competition and lack of innovation results in the lower quality standards and outdated models still being manufactured in Pakistan. Another indicator of low innovation is the late deliveries and premium payments, even though most OEMs are under capacity utilization. The price of cars in Pakistan is high. It can be indicated by using prices to average household income ratio, and this puts Pakistan in the list of countries where car affordability is very low. Around 15 percent own a car, which is very low compared to the Asian average of 75 percent.

The principal imports of Pakistan consist of CBU and CBK cars; the parts and accessories are also significant parts of the imports. Pakistan manufactures its buses and trucks locally, and there is a significant decrease in this sector as the public transport sector is improving. Ride-hailing apps are beginning to replace the need to use public transport, as most people found it a convenient and safer option. The major import partners are Asian manufacturers Toyota, Honda and Suzuki, and the sector enjoys oligopoly. Pakistan is among few countries that manufacture vehicles locally and export to its neighboring countries of Sri Lanka, Bangladesh and

Afghanistan. African market also presents a lucrative source for Pakistan to increase its export. Currently, Pakistan exports tractors and motorcycles to Nigeria. The trade deficit is projected to decrease in the coming year, and Pakistan is developing major industrial zones in collaboration with China and the United Arab Emirates. The Policy framework of order 2009 controls the imports; that engineering development board will certify the level of imports by any manufacturer; by this, they can avail the preferred rate of customs duty. However, this certification requirement has a significant drawback as it allows under capacity utilization and subsequently increases prices. Pakistan has a minor role in the global automotive trade. The text above concludes that the significant factors are lack of innovation, less awareness about export possibilities, inconsistent policies. According to a report from 2009, the Pakistan-Japan business forum stated that if the competitiveness of Pakistan cars in terms of cost and quality were improved, then the export potential of Pakistan would emerge, and would conceivable have a brighter future.

References

1. Imran, Muhammad and Khan, Aaiza, The Automotive Industry in Pakistan: Structure, Composition and Assessment of Competitiveness with India (December 3, 2015). Industry and Innovation
2. Vaqar Ahmed, Samavia Batool India-Pakistan Trade: Perspectives from the Automobile Sector in Pakistan Posted: 2015
3. Development of the Automotive Sector in Selected Countries of the ESCAP Region. The Economic and Social Commission for Asia and the Pacific ESCAP, Reference No: ST/ESCAP/2223, Trade and Investment Division ESCAp
4. Federal Board of Revenue, Government of Pakistan Posted: 2014
5. Muhammad Aqil, Syed Fazal Aziz, Muhammed Dilshad, Seemab Qadeer Critical Analysis of Pakistan Automobile Industry From 1995 to 2005
6. [https://en.wikipedia.org/wiki/Automotive_industry_in_Pakistan#Rapid_growth_\(2010–present\)](https://en.wikipedia.org/wiki/Automotive_industry_in_Pakistan#Rapid_growth_(2010–present))
7. Automotive industry worldwide: statistica
8. 2020 Global Automotive Consumer Study Is consumer interest in advanced automotive technologies on the move? : Deloitte consumer report
9. Disruptive trend that will transform the industry Mckinsey report jan 1 , 2016
10. Pacra automotive part overview 2019
11. Institute of development and economic alternatives : vendor 152115 prepared for the world bank march 18, 2016
12. Ahmad, Vaqar, Batool, Samavia :India Pakistan Trade : Perspective form automotive sector in Pakistan
13. Imran, Muhammad and Khan, Aaiza, The Automotive Industry in Pakistan: Structure, Composition and Assessment of Competitiveness with India (December 3, 2015). Industry and Innovation, Forthcoming, Available at SSRN: <https://ssrn.com/abstract=2727382>

14. 2019 Future of Pakistan Automobile Market - Trends, Outlook and Growth Opportunities
- ResearchAndMarkets.com
15. PITAD: study on the import of the used vehicles, pitad.org.pk
16. An overview of the trend in the automotive sector and policy framework: IGC JAN 2012
17. Ali Khazir Aslam : pakistan and economy of Tomorrow, an analytical perspective.
<http://library.fes.de/pdf-files/bueros/pakistan/14915.pdf>
18. Muhammad Imaran, Aiza Khan: The Automotive Industry in Pakistan: Structure, Composition and Assessment of Competitiveness with India
19. MSCI index : www.msci.com
20. Dr. R. Menaka, K. Ashath : a study on consumer buying behaviour and satisfaction towards indian automobile industry. Oct 2014
21. Faisal Mehmood Mirza, Nishat Fatima , Kafiat ullah: Impact of China-Pakistan economic corridor on Pakistan's future energy consumption and energy saving potential: Evidence from sectoral time series analysis.