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Effectiveness of Automobile Policy for Indigenization in Pakistan

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Abstract

The current study discusses the automotive sector indigenization in the cars segment and achievements of the five-year Automotive Development Policy ADP 2016-21 announced by Economic Coordination Committee (ECC) of Pakistan's Government on March 18, 2016 for a period of five years effective from July 1, 2016, to 2021. The important argument of this paper is to find out the ADP 2016-21 critical aspects and its impact on the existing automobile industry for the indigenization of vehicles (cars) in Pakistan. One of the main objectives of ADP is to help in bringing new players in the market along with increasing the existing level of localization with reverse engineering, modification, and also new parts development, to catch the attention of existing original equipment manufacturers (OEM's) or assemblers, technological improvement, and satisfy all stakeholders through enabling environment and growth strategy, consumer welfare, and eliminate Complete Knock Down (CKD) imports by existing car manufacturers. The Automobile sector of Pakistan comprises assembly/manufacturing units for the production of Cars, Tractors, Truck/Buses, Jeeps, Light Commercial Vehicles (LCVs)/Pickups/Vans and Two/Three Wheelers, whereas the downstream vending industry comprises around 2000 part manufacturers out of which around 400 are registered vendors. In term of performance, there are three Japanese companies essentially dominate the passenger car segment in Pakistan. Having looked at the prevailing situation of the automotive sector in the local development of car components and the capability of the automotive sector after the implementation of the ADP, 2016-21 is the important rationale of this paper. It is to analyze whether this automotive policy document may have an influence on the indigenization of the cars that have been imported in CKD condition and assembled in Pakistan. This study results reveal that the policies with respect to automotive development must be long-term in order to decline CKD imports even after the existing ADP 2016-21, it may be because of the problems being faced by existing car producers. However, exploring the Thailand industry development model is of high importance for Human Resource Development (HRD), technology transfer, product design, and capability enhancement. The effectiveness of several automotive policies announced by the governments for the development of locally manufactured vehicles, numerous studies have been conducted. Accordingly, this research study would definitely be useful to provide a support for the relevant policies for indigenization of cars and future interrelated expansion activities such as design, development, and research.

Keywords: Pakistan, Automotive Policy, Indigenization, Manufacturing, Cars.

Introduction

The main purpose of this study is to identify possible policy measures that could help the Pakistan's automotive industry to increase the volume of locally manufactured parts and

components. It also examines the automotive industry of Thailand, which is well known as the "Automotive Hub of Asia" and is recently developed and flourishing with expertise in pick-up vehicles. Moreover, with regard to the indigenization of vehicles the local assemblers should have to think about quality, competitiveness in the business environment, minimize production costs, improve technology to satisfy the end users and eliminate the monopoly of existing traders/importers. In addition, this study looks at the prevailing situation of the automobile producers for the development of parts/components and also the potential outcome of automotive development policy over the years. It is to analyze whether the policy may has influence on existing local assemblers, those who are leading car producers in Pakistan since many decades. Looking at the Government's "Economic Survey of Pakistan 2021", Pakistan's automotive industry is a vibrant sector of economic growth with extensive market share among manufacturing industries of Pakistan having a sufficient vendor base. This study discusses the automobile sector including several identified fundamentals and trends tremendously important for indigenization and coordinated beyond the government automobile development policy. The study also touches upon government's Automobile Development Policy (ADP, 2016-21), the subsequent factors relevant to the automobile manufacturing/assembly: product design, innovation, research and development, indigenization or localization, technology transfer including of the latest technology, quality or standards, foreign direct investments, new entrants, and the World Forum for Harmonization of Vehicle Regulations (WP.29) compliance. Additionally, the study reviews the automotive development policies followed by Thailand to understand the importance of indigenization. This study provides a qualitative perspective in terms of policy interventions and current practices implemented for the automotive industry development, major prominent manufacturers or assemblers contributions to the economic development, and reviews where the automotive industry localization or indigenization level may be in the future. Focusing on the government policy, contributions of stakeholders including Original Equipment Manufacturers (OEMs) or assemblers, and respective associations to the economic drive with detail of impediments that describe the existing level of localization and indigenization associated with the automotive industry development plan under ADP 2016-21. According to the Ministry of Industries and Production (MoIP)/ Engineering Development Board (EDB), the Pakistan automobile industry is one of the sixth largest sectors among the manufacturing industries in Pakistan and is recognized as prime importance to the economy of Pakistan. Pakistan's automotive industry started producing vehicles with an automobile plant set up by General Motors in 1949. Currently, Pakistan has a number of manufacturers/assemblers including Japanese, Chinese, European, and Korean that make brands besides with approval of Greenfield Status to 18 Companies such as Korean, European, Chinese, and Japanese makers since, two closed units were revived in 2018 under the ADPcategory of Brownfield. Although, Pakistan's automobile industry is the largest manufacturing sub-sector with an annual contribution to Gross Domestic Product (GDP), the sector still thrives and makes a significant contribution to the domestic economy in the form of foreign direct investments, foreign exchange earnings, employment, and revenue generation. According to the data of Pakistan Bureau of Statistic (PBS), GDP in Pakistan expanded 5.79% during the fiscal year 2017-18. However, it is observed by MoIP/EDB (government) that theautomakers are lacking in achieving the desired level of localization/indigenization and it is difficult for them to compete in the global market. Considering the 2021 data by MoIP/EDB, under ADP 2016-21 the automotive industry has shown progress, 11 new investors including M/s United Motors (Pvt) Ltd, M/s Lucky Motor Corporation, M/s Master Changan Motors Ltd., M/s Hyundai Nishat Motors, M/s Regal Automotive Pvt. Ltd, M/s Sazgar Engineering, M/s Foton JW Automotive, M/s Khalid and Khalid Holding, M/s Al-Haj Automotive Pvt Ltd (Proton), M/s Dysin Automobile, Sazgar Engineering and Al-Haj Bus Company have installed manufacturing/assembly facilities. In sum, a total investment of USD 586.42 million has been ensured so far to the manufacturing/assembly of different categories of vehicles including Cars. In fact, there has been no locally manufactured vehicle in the Pakistani market, whereas to promote localization of auto parts the government has imposed the condition of minimum

30% value addition to qualifying for concessionary imports under the regime. There has been a five-year period of localization for local manufacturers/assemblers in order to downsize their Completely Knocked Down (CKD) Kits operations and be able to develop parts/components in-house locally. During this period, some new manufacturers/assemblers entered into the market, and a couple of manufacturers found themselves non-compliance and bore penalties. In this study, the author will touch on numerous dynamics that support the indigenization of the automobile industry and its importance toward the national economy, along with technology transfer, job creation, and development across the four provinces of the county. The automotive sector is comprised of 2, 3, and 4 wheelers assembling units located in major cities of Pakistan like in Karachi, Lahore, Lasbela, Hub, and Faisalabad. Likewise, there are over 400 vendors or automotive parts manufacturing supplying their semi-finished and finished components to OEMs. The Pakistan Automotive Manufacturers Association (PAMA) is the platform for registration of automobile manufacturers, which also facilitates local players to coordinate with the government on the policy matters. As mentioned above, MoIP/EDB reported that over USD 586.42 million is ensured so far to manufacture/assembly of vehicles by the new entrants. In addition, the automotive sector still has a huge market with less competition, since new players can expand to produce maximum indigenized vehicles in the market. Furthermore, the study is identifying the automotive components development potential in addition to the establishment of Pakistan Automotive Institute in order to promote indigenization among the stakeholders. Therefore, the objective of this study is to identify problems related to indigenization in the production of cars. In this regard, the following research questions were defined:

RQ1: What progress has been made in implementing of the Automotive Development Policy? Why has the five-year plan not succeeded in achieving indigenization?

RQ2: How should new automotive policy schemes be improved to promote automotive development?

Background and Significance of the Auto Policy 2016-21

The Government of Pakistan approved the Automotive Development Policy (ADP)-2016-21 through ECC of the Federal Cabinet on 18th March, 2016, the same which is effective from July 1, 2016. The government's automotive policy is comprised of two categories (i.e., Green field, Brown field). Green filed category provides incentives to those investors who are bringing new technology, which is not available in Pakistan. Furthermore, the companies with Green field status need to comply with a five-year localization plan approved by the Auto Industry Development Committee (AIDC) of the MoIP/EDB. As the salient feature of the policy, there is a provision of a five-year tariff plan for existing OEMs to curb misuse of import policy (vehicles). Additionally, this policy provides regulatory and enforcement mechanisms for Quality Safety & Standards such as WP-29 with the support of the Japan International Cooperation Agency (JICA), the establishment of the Pakistan Automotive Institute (PAI), ensuring consumer welfare, KIBOR+2%, and immobilizer.

Table 2.1 Automotive Sector of Pakistan

Cars	7 units	Suzuki, Honda, Toyota, Al Hajj Faw, United, Kia, Hyundai
Tractor	8 units	Millat Tractors, Al-Ghazi Tractors, Universal Tractors, Hero Motors, Farm-all Tech, Arzoo , PM Tractors, Orient Tractors(MTW) (3 units Operational). Ghandhara (Isuzu and Dongfeng), Hino, Master, Daewoo
Truck/Buses	7units	Pak Motors, Afzal Motors, JW Forland, and Al-Haj FAW Motors.
Jeeps LCVs/ Pickups/ Van	3 units 7 units	Honda BRV, Toyota Fortuner, and Kia Toyota, Suzuki, JW Forland, Hyundai, Master Motors Limited, Al-Haj FAW Motors, and M/s Regal Automobile
Two/Three Wheelers	132 units	Suzuki, Honda, Yamaha and Chinese Co.

Source: Engineering Development Board (EDB) Pakistan

Pakistan's local automobile industry is producing all categories of vehicles including cars. The overall performance of the Automotive Industry in terms of producing vehicle units per year is given below.

Table 2.2 Production figures for a period from 2012-13 to 2018-19

Products	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Cars	120,332	116,605	152,524	179,944	186,936	218,490	211,365
Jeeps	1,475	1,217	1,109	773	3,530	13,364	7,525
*Pick-Up/ LCV/ Van	15,264	18,597	30,154	38,231	27,507	32,564	25,306
Total	137,071	136,419	183,787	218,948	217,973	264,418	244,196
Trucks	2,284	3,431	4,738	6,648	9,097	9,350	6,130
Buses	650	789	973	1,394	1,339	1,056	1,139
Total	2,934	4,220	5,711	8,042	10,436	10,326	7,269
Tractors	51,977	35,253	45,862	33,982	47,799	71,894	49,902
Motorcycle	1,657,411	1,703,106	1,770,239	2,060,385	2,473,687	2,761,747	2,437,871
Auto Rickshaw	35,246	48,912	52,591	57,675	84,300	109,651	118,450
Grand Total	1,884,639	1,927,910	2,063,633	2,189,029	2,834,195	3,217,918	2,857,688

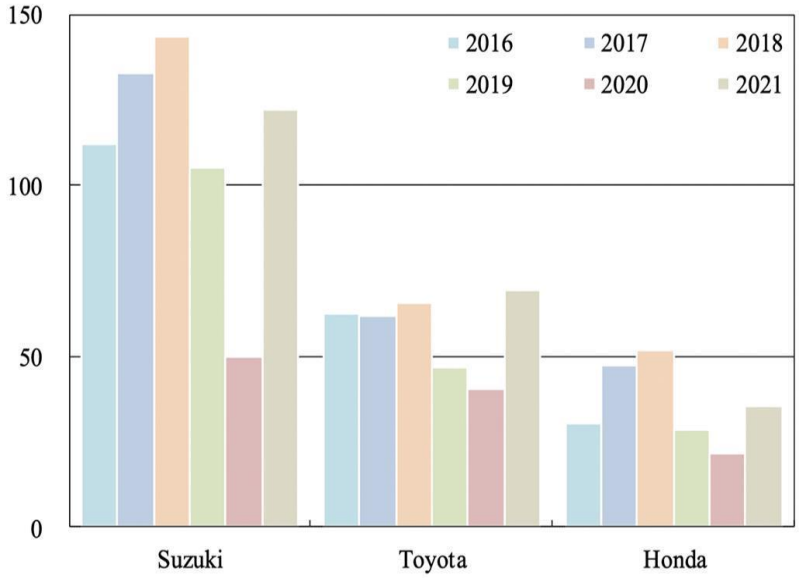
Source: Engineering Development Board (EDB) Pakistan

Pakistan's Car Production by Major Players

As per data of automotive industry/association, during the year 2021 the car production in Pakistan increased by 2.1 times year on year (YOY) to 242,000 units. In addition, sales volumes also increased because of a substantial reduction in taxes on purchases of cars with effect from 1st July 2021. Besides the increase in domestic demand, production increased in response to an increase in exports associated with the global economic growth and recovery after Covid-19.

Figure 3.1 Pakistan's Production Volume of Three Automakers for a period from 2016 to 2021

(1,000 units)

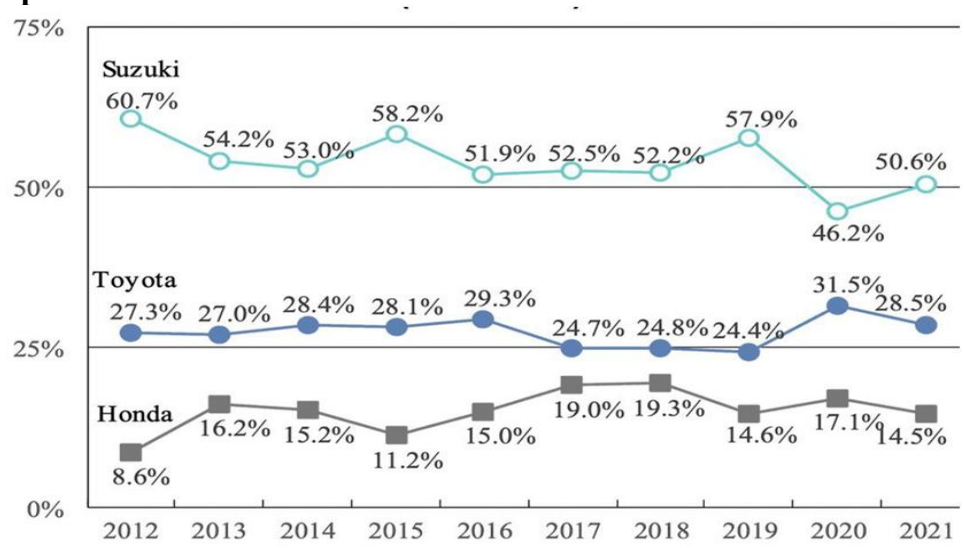


Source: The Pakistan Automotive Manufacturers Association (PAMA)

Major market share of locally produced vehicles

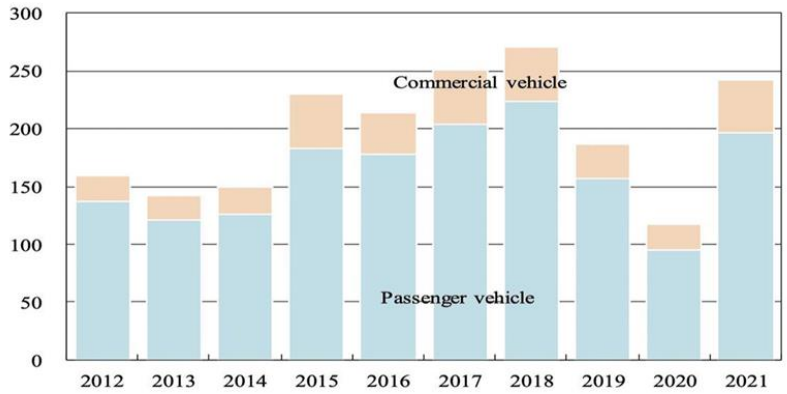
The following figures and table show that in Pakistan's automobile (cars) industry, the Suzuki brand is enjoying the highest market share among the selected/ outlined brands and leading the industry highest share of market. Respectively, M/s Toyota is at second number in enjoying market shares while M/s Honda brand is the third winning brands in automotive industry market shares. Further, Nissan, Kia and Daihatsu have some market shares respectively for the years 2012 to 2021.

Figure 3.2 Pakistan's market share trend of the top three locally assembled brands for a period from 2012 to 2021



Source: The Pakistan Automotive Manufacturers Association (PAMA)

Figure 3.3 Pakistan's Production volume of Automobiles by vehicle type a period from 2012 to 2021



Source: The Pakistan Automotive Manufacturers Association (PAMA)

Investment during AIDP 16 ~ 21	US$ One Billion + US$ One Billion (New entrant)
Direct Employment	27,720 (Indirect 2.5 Million)
Revenue to Government	159 Billion (Car Sector)
Sales – Cars & LCVs	444 Billion – 331,000 Units
Vendors registered	400 – Approx.
Installed	418,000 (AIDEP 21=26), Further capacity enhancement is in process by
Capacity (Cars / LCV /	existing and new plyers.
SUV)	Policy target by 2026 – 650,000 units
Contribution to GDP	2.22%
Sales Volume (local Industry)	900 Billion exclude imported vehicles
Total Local Purchase	320 Billion

Source: Association/Industry

Table. 3.6 Pakistan: Sales Volume of Locally-assembled Vehicles by Type (2015–2020)

(Units)

Segment	Engine Displacement / Type		2015	2016	2017	2018	2019	2020	(Year-on-year)	Comp. Ratio
Passenger vehicle	ED below 1,000cc		71,617	56,905	63,101	60,213	54,482	29,436	(▼46.0%)	23.0%
	ED 1,000cc–1,300cc		22,803	28,809	43,651	52,885	39,694	21,131	(▼46.8%)	16.5%
	ED above 1,300cc		87,811	91,508	96,560	104,294	68,510	53,820	(▼21.4%)	42.1%
	Total		182,231	177,222	203,312	217,392	162,686	104,387	(▼35.8%)	81.6%
Commercial vehicle	Light commercial vehicle	SUV	1,014	558	10,126	9,820	5,686	5,842	(2.7%)	4.6%
		Pickup truck	41,002	25,712	26,286	27,884	19,326	14,193	(▼26.6%)	11.1%
		Total	42,016	26,270	36,412	37,704	25,012	20,035	(▼19.9%)	15.7%
	Truck / bus	Truck	4,676	6,660	8,447	8,304	4,307	3,034	(▼29.6%)	2.4%
		Bus	765	1,143	863	998	762	483	(▼36.6%)	0.4%
		Total	5,441	7,803	9,310	9,302	5,069	3,517	(▼30.6%)	2.7%
	Total		47,457	34,073	45,722	47,006	30,081	23,552	(▼21.7%)	18.4%
Sales total of locally-assembled vehicles			229,688	211,295	249,034	264,398	192,767	127,939	(▼33.6%)	100.0%

Source: The Pakistan Automotive Manufacturers Association

Table. 3.7 Pakistan: Sales Volume of Locally-assembled Vehicles by Type and Brand (2015–2020) (Units)

Type	Brand	2015	2016	2017	2018	2019	2020	(Year-on-year)	Share
Passenger car	Suzuki	98,218	89,991	111,025	118,382	97,853	52,257	(▼46.6%)	50.1%
	Toyota	58,350	55,539	52,233	54,037	40,512	32,997	(▼18.6%)	31.6%
	Honda	25,654	31,687	40,054	44,973	24,321	19,133	(▼21.3%)	18.3%
	Hyundai	9	5	-	-	-	-	(-)	0.0%
	Total	182,231	177,222	203,312	217,392	162,686	104,387	(▼35.8%)	100.0%
Light commercial vehicle (SUV / pickup truck)	Toyota	6,191	6,463	9,306	11,528	6,431	7,345	(14.2%)	36.7%
	Suzuki	35,442	19,767	19,788	19,621	13,690	6,796	(▼50.4%)	33.9%
	Honda	-	-	7,318	6,019	3,778	2,777	(▼26.5%)	13.9%
	Hyundai	9	7	-	-	-	2,098	(-)	10.5%
	Isuzu	-	-	-	-	664	533	(▼19.7%)	2.7%
	JAC	-	-	-	536	449	486	(8.2%)	2.4%
	Others	374	33	-	-	-	-	(-)	-
	Total	42,016	26,270	36,412	37,704	25,012	20,035	(▼19.9%)	100.0%
Truck / bus	Isuzu	1,203	2,091	3,499	3,953	2,233	1,698	(▼24.0%)	48.3%
	Master	804	1,130	1,524	1,730	1,131	849	(▼24.9%)	24.1%
	Hino	2,544	3,706	3,975	3,619	1,692	846	(▼50.0%)	24.1%
	Others	890	876	312	-	13	124	(9.5-fold)	3.5%
	Total	5,441	7,803	9,310	9,302	5,069	3,517	(▼30.6%)	100.0%
Sales total of locally-assembled vehicles		229,688	211,295	249,034	264,398	192,767	127,939	(▼33.6%)	-

Source: The Pakistan Automotive Manufacturers Association (PAMA)

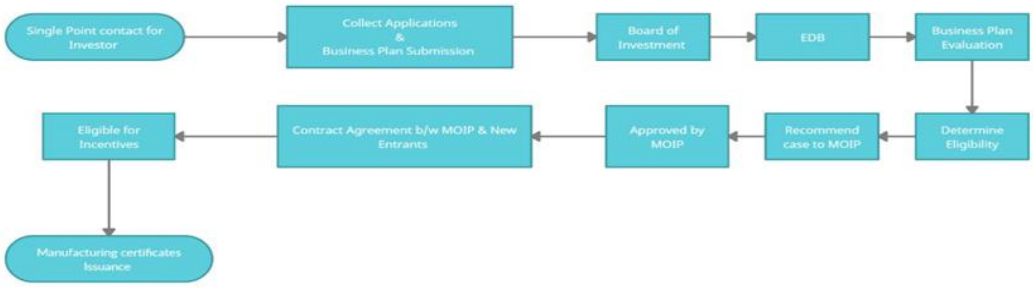
EDB role in Policy Implementation

As custodian of auto policy, EDB plays as a regulatory role of policies for the automobile sector and implementation of the Auto Industry Development Plan, which include the assessment of automobile vendors for registration as supplier to OEMs and after market for sales and services, determination of processes wastages for purpose of monitoring allocations of raw materials and other related inputs, and also physical verification of manufacturing/industrial setups for assessment of their compliance under various policies.

Auto Industry Development Committee (AIDC) of EDB role in Automotive Policy

In Pakistan, the Auto Industry Development Committee (AIDC) acts as a coordination role in inter-ministerial and public-private stakeholder consultation to promote the formulation and implementation of automobile industry policies. Besides, it is a forum or platform for dialogues between the government and the industry/association, AIDC along with EDB as its chair, aims to promote public-private partnership in the automotive industry by establishing quality and standards, developing trade opportunities, and providing advice on investment. In this regard, 33 AIDC meetings have been held so far since 2007. The details of recent localization in cars reviewed by AIDC is given at Figure. 4. 3.

Figure. 4.2 Approval Process under Automotive Development Policy 2016-21



Also, the details of car manufacturers along with their product specifications, percentage of parts being manufactured locally and the percentage being imported are depicted below:

Table. 4. 3 Current level of Localization achieved in the car segment

S. #	Manufacturer/ Assembler	Product	Year of New Model	Deletion Achieved
1.	M/s Suzuki	Suzuki Swift	2010	62%
		Suzuki WagonR	2014	63%
		Suzuki Cultus (New)	2017	59%
		Suzuki Alto (New)	2019	66%
2.	M/s Toyota	Toyota Yaris XLI /GLI (M / AT) 1.3CC / 1.5CC	2020	65%
		Toyota Corolla A/T) 1.6 CC	2016	60%
		Toyota Corolla M/T 1.8 CC	2016	60%
3.	M/s Honda	Honda Civic VTIMT/AT 1.8	2016	58%
		Honda City MT /AT 1.3/ASP 1.5/1.3	2009	68%
4.	M/s Kia	Kia Sportage	2019	11%
		Kia Picanto	2019	15%

Source: Engineering Development Board (EDB) Pakistan

Literature Review

This study has the crucial point to find out the provisions as well as the critical features available to support the local automotive industry and their impact on the indigenization of vehicles (cars) in Pakistan. The same is reviewed in the literature as fellows; According to Bruno Jetin (2018), there is an impact of the automobile fragmented production in Asia and trade networks of Southeast Asia, South Asia, and Northeast, focuses on the automotive parts trade and evaluated trade for a period from 2001 to 2016. He emphasized two major market competitors, Japan and China, a regionalization process and its regional integration between the ASEAN, China and Japan. In addition, he analyzed several initiatives for trade network at the same time found that the automotive industries are highly protected among the three coordinated regions. He also assessed the automobile production, trends in trade network in ASEAN and Asia, as well as the trade agreements and infrastructure projects for the Asian automobile integration. Besides, he explained about collaboration of automotive manufacturers and part supplier's progress in increasing network in Southeast Asia and South Asia, while he found irrational tariff structure and slow progress. He claims that governments are willing to bring investors in the automotive sector and produce locally, while local existing manufacturers want protection in terms of custom duties. He also touched upon the importance of regional trade network connectivity specifically in Southeast Asia and South Asia. Sajee Sirikrai (2008) studied the Phase-I of JICA's Automotive Human Resource Development Project (AHRDP-I) and recognized that this initiative is a transpose opportunity for Thailand's automotive manufacturers and their vendors/parts suppliers in order to improve their production system. She considers that the AHRDP idea is about cooperation between Japan and Thailand for Human Resource Development (HRD) plus capacity enhancement of their public and private sectors. She has reviewed the role of Japan in providing technical assistance and Thailand as a learner of Japanese expertise in field of automotive manufacturing. She ascertains the importance of HRD, which is recognized by automotive parts manufacturers to train their labour force, while they have least awareness about AHRDP. Likewise, through the AHRDP project a possible way forward for the active participation to make skill proficiency tests in different categories of training courses is ensured. Its focus is only the extent to Japan-Thailand cooperation in human resource

development for the automotive sector. Consequently, the analysis of Sajee Sirikrai (2009) from Phase-II of the JICA's Automotive Human Resource Development Project (AHRDP-II) identified the needs of HRD through training in the automotive parts manufacturers or vendors segment, and determined the automotive industry's current practices for employers training, possible benefits and participants expectations from AHRDP-II program. It investigated that Thailand automotive industry's three factors such as size of the company, present training practices that companies follow, as well as large-scale companies (determined in terms of sales volume and manpower) which are interested in the project. It is found out that the companies with the revenue less than 100 million Thai baht are less interested in such training programs. In addition, the study also revealed the importance of training courses for the automobile sector in Thailand and noted that industry needs both formal and informal trainings including personal development, operations management (i.e., Toyota Production System –TPS and Denso Mind Management). It explores only the mode of training programs for small, medium, and large-scale manufacturers in the automotive sector. In the recent years, Thailand's automotive industry has enhanced their capacities and capabilities along with import substitution, which resulted in their status of production shift from CKD import to CKD/SKD/CBU export. Besides, the Thai automotive sector is significantly contributing towards economic development and Southeast Asian intra-industry trade. In this perspective, with the support of stakeholders, the country has also now entered into sophisticated production activities because local automobile vendors individually had to become active learners through coordination with other partners to sustain in the export market (Patarapong Intarakumnerd and Kriengkrai Techakanont, 2016). This shows that the Thai automotive industry has improved sustainability, competitiveness and capability for import substitution. Patarapong Intarakumnerd (2021) considers the current automotive sector in Thailand is a Hub of Automotive in Asia with significant share in the global value chain (GVC) of auto sector. He recognizes that the important factors towards upgrading of the auto industry in Thailand includes government incentives schemes specially for acquiring the technology of sophisticated activities, industry-academia linkages, and research and development programs. He also emphasizes that the role of government in supporting automotive industry, as well as local firms in-house efforts. In addition, he says that industry has improved research and development along with modernization, while industry has implemented robotization in production operations in order to manufacture electric vehicles (EVs) in future. It highlighted the role of the Thai government in providing concessions to automobiles for the development and expansion. According to Peter Wad (2009), ASEAN countries such as Thailand, Indonesia, the Philippines, and Malaysia have similar levels of trade, whereas Thai exports to India, China, and Vietnam are significantly lower. He claims that Thailand's automotive sector has a diverse export share in Asia and that following the East Asian Financial Crisis in 1997, Thailand made a decisive shift to an open-door policy. In 2000, it stopped requiring local content requirements and allowed fully owned subsidiaries of foreign automotive multinational corporation (MNCs). He also describes several interventions such as the structure of production, growth, and sales, international trade and the political economy of the ASEAN automobile industries. His study contends that Thailand appears to be a success story in the twenty-first century in terms of the export success of the Thai-based automotive industry via the Japanese value chains and American MNCs, while Malaysia's national auto industry project must either produce exportable brands targeting less competitive markets, such as limited to Muslim countries. It shows that Thailand's automotive industry is quite capable of exporting auto parts/components to Asia. Moreover, Natsuda and Thoburn (2011) examined the restrictions on industrial policy implemented under World Trade Organization (WTO) rules of 2000 significantly reduced the policy space specifically in which developing countries can support industrialization development. The model of Thailand's policies in industrial development as one of the major successful automobile sectors in the Southeast Asia region is also examined in this paper. They demonstrate that Thailand's use of indigenous content requirements, which were later abolished under WTO guidelines, helped in promoting the local suppliers though not

discouraging to FDI, as well as the significant duty and tax protection for automobile and parts manufacturing did not deter trade or exports and has sustained till now, even under liberalization regime. They also say that Thailand has succeeded in retaining significant policy autonomy. It explains that the successful implementation of Thailand's industrial policy. Soniya Poudel (2019) observed the customers satisfaction perspective on the after-market and automotive spare parts availability in domestic market. She assessed the customer satisfaction level concerning the after sales services by automotive manufacturers in Nepal, targeted 81 local vehicle users. She also demonstrated that the after sales service plays an important role in customer's satisfaction whereas cost associated with service has least customer's satisfaction. She claims that Nepal's automotive sector need to improve its existing information mechanism by increasing the provision of after-market service for customer's satisfaction in the country. It is targeted only that customer perception in Nepal regarding the vehicle maintenance, service and spare parts. Furthermore, Aqil, M., Qadeer, S., Ahmed, D. R., and Qureshi, M. A. (2014) analyzed the research for a structural using network analysis. They analysed the import/export 30 automotive components and parts at five-digit HS codes, which are categorized into four segments including critical items such as engines; suspension; non-ferrous (rubber) and ferrous (metal parts); wire harness electrical; and relevant miscellaneous parts. Osama, Ahmed and Mustafa, Sadaf & Begum, Rukhshinda. (2018) comparing the previous policies with ADP – 2016-21 and reveal that the exiting vehicle manufacturers have no policy influence and are dominating in domestic market with huge profit margins are not expected to decline still. While, they observe that customer's behavior may be a shift in the future due to cost comparison, shap/designs, and fuel efficiency. In addition, Irfan Ul Haque et.al (2021) acknowledged that the automotive industries around the globe are operating as the driving forces for the economic development. They also of the view that the Pakistan's automobile sector is the one of greatest among manufacturing industries, being largest private sector is highly protected in term of incentives and government concessions. They found out the loopholes in government automotive policies, which effect local production, associated plant machinery equipment or technology, and customs duties/taxes. His research focuses on the manufacturing of car plus competitiveness in the market, taking car as a crucial automotive segment with growing volumes, high demand, and job creation. These disparities are common to be expected certain of the differences in the Asia region's economic development and the diversity of their automotive businesses. The Asia region is automotive home to two countries (Japan and South Korea) with domestic global brands but relatively small markets, whereas two big markets include China and potentially India without local or domestic global brands, both countries are middle income with huge markets but without having prominent locally manufacturers. The above said sub-regions have varying strategic interests in the automotive industry, subsequent industry and trade policies implemented in Asia. Keeping in view the situation, Thailand is a newly developed player in Asian market and could be a role model for automotive industry development.

Methodology

This study is based and focused on interviews with selected prominent Japanese automotive producers in Pakistan. It involves the review of a current level of indigenization and classification through a structured approach. More specifically, the study includes a review of various types of indigenization in the automotive industry including their characteristics. Accordingly, a method is developed to understand indigenization factors for the review of the indigenization plan, the detail mentioned in this paper focus on current research and development in industry practices for the existing indigenization provisions, procedures, and mechanisms. Additionally, a discussion held with the Ministry of Economy, Trade, and Industry (METI) Southwest Asia Office, Tokyo Japan, focused on the important issues of the current Pakistani government automotive policy, while referring to the efforts of local Japanese automobile manufacturers to develop the automobile and parts industry and highlighted their concerns over the Pakistani trade and industrial policy. Lastly, a review of

policies followed Thailand to understand the importance of indigenization on such grounds; and finally, outlined recommendations for the indigenization management structure. Additionally, a meeting was held with METI, Japan officials on 13th July 2022 at Tokyo, after thorough deliberation on the Japanese experiences on automotive development in Thailand and cooperation in policies. It was reviewed the importance of developing the cars segment with its wide range of related vendor industries, and it was observed that the automotive industry has been one of the core and leading manufacturing industries.

Discussion and Historical Framework

Historically, there have been several new entrants into Pakistani market to indigenize vehicles. In 2001, M/s Adam Motor Company based in Karachi Pakistan took initiative for the development of passenger cars indigenously designed brand "Revo." But, it failed because branding has nominal effect on the consumers who expect the internationally available European, Japanese, Chinese, and Korean Brands car, due to the design, durability quality etc. The Adam Motor Company also failed to capture the market segment for small cars due to non-provision of government support, which resulted in closure of the plant manufacture/assembly operations in 2006 (Osama et al. 2018). According to Patarapong Intarakumnerd and Kriengkrai Techakanont (2016), production shift from CKD import to CKD/SKD/CBU leads to export. However, it is pertinent to mention about the dependency of automakers on imported "Completely Knocked Down" (CKD) Kits for their manufacture/assembly operation and non-compliance to government deletion program. It has resulted lesser achievement localization/indigenization in the car segment as compared to 95% in the agriculture Tractors, besides industry has achieved up to 73% localization in cars, and 95% localization in motorcycles. Further, the existing tariffs duty structure at 35% for the import of CKD kits by the manufacturers/assemblers have limited their attention for achieving deletion. After market is a challenge while the existing OEMs or vendors lacking in capturing the market for selling of spare parts as they have contracts agreements and signed bond to sell parts to the respective assemblers only. Looking at the Pakistan automotive industry, the parts supplier/vending industry is comprised of 400 plus units across the country has more installed production capacity, which is only operating at 30% its capacity (PAMA, 2021). JICA (2021) observed the poor coordination among the manufacturers/assemblers, their attitude towards vendor industry in terms of component development. Besides the cited above, smuggling of cars from neighboring countries like Iran and Afghanistan are hampering the indigenization progress. Natsuda and Thoburn (2011) studied that currently, the automotive industry is non-compliance to the schedule of World Trade Organization (WTO) deletion program. Its existing practice is simply rely on CKD kits imports to manufacture/assemble vehicles locally, which means minimum outsourcing in domestic market. In fact, the result is in favour of their foreign partners who are earning revenues without sharing their technology, fewer opportunities for technical people, and inflated market rates for the locally manufactured automobiles. Similarly, the automotive manufacturers/assembler have less focus on vendor development to the extent that it can be capable to provide the same product quality supplies as that of their imports. However, it will take time to meet the market needs of spare parts for expanding the indigenization in automobile industry. Sajee Sirikrai (2008 and 2009) analyzed that the vendor industry is the backbone of automotive industry, plays a important role in development and production of automotive manufacturing as it is impossible to produce all component/parts under the one roof. Also, vendor industry development would definitely reduce the cost of production along with reduction in burden of imports. For this purpose, not any major technological leap is required at this stage, but the government and relevant stakeholder not just coordination, but also major efforts are needed to satisfy the quality and safety standards of locally produced parts and components to turn it into reality. In addition, almost all vehicles manufactured/assembled locally in Pakistan are insufficient to meet the domestic market and consumer's needs. With regard to imported both used and CBU, condition cars in Pakistan,

Ministry of Commerce is responsible agency facilitating all categories of imports allow import of vehicles to fulfil the demand.

Table. 7. 1 Pakistan's Imports for a period from 2015-16 ~ 2019-20
(1,000 units)

Vehicle Type	2015-16	2015-16	2015-16	2015-16	2019-20
Luxury	806	3,323	2,873	18,344	70
Large	11,058	7,659	10,528	64	3,794
Medium	474	17,435	20,225	9,843	118
Small	33,483	6,972	9,203	366	5,427
Total	45,821	35,389	42,829	28,617	9,409

Source: Federal Board of Revenue (FBR) Pakistan

Findings of the Interviews

Through observations and analysis, the author conducted interviews with focused three prominent Japanese companies in Pakistan capturing a major share of the car market in the automotive industry. Interviewees consisted of senior managers from automotive companies in Pakistan who are dealing with matters pertaining to the technical side, corporate matters, and logistical affairs. Interviews lasted from 60-120 minutes each, and focused on the participant's perception on the existing plus future needs of indigenization. Each interview was recorded and based on the interviews the response received were some positive, negative, criticism, and mixed opinions and observations regarding the indigenization of automobiles in Pakistan. Similarly, several issues have been identified by the various individuals working in the automotive field. However, the participants were more interested in discussing the policy issues and taxation matters. From these interviews, ten major findings are presented as follows:

i. All three companies feel that there an is irrational tariff structure, emphasizing that the government should abolish the additional customs duty (ACD) and federal excise duty (FED) on cars specifically in CKD condition and auto parts to reduce costs. This will raise the demand, enhance tax collection and increase employment opportunities along with localization goal.
ii. They are of the view that the economic planning should be kept separate from politics to enable the country to draft long-term strategy for economic policies.
iii. They stressed that there should be long-term policies, spanning a time period of three decades, that would boost the confidence of industry players, especially those who would invest in the country.

Recommendations for Policy

The description of policy recommendations are categorized into segments, which include stabilizing or increasing the size of Pakistan's domestic market, to improve the level of Indigenization mainly based on the success story in Thailand, and others are for policy in general. The results of this study suggest ten policy recommendations, which can be classified into three: (i) policies for expanding the market of locally produced vehicles (1 2, 3, 4, 6); (ii) policies for promoting indigenization of parts and components production (5, 7, 8); and (iii) other supportive policies (9, 10).

1. The government should make the decisions for medium to long-term initiatives with a long-term strategy vision that should guide automotive policy and incentives to

achieve specific goals of indigenization. The government should deliberately address issues being faced by the automotive sector. In addition, the automotive industry needs to strengthen and refine the existing automotive production operation, expiation of vehicles assembly and manufacturing, and shift from assembly to in-house parts development and design. In addition, Pakistan needs to explore the possibility of reverse engineering and modification to develop new parts, which will result in productivity improvement and augmentation, etc., through appropriate risk management to increase resilience.

2. Currently Pakistan's automotive customs duties and tariffs are very high and complexincluding CD, ACD, FED, and ST, which need to be lower and simplified for CKD operations. Being a huge market, Pakistan's automotive demand is already high which will surely further increase, especially if the government should reduce taxes on locall
3. According to them, localization of auto parts increased over time on the back of the keen interest of the government and auto manufacturers. Similarly, they say that there is a need to increase the volumes to achieve localization at par with neighbouring countries. According to Nouman (2022) quote "Higher volumes result in higher localization levels and vice versa".
4. They claim that automotive industries in Pakistan are continuously making efforts to increase the current levels of localization in car variants. Also, they forecast that new players entered in the market with Greenfield status under ADP 2016-21 would follow suit to claim the incentives offered for the purchase of local parts.
5. They understand that car makers in Pakistan are now bracing for a massive slowdown in the next 12 months caused by depreciation in rupee, additional taxes/duties, and high fuel prices all taking a toll on the industry's prospects.
6. The auto industry of Pakistan is about to close a blockbuster year where it is expected to record its highest-ever industry sales of over 360,000 units, nearly 50% higher year-on-year. This number includes passenger cars, light commercial vehicles, jeeps, trucks, and buses.
7. They have concerns that a deteriorating economic situation that has forced Pakistan to knock harder on the doors of the International Monetary Fund (IMF) will likely curb demand amid measures such as a hike in fuel prices, curbs on auto-financing, and high inflation.
8. They said that the overall market would see a minimum 10 to 15% reduction in sales in the coming fiscal year, due to an important issue in the production loss due to difficulties in opening letters of credit amid falling foreign exchange reserves. This would also cause a slowdown in production.
9. They are also worried about the issue of a sudden rise in the key interest rate by the State Bank of Pakistan (SBP).

During the discussion of the local manufacturing skills and capacity, the point was made that product development capacity can be enhanced in the future than a conceptual understanding for localization or deletion plan. However, participants pointed out that it is difficult for the industry to meet the conceptual understanding of 100% localization in the cars segment within five years period of government policy and easier to assess knowledge of the features of a particular product.

Findings of the Discussion with Meti, Japan

1. The METI Japan showed concern about the automotive industry facilitation. They are of the view that the auto sector should be facilitated as a leading industry in Pakistan.
2. They emphasized the importance of the consistency in the automotive policy, integrity and transparency in the government's policy and regulatory affairs for further development of auto industry in Pakistan.
3. The METI officials anticipated that there must be no discrimination between the new investors and existing manufacturers in giving incentives under ADP.

4. assembled cars. Policy document should be designed to support increase volumes and as well as cope with future problems.
5. The government should give attention to the concerns regarding locally manufactured/assembled vehicles promotion, safety, bottlenecks, climate change, and economy. There should be a clear policy vision from the government for tax/tariff structure to protect exiting automakers/assemblers, part suppliers, and their respective distributors.
6. Currently in Pakistan, it may be said that the vehicles assembled locally especially cars have fewer safety features as compared to imported ones, since the government should focus on safety and environmental standards to comply with WP29 regulations.
7. Pakistan should have a consistent long-term industrial policy as an effective technique or tool to foster essential industries and Small Medium Enterprises (SMEs) to realize localization through the improvement of cost competitiveness. Also, there is a need for smooth implementation of industrial policies for stable automotive parts and components development. It is important that these policies be formulated in consultation with stakeholders both domestic as well foreign partners.
8. To bring maturity and efficiency to the government official matters, the relevant authorities/ministries/departments/divisions should support and facilitate exiting OEMs through continuous implementation of policies to curb imports of reconditioned used vehicles smuggled via the borders of Iran and Afghanistan. According to FBR data (2021), the total number of used vehicles imported is 33,318 units, which increased 73% year over year, the same needs to be monitored strictly.
9. The government should establish a new parts development source, concentrate on investment in technology transfer industries and strengthen cooperation with the foreign parent company. Likewise, Pakistan needs to broaden the existing technology agreements with foreign partner companies for mutual benefits. Accordingly, Pakistan should facilitate the automotive industry's participation in international emerging development projects.
10. Keeping in view the current scenario, in parallel to government support, the industry should also be responsible to take on challenges for the future. They should be in pursuit of ambitious, forward-looking joint ventures and collaboration in upcoming projects in the auto sector. In addition, they must pursue new technology projects that can form future automotive development foundations (development projects can form future localization pillars in new upcoming businesses). In sum, Pakistan needs to strengthen the current technology portfolio to form stable indigenization foundations by developing multiple joint ventures and new fields.
11. Besides the above recommendation, Human Resources Management (HRM) should be of the utmost important step to support Pakistan's automotive industry development plan. Currently, the domestic automotive industry in Pakistan is operating with a large number of employees without proper technical skills and knowledge. Going forward, it is crucial to enhance our automotive industry management capabilities and to cultivate experienced management personnel on par with their international partner companies.
12. Another important factor for the growth strategies of the automobile sector should be to cultivate development staff capable of creating new ideas in the decision-making process.
13. Pakistan's local automotive industry can improve its present status if the above problems and issues are addressed properly. The government should also adopt policies as such to promote indigenization as well as high value-added/sophisticated products export. Finally, the policies should be the same for industry, new investment, and also for trade, so that Pakistan may reach at indigenization goal

Conclusion

There are four issues the paper would like to note as conclusion. First, the development of the automotive industry for local manufacturing of vehicles has an effect on domestic market

consumers as a local brand and competition. As presented in this research, the automobile sector of Pakistan is facing many challenges since its beginning in 1949, and it is still in the developing stage at a very slow pace. In Pakistan, personal/passenger cars are widely used, and despite demand and huge market the industry is not capable to introduce made-in-Pakistan or locally manufactured brand cars. Currently, in Pakistan, all available brands are foreign makes and automobile units have assembling facilities, automotive industry is heavily dependent on imports of components, semi-finished, and finished products (i.e., CKD, SKD, and CBU conditions). This study shows the policy loopholes, the auto sector is working on a low level of technology, and the assembling work is not at par with that of the world. In addition, the automotive policy is not properly coordinated in Pakistan's regulatory framework (JICA, 2021). Second, the indigenization of cars will change the market in the future through competition and cost comparison. Local development of cars will definitely replace traditional imported brands in the country. In Pakistan, the traditional imported car brands still dominate. Third, new indigenization patterns in the automotive sector will deepen the differences between used cars imported in CBU form and other channels, so local car producers will have to edge of after-market sales and service in the domestic market. Fourth, because of previously mentioned changes in the policy, the introduction of domestically produced models will emerge the automotive industry. It will be linked to the import substitution of cars and huge market demand: maintenance, repairs, aftermarket etc. This paper extends current level of localization in car segment by research results from interviews with prominent assemblers/manufactures in Pakistan. The methodology for research is concerns only interviews and meetings with particular search criteria, however there are also various other works dealing with the vehicle (cars) development. This research is based on only interviews made without any specific quantitative method or data and without empirical research. Also, the target group is the local car producers, whereas there is no research is available on the indigenization of car segment in Pakistan. Therefore, this research paper may be useful for the both researchers and also practitioners. The researchers can address identified study results in their future research work. The practitioners can also revise the mobility management approaches and the logistics strategies. Research in future should focus on work in the area of indigenous management may be in other vehicles segments like motorcycles (2/3) wheelers, Jeeps, HCVs, Trucks, and Bus etc.– their making, assembly, and further development according to policies followed by developed countries. These and numerous other issues in local development of vehicle areas should be addressed in future research work.

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