

Impact on the International Mobility Sector's GST Analysis

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ABSTRACT: The sector has drawn Foreign Direct Investment (FDI) of \$71 billion (provisional number) in 2022–2023 according to reports. According to statistics supplied by the Department of Industrial Policy and Promotion (DIPP), \$33 billion in foreign direct investment (FDI) was recorded for the current financial year 2023–24 (up until September 2023). This was highlighted in the DPIIT year-end note. Due to a young population and a growing middle class, the two-wheeler category leads the Indian automobile industry with 80% market share, while the passenger vehicle (PV) segment has a 14% market share. In many nations, the automobile industry has driven economic growth. The automobile sector is undergoing rapid change as a result of evolving customer preferences, stricter governmental regulations, and technological advancements. This research investigates methods for promoting growth and resolving issues that the automobile sector in developing nations is facing, both now and in the future. The automotive sector in developing nations has a number of challenges, including inadequate infrastructure, environmental issues, a shortage of trained labour, and market competition.

KEY WORD: Activities in shipping, Strategies for pricing, GDP, GST.

I. INTRODUCTION

India is now pursuing significant changes to its economic and taxes policy. India's economy is growing at an extremely rapid rate, and by 2030, it will rank third in the world. The government is acting in a major way to improve the general economic expansion of the nation. One of the biggest industrial sectors in the world is the automotive industry. Globally, there are more than five hundred million passenger automobiles that are registered. Their population will have quadrupled and will still be growing by 2030. Over the course of its more than a century of existence, the automotive manufacturing industry has seen several drastic shifts. Innovations in technology and industrial techniques, together with shifts in supply and demand, have all caused major disruptions. Cars are an essential part of modern life since they are utilized for both pleasure and transportation. To put it simply, cars are defined as multi-wheeled vehicles that include an engine and are only meant to be used on roads to move people and cargo; they cannot be used on railroads.

Growing incomes, urbanization, and shifting customer tastes have all contributed to the amazing expansion of the automotive sectors in developing nations like China, India, Brazil, and Mexico. A local automobile manufacturing base has been established, job possibilities have been created, and technical breakthroughs have resulted from the growth in car ownership in these nations. But the developing world's car sector also confronts particular difficulties that prevent it from growing sustainably. Understanding and addressing these problems is essential for the long-term survival of the industry as well as the socioeconomic development of these nations.

Low levels of industrialization throughout Africa, especially in Sub-Saharan Africa, are a major barrier to the expansion of the car industry. Investment in this area is required to promote the industry's development in lower-income countries, since the business suffers from a \$16.3 billion trade imbalance as a result. Although this is a beneficial trend, Nigeria's and Kenya's present domestic automobile production may hinder the local expansion of this industry. To facilitate more production and investment, the local market's development into regional markets is a possible answer.

The present indirect tax system in India looks like this:

Central Level Taxes subsumed in GST	State Level Taxes subsumed in GST
Central Excise Duty and additional Excise Duty	Value Added Tax (VAT)
Service Tax	Entertainment Tax (other than the tax levied by the local bodies), Central Sales Tax (levied by the Centre and collected by the States)
Additional Customs Duty commonly known as Countervailing Duty	Entry tax
Special Additional Duty of Customs	Purchase Tax
Central Surcharges and Cess	Central Sales Tax

	Luxury tax
	Taxes on lottery, betting and gambling

AUTOMOBILE INDUSTRY IN INTERNATIONAL:

International automotive sector also has multiple barriers that limit its development and usefulness.

Among these challenges are:

Global automakers are becoming increasingly concerned about environmental sustainability. Have out research on sustainable car industry practices within the framework of underdeveloped nations. They underlined the necessity for emerging nations to embrace greener technology and enact stronger emission regulations in order to lessen the negative effects of the sector on the environment. It is well known that using and producing automobiles has a significant detrimental impact on the environment. It's also commonly acknowledged that, in the near future, there will be more cars in use globally, mostly due to growing demand in emerging countries. For example, the number of automobiles sold in China has increased by around 25% annually over the last 10 years, making China the largest market for cars all around the world. In 2012, there were more cars on the earth than there were people. Due to the rapidly expanding automobile industry, 27% of the global carbon dioxide emissions come from this sector.

Reducing energy use and automobile pollution are now global challenges.

It is imperative to lower emissions and improve fuel economy in order to address these problems. Vehicle emissions are increasing, particularly in large cities where cars are becoming the main cause of air pollution. The problem is exacerbated in developing nations by inadequate public transit systems, loose pollution regulations, and a slow uptake of eco-friendly car technology. Among all major cities in the world, Beijing is said to have some of the worst air quality. According to the Global Burden of Disease (2010) report, outdoor air pollution in China resulted in 1.2 million premature deaths in 2010 or about 40% of all premature deaths globally. The ensuing warning signals multiplied. Efforts to redouble efforts to kick-start China's electric car sector, focus on greener transportation technologies, and enact stricter environmental regulations. Another developing country example is India, where 620,000 premature deaths occurred in 2010 due to the same unacceptable levels of outdoor air pollution.

1.2 LITERATURE REVIEW:

Goods and Services Tax (GST) implemented on 1st July 2017. It is a historical tax reform which changed Indian indirect tax landscape. After implementation of GST there are many research studies were conducted to theoretically as well as empirically analyse the impact of GST on various sectors of the economy. However, because of lack of availability of data there are only few studies empirically examined implications of GST on automobile industry some of them are as follows.

Anand nayar and Inderpal Singh (2017) highlighted the background of indirect taxation system in India. Compared Indian GST system with world economies and discussed about the advantages and challenges of implementing GST on various sectors of the economy. Particularly, regarding impact of GST on automobile industry it is opined that GST will reduce the prices of automobiles, which in turn reduces the on-road price of automobiles approximately by 8%, it will lead to boost in sales and opens up opportunities for expansion in India. They called for more analytical researches to assess the impact of GST on various sectors.

Pooja Jha and F.B. Singh (2017) discussed the pros and cons of having a uniform GST law to Indian automobile Industry and compared the tax rates applicable to automobiles such as two wheelers, small cars, sedans, three wheelers and commercial vehicles and found that under GST most of the vehicles which are below 1500 cc will get cheaper and above 1500cc will become costlier. Opined that GST will improve the efficiency of logistics by reducing the transit time and cost. Suggested that policy changes like GST could have been notified before six months of implementation so that industry could have better prepared. Electronic copy available at: <https://ssrn.com/abstract=3851580>.

Charumathi S. et al., (2019) empirically examined the impact of GST on sales of TATA motors. It is found that after GST implementation the sale of commercial, passenger, and exports of vehicles have increased. There is huge demand for automobiles in India it possesses the threat of entry of foreign automobile companies

to reap the benefits of huge demand for automobiles by Indian people. Therefore, the reforms like GST are very beneficial for auto companies to boost their sales and growth of the company.

J B Togadiya and V Oza. (2020) conducted event study analysis to analyse the impact of GST on share returns of the Indian auto companies. It made an assessment of reaction of share returns of companies before and after announcement of GST rate for automobiles. It is found that there is no statistically significant difference between share price returns of Maruti Suzuki, TATA motors, Bajaj Auto Ltd, Mahindra Ltd. It noticed that in the short period Eicher motor Ltd.'s share prices increased because of they passed on the benefits of reduced prices to consumers. It is opined that GST will increase the revenues to most of the consuming states.

Achyut Telang and Souvik Roy (2016) discussed about how Hyundai is challenging to Indian Maruti Suzuki in the dynamic automobile sector. Opined that the dynamics of auto sector are challenging because of government policies such as changes in excise duty and customs and implementation of GST. Asserts that government initiatives like 'Make in India' and GST will give boost to automobile sales.

Nalla roopa and S. Aruna (2020) analysed the impact of GST on automobile industry. Noticed that the tax rate applicable to various segments of automobiles reduced from pre-GST to post GST therefore, it led to reduced prices for purchasers and there is a certainty in tax to be payable by dealers and automobile manufacturers. Opined that GST will pave the way for development of structure of automobile industry and promote GDP growth and financial development of the nation.

M. Abraham (2018) conducted survey to assess the buying behaviour of automobile consumers in Kottayam district. It is found that most of the consumers had a positive perception and awareness towards decrease in prices of auto mobiles after implementation of GST. It is suggested that more and more tax awareness campaign and training programs will lead to effective implementation of GST.

In this area, China does better than any other rising economy. From a small beginning in 2000, production and sales there have driven it, with previously unheard-of growth rates, into the lead position on the worldwide market. At the moment, China accounts for 30% of the world market. However, other emerging economies have also accelerated. In 2014, India ascended to the sixth spot in the world production rankings, with Brazil and Mexico following closely after. This is a great growth. China manufactured 20 million passenger cars in 2019, whereas India produced 3.6 million, down from less than one million in 2001. Among the other emerging countries are the bulk of African countries, Bangladesh, Indonesia, Colombia, Pakistan, the Philippines, and Vietnam. These are the marketplaces that the automobile sector might be profitable in.

BEING COMPETITIVE IN THE MARKET: Achieving economies of scale is a prerequisite for reducing production costs in the automotive industry. As a result, a lot of developing countries make an effort to protect the industry by limiting imports directly or indirectly and by funding development projects [15]. The likelihood of competition differs by location. Automobile manufacturers and their suppliers in North America gathered in commercial hubs like Detroit due to the sizeable local market for specialized providers. Now that Mexico's production costs are cheap and still relatively near to the ultimate market, North American manufacturers may benefit from this.

Research Objectives

- To analysis the transportation service providers GST aims to replace multiple indirect taxes.
- To analysis the Increase tax revenue collection by broadening the tax base and minimizing tax leakages in the international mobility sector.
- To analysis the economic growth by promoting efficiency, competitiveness, and productivity in the international mobility sector.

1.3 Research Methodology and Data Analysis

The research approach employed in this study to give a comprehensive understanding of the issues and trends in the automotive industry in emerging nations was the examination of case studies. Case Studies: Case studies were carried out to investigate certain situations or settings within the automotive sector in developing nations. These case studies included in-depth examination of certain nations or areas that provide novel solutions to industrial roadblocks or reflect particular issues. Data was gathered for the case studies through document analysis, which offered thorough insights into the particular difficulties the industry encountered in

various settings and the solutions put in place to deal with them. The case studies helped to clarify the issues and current patterns facing the developing world's car sector.

1.4 METHODS FOR COLLECTING INFORMATION:

A mix of primary and secondary data gathering approaches was used to get pertinent information for researching the issues and developments in the developing world's automotive sector. This methodology guarantees all-encompassing data coverage and bolsters the study goals. Industry reports, including those that already exist, market analyses, and publications from reliable sources including government agencies, research companies, and industry groups, will be gathered. These papers included insightful information on industry analysis, sales data, production levels, and market trends. Furthermore, pertinent government publications such as economic statistics, regulations, and policy papers were examined in order to comprehend the policy environment and how it affects the car sector. Scholarly literature, conference proceedings, and peer-reviewed journals were consulted in order to compile case studies, theoretical frameworks, and conclusions from earlier studies into the difficulties and patterns facing the car industry. Ultimately, comprehensive case studies were carried out in certain nations or areas to acquire a thorough grasp of the difficulties and patterns in the automotive sector within particular settings. In order to gather data for case studies, document analysis was required.

Automotive Technology Trends and Expectations: The market for vehicle software will be worth more than \$80 billion in the next seven years. Numerous causes, such as the introduction of autonomous cars and a global requirement for automotive software, are driving this expansion (at a CAGR of about 10%). Although there will be vigorous participation from all over the world in this industry, research indicates that the Asia-Pacific area would dominate.

This article explores the top 11 automotive technology trends and expectations for 2024. It specifically focuses on the rise of electric vehicles (EVs), autonomous and semi-autonomous vehicles, connected vehicles and IoT technologies, the increase in various augmented technologies, 5G connectivity, and automobile-related cyber security.

Autonomous and Semi-Autonomous Vehicles: This will not only improve safety features but also enable these vehicles to handle complex driving scenarios, bringing us closer to fully autonomous transportation solutions. Partnerships between tech companies and automotive manufacturers will likely play a crucial role in this evolution.

The Rise of Electric Vehicles: the adoption of EVs across various market segments, including commercial transportation, where the demand for efficient, eco-friendly options is rapidly growing.

Automotive IoT: Automotive IoT in 2024 will result in benefits like sustainability, traffic management, and enhanced end-user experience for drivers. The evolution of automotive IoT is fueled by 5G connectivity and rapid advancements in edge computing.

Augmented Reality (AR) and Immersive Technologies: AR and other immersive technologies can help drivers stay efficient while staying safe. These AR automotive technologies will have diverse use cases, including military vehicles and industrial machinery.

Automotive Cyber security: automobiles are susceptible to a range of new threats, including cyber-attacks. A major cyber-attack on an enterprise's smart fleet can cause millions of dollars in damages.

Data Privacy Prioritization: As automobiles grow increasingly interconnected and dependent on data, software developers and automakers focus on implementing robust data protection procedures. Such as GDPR to embrace more transparent data handling processes, guaranteeing the protection and responsible use of customers' personal information. Manufacturers are exploring new technologies like block chain to enhance security and provide greater control to users over their data.

Digital Immune System: It involves integrating AI and machine learning into the software development lifecycle, enabling predictive maintenance and adaptive responses to emerging threats.

AI-Empowered Applications: This trend signifies the shift from traditional automotive designs to smarter, AI-integrated systems that elevate both performance and user engagement. Beyond enhancing vehicle functionality, AI-empowered applications are also transforming customer service and engagement in the automotive sector. AI-driven chatbots and virtual assistants are providing customers with real-time assistance and information, improving the overall customer experience.

AI-Augmented Software Development: The impact of AI-augmented software development extends to the customization and scalability of automotive software. AI algorithms can analyse vast amounts of data to identify patterns and insights, enabling developers to create more personalized and adaptive software solutions.

Inner Source in Software Engineering: It encourages collaboration, code sharing, and transparency within an organization, leading to more innovative and higher-quality software solutions. Inner Source allows Automotive Tech Teams to leverage collective knowledge and expertise, breaking down barriers and fostering a more integrated approach to software development.

EV Charging Infrastructure Expansion: This includes the development of smart grids capable of managing the demand and distribution of electricity more efficiently, and the incorporation of renewable energy sources to power charging stations.

II. CONCLUSION

The automotive sector in developing nations suffers a number of difficulties, such as inadequate infrastructure, environmental issues, a shortage of trained labour, market competition, and accessibility problems. These difficulties provide obstacles to the industry's expansion and long-term viability. But there are also exciting new developments and trends that have the potential to completely change the market, such as shared mobility services, automated and linked cars, electric cars, improved production methods, and sustainable materials.

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