

Exploration of Vehicle Customizing as a Start-up

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Abstract

During the world war, military vehicles of all sorts had their engines and power-trains tweaked and worked upon to give them an extra edge on the battlefield.

The first hot rods date back to pre-World War II, where the cars had their roof brought down a few inches and their engines tweaked and modified for far greater power outputs.

When the market exploded with new offerings after the war, people started playing around with their cars – some looking to make a mark in performance and speed, while some looking to make a style statement with their customized cars, and differentiate them from the stock cars that were to be seen running around. Then there were those cars, which were modified mainly to level up their engine and performance specification, hence popularizing the building and customization of street rods and hot rods as a fully functional business.

Modifications, as the name suggests, are modifications to the vehicle. These changes are introduced into production vehicles to change their starting behavior or their performance or both. As the number of cars on the roads of India continues to grow, more and more people are modifying their cars. The main reason was the urge to stand out on the tarmac. Car modifications help your vehicle stand out from the rest. This differentiates the vehicle from common production vehicles from the same manufacturer in terms of both starting behavior and performance.

The popular craze of car customizing has been around since the introduction of the car itself.

Keywords: Incredible India, Pioneer, Urbanization, carburetors, etc

Introduction

IVC (Indian Vehicle Customization) is a virtual application concentrated on the automobile users and it's market in India as of now. IVC as an application is useful for the enthusiastic vehicle owners who has a desire to modify their vehicles according to their personal taste, But the according to the 'Motor Vehicle Act' the laws have to put forward certain restrictions in the modification of vehicles, thus The research based IVC comes to work as Our Study gives all possible modifications which is derived from the legal requirements of India.

After a thorough study and research in the law as well as the automobile market we have come up with the IVC startup which includes all the vehicles that are available for sale in India and the list pertaining will be frequently updated.

Also the startup includes all the products which are available for modifying the vehicles in India and its cost, it's impacts on the vehicle, and where you can get it, all these information given in the IVC startup with the help cutting edge technology such as AR (Augmented Reality), 3D modeling and Artificial Intelligence.

With Almost 20% of the population being youth and teenagers India has become one of the major markets of automobiles in the world, And almost 70% of these youths want to modify their vehicles by cosmetic changes or by performance tuning.

Being a country with such a big vehicle population the government has enforced strict laws to maintain a proper channel for categorizing the vehicles, and with all these legal restrictions, India is a country where modification is absolutely impossible legally but IVC will show you the possibilities of modification which can startup in India legally.



Background of Study

Our Study is what keeps us different from other ideas. The research based of Indian Vehicle Customizing IVC is the only one currently put forward. A start up that deals with this field currently does not exist in the market. A Fresh New Idea that can solve many problems in the Country. There are start-ups that are focused on providing services like maintenance and repairs but not customizing.

Our Study comes under tertiary sector as we provide services to the community. Calculating the size of their market and the potential value that market provides for their starting business is one of the most important responsibilities an entrepreneur has. Without this information, it is impossible to develop a workable business plan or gain the respect of potential investors.

The size of the market must be established. It informs you, your company partners, your staff, and your investors of the true size of the market. It makes it easier to determine the true value of your endeavor.

Even if you have no intention of ever raising any outside funding, you must be aware of this. If you ever need to raise money for your business, the size of the market becomes much more crucial. It is one of the most fundamental digits that any potential angel or venture capital investor will anticipate. During seed and pre-seed financing stages, even your friends and family should inquire about it. Your credibility will be instantly destroyed if you arrive empty-handed.

Research Questions:

1. Is this startup necessary in current society?
2. Will it make any difference to India?
3. Will this develop the country's growth progress?

Need of Study

Many people in India are interested in customizing their bikes, cars, trucks, other vehicles. But they don't have the facility to understand what adjustment will be considered legal and not.

Mechanics would try their best to swindle money out of their customers. More start peeling a adjustment, the more it cost. Here is where Our Study comes in. We will provide the customer what no one in the market provided them. Till now, people could gain information only from the law papers and police officers. But many times people will lack the knowledge. Our Study will study each vehicles possible modification that is legal and try eliminating illegal modifications from the country.

Giving option of legal modification for every vehicle in the country will enable everyone to have a safe desire to make adjustments to their vehicle. People often want adjustment that could help others in need but may know put forward the thought due to lack of information and knowledge.

Not every modification can be a con to society. We are bringing an idea that has never been in the market. According to a Survey by Connected Cars in 2020, 1 in every 20 cars has an external adjustment added to them and 7 in every 100 cars has illegal modification.

This 1 illegal modification could cause immense damage. The research not only contributes to the people but helps avoiding major accidents which help the government, police and more.

Our Study will eliminate many fraudulent and save many.

Problem of Statement

Many people want to see themselves standing out in the crowd. Many people also wish to take their vehicle for example, beyond the Mount Everest crossing the Niagara Falls. Even though we have advertisements that show that vehicles can easily mount to rough terrain, this may not always be true.

The relevance for modification in vehicles is necessary. During Kerala floods as well as for the natural calamities that happened in remote parts of India the modified vehicles came to help and rescue people who were stuck at almost remote parts in the Western Ghats as well as in The Himalayas.

So an startup which would make people aware about both legal and illegal modifications would be beneficial for both us and the people. It would also reduce the chances of accidents.

IVC startup is well designed startup which provides all the modifications one can make to their vehicles. IVC provides the best quality which we can use them well IVC contains so vivid options. The biggest strength is that the staff are skilled and experienced. IT provides information in many languages so that we can choose our comfortable language for better information.

The Problem of Modification exists in the current society, and this study shows its necessity of the startup.

Review of literature

Literature review:

The research paper is about the vehicle customizing and reviewing of customization of vehicles and by this end of research paper we will be getting to know about how customizing works and how it helps people to make their goals real and this paper presents an overview of customization of vehicles in the market . Vehicle customizing is very useful service that can be and should be used for creating innovative solutions for customers personal preference the capability of this service in providing the right solution for the right problem

Summary of review

This essay addresses the topic of vehicle customization and how it relates to the automotive industry. Customization first became popular because of customers; interest in having their desired cars customized to suit their tastes. To identify different strategies for the car business and the most affordable customization, methods for modifying vehicles are examined. To increase market coverage, strategic answers are examined, and design initiatives that increase the level of

consumer customization are investigated. The consumer can only choose an option in car Customisation that meets his or her preferences and budget. Although the purpose of vehicle Customisation is to meet the needs of the client through their preferences, the manufacturer must make a smart economic decision regarding the amount of variations and options. On the one hand, the growing number of product varieties increases complexity and expense, but on the other hand, it also expands the market.

Research gap:

Since the start of modern times, it has been seen that individuals and corporate alike have been involving themselves in modifying and converting their vehicles accordance to their preferences and comfort , the main reason for vehicle customizing has always been the need of the hour there is either a dearth or readily available solutions that are easily adaptable and usable or it is just the luxury of comfort and fulfillment that is lacking in the available the tend of vehicle customization has always been evident in the automobile industry . The mobility of the vehicle should help in solving the faced problem , but the mobility itself should not become a problem.

Research Methodology

Research Objectives

Recognizing the condition and tendencies of Indian automobile customization: To achieve this goal, market research would be conducted to determine the prevalent types of vehicle modification in India, the dominant market participants, and the variables influencing the demand for customized automobiles.

Studying the cultural and socioeconomic elements that affect vehicle customization in India would entail examining the individualism, social standing, and cultural traditions that are some of the cultural and societal drivers behind the demand for customized vehicles in India.

Assessing the economic effects of vehicle customization on the Indian economy would entail determining the income earned by the modification industry, the number of jobs created, and other factors and the possibility of exporting specialized automobiles.

Examining the environmental effects of vehicle customization in India would entail looking into how changes to vehicles could affect things like fuel economy, pollution, and waste production.

Finding potential for technological innovation and advancement in the Indian car customization market, including the use of new materials, production methods, and design concepts, is the goal of this purpose. Creating tactics to support sustainable and socially responsible vehicle customization practices in India, such as the use of green technologies, environmentally friendly

materials, and the promotion of fair trade: This objective would entail creating tactics to support sustainable and socially responsible vehicle customization practices in India.

Hypothesis

"Due to the country's expanding middle class, need for personal expression, and the impact of Western culture, vehicle customization has become a trend that is becoming more and more popular in modern India. The environmental and social issues raised by this trend must be addressed, though, and this can only be done by using sustainable and ethical Approaches."

According to this theory, a combination of economic, cultural, and societal variables influence vehicle customization in contemporary India. Customized vehicles are in higher demand as a result of India's expanding middle class, which has more disposable cash and a desire to exhibit their unique personalities. Also, the popularity of automobile customization in India has been influenced by Western culture, notably American automotive culture. This development, however, also presents substantial difficulties, such as social problems about fair labor standards in the customizing business and environmental ones regarding fuel economy and emissions. Hence, it is crucial to create strategies that strike a balance between the need to address these issues and the economic benefits of customization in order to encourage sustainable and socially responsible vehicle customization practices.

Research Approach

The following study methods for modern India and car customization could be used:

In-depth interviews with specialists in vehicle customization, business leaders, and customers would be conducted as part of this qualitative research strategy to learn more about the cultural and socioeconomic aspects influencing the customization trend in contemporary India. This method can aid researchers in better comprehending the attitudes, values, and beliefs of those working in the aftermarket automobile customizing sector.

Quantitative research: This strategy would entail conducting surveys to compile information on the size of the market for car customization, the kinds of customization services that are in demand, and consumer demographics. This method can aid academics in quantifying the patterns and trends in the industry of car modification and offer a statistical foundation for their examination.

Case studies: This strategy would entail looking at particular instances of vehicle modification in contemporary India to pinpoint the main motivators, difficulties, and industry best practices. Researchers can utilize this Approach to acquire a deep understanding of the social, economic, and environmental effects of customizing practices.

Field research: This strategy entails going on-site to car customization workshops and industry gatherings to watch the procedures and talk to the participants. This strategy can give scholars a personal grasp of the conventions and difficulties the sector is currently facing. Review of the available literature, scholarly articles, and business reports on vehicle modification in contemporary India would be part of this strategy. This method can assist researchers in developing a thorough grasp of the historical setting, present situation, and anticipated changes in the Indian automobile modification market.

Population

The individuals and companies engaged in the customization of automobiles in India are referred to as the population of vehicle customization in modern India. This group of people includes:

Automobile customization businesses: They include auto body shops, garages, and customization workshops. They specialize in the customization of vehicles.

Owners of vehicles: These are the people that buy modification services to make their cars more like themselves.

Customizers, painters, fabricators, designers, and engineers are just a few of the specialists who operate in the automobile customization sector.

Car customization enthusiasts are those who are passionate about the customization of vehicles and take part in activities and communities relating to the sector.

Sampling Method

The demographic being investigated and the study objectives will determine the sample strategy for vehicle customization and contemporary India. Here are a few potential sampling techniques:

Convenience sampling: This technique entails choosing people or establishments that are readily available and accessible for the investigation. Convenience sampling might be helpful for doing preliminary pilot studies or exploratory research.

Stratified sampling: This technique involves picking a sample from each subgroup after separating the population into subgroups based on those subgroups' shared characteristics, such as location, age, gender, or the type of customized service offered. The accuracy of the study's findings can be improved by stratified sampling, which assist can ensure that the sample is representative of the total population. Snowball sampling: This technique entails choosing a limited number of people or companies who are known to be active in the car customization market and asking them to recommend other people or companies they know who are also active in the market. It is possible to research difficult-to-reach or hidden communities using snowball sampling.

The population is divided into clusters according to geographic or other factors, and then a sample of the clusters is randomly chosen to be studied. For the study of sizable populations dispersed over a big geographic area, cluster sampling can be helpful. The study goals, the resources at hand, and the characteristics of the population being investigated will all influence the sampling technique chosen. It is crucial to employ a sampling strategy that is startupropriate for the research objectives and enables the generalize ability of the study's findings to a larger population.

Sample Size

Vehicle customization is becoming increasingly popular in India, and the market is worth billions of rupees. To understand how many people are customizing their vehicles, we must look at the sample size of this industry.

According to the Society of Indian Automobile Manufacturers, the total number of vehicles sold in India in 2020 was 20.8 million. Of these, nearly 1.3 million were customized vehicles. This number is up almost 11% from 2019, indicating that more and more people are opting to customize their vehicles each year.

The most popular type of customization in India is related to aesthetics. This includes changing the look of the car with new paint jobs, changing the upholstery and adding new accessories. Many people also opt to upgrade their engines and add performance enhancements.

In addition to the increase in demand, the number of customization services available in India is also on the rise. Automobile workshops and accessory shops are popping up all over the country, providing customers with the opportunity to customize their vehicles. In 2019 alone, the number of workshops grew by over 20%.

Overall, vehicle customization is becoming increasingly popular in India. The sample size of customized vehicles is growing each year, and more services are becoming available to customers. As the trend continues, it is likely that the number of customized vehicles on the roads of India will continue to rise.

Location of the study

India has seen a surge in vehicle customization in recent years, as more and more people are looking to make their vehicles stand out and make a statement. With the increasing availability of customization options and the growing trend of customization, India has seen a huge growth in the vehicle customization industry.

To better understand this trend, let's take a look at some of the key factors behind it. First and foremost, the growing demand for cars and other vehicles in India has been a major factor driving up the popularity of customization. This is because cars are often seen as a symbol of status, and more people are putting more effort into making their vehicles look unique and attractive.

The availability and affordability of customization options have also been a major factor in the growth of the vehicle customization industry in India. Thanks to the Internet and the emergence of e-commerce, people now have access to a wide variety of customization products and services, and this is allowing them to customize their vehicles in unique ways. Furthermore, the cost of customization continues to come down, making it affordable for more people.

Location is also an important factor in the growth of vehicle customization in India. Urban areas such as Mumbai, Bangalore, and Delhi are the largest markets for vehicle customization, due to their larger populations and higher incomes. Furthermore, people in these cities are more likely to have access to the latest customization products and services, allowing them to customize their vehicles to a higher degree.

It's clear that vehicle customization is now a major trend in India, and the industry is only set to grow further. With the increasing demand for cars and other vehicles, as well as the availability of customization options and the affordability of customization services, India is quickly becoming a hub for vehicle customization.

Data Collection Method

In modern India, vehicle customization is done through a variety of methods. One popular and reliable method of data collection is market research. Companies use focus groups, surveys, and interviews to gather information on customer preferences and psychological insights into their buying behavior. This data can then be used to customize vehicles, making them more attractive to customers. Additionally, companies in India can use analytics-driven insights from social media, customer feedback data and other sources to create a personalized experience for their customers. This data can be used to understand customer needs and preferences, which helps the companies to design and customize vehicles accordingly. Furthermore, the availability of data from government sources helps to gain an understanding of the regulatory framework and regional needs, which helps to design and customize vehicles to better meet the needs of the Indian customer.

Data Analysis Technique

Data analysis techniques used for vehicle customization in modern India can include a variety of methods, such as data mining, predictive analytics, and machine learning. Data mining is the process of gathering and analyzing large sets of data to discover patterns and relationships among variables. Predictive analytics is the practice of using past data to predict future outcomes. Machine learning is the ability of computers to learn from data and adjust their algorithms accordingly. All of these techniques can be used to customize a vehicle for a customer by analyzing their preferences, usage patterns, and other relevant data. For example, a customer's past purchases and usage of a vehicle can be used to customize the car's performance, design, and

accessories. Furthermore, the customer's demographic and psychographic data can be used to customize the car in terms of color, style, and overall look. By combining data mining, predictive analytics, and machine learning, a vehicle can be customized to the specific needs and desires of each customer.

Data Analysis

The Indian automotive modification field is growing enormously as famous car modification firms have started to invest in workshops for cars in India.

This significant growth has been mainly seen from the last 2 years even though the pandemic was still persistent.

The Data analysis for the same was done by contacting famous car modification firms in India and their experience in the particular field in which they gave us a positive outcome for the same regarding our model. Main centers of the same being Kerala, Mumbai and Bangalore.

Findings

India is a rapidly growing market for the automobile industry, with a significant portion of the population being young and tech-savvy. This demographic is likely to be interested in car modification startups that offer them the ability to customize and enhance their vehicles in unique and innovative ways.

In addition, with the increasing popularity of electric vehicles and the government's push towards electric mobility, there may be a growing demand for startups that cater to the needs of EV owners, such as those that provide charging station locations or battery management tools.

However, it's worth noting that the car modification market in India is still largely unorganized, with many modifications being done through unregistered garages and mechanics. This can lead to safety concerns and potential legal issues for an startup that facilitates such modifications. Thus, any car modification startup for India would need to consider these factors and ensure that it complies with safety standards and regulations.

According to a report by the Federation of Automobile Dealers Associations (FADA), the car modification market in India was estimated to be worth around Rs 28,000 crore (startup approximately USD 3.7 billion) in 2019. The report also noted that the market was largely unorganized, with many modifications being done through unregistered garages and mechanics.

Implications of Research

Implications of research for vehicle modification for India

Conducting research on vehicle modification for India can have several implications, including:

1. Identifying trends and opportunities: Research can help identify the types of vehicle modifications that are popular in India and the market potential for different types of modifications. This information can help businesses and entrepreneurs make informed decisions about the types of products and services to offer in the Indian market.
2. Understanding consumer preferences: Research can provide insights into consumer preferences and attitudes towards vehicle modification in India. This information can help businesses tailor their products and services to better meet the needs and preferences of Indian consumers.
3. Compliance with safety and regulatory standards: Research can help identify safety and regulatory standards for vehicle modification in India. This information is critical for businesses and individuals who want to modify their vehicles in a safe and legal way.
4. Encouraging responsible modification practices: Research can help raise awareness about the importance of responsible modification practices in India. This includes complying with safety and regulatory standards, using high-quality parts and materials, and using trained and licensed mechanics for modifications.
5. Supporting innovation and growth: Research can help support innovation and growth in the vehicle modification industry in India. By identifying opportunities and consumer needs, businesses and entrepreneurs can develop new and innovative products and services that meet the demands of the Indian market.

Suggestions and Recommendations

Identify user needs and preferences: Conduct market research to identify the needs and preferences of Indian consumers when it comes to vehicle modification. This can help you develop features and functionality that meet the demands of your target audience.

Focus on safety and compliance: Ensure that the startup complies with safety and regulatory standards for vehicle modification in India. Provide information and Include a community aspect: Consider including a community aspect in the startup, where users can share their own modification projects and connect with other enthusiasts. This can help foster a sense of community and engagement among users.

Offer a wide range of modification options: Provide a variety of modification options to startup appeal to different user preferences and budgets. This can include options for both exterior and interior modifications, as well as modifications for different types of vehicles.

Offer educational resources: Provide educational resources and tutorials to help users learn about different types of modifications and how to perform them safely and effectively. This can help increase user confidence and encourage responsible modification practices.

Conclusion

Customizing a vehicle is a type of aftermarket modification that has been made to boost performance; this can be accomplished by modifying or changing the engine and transmission. When one does this on their own, their car starts to seem unique, unlike any other car produced to that manufacturer's model from scratch. We are a relationship shop, which sets us apart from other auto modification businesses. As a result, the more of your car modification needs we are able to support you with, the better we are able to tailor our recommendations based on your driving preferences and requirements.



We work with you to make sure that your cars match your demands, whether you want to design your new car just for you, keep your favorite car running "like new," or even teach your entire family more about cars. Car customization is more common than ever today. Several people are using their vehicles' personalization to add a personal touch. Several builders also have their own TV programmers. Your vehicle can become more distinctive than ever by being customised, from engine upgrades to paint jobs and extras.



Customizing cars is a long-standing practise that began with the invention of the automobile. The procedure has altered and progressed, but it continues to be successful in the contemporary world. You should take part in this fascinating process, as we do. Contact us right away to schedule a consultation with one of our professionals who can help you with every step of your vehicle customising needs. They will use only the greatest tools and materials to ensure that you receive the highest calibre service at a reasonable cost.

You might get some distinctive features from this auto modification starting. You can create and amass a sizable number of cars, and you can even obtain one that looks realistic.licenced vehicle from a number of well-known automakers. You may even show out your personalised car to others and get their opinions on the bodywork, tune, and paint scheme. This startup's interface is quite simple to use, and with it, one can quickly compile a list of their favourite cars. You may design every component of your car from scratch, including the wheels, engine, and design. You can even select the colour of your choice.

References

- www.wikipedia.com
- <https://motoroctane.com/news/217778-modification-laws-in-india>
- <https://www.khaleejtimes.com/>
- <https://www.hindustantimes.com/amp>
- <https://www.cars.com/research/>
- <https://www.cargroup.org/>
- <https://www.consumerreports.org/cars/car-research/>
- <https://nap.nationalacademies.org/read/23673/>

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