

Rubber Industry

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Preface

This project has been prepared in partial fulfilment of the requirement for the Subject: “Comprehensive Project” of the program M.B.A. (Sem III) in the academic year 2022-2023. For preparing the project, we have gone through various materials like websites, books, business journals, and industry surveys, analyses of the data to blend the learning and knowledge acquired during our study. The same is presented in the project report.

The rationale behind the project is to study the basics of the Rubber Industry, the History and development of the Indian Rubber Industry, the Major players in the industry, the Contribution of the Rubber Industry to the growth of the economy, and also to study its functional areas like Marketing & Sales, Finance and Human Resources Management of the Industry. An effort has been made to summarize the content in an easy and understandable language, at the same time we have kept the content brief as well.

Date:

Place:

Declaration

We are students of the Postgraduate Department of Business Management, Sardar Patel University Vallabh Vidyanagar, hereby declare that the Project on “Rubber Industry” has been carried out by us is own work and that to the best of our knowledge and belief, it contains no material previously published or written by another person nor accepted for the award of a degree or diploma of any university or institute of higher learning, except due acknowledgment been made in the text.

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Acknowledgment

The MBA curriculum is structured in such a way that a student can gain maximum knowledge and practical experience in the business world in the shortest amount of time. Business schools today have altered their teaching methods to include both theoretical and practical knowledge, so that graduates may maximize their potential and outperform in any work handed to them. As a result, we would like to show our gratitude to our department for offering us such a chance to work and study in a specific field, as well as to our director for providing us with an ample amount of time to work on this project. Second, we would like to thank Professor Dr.Vilas Kulkarni for our subject guide, for all of his assistance. This would not have been feasible without your oversight. We learned a lot from this assignment, which will be useful when entering the corporate sector. We expect that the experience obtained will be useful as we practice management in the industry.

Date:

Place:

Chapter – 1: Introduction

1.1 History

The indigenous cultures of Mesoamerica were the first to use rubber. The Olmec culture is the first archaeological evidence of the use of natural latex from the Hevea tree when rubber was first used to make balls for the Mesoamerican ballgame. Rubber was later used by the Maya and Aztec cultures; in addition to making balls, the Aztecs used rubber to make containers and to waterproof textiles by impregnating them with latex sap.

In 1736, Charles Marie de La Condamine is credited with introducing samples of rubber to France's Académie Royale des Sciences. He presented to the Académie in 1751 a paper by François Fresneau (published in 1755) that described many of the properties of rubber. This is regarded as the first scientific paper on rubber. In England, Joseph Priestley discovered in 1770 that a piece of the material was excellent for rubbing off pencil marks on paper, hence the name "rubber." It slowly made its way around England. François Fresneau discovered turpentine as a rubber solvent in 1764. In 1779, Giovanni Fabbroni was credited with discovering naphtha as a rubber solvent. Although Mesoamericans used stabilized rubber for balls and other objects as early as 1600 BC, Charles Goodyear redeveloped vulcanization in 1839.

In 19th Century, for most of time South America remained the primary source of latex rubber. The rubber trade was heavily controlled by commercial interests, but no law specifically prohibited the export of seeds or plants. In 1876, Henry Wickham smuggled 70,000 Amazon gum tree seeds out of Brazil and shipped them to Kew Gardens, England. Only 2,400 of them germinated. The seedlings were then shipped to India, British Ceylon (Sri Lanka), Dutch East Indies (Indonesia), Singapore, and British Malaya. Malaya (now Peninsula Malaysia) later became the largest rubber producer.

At the beginning of the 20th century, the Congo Free State in Africa was also an important source of natural rubber latex, which was mainly collected through forced labour. King Leopold II's colonial state brutally imposed production quotas. Tactics used to enforce rubber quotas included removing victims' hands to show they had been killed. Soldiers often returned from raids with baskets full of severed hands. Resisting villages were destroyed to encourage better local compliance.

In India, British planters introduced commercial cultivation, although experimental efforts to grow rubber on a commercial scale began as early as 1873 at the Calcutta Botanical Gardens. The first commercial Hevea plantations were established in 1902 at Thattekadu in Kerala. In later years the plantation was extended to Karnataka, Tamil Nadu and Andaman and Nicobar Islands of India. India is currently the world's third-largest producer and fourth-largest consumer of rubber.

In Singapore and Malaya, Sir Henry Nicholas Ridley, who served as the first Scientific Director of the Singapore Botanic Gardens from 1888, vigorously promoted commercial production. By 1911, he distributed rubber seeds to many planters and developed the first technique to extract latex from trees without seriously damaging the tree. Due to his

passionate promotion of this plant, he is popularly remembered with the nickname "Mad Ridley".

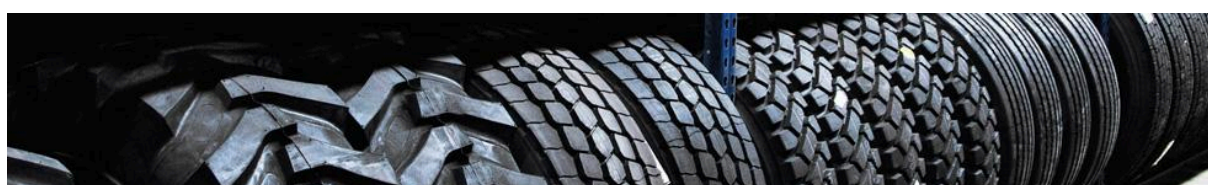
Before World War II, key uses included door and window profiles, hoses, belts, gaskets, mats, flooring, and shock absorbers (vibration mounts) for the automotive industry. In particular, the use of rubber in car tires (initially massive instead of tires) consumed considerable amounts of rubber. Gloves (medical, domestic, and industrial) and toy balloons have been heavy consumers of rubber, although the type of rubber used is concentrated latex. A significant amount of gum was used as adhesives in many manufacturing industries and products, although the two most notable were the paper and carpet industries. The gum was commonly used to make rubber bands and erasers.

Rubber made as a fiber, sometimes referred to as "elastic", has been of significant value to the textile industry due to its excellent stretch and recovery properties. For these purposes, the rubber fiber produced was made as an extruded round fiber or as rectangular fibers cut into strips of the extruded sheet. Due to the low color acceptance, haptics and optics, the rubber fiber was spun with yarn from another fiber or directly woven into the fabric with other yarns. Elastic threads were used in basic clothing. Although rubber is still used in the manufacture of textiles, its low toughness limits its use in lightweight garments,



as latex is not resistant to oxidizing agents, sunlight, oil, and sweat. The textile industry has chosen neoprene (chloroprene polymer), a type of synthetic rubber, due to its superiority over rubber, and another more commonly used elastomeric fiber, spandex (also known as elastane). Both in terms of resistance and durability.

1.2 Introduction



1.2.1 Indian Rubber Industry

The rubber industry has established itself as an important industry in India. Within a few years, India is likely to become the world's second-largest player in this sector. India occupies a prominent position in the production of natural rubber. It is mostly produced in Kerala, but its production is growing in Northeast India. Both natural rubber and synthetic rubber play a complementary role in providing the final rubber products made from them with the desired end properties. Synthetic rubber accounts for around 30% of total rubber consumption in India, while the global average is 65%. Therefore, the government encourages the establishment and development of synthetic rubber factories in India. The Indian domestic market can consume all domestic production of natural rubber.

India is the fourth largest consumer of rubber in the world, along with China, the US, and Japan. The per capita consumption of rubber in India is currently 1.2 kilograms compared to a world average of 3.2 kilograms. China is 8 kilograms (2014) and industrialized countries are 13 kilograms. The growth of natural rubber consumption in India is 3-4% year on year and that of synthetic rubber is 15-20% in the last 5 years. This reflects the potential that exists for industrial growth in India, which could be met by imports along with local manufacturing.

The members of India's rubber industry manufacture more than 35,000 rubber products for various purposes and applications. Value-added rubber products, including various types of natural rubber, synthetic rubber, and reclaimed rubber, include tires and tubes, auto rubber parts, belts and belts, cables, cradles and aprons, canvas and rubber shoes, fenders, gaskets, sanitary and pharmaceutical products. Rubber Items, Mats, Sporting Goods, Castors, etc. The sub-sectors of each have a wide variety of rubber products. In fact, in India, the car tires and rubber parts segments are driving the growth of the automotive sector.

India is the fourth-largest market for the largest commercial vehicle and the second largest market for globally two-wheelers and is poised to become a global center for automobiles. The government's new impetus to road infrastructure development has resulted in a 33 percent increase in bus production in two years.

Government has allowed 100% Foreign Direct Investment (FDI) in the Indian rubber products industry. With the saturation of rubber consumption in Western countries and the shift of rubber consumption to Asia-Pacific, the focus of this decade of development will be India. India's rubber products are exported to around 190 countries around the world.

- **Emerging rubber sector globally- India's potential contribution**

Industrial Rubber Products: Global demand is expected to be led by growth in key OEM markets, particularly automotive, and after-market demand from strong emerging developing countries. The global market is expected to grow 5.8% per year to US\$140 billion in 2016.

Mechanical Rubber Products: Including products such as body gaskets and controllers and wiper blades are expected to remain by far the largest product segment through 2016. These products are commonly used in automobiles and the growth in this segment can largely be attributed to the optimistic outlook for global automobile production.

Rubber belts and hoses will see the fastest increases of any product segment during this period, driven by the improvement in expected prices related to mechanic's merchandise.

Rubber Gloves: Global demand has increased due to recent workplace safety regulations. Demand is expected to increase by 10% per year.

- **Rubber Cluster and the Howrah Rubber Park**

West Bengal was a pioneer in the Indian rubber industry. The current industrial policy of the West Bengal government fully supports the rubber industry. The mega rubber industry cluster is emerging in Howrah. The project will be developed under a public-private partnership (PPP).

The Union Ministry of Trade and Industry, WBIDC, and the Government of West Bengal are together with stakeholders of these project 206 components of the Indian rubber industry on the other hand.

A rubber park will be developed on 110 acres of land under the cluster in Sanjhrail with a project cost of Rs 50 billion (US\$7 million). The park is expected to attract investment worth Rs 1,500 crore (USD 200 million). The development of the park infrastructure is in full swing. It is proposed to have, in addition to individually developed facilities, facilities such as Business Center, IT Center, Drawing and Design Center, state-of-the-art test laboratories Logistics and sales facilities, and manufacturing units.

A Special Purpose Vehicle (SPV) was established Name of South Asia Rubber & Polymers Park (SARPOL) to set up, maintain and manage the park. A memorandum of understanding has been signed between IRMRA, the Government of India, and SARPOL whereby IRMRA will set up a joint testing laboratory center on behalf of IRMRA-East. It will also design and develop an IT center, a training center, and a product design, and development center. In addition to providing facilities for setting up small and medium-sized production units, the park will also do so Space for existing small rubber items. Production units are located in the crowded cities of Kolkata and Howrah.

- **Rubber Producing Areas in India**

Rubber-producing regions in India are divided into two zones – traditional and non-traditional.

Table 1.1 State-wise production of NR up to 2018-19 is given below:

State	2015-16	2016-17	2017-18 (P)	2018-19 (P)
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Kerala	438630	540400	540775	490460
Tamil Nadu	19495	21140	21110	21500
<i>Traditional Total</i>	<i>458125</i>	<i>561540</i>	<i>561885</i>	<i>511960</i>
Tripura	44245	50985	50500	53050
Assam	14560	19970	23300	24300
Meghalaya	7360	8950	9050	9100
Nagaland	3020	4320	4820	4930
Manipur	1660	2090	1790	1850
Mizoram	595	742	742	750
Arunachal Pradesh	360	478	428	450
<i>North East Total</i>	<i>71800</i>	<i>87535</i>	<i>90630</i>	<i>94430</i>
Karnataka	29400	38800	38300	38200
A&N Islands	240	240	240	275
Goa	640	645	575	625
Maharashtra	925	1185	1185	1250
Odisha	315	400	450	480
West Bengal	325	335	335	380
Andhra Pradesh	230	320	400	400
<i>Others Total</i>	<i>32075</i>	<i>41925</i>	<i>41485</i>	<i>41610</i>
<i>Non-Traditional Total</i>	<i>103875</i>	<i>129460</i>	<i>132115</i>	<i>136040</i>
Grand Total	562000	691000	694000	648000

Source: Rubber Board of India



Kerala's rubber industry is a leading producer contributing almost 90% of the total natural rubber production of India. Kerala and Tamil Nadu together a cover total of 1 86% of growing area of natural rubber.

- **India Rubber Industry Overview**

There are about 6,000 units, including 30 large, 300 medium, and about 5,600 small and small sector units. These units manufacture more than 35,000 rubber products and employ 400,000 people, including 22,000 technically skilled workers, which contribute Rs. 40 billion to the treasury through taxes, dues, and other levies. The Indian rubber industry plays an important role in the Indian national economy. The sector of rubber plantations in India produces more than 630,000 tons of natural rubber and is forecast to produce more than one million tonnes shortly. This has contributed to the rapid and radical growth of the rubber industry in India. These growth prospects are being supported by a boom in the auto industry, higher living standards for people and rapid industrialization in general. India's per capita consumption of rubber is only 800 grams compared to 12 to 14 kilos in Japan, the US and Europe. When it comes to the consumption of rubber products, India is still a long way from reaching saturation level. This is another factor that promises tremendous growth prospects for the industry in the coming years.

- **Natural Rubber Manufacturing Process**

The manufacturing process of natural rubber begins with collecting latex from rubber trees. Collecting latex from rubber trees begins with notching or cutting the tree bark. The latex flows into a cup attached to the underside of the cut in the tree. The latex material from many trees is collected in large tanks.

The most common method of extracting rubber from latex uses coagulation, a process in which polyisoprene is coagulated or thickened into a mass. This process is accomplished by adding an acid such as formic acid to the latex. The coagulation process takes about 12 hours.

Water is removed from the rubber coagulum by a series of rollers. The resulting thin leaves, about 1/8 inches thick, are dried in smokehouses on wooden racks. The drying process usually takes several days. The resulting dark brown gum, now referred to as ribbed smoked sheet, is folded into bales for shipment to the processor. However, not all gum is smoked. Gum that has been hot air dried rather than smoked is referred to as an airdry sheet. This process results in better rubber quality. A higher quality rubber, referred to as light crepe rubber, requires two coagulation steps followed by air drying.

Chapter – 2:

2.1 Industry of Rubber

The Indian rubber sector employs about 6000 people, with over 5600 small and medium-sized firms, 30 large-scale businesses, and 300 middle-scale businesses. These companies employ 400 thousand people, including 22000 technically qualified support workers, produce over 35 000 rubber goods, and pay Rs. 40 billion to the government coffers in taxes, customs, and other levies.

The Indian rubber plantation sector produces approximately 630 thousand tonnes of natural rubber each year, with an output of more than one million tonnes expected soon, making the Indian Rubber Industry critical to the Indian economy.

Capitalization of the Market

India produces between 6 and 7 lakh tonnes of rubber each year, worth around Rs. 3000 crores. Ribbed smoked sheets (RSS) account for 70% of India's total rubber production, whereas the country imports 45% of its total rubber imports. The Indian Rubber Industry is currently worth 12000 crores of rupees.

The tyre sector consumes the majority of rubber, accounting for more than 52% of total production in India. Kerala, Punjab, and Maharashtra are the top rubber users. Despite being one of the world's largest producers of rubber, India continues to import it from other countries. India currently imports approximately 50,000 tonnes of rubber each year. The Rubber Production Situation in India India is the world's fourth-largest producer and consumer of rubber, according to FAO Stat 2019.

• Consumption

The footwear business consumed the most rubber, followed by the transportation sector.

• Exports

During the fiscal year 2020, India exported around 12,000 metric tonnes of natural rubber.

Germany, Brazil, the United States, and Italy were the top importers of natural rubber from India.

Shoes, apparel, hoses, and medical equipment, as well as coats and aprons, were among the export items.

Rubber Producing Areas

The first rubber plantations in India were established on the hillsides of Kerala in 1895. Commercial rubber farming, on the other hand, began in 1902.

India's biggest producer of natural rubber is Kerala.

Kottayam, Kollam, Ernakulam, and Kozhikode produce nearly all of the state's rubber; in Tamil Nadu, the main rubber-producing districts are Nilgiri, Madurai, Kanniyakumari, Coimbatore, and Salem; and in Karnataka, the main rubber-producing districts are Chikmagalur and Kodagu. Tripura, Assam, Andaman & Nicobar, Goa, and other states, as well as other places, produce rubber.

Figure 2.1 Rubber Production in india

RUBBER PRODUCING STATES



Source - <https://www.clearias.com/rubber-industry/>

Issues with the Rubber Industry

- Constant price drops in natural rubber, along with high labour expenses, have discouraged many growers (75% of small and marginal farmers) from tapping.
- Competing interests between rubber growers and tyre makers. The unrestricted massive imports of larger tyre companies reduced domestic demand, while MSME and other small sectors that rely on domestic supplies of natural rubber sought quick action.
- High input costs, an unusual duty structure, low-cost imports, and the negotiation of Free Trade Agreements with nations that encourage the entry of finished rubber products into India are also contributing factors.

2.2 Covid-19 Impact on Rubber, Natural Rubber in the Chemical and Materials Industry

2.2.1 Introduction

The rubber industry is one of the industries that has been badly impacted by COVID-19's epidemic. Natural and synthetic rubber are the two main types of rubber grown, with natural accounting for little more than 25% of the rubber used in the industry. Malaysia, Indonesia, and Thailand are the primary producers of natural rubber. Almost every rubber product we use daily is created with synthetic rubber as the raw material.

Rubber use has expanded considerably worldwide in recent years. The growth rate was around 3.5% to 4% between 1993 and 2003; by 2018, it had climbed to more than 5%. The fall in the creation and manufacturing of rubber-based products, on the other hand, has had an impact on a variety of other industries, including FMCG, electronics, transportation, and many more. Furthermore, the drop in end-user industrial demand has contributed to a decrease in rubber consumption in 2019, with the effects becoming more obvious in 2020.

More than half of rubber is utilized for purposes other than tyres, Because of that a slowdown in demand from such applications has harmed the rubber sector. The decline in imports by the top two users of natural rubber is another element contributing to the negative consequences of COVID-19 on the rubber sector.

2.2.2 Impact on Rubber Industry

The coronavirus pandemic has had a substantial detrimental impact on the rubber industry, but it has also created several opportunities. While demand for natural and synthetic rubber has decreased, production has increased by more than 5%, many production facilities are operating at 50% capacity, and many end-user industries are having difficulty obtaining raw materials (natural and synthetic rubber), rubber associations are seizing this opportunity to reduce imports from China and increase reliance on the domestic industry.

Imposing import restrictions on Chinese rubber tyres, according to the Automotive Tyre Manufacturers Association (ATMA), will increase domestic production, enhance exports, and create multiple times as many jobs. Furthermore, according to ATMA, China accounts for around 40% of India's truck and bus radial (TBR), passenger car radial (PCR), and tractor tyre imports.

To assist domestic manufacturers and contain the problem, the Indian government has imposed import restrictions on select new pneumatic tyres used in autos, buses, lorries, and motorcycles.

2.2.3 Impact on Rubber Supply

The global supply chain for rubber has been interrupted due to transportation constraints, a labour scarcity, and other legislative restrictions. The shutdown of facilities and production in China has seriously affected the supply chain, resulting in a substantial increase in the cost of various rubber products. Furthermore, firms have had to lower their production capacities as a result of decreased demand for goods across a wide range of industries. This has also had an effect on the price of rubber as a raw material in the worldwide market.

Many large market participants have realized the value of diversifying their supply chains to maintain supply. The rubber market is currently dominated by a few vendors. However, end users are looking for alternative suppliers because those companies can no longer supply the

required quantity of rubber. And this has created new opportunities for the industry. Because rubber is predominantly utilized as a raw ingredient for many end goods rather than as a finished good, the supply chain has surely been seriously disrupted. As a result of the ongoing lockdown in various countries, there were issues with the shipment of this raw material.

2.2.4 Impact on Price

Despite a drop in demand and a scarcity of supply, the price of rubber has remained stable. Sheet rubber cost about USD 2 per kilogram in February and remained that way until June. Former Indian Rubber Dealers Federation leader Pius Scaria "Many rubber growers did not tap in January and February because they had not yet collected their arrears from the state incentive program. Furthermore, the hot weather had affected productivity." "The coronavirus looks to have impacted the market for sheet rubber in China," he added. We were having problems selling latex to the North Eastern states due to issues there.

2.2.5 Impact of the Automotive Industry on Rubber Demand

Auto parts are also in short supply as a result of the dramatic fall in car demand. Tyres and other rubber-based parts are among them. India, one of the world's largest tyre makers, has seen a drop in demand and must severely reduce output. India's car output has dropped by 13% in the last several months, from 23,853,770 units in the same period of the 2018-2019 fiscal year to 20,736,410 units in the same period of the 2019-2020 fiscal year. Manufacturing of important tyre types such as trucks and tractors fell by more than 7% during the 2019-2020 fiscal year.

Tyres and other rubber-based parts are among them. India, one of the world's largest tyre makers, has seen a drop in demand and must severely reduce output. India's car output has dropped by 13% in the last several months, from 23,853,770 units in the same period of the 2018-2019 fiscal year to 20,736,410 units in the same period of the 2019-2020 fiscal year. Manufacturing of important tyre types such as trucks and tractors fell by more than 7% during the 2019-2020 fiscal year. Manufacturers reacted by looking to the aftermarket and overseas markets to offset losses, which proved difficult given that the epidemic is currently affecting practically every country.

According to ATMA data, tyre output decreased in the fourth quarter of 2019. According to ATMA, the total number of tyres made in India from April to December of 2018 was approximately 14.63 crore, but that figure dropped to 13.65 crores from April to December of 2019. This drop has undoubtedly increased in the first few months of 2020. Due to the uncertainty of infrastructure operations, the volume of truck and bus tyres declined from 1.58 crore in 2018-2019 to 1.37 crore in 2019-2020.

2.2.6 Effect on Rubber Demand from other Industries

Aside from tyres, rubber is utilized in a wide range of other products. Non-tyre products such as footwear, belts and hoses, latex foam, cables and wires, battery boxes, rubber grommets, angle extrusions, house mats, coverings, cases, and many other items account for the majority of rubber demand. Because of its stress resistance, rubber is one of the most sought-after materials, notably in the electronics and consumer products industries.

The main sectors where the rubber is a crucial raw material include:

- Cosmetics and personal care
- Footwear
- Electronics
- Medical equipment
- Home care
- Pet care
- Sports and athletic goods

The coronavirus has influenced all of the aforementioned sectors, increasing global demand for and consumption of rubber.

According to Matt Priest, president, and CEO of the Footwear Distributors & Retailers of America, US footwear imports from China decreased significantly in January 2020, the greatest drop in the preceding ten years. Furthermore, it has had the worst year-over-year decline of 15.7% in the last four years. Approximately 70% of rubber footwear marketed in the United States is imported from China, and this industry is projected to suffer major losses as a result of the COVID-19 outbreak. The coronavirus's impacts are also having a substantial impact on footwear makers such as Adidas and Puma.

2.2.7 Impact on Supply

The global supply chain for rubber has been interrupted due to transportation constraints, a labour scarcity, and other legislative restrictions. The shutdown of facilities and production in China has seriously affected the supply chain, resulting in a substantial increase in the cost of various rubber products. Furthermore, firms have had to lower their production capacities as a result of decreased demand for goods across a wide range of industries. This has also had an effect on the price of rubber as a raw material on the worldwide market.

2.2.8 Impact on Price

The rubber prices have stayed constant despite a reduction in demand and a scarcity of supply. In February, sheet rubber cost roughly USD 2 per kilogram and stayed that way until June. Pius Scoria, the former president of the Indian Rubber Dealers Federation, "Many rubber planters did not tap in January and February because they had not yet received their state incentive programmed arrears. Furthermore, the hot heat reduced productivity." "The coronavirus appears to have harmed the Chinese sheet rubber business," he noted. Due to concerns in the North Eastern states, we were having difficulty selling latex there.

2.2.9 Impact of Natural Rubber Demand

Natural rubber is used in industry as a raw material and can also be processed for use in agricultural products. The present pandemic situation, according to the Association of Natural Rubber Producing Countries, has reduced market demand for natural rubber, putting the natural rubber industry in crisis in the first and second quarters (ANRPC). Because of the value chain's turbulence and the fall in vehicle demand, the entire rubber business is in the worst phase compared to demand over the last 20 years. However, the industry is expected to return as demand for rubber gloves and other medical supplies rises, stabilizing the natural rubber market. Also, the Indian government has drafted National Rubber Policy 2019

considering economic, social, and environmental aspects ensuring the development of the entire value chain of the natural rubber industry.

2.2.10 Impact on Supply

Because of the COVID-19 situation, demand for imported natural rubber fell by roughly 2 million tonnes, or 19.7 percent, between January and April 2020. This has resulted in a value disparity between supply and demand. The world's excess supply of natural rubber is increasing. China, the United States, and Japan, the three largest importers, have reduced their import percentages by 4.9%, 9.2%, and 13%, respectively. The rubber sector is looking for protection from price decreases caused by an increase in natural rubber surplus. Malaysia's government has established the International Tripartite Rubber Council (ITRC) framework for key natural rubber producers, mainly Thailand and Indonesia, to increase local supply of natural rubber stabilize the rubber market. Thailand has exported up to 40% of its natural rubber, and the country wants to reduce rubber tree cultivation by about 21%. This will have an effect on the natural rubber supply, determining how long natural rubber will be used in various industries.

2.2.11 Impact on Price

The price of natural rubber has dropped dramatically as a result of the observed loss in demand and increase in supply. The spot price of natural rubber declined from USD 1.68 per kilogram in January 2020 to USD 1.33 per kilogram April 2020. Natural rubber prices will continue to fall as long as demand declines. However, as a result of the raw natural rubber import ban, the price of raw material has risen by Rs. 100 per kilo, or 33%, since July of this year. In the first quarter of 2020, the price of natural rubber for Malaysian latex fell by 15.80%, from USD 111.40 per kg in January to USD 96.20 per kg in April. Furthermore, according to data supplied by the Association of Natural Rubber Producing Countries, the price of the same Malaysian latex climbed by 37.28 percent from August to October 2020.

Global Rubber Market to Reach USD 50 Billion by 2028

The Asia-Pacific area dominates the global rubber business because of the leading commodities produced in countries such as Thailand, China, India, and others. The market is expanding as a result of the developing countries' booming manufacturing sectors and increased building activity, such as China, Japan, and South Korea. However, North America and Europe account for a considerable portion of the global rubber industry.

Delhi NCR, May 10, 2022 (GLOBE NEWSWIRE) — The rising use of rubber in non-industrial products such as culinary spatulas and shower mats, as well as the need for tyres and other automotive parts, are all contributing to the rise of the global rubber sector.

According to a new estimate by the strategic consulting and market research firm Bluewave Consulting, the worldwide rubber business was valued at USD 36.5 billion in 2021 and is predicted to reach USD 50 billion by 2028. The global rubber market is expanding fast as a result of rising auto production and rising demand for tyres and other automotive components such as shock absorbers and protective pads. Rubber is also rapidly being utilised in non-industrial products such as dishwashing gloves, shower mats, and spatulas. However, the

negative environmental effects of synthetic rubber may severely limit the global rubber market's expansion.

Growing medical product demand is driving the global rubber market

The increased prevalence of various acute and chronic illnesses, as well as the growing need for surgical operations and treatments, are driving demand for medical devices, equipment, and other products. Rubber is used to make a variety of medical products such as catheters, prostheses, implants, breathing devices, tubes, stoppers, condoms, and surgical gloves. Following the COVID-19 period, there was a significant surge in the demand for surgical gloves. As a result, demand for rubber grew, propelling the overall industry forward.

The market for rubber in the world by application

Based on application, the worldwide rubber market is segmented into tyres, non-tire automobiles, footwear, industrial items, and others. The tyre segment has the largest market share. The increasing tyre industry caused by increased demand for automobiles around the world is one of the major factors affecting the rising demand for rubber. To strengthen their market position, the main tyre manufacturers are investing heavily in production growth and the development of new manufacturing facilities. This tendency is projected to assist the global rubber market's rise over the forecast period.

The market for Global Rubber - Regional Insights

Geographically, the worldwide rubber market is divided into North America, Europe, Asia-Pacific, Latin America, the Middle East, and Africa. The Asia-Pacific region dominates the global rubber market. North America, however, accounts for a sizable percentage of the global market due to its huge automotive industry. The rapid speed of technological advancement and expanding local demand for vehicle parts are the primary driving elements behind this region's development. Europe is also expected to increase significantly during the forecast period.

Recent Development

Weir Minerals, a premium European natural rubber band, and Henkel, a German chemical company, announced in September 2021 that they had developed a solvent-free adhesive for rubber lining applications that contained no volatile organic compounds, a mining industry first.

Table 2.2 - Recent trends in world rubber industry

Attributes	Details
Years Considered	Historical data – 2018-2021
	Base Year – 2021
	Forecast – 2022 – 2028
Facts Covered	Revenue in USD Billion

Market Coverage	U.S, Canada, Germany, UK, France, Italy, Spain, Brazil, Mexico, Japan, South Korea, China, India, UAE, South Africa, Saudi Arabia
Product Service/Segmentation	By Type, By Application, By Region
Key Players	ARLANXEO, Unitex Rubber, Kumho Petrochemical Co. Ltd., Halcyon Agri, PetroChina, Ravasco, TSRC Corporation, Tong Thai Rubber Group, LG Chem, Sinopec, ZEON Corporation, Goodyear Tire, and Rubber Company, Versalis S.p.A., Nizhnekamskneftekhim, Sri Trang Agro-Industry, Indolates Jaya Abadi, Tradewinds Plantation Berhad, Yunnan Goshen Rubber, Kuala Lumpur Kepong Berhad, Sinochem International, Guangdong Guangken Rubber, and other prominent players.

Source: Global Rubber Market to Reach USD 50 Billion by 2028 | (globenewswire.com)

Types of rubbers

By Type

- Natural Rubber
- Synthetic Rubber

By Application

- Tyre
- Non-Tyre Automotive
- Footwear
- Industrial Goods
- Others

By Region

- North America
- Europe
- Asia-Pacific (APAC)
- Latin America (LATAM)
- Middle East & Africa (MEA)

2.3 Transportation

The transportation industry requires custom rubber products that have long service lives and can withstand harsh conditions. The Aeroplan, train, and mass transit industries all require rubber components that increase passenger safety while adhering to legislation and original equipment manufacturer (OEM) standards for flame, smoke, and toxicity (FST). To meet these stringent requirements, The Rubber Group employs unique adhesive processes and

compounds. We also provide metal-to-rubber bonded assemblies for the rail industry. Learn more about the materials we use, the specifications and approvals we meet, and the molded rubber goods we manufacture.

2.3.1 Rubber Products for Transportation

For several top OEMs in the transportation sector, ‘The Rubber Group’ is the supplier of choice. We can make a variety of custom rubber items, for instance:

- railcar suspension components
- pump seals
- valve body seals
- metal-to-rubber bonded assemblies

2.3.2 Rubber Materials for Transportation

The Rubber Group can mold your rubber products using fire-resistant elastomers that contain very little hazardous smoke and can stop flames from spreading. High-performance elastomers can seal and insulate while lowering noise and vibration in the mass transit sector. Specialized grades of neoprene and EPDM are two examples of these materials.

2.3.3 Standards and Certifications

The Rubber Group can mold your rubber products using fire-resistant elastomers that emit very little dangerous smoke and can prevent flames from spreading. High-performance elastomers can seal and insulate while reducing noise and vibration in the mass transit industry. Specialized grades of neoprene and EPDM are two examples of these materials. The ASTM and OEM requirements we abide by are as follows:

- ASTM E162 (surface flammability)
- ASTM C542 (low flame)
- ASTM E662 (specific optical density of smoke)
- ASTM C1166 (flame propagation)
- SMP 800-C by Bombardier (toxic gas generation)
- Airbus BBS 7239 (toxic gas generation)

2.3.4 The Rubber Industry Is Evolving

India and China are the only two countries in the world that can use the whole local supply of natural rubber. Even though India's raw rubber sector has mostly remained unaltered over the years, the country's rubber consumption is rising in tandem with its GDP. The amount of rubber produced presently meets only half of the rubber industry's current needs. The rest is supplied by imports from countries that produce a significant amount of rubber, such as Thailand, Vietnam, and China. However, it appears that supply exceeds demand in several East Asian countries.

Kerala, India's primary producer of natural rubber, accounts for about 90% of the country's total production. Over a million tonnes of natural rubber are expected to be produced in the future by India's rubber plantations, which already produce over 630 000 tonnes. This has contributed to the rapid growth of the Indian rubber sector.

The quality of Indian rubber products has been recognized globally, with exports increasing at a rate of more than 20% year on year for the previous ten years. Other positive factors

include entrepreneurs' experience in manufacturing rubber products for a large domestic market, the availability of quality technologists (made available from more than 40 institutes dedicated solely to rubber technology), and the low cost of experienced labour (which is now rapidly changes).



2.4 The Indian Tyre Industry

Rubber is an important component in the manufacture of a tyre. The three varieties of rubber used in manufacturing are natural rubber (NR), styrene-butadiene rubber (SBR), and polybutadiene rubber (PBR).

There has been a shift in tyre production activity around the world, with Asia grabbing a much larger portion of the pie in terms of plants. Asia now accounts for over 60% of the world's tyre production capacity.

India's rubber sector utilizes 50% of all rubber. The Indian automobile industry will be incomplete without the tyre industry. It directly contributes 0.5% of overall GDP and 3.0% of manufacturing GDP in India. The industry nearly doubled in size from 30,000 crores in 2010-11 to 59,500 crores in 2017-18. The Indian tyre sector has been under pressure regarding raw materials for the past two years.

The number of tyre manufacturing facilities has changed dramatically around the world, with Asia now accounting for a far larger share of the industry. Asia now houses over 60% of the world's tyre manufacturing.

India's automobile tyre business utilizes 50% of all rubber produced. The vehicle sector comprises the whole Indian tyre market. It directly contributes 0.5% of the country's GDP and 3% of India's manufacturing GDP. The industry's income has nearly doubled from Rs.

30,000 crores in 2010-11 to Rs. 59,500 crores in 2017-18. The preceding two years have witnessed raw material prices rise for the Indian tyre sector.

Chapter – 3:

3.1 Analysis of the Industrial Rubber Products Market Segments by Type

The synthetic rubber category dominated the industrial rubber products market in 2020. Various synthetic rubber parts and components are used in a variety of industries. Synthetic rubber is preferred over natural rubber due to its superior abrasion resistance and heat resistance. because it comes in a variety of forms, synthetic rubber is more versatile than natural rubber. According to the International Rubber Study Group, for example, there are over 200 different types of synthetic rubber, each with its own set of components and properties.

Nitrile rubber (NBR), a type of synthetic rubber, is in high demand across a wide range of industries due to its adaptability and dependability as a material for general-purpose applications. Because of rising demand for synthetic rubber in nearly all core industries, the market for industrial rubber goods is expanding, which also contributes to improved business growth.

3.2 Market segment analysis for industrial rubber products by application

The tyre sector of the industrial rubber products market, which had the largest market share in 2020, is expected to grow at a CAGR of 6.8% from 2021 to 2026. The expansion of the automobile industry has increased demand for tyres. Tyres contains approximately 24% synthetic rubber and approximately 19% natural rubber. Industrial rubber is preferred over other materials because it can maintain traction and remain smooth on wet roads. Rubber elastomers are used in tyre manufacturing. The most commonly used elastomers in tyre formulations are styrene-butadiene rubber, natural polyisoprene rubber, butyl rubber, and ethylene-propylene rubber. As a result, the industrial rubber market in general will expand.

3.3 Market segmentation analysis for industrial rubber products by end-use industry

The automotive sector dominated the industrial rubber products market in 2020, and it is expected to grow at a CAGR of 7% from 2021 to 2026. Automobile components and parts necessitate the use of industrial rubber. Because of its flexibility and durability, it aids in abrasion resistance, high tear strength, chemical and grease resistance, hot and cold temperature sustainability, and high tear strength, and ozone resistance. According to the European Automobile Manufacturers Association (ACEA), the number of passenger vehicles registered in the European Union increased by 10.4% in June 2021 compared to June 2020, or 12.4% year on year, reaching 1,85,574 units. Light of this has led to an increase in the demand for industrial rubber, which will also result in the market for industrial rubber goods expanding throughout the anticipated period.

3.4 Market segmentation analysis for industrial rubber products by geography

Up to 46% of the market for industrial rubber products will be in the Asia-Pacific region in 2020. Demand for industrial rubber products is being fueled by an increase in the manufacturing of automobiles, construction projects, textiles, food, and beverage industries in the Asia-Pacific region. According to the International Rubber Study Group (IRSG), Asia-Pacific consumes 77% of the world's synthetic rubber and 60% of the world's natural

rubber, making it the region with the highest consumption of both types of rubber. Geography-based market segmentation analysis for industrial rubber products. Up to 46% of the market for industrial rubber products will be in the Asia-Pacific region in 2020. Demand for industrial rubber products is being fueled by an increase in the manufacturing of automobiles, construction projects, textiles, food, and beverage industries in the Asia-Pacific region. According to the International Rubber Study Group (IRSG), Asia-Pacific consumes 77% of all synthetic rubber and 60% of all natural rubber worldwide, making it the region with the highest consumption of both types.

3.5 The True Costs of Industrial Rubber Products of Rubber

What are the true costs associated with manufacturing industrial rubber products such as gaskets, gaskets, and insulation? Although buying rubber materials and producing them yourself may seem profitable, does your business save money? Also, are you giving up consistency, quality and potential salability for dubious cost savings?



Businesses that want to understand the true costs of industrial rubber products must understand all aspects of their production costs. These costs are typically divided into three categories: direct labour, direct materials, and manufacturing overhead. If any of these charges are incorrect, your financial statements may understate inventory value and cost of goods sold.

Each category of manufacturing costs in this post from Elasto Proxy so you can compare your internal operations to outsourced fabrication. You can boost your manufacturing operations and make better business decisions if you are aware of your true costs.

3.6 Dedicated Work

The cost of paying employees who are directly involved in the transformation of raw rubber materials into finished goods is referred to as "direct labour." This category of expenditures includes time spent on tasks other than cutting and bonding. Direct labour includes the cost of removing items from inventory, transporting them to your assembly area, and preparing them for production processes.

Assume you need to cut some acoustic insulation sheet materials. If you keep this product on hand, a worker will have to transport it from a storage facility to your assembly line. Another employee arranges the sheet material on a table and creates a stencil or template for the component. The second worker then cuts out each component from the sheet using the template and a pocket knife. These all require time.

The cost of rework is also included in the direct labour cost. Cutting difficult parts, by definition, increases the possibility of human error. Workers may struggle to cut clean circles, straight edges, tiny through-holes for fasteners, blind holes for raised fastener heads, and

chamfers with 30° or 45° angles. They are, however, simple cuts for water jet cutting equipment.

Cutting is only one aspect of the true costs of direct labour. In the case of a mobile equipment manufacturer, the cost of spraying an adhesive onto the cabin so that the acoustic insulation would adhere can be considered direct labour. The costs for setup and cleanup during this process could be significant. Instead, buy taped gaskets to save money while still protecting workers and the environment's safety.

3.7 Direct Resources

Direct materials are the costs of the raw materials used to make a finished product. In our acoustic insulation example, this is the cost of the sheets and adhesive. The rubber lengths that employees cut and the bonding agent (such as glue) that is applied are the direct materials for rubber gaskets, such as door and window seals. Both scenarios may generate more waste than you realize.

Cutting sheets may make it difficult for workers to trace the contours of pieces. Because they are left unfilled, edge gaps between parts are a waste of material. The amount of material lost can quickly add up over a large number of parts. In reality, your direct material expenses will increase by twofold if you cut the identical part twice. Additionally, you might not even be aware that a carelessly cut piece of rubber was thrown away by a worker.

When applied to several jobs, direct material costs can have an impact on the enterprise level. Most of the time, businesses do not want to spend more on resources than they need. Depending on how much rubber is wasted, you might be ordering overages that add up. This has affects cash flow and, possibly, your capacity to allocate resources elsewhere.

When you outsource the production of industrial rubber products, you only pay for the materials you use. If you purchase the rubber yourself, there are also minimum order quantities (MOQs). In contrast to hand cutting, water jet cutting encourages piece nesting for optimal material yields. Additionally, this digital production method monitors material utilization and reduces waste.

3.8 Costs of Manufacturing Overhead

The final cost category is manufacturing overhead (MOH), which is included in the total cost picture. Even though you can not directly link these costs to rubber goods, they affect the entire production cost. Wages for workers in maintenance, manufacturing, material management, and quality control are examples.

When determining your actual costs, it is crucial to take into account how to direct labor, direct materials, and MOH interacts with one another. For instance, if you cut gaskets



internally, you must take into account the wages of the quality control personnel who inspect the finished gaskets when setting your labour rates. If you have to order more sheets because of waste, it could also cost you more to buy, receive, and store them.

3.9 Non-tyre rubber industry faces cost

The All India Rubber Industries Association (AIRIA) provides services to the majority of MSMEs (micro, small, and medium-sized businesses) in the non-tyre industry. Due to issues like a lack of working capital, labour, and demand, approximately 10–12 percent of these units, which have been severely impacted by the COVID pandemic, are in danger of closing. Vikram Makar, leader of AIRIA, examines the issues tormenting the elastic area in a meeting.

edited fragments

The prices of natural rubber in other countries are more than 30 and 40 rupees per kilogram less than the prices of sheet rubber and block rubber in India, respectively. In the coming months, will this result in additional imports?

Imports are required to bridge the ever-widening gap between domestic and imported natural rubber because we use more of it than is produced locally. In addition, domestic prices are more expensive than international prices.

Important additional characteristics include consistent quality and importance. Rather than the units in the worth added elastic merchandise fabricating area, which favor block elastic due to its lower cost, more prominent consistency in qualities, simplicity of taking care of, and longer period of usability, natural rubber creation in India has so far been focused on essential ware grades.

Sheet rubber production is a priority for Indian farmers because it guarantees a higher farm gate price. India only produces a small amount of block rubber at the moment—between 15% and 20%—and even that is made from old garbage.

Around 80% of the regular elastic delivered in Southeast Asia and other creating countries is created as block elastic, which is treated from new cup protuberances to guarantee unrivaled grades. The local markets lack RMA1X, RMA3, CV60 ISNR, SVR3I, and other rubber grades in addition to block rubber.

In addition to the long-term solution of government involvement to improve quality and increase domestic rubber output, cost-effective imports must be encouraged for the benefit of the MSME rubber sector.

Has the current scarcity of rubber chemicals and carbon black subsided? Are these goods entirely import-dependent for us? How are things right now?

The availability of carbon black and rubber compounds remains a concern. Although additional carbon black capacity has been installed recently, it has not yet stabilized, so availability may soon increase. In the interim, our deficit remains at 30%.

The issue of rubber chemicals' availability and cost has become even more challenging as a result of shipping delays and high shipping costs because the majority of carbon black production facilities rely on free stock imports.

Even though there are two manufacturers of generic rubber chemicals, there is a lack of supply, higher prices, and more volatile market conditions as a result of the unstable supply of raw materials. If the current state of affairs persists in the global setting, the MSME sector will be at significant risk and should be concerned.

Most specialty synthetic substances are imported, and the rising interest welcomed by the government drives in the foundation and guard is in risk because of an absence of supply and extravagant costs on an overall scale. The lockdowns that forced many plants to shut down have not allowed them to reopen. If we are to become self-sufficient internally, the government needs to immediately encourage investment in the supply chain and domestic production of these rubber chemicals.

Is the production of synthetic rubber (SR) affected by the rise in crude oil prices? What is the current ratio of production to imports? Petrochemicals are used to make synthetic rubber, which is influenced by changes in crude oil prices and is directly related to crude oil. The recent rise in the price of crude oil has led to a sharp increase in the global cost of synthetic rubber.

Besides, various petrochemicals and SR have been hurt by the expense. Various creation offices have needed to close on account of the continuous pandemic and high delivery costs. The price of SR has frequently increased by more than twice as much as the price of oil.

“India produce 50% of the synthetic rubber required to meet our demand, and imports account for the remaining 50%. SBR, polybutadiene rubber (BR), and other types of SR were among the 480,271.09 tonnes of SR that India imported in FY21. Indian production totaled 428,320 tonnes.”

India imported 180,786.24 tonnes of SR for Rs 2,936.38 crore in the first four months of FY22, an increase of 82.38 percent in volume and 107.28 ppercentinvalue over the previous year.

3.10 Rubber Marketing Channels

According to Kotler (2005), marketing channels are a collection of interdependent organizations involved in the process of preparing goods or services for use or consumption. According to the above definition, the marketing channel means a product or item reaches its final destination.

Kotler (1996) identifies the following distribution channels:

“A channel for direct distribution the distribution channel from the producer to the consumer without the use of intermediaries is the simplest and lowest channel. This channel can also be given a zero-stage channel, allowing producers to sell their products directly to consumers through the mail or by driving to their homes.”

Distributing channels that involve retailers and producers through a single intermediary Large retailer in this area buy goods directly from producers and then sell them to customers directly. One stage channel is the most common name for this channel.

Chapter – 4:

4.1 Snapshot of the industrial rubber market (2022-2032)

According to recently released data on the global industrial rubber industry, sales reached US\$ 57.2 billion in 2022 and are expected to climb at a 6.4% annual rate to US\$ 106.4 billion by the end of 2032.

According to Persistence Market Research, industrial rubber consumption is expected to grow by 5.6% every year until 2022. East Asia is likely to remain the most important regional market for industrial rubber makers.

4.1.1 Industrial Rubber Consumption Analysis (2017–2021) Compared to Market Outlook (2022 to 2032)

In 2021, industrial rubber sales generated \$54.2 billion in revenue, a 1% increase over the previous evaluation period of 2017-2021.

Sales were hampered and fell significantly in 2020 as a result of a new coronavirus outbreak. However, demand for industrial rubber resumed its upward trend and had a strong growth rate early in 2021, when end-use sectors began to fast recover and production reached full capacity. During the assessment period, the market is predicted to grow at a significant rate from 2022 to 2032. The rapid rise of a variety of end-use industries, including the automobile and construction industries, is the primary reason for the market's exponential expansion.

4.1.2 What is Industrial Rubbers' Commercial Potential?

Industrial rubber is utilised in a variety of end-use industries. It has applications in almost every end-use industry, including electrical, automotive, and construction. Because of the wide range of end-use industries for which industrial rubber is used, changes in any industry's market have an impact on industrial rubber sales, either directly or indirectly.

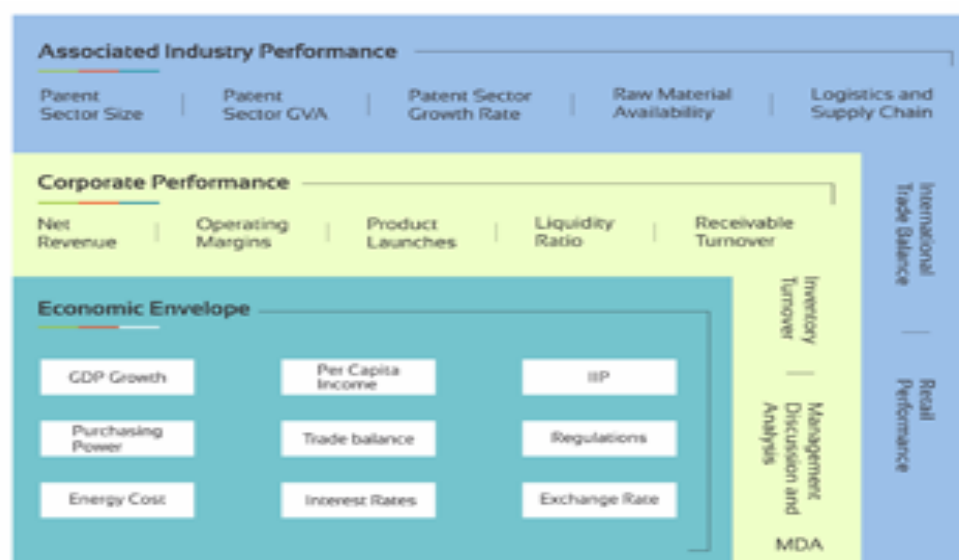
Despite having a diverse range of applications, tyre manufacturing continues to dominate the global industrial rubber market. The tyre business is likely to absorb more than 40% of the world's rubber production.

4.2 Market Research Methodology:

Years of effort have resulted in perfection.

Our expert- and data-driven research methods contribute significantly to our industry-leading market research accuracy. By integrating an eclectic mix of experience, analytics, machine learning, and data science, we create

research methodologies that offer a multidimensional, yet realistic evaluation of a market.



4.3 Market Research Reports, Analysis, and Trends for The Rubber Industry

Businesses in the rubber sector manufacture, produce, and supply a wide range of rubber items such as rubber bands, gloves, doormats, and automobile parts. Because of the diversity of commodities, it generates, this industry sells to a wide range of downstream enterprises, including manufacturing, construction, and healthcare organizations. In 2012, the total amount of natural rubber produced was 11.4 million tonnes, a 3.97% increase over the previous year. Asia contributes for around 93% of global rubber output, followed by Africa, which accounts for between 4 and 5%, and Latin America, which accounts for between 2.5 and 3%. In 2012, 10.9 million tonnes of natural rubber were consumed globally, according to IRSG figures.

End-use industries, such as the car and construction sectors, share similar worries about sustainability and the environment, which has raised demand for greener goods. It is extremely subject to global macroeconomic developments. The tyre industry has been hit by the rise in fuel costs, which has hampered automobile manufacturing. Several automakers have reduced output in the past owing to financial constraints, which harmed sales.

It is challenging for businesses joining the industry to develop a clientele that would allow them to function at their maximum potential because there are numerous established manufacturers in the market. Firms joining the industry must contend with fierce internal competition as well as fierce competition from imported goods. This emphasizes even more how crucial it is for businesses entering the market to operate at full capacity to manage expenses and maintain price competitiveness. Despite the domestic market's tiny size and limited development potential, many businesses may believe the significant investment needed to enter the sector is unprofitable.

4.4 Rubber Industry Current Trends

The whole globe is pushed by wheels, and virtually all of them require tyres, due to how swiftly and effectively global enterprises function. Modern pneumatic tyres are fundamentally made of synthetic or natural rubber, as well as other compounds. The tyre sector absorbs a significant amount of global rubber output. One of the primary aspects propelling this business is the exponential growth in global automotive manufacturing. Natural rubber product manufacturers face heavy competition from imports, as is the case in many industrial sectors in countries with high labour costs, such as Australia, due to the strong Australian dollar.

Furthermore, important businesses, such as the Australian motor vehicle manufacturing sector, are experiencing declining demand, making it impossible to give any assistance. As a result, industry sales are expected to fall by an annualized 3.3% over the next five years, reaching \$843.1 million in 2012-13. The industry's revenue is expected to rise by only 0.7%. China, for example, is the world's greatest user of motorcycle and bicycle tyres and the world's second-largest consumer of motor vehicle tyres after the United States. Asia-population Pacific's growth and rapidly growing income levels are driving the region's automobile and, by extension, tyre sectors.

Tyres are constructed from various types of rubber for a variety of reasons. The tyre industry has grown dramatically in terms of both volume and income over the last 10 years as demand has increased. Future trends will very certainly continue in this manner. The Asian market is expected to boost the tyre industry. The US and European regions are expected to have growth that is lower than the global average, supported by China's rising demand for rubber. Tyre demand is expected to expand throughout Latin America and the Middle East as car manufacturing increases in these nations.

4.5 Major Manufacturers of Rubber

The rubber industry is dominated by a number of companies, including LanxessAG, Lanxess Elastomers do Brasil SA, LG Chem Ltd., Nantex Industry Company Ltd., Nitriflex, PetroChina Company Limited, Polimeri Europa SpA, Sibur Holding JSC, Synthos SA, Zeon Corporation, Zeon Chemicals Europe Limited, and Zeon Chemicals L.P.



4.5.1 Forecast for Total Growth of the Rubber Industry

We offer customized and syndicated market research studies for the rubber industry. These studies intend to provide a thorough view of the global Rubber industry.

The key growth predictions discussed are:

- CAGR% Growth Prediction for the Rubber Industry for 2022–2028
- For 2022–2028, the rubber industry's value is expected to grow.
- Key Companies in the Rubber Industry Growth Prediction for 2022–2028

4.5.2 Regional Data Coverage for the Rubber Industry

In our studies, we provide precise geographical information for the rubber industry. The information is intended to help decision-makers identify the primary growth markets for the rubber sector and establish an effective business plan.



Region-Wise Growth Trends in the Rubber Industry

- Opportunities for Key Country Growth in the Rubber Industry
- Focus of the Rubber Industry on the Most Important Markets



4.5.3 Analysis of Rubber Industry Trends

The reports on the rubber sector provide many kinds of trend analyses. These comprise the industry's primary global growth prospects overall.

The main developments and analysis discussed are:

- Key Player Profiles in the Rubber Industry
- SWOT analysis of the rubber industry
- Growth factors for the rubber industry and challenges

4.5.4 Quality Management System for the Rubber and Plastics Sector

Only a firm with a quality culture can offer flawless goods, especially in the plastic and rubber industries. Effective quality controls are required at all stages of the manufacturing process, from raw material inspection to packing and final product distribution. If standard quality management and control systems are utilized, the manufacturing cycle may be prolonged, the time to market may be extended, and customer and compliance requirements may not be satisfied. Because requirements are high and compromises are unacceptable, the plastic and rubber industry needs a solid quality management system. This system should

help assure the quality, reliability, and safety of a product while also satisfying consumer and regulatory criteria.

Quality provides Plastic and Rubber firms additional flexibility and security in monitoring product and process quality since it is built on the Salesforce platform. By integrating quality procedures into a quality decision-making engine, businesses may decrease product recalls and increase customer satisfaction. Increased market share and brand recognition would follow later.

The Quality EQMS software for the plastic and rubber industries is a closed-loop quality system. It includes management functions such as document management, change management, nonconformance management, CAPA management, calibration management, maintenance management, permits, audit management, incident management, field safety action management, training management, forms management, material compliance management, complaint management, inspection management, and supplier quality management, as well as exciting features such as audit trail, electronic signature, variability management, and supplier quality management.

4.5.5 Benefits of Quality Management Software for the Rubber and Plastics Sector

As a result of next-generation technical revolutions such as the digital economy and Industry 4.0 in manufacturing processes, the plastic and rubber industry currently faces new challenges in satisfying the rising expectations of modern society. Furthermore, the utilization of plastic and rubber in the form of resins, polymers, and additives is increasing rapidly. To do this, they must improve the organization's quality processes. Plastic and rubber companies may use quality management software to successfully enhance their quality operations while also providing business insights to assist them to make better, faster choices. The following are the benefits of deploying end-to-end quality management software for the plastic and rubber sector. A better reputation for the brand.

- Costs of quality are lower
- Improved business procedures
- Adherence to regulations
- Improved supply chains, better decision-making

4.5.6 Prices for natural rubber: What Caused the Sharp Fall

- **Global factors:** Weak Chinese demand and the European energy crisis are mostly to blame for the current drop in natural rubber prices.
- **China:** The sector has suffered a high price for China's sustained zero COVID strategy, which contributes to around 42% of global volume.
- **European energy crisis:** As a result of Russia's pipeline closures, gas prices in Europe surged by 30%. These soaring energy prices have severely harmed the region's demand for natural rubber.
- **Tight monetary policies:** Rising global inflation and the possibility of a global recession have increased regulatory pressures, such as interest rate rises. As a result, demand has declined and prices have leveled out.

4.5.7 Domestic variables

- The domestic tyre industry's current surplus of imports is due to blocking rubber imported from the Ivory Coast and compounded rubber imported from the Far East.
- The second quarter is typically a slow period for the tyre industry, but India's demand has been impacted further by severe rains and flooding in various locations.

4.5.8 Prices of Natural Rubber: Effects of Declining

- Impact in rural areas: Because most people in rural areas rely only on rubber manufacturing, the price decline forces them to cut back on their expenditures. In the long run, it may also result in crop changes or the fragmentation of rubber estates.
- impact on small and medium-sized enterprises: Because small and medium-sized firms produce the bulk of goods, a price drop might make their future uncertain and force them to temporarily suspend operations.
- Economic impact on Kerala: This state generates more than 75% of India's rubber.

4.5.9 Prices for natural rubber: News

- The RSS 4 type, which is largely utilized in the tyre industry, has hit a 16-month low in the Indian market.
- Worldwide situation: The global rubber market is declining faster than India's. In comparison, the price of the global tyre grade RSS 3 variety decreased by 21% over the course of two months, while the price of RSS 4 on the Indian market fell by 16%.

4.5.10 Rubber Manufacturing Companies in India

1. Rubfila International Limited

Rubfila International Limited (RIL) is a Public Limited Company promoted by RubproSdn. Bhd., Malaysia and Kerala State Industrial Development Corporation. The company is the largest manufacturer of extruded Round Latex Rubber Thread. The State of the Art infrastructure facility is located at the New Industrial Development Area, Kanjikode, Palakkad, Kerala.

Total Sales: Rs 228 Cr

2. PIX Transmissions Ltd

PIX Transmissions Ltd. is the leading manufacturer of Belts and related mechanical Power Transmission products in India. The Company features state-of-the-art Belt manufacturing units as well as an ultra-sophisticated, automated Rubber Mixing facility.

Total Sales: Rs 304 Cr

3. Indag Rubber Limited (IRL)

Indag Rubber Limited (IRL) was incorporated in July 1978 as a joint venture between Khemka group and M/S Bandag Incorporated, USA, one of the biggest players in the US retreading industry. The company was listed on the Bombay Stock Exchange in 1984.

Total Sales: Rs 187 Cr

4. Harrisons Malayalam Ltd

Malayalam Plantations, Harrisons & Crosfield the company's land holdings, including plantations in Rubber, produce the highest quality of both Tea and Rubber in this part of the World.

About 24 years ago, changing priorities of Harrisons & Crosfield saw the RPG Group, one of the largest business houses in India, take control of this Company. Harrisons & Crosfield in India and Malayalam Plantations were merged to establish Harrisons Malayalam Ltd.

5. GRP Ltd

GRP Ltd, established in 1974, is among the most recognized manufacturer of reclaimed rubber from used tires, upscaled polyamide from nylon waste, and engineered products die-cut from end-of-life tyres.

The company operates 5 business verticals (Reclaim Rubber, Industrial Polymers, Custom Die Forms, Retreading, Rubber Composite) with 8 manufacturing units across India with an installed capacity to handle 72,000 MT per annum to service the needs of the global polymer industry and help save valuable resources of the planet.

Total Sales: Rs 357 Cr

6. Modi Rubber Ltd.

Modi Rubber Limited (MRL) was founded in 1971 to produce vehicle tyres and tubes. MRL had plants in Meerut, Partapur (Distt. Meerut), and Modinagar (Distt. Ghaziabad), all of which were in the state of Uttar Pradesh. Continental A.G. of Germany assisted in the technical development of the tyres. MRL was a leader in the TBS Tyre Segment until 2001 when the facilities were forced to close owing to an illegal strike by the workers.

7. Apollo Tyres Ltd.

Apollo Tyres Limited, located in Gurugram, Haryana, is an Indian multinational tyre manufacturing firm. It was founded in 1972, and the company's first plant was opened in Perambra, Kerala (India). The company now has five manufacturing facilities in India, one in the Netherlands, and one in Hungary. In India, it has a network of approximately 5,000 dealerships, with over 2,500 of them being exclusive stores.

India accounts for 69 percent of the company's sales, while Europe accounts for 26% and other regions for 5%.

In March 2016, Apollo announced its contract manufacturing foray into the two-wheeler tyre segment.

8. CEAT Ltd.

The RPG Group owns CEAT Limited, an Indian multinational tyre manufacturing firm. It was founded in Turin, Italy, in 1924. It is active in international markets. CEAT makes tyres for passenger cars, two-wheelers, trucks and buses, light commercial vehicles, earthmovers, forklifts, tractors, trailers, and auto-rickshaws and produces

approximately 165 million tyres per year. CEAT tyres' operations currently have a capacity of over 800 tonnes per day.

Virginio Bruni Tedeschi started CaviElettrici e Affini Torino (Electrical Cables and Allied Products of Turin) in Turin, Italy, in 1924.

9. Cochin Malabar Estates & Industries Ltd.

The company was founded on March 14, 1930, operating rubber and tea plantations in Kerala and Karnataka ever since.

The company is primarily a plantation company with 3 Rubber Estates totaling 5225 acres in Kerala. In addition, the company purchased a Tea Estate in Kerala's Idukki District. This estate is being systematically removed and replanted with high-yielding cultivars. The factory is also being considerably rebuilt and updated.

10. Dunlop India Ltd.

Dunlop Rubber was a British multinational that produced a variety of rubber products. John Boyd Dunlop, the inventor of the pneumatic tyre, founded the company in 1889.

Ruia Group has owned DUNLOP, India's most prominent and well-known tyre brand, since 2005, and the group is the market leader in 2/3 wheeler tyres. DIL can meet the needs of a wide range of consumers. In main sectors such as Truck/Bus, Farm, and OTR, the goods have been favorably appreciated on the market. Dunlop has already made advances in various industries, including state-owned transportation companies and other significant commercial enterprises.

Chapter – 5:

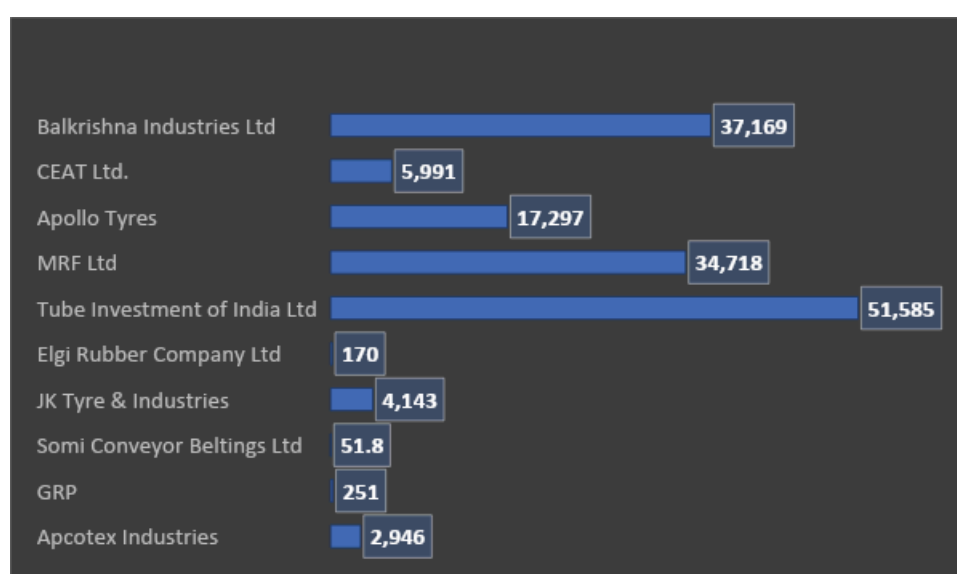
5.1 Market Capitalization

Here is the market capitalization of top competitors in tyre industry:

Table 5.1 – Market capital of top 10 companies of India

Company Name	Market Capital (Rs. Cr.)
Apcotex Industries	2,946
GRP	251
Some Conveyor Beltings Ltd	51.8
JK Tyre& Industries	4,143
Elgi Rubber Company	170
Tube Investment of India Ltd	51,585
MRF Ltd	34,718
Apollo Tyres	17,297
CEAT Ltd	5,991
Balkrishna Industries Ltd	37,169

Source – Compiled from data extracted Moneycontrol.com



5.2 Profitability Ratio

Various profitability ratios are used by companies to provide useful insights into the financial well-being and performance of the business.

Commonly Used Profitability Ratios are as under:

- PBIT Margin
- PBT Margin
- Net Profit Margin
- Return on Networth / Equity
- Return on Capital Employed
- Return on assets
- Earnings per share
- Dividend per share

5.2.1 PBIT Margin

PBIT margin – compares gross profit to sales revenue. This shows how much a business is earning, taking into account the needed costs to produce its goods and services. A high gross profit margin ratio reflects a higher efficiency of core operations, meaning it can still cover operating expenses, fixed costs, dividends, and depreciation, while also providing net earnings to the business. On the other hand, a low-profit margin indicates a high cost of goods sold, which can be attributed to adverse purchasing policies, low selling prices, low sales, stiff market competition, or wrong sales promotion policies.

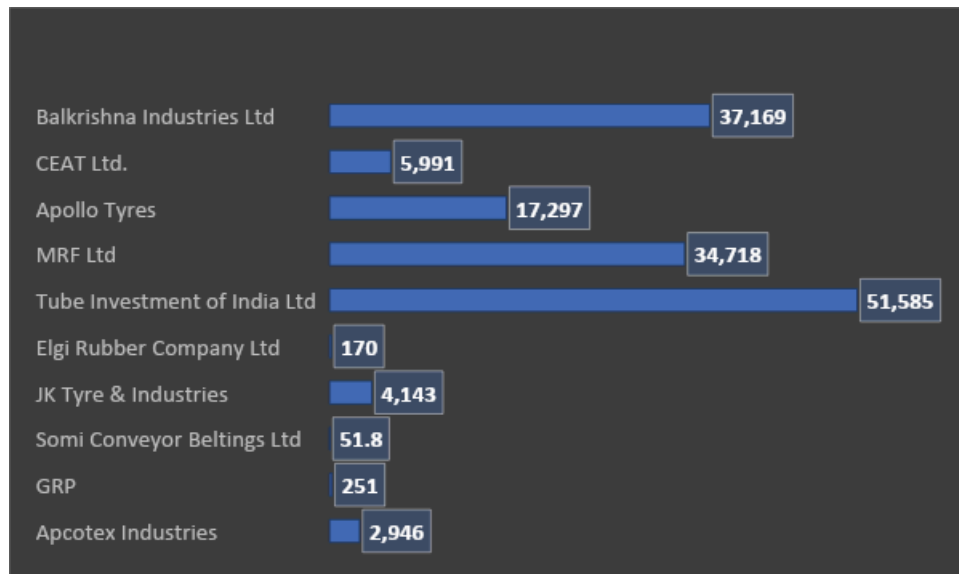
$$PBIT\ Margin = \frac{Gross\ Profit}{Sales} \times 100$$

Table 5.2 – PBIT Margin of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	5.22	11.19	13.96
GRP	1.68	2.15	3.07
Some Conveyor Beltings Ltd	14.21	12.06	9.92
JK Tyre& Industries	7.14	10.44	6.10
Elgi Rubber Company	4.99	13.11	9.05
Tube Investment of India Ltd	10.51	9.39	10.06
MRF Ltd	10.46	12.34	5.93
Apollo Tyres	7.29	12.29	5.00

CEAT Ltd	6.98	8.79	3.15
Balkrishna Industries Ltd	23.63	26.75	23.73

Source – Compiled from data extracted Moneycontrol.com



Interpretation:

PBIT Margin is the percentage of a company's profit before interest and taxes that are generated from its operations. This metric measures a company's ability to generate profit from its core business. We have taken the Top ten rubber companies' PBIT Margins from the industry. In 2020, The highest PBIT margin was of Balkrishna Industries Ltd which is 23.63% and the lowest PBIT Margin was of GRP which is only 1.68%. In 2021, The highest PBIT margin was of Balkrishna Industries Ltd which is 26.75% and the lowest PBIT Margin was of GRP which is only 2.15%. In 2022, The highest PBIT margin was of Balkrishna Industries Ltd which is 23.73% and the lowest PBIT Margin was of GRP which is only 3.07%.

We can say that Covid-19 had very negative impact on the profitability of the companies in the Rubber industry except Balkrishna Industries Ltd. There is a minor change in PBIT margin of Balkrishna Industries Ltd. Between Covid-19 year and a normal year. On that basis we can say that Balkrishna Industries Ltd. Has managed their operations very efficiently and effectively compared to other companies.

5.2.2 PBT Margin

Profit before tax is a measure that looks at a company's profits before the company has to pay corporate income tax. It essentially is all of a company's profits without the consideration of any taxes. Profit before tax can be found on the income statement as operating profit minus interest.

$$PBT \text{ Margin} = \frac{PBT}{Sales} \times 100$$

Table 5.3 – PBT Margin of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	4.96	10.49	13.62
GRP	1.91	0.24	1.91
Some Conveyor Beltings Ltd	7.03	5.02	4.49
JK Tyre& Industries	1.39	6.44	3.29
Elgi Rubber Company	3.30	7.86	4.55
Tube Investment of India Ltd	9.77	8.43	9.87
MRF Ltd	8.75	10.67	4.62
Apollo Tyres	5.25	8.96	2.39
CEAT Ltd	4.33	6.05	0.82
Balkrishna Industries Ltd	23.64	26.58	23.64

Source – Compiled from data extracted Moneycontrol.com



Interpretation:

PBT Margin used to measure the operating efficiency of a company before deducting taxes. Balkrishna Industries Ltd. Has maintained PBT Margin throughout the last three years that is between 23 to 26 percent which the highest PBT Margin of any company in the rubber industry. In 2020, The lowest PBT margin was of JkTyre& Industries which is 1.39 Percent. In 2021, The lowest PBT margin was of GRP which is 0.20 Percent almost at the breakeven point. In 2022, The lowest PBT margin was of CEAT Ltd. which is 0.82 Percent. Covid-19 has impacted the PBT margins of these three companies i.e., JK. Tyre& Industries, GRP and CEAT in the Rubber Industry.

5.2.3 Net Profit Margin

The net profit margin, or simply net margin, measures how much net income or profit is generated as a percentage of revenue. It is the ratio of net profits to revenues for a company or business segment.

Net profit margin is typically expressed as a percentage but can also be represented in decimal form. The net profit margin illustrates how much of each dollar in revenue collected by a company translates into profit.

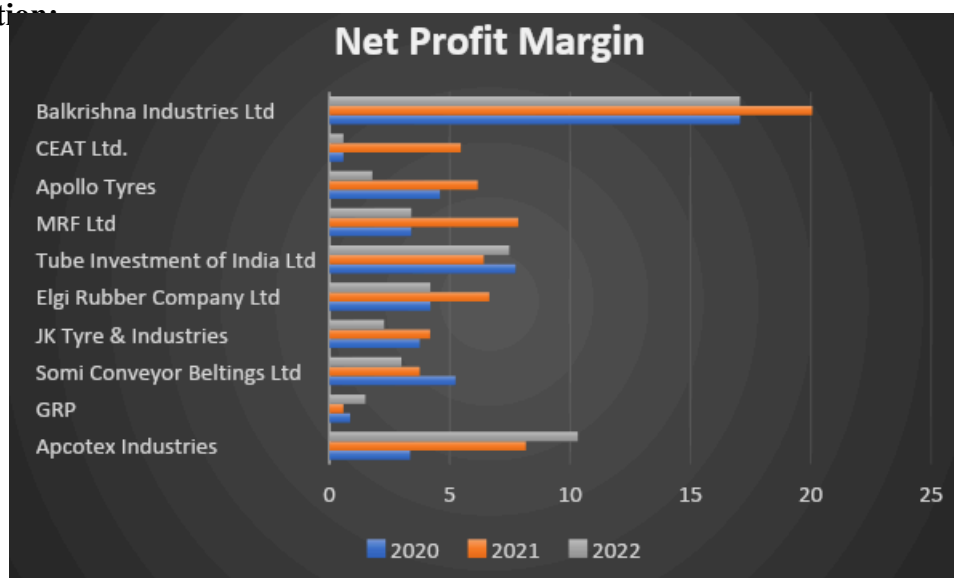
Net profit margin is one of the most important indicators of a company's financial health. By tracking increases and decreases in its net profit margin, a company can assess whether current practices are working and forecast profits based on revenues.

Table 5.4 – Net Profit Margin of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	3.35	8.16	10.32
GRP	0.86	0.58	1.49
Some Conveyor Beltings Ltd	5.24	3.75	2.99
JK Tyre& Industries	3.75	4.18	2.27
Elgi Rubber Company	4.19	6.64	4.19
Tube Investment of India Ltd	7.73	6.41	7.47
MRF Ltd	3.40	7.84	3.40
Apollo Tyres	4.59	6.16	1.78
CEAT Ltd	0.58	5.46	0.58
Balkrishna Industries Ltd	17.06	20.06	17.06

Source – Compiled from data extracted Moneycontrol.com

Interpretation



Balkrishna Industries Ltd. has the highest Net Profit Margin compared to other companies in the rubber industry i.e., between 17 to 20 percent in the last three years. Net Profit Margin of Apcotex Industries has been increased drastically since last two years. In 2020, the lowest Net profit margin was of CEAT Ltd. i.e., 0.58 percent. In 2021, it was of GRP i.e., 0.58 percent and in 2022, it was of CEAT Ltd again i.e., 0.58 percent. According to the data, GRP and CEAT Ltd. Are low performing company in terms of Net profit margin.

5.2.4 Return on Networth / Equity

Return on equity (ROE) – expresses the percentage of net income relative to stockholders' equity, or the rate of return on the money that equity investors have put into the business. The ROE ratio is one that is particularly watched by stock analysts and investors. A favourably high ROE ratio is often cited as a reason to purchase a company's stock. Companies with a high return on equity are usually more capable of generating cash internally, and therefore less dependent on debt financing.

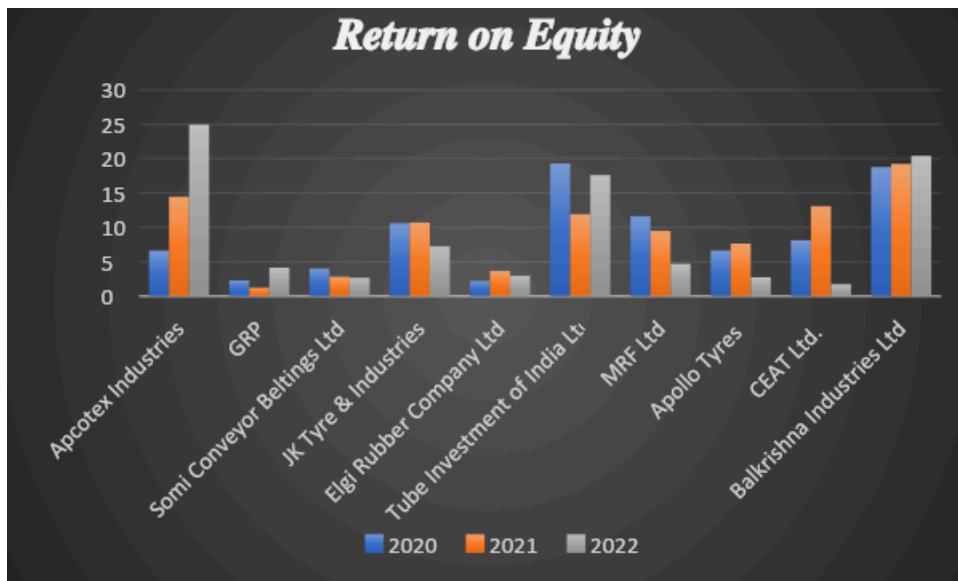
Table 5.5 – Return on Equity of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	6.61	14.45	24.94
GRP	2.28	1.20	4.12
Some Conveyor Beltings Ltd	3.99	2.81	2.67
JK Tyre& Industries	10.57	10.69	7.24
Elgi Rubber Company	2.19	3.65	2.94
Tube Investment of India Ltd	19.30	11.91	17.59
MRF Ltd	11.62	9.47	4.69

Apollo Tyres	6.61	7.63	2.74
CEAT Ltd	8.13	13.07	1.72
Balkrishna Industries Ltd	18.79	19.23	20.37

Source – Compiled from data extracted Moneycontrol.com

$$\text{Return on Equity} = \frac{\text{Net Profit}}{\text{Shareholder's Equity}} \times 100$$



Interpretation:

The return on equity is a measure of the profitability of a business in relation to the equity. The higher the ROE, the better a company is at converting its equity financing into profits.

There is an increase in Return on Equity of Apcotex Industries from 2020 to 2022 i.e., from 6.61 percent to 24.94 percent. There is one percent increase in ROE of Balkrishna Industries Ltd over these three years. In 2020, the lowest ROE was of Elgi Rubber Company Ltd. In 2021, it was of GRP and in 2022, it was of CEAT Ltd. Compared to other companies in the Rubber Industry. These companies need to increase their ROE Margin in order to get more internal finance.

5.2.5 Return on Capital Employed

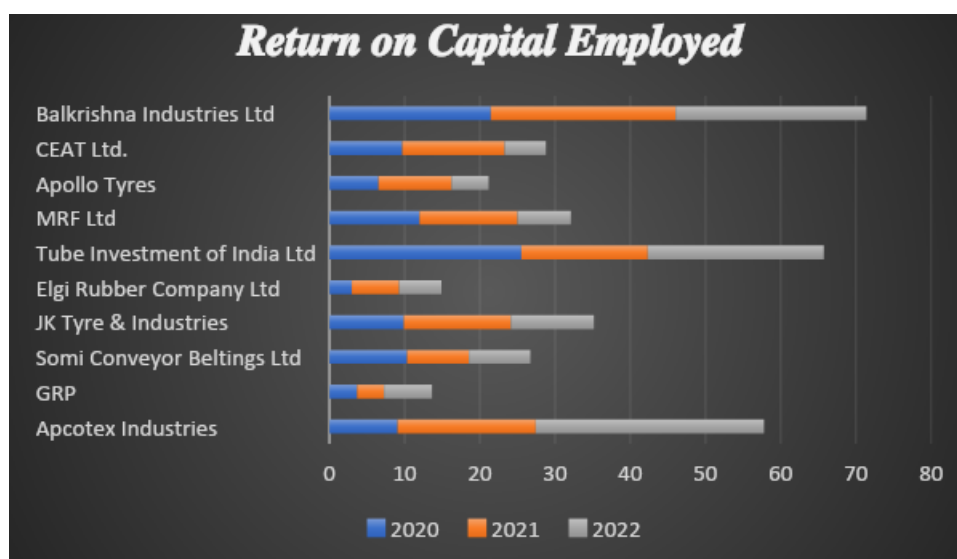
ROCE can be especially useful when comparing the performance of companies in capital-intensive sectors, such as utilities and telecoms. This is because, unlike other fundamentals such as return on equity (ROE), which only analyses profitability related to a company's shareholders' equity, ROCE considers debt and equity. This can help neutralize financial performance analysis for companies with significant debt.

$$\text{Return on Capital Employed} = \frac{\text{Net Profit}}{\text{Capital Employed}} \times 100$$

Table 5.6 – Return on Capital Employed of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	9.05	18.37	30.36
GRP	3.67	3.58	6.38
Some Conveyor Beltings Ltd	10.32	8.22	8.17
JK Tyre& Industries	9.88	14.24	11.04
Elgi Rubber Company	2.97	6.29	5.63
Tube Investment of India Ltd	25.51	16.81	23.42
MRF Ltd	11.97	13.03	7.10
Apollo Tyres	6.51	9.72	4.93
CEAT Ltd	9.68	13.60	5.50
Balkrishna Industries Ltd	21.45	24.57	25.38

Source – Compiled from data extracted Moneycontrol.com



Interpretation:

ROCE can be used to assess a company's profitability and capital efficiency. In other words, this ratio can help to understand how well a company is generating profits from its capital as it is put to use. There is a drastic increase in Return on capital employed of Apcotex Industries from 2020 to 2022 i.e., from 9.05 percent to 30.36 percent. From this we can say that a firm is making consistently good use of its resources. Balkrishna Industries Ltd has

maintained good ROCE over these three years. GRP, Elgi Rubber Company Ltd , Apollo Tyres need to use their financial resources in the effective manner.

5.2.6 Return on assets

Return on assets (ROA), as the name suggests, shows the percentage of net earnings relative to the company's total assets. The ROA ratio specifically reveals how much after-tax profit a company generates for every one dollar of assets it holds. It also measures the asset intensity of a business. The lower the profit per dollar of assets, the more asset-intensive a company is considered to be. Highly asset-intensive companies require big investments to purchase machinery and equipment in order to generate income. Examples of industries that are typically very asset-intensive include telecommunications services, car manufacturers, and railroads. Examples of less asset-intensive companies are advertising agencies and software companies.

$$\text{Return on Assets} = \frac{\text{Net Profit}}{\text{Total Assets}} \times 100$$

Table 5.7 – Return on Assets of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	4.18	9.77	16.33
GRP	1.09	0.64	1.92
Some Conveyor Beltings Ltd	2.61	1.75	1.60
JK Tyre& Industries	3.05	3.53	2.24
Elgi Rubber Company	1.44	2.58	1.92
Tube Investment of India Ltd	11.92	6.94	10.87
MRF Ltd	7.28	5.61	2.85
Apollo Tyres	3.08	3.77	1.30
CEAT Ltd	3.14	5.23	0.60
Balkrishna Industries Ltd	14.03	14.37	12.99

Source – Compiled from data extracted Moneycontrol.com

Interpretation:



Return on Assets ratio helps to determine how the company generates its earning. GRP, Somi Conveyor Beltings Ltd, Elgi Rubber Company Ltd, CEAT Ltd etc., are more asset-intensive companies. These companies need High investments in order to generate profit. It can also be said that these companies are not using their assets efficiently in order to generate profit. Balkrishna Industries Ltd has efficiently maintained its assets over these three years. Apcotex Industries and Tube Investment of India Ltd have maintained their assets more effectively in 2022 compared to previous two years.

5.2.7 Earnings per share

Earnings per share (EPS) is calculated as a company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability. It is common for a company to report EPS that is adjusted for extraordinary items and potential share dilution.

The higher a company's EPS, the more profitable it is considered to be.

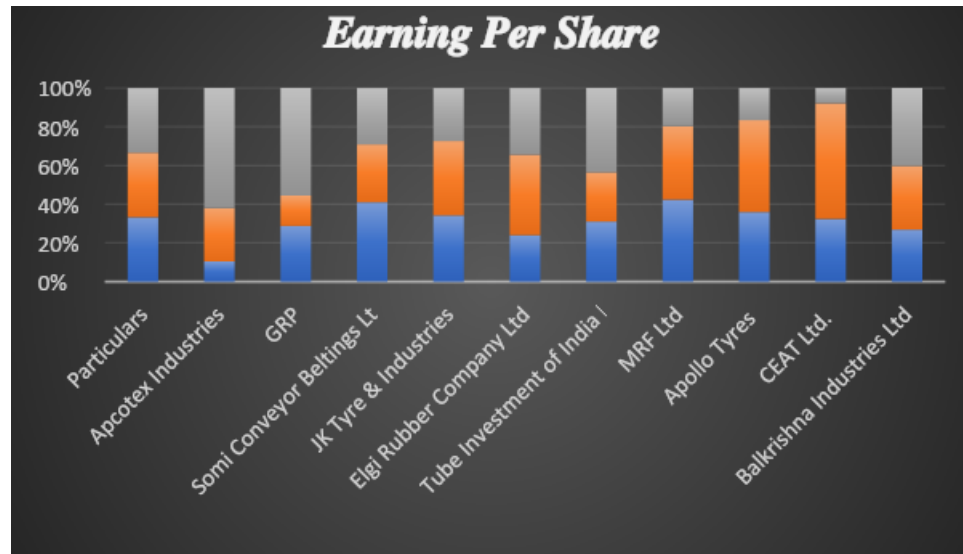
$$\text{Earning Per Share} = \frac{\text{Net Profit}}{\text{Number of Equity Shares}}$$

Table 5.8 – Earning per Share of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	3.21	8.52	19.06
GRP	22.49	12.27	43.39
Some Conveyor Beltings Ltd	2.06	1.50	1.46
JK Tyre& Industries	9.29	10.42	7.43
Elgi Rubber Company	1.16	2.01	1.66

Tube Investment of India Ltd	17.60	14.44	24.64
MRF Ltd	3,289.16	2,945.09	1,526.34
Apollo Tyres	8.89	11.72	4.11
CEAT Ltd	55.53	102.26	13.43
Balkrishna Industries Ltd	48.88	59.77	72.97

Source – Compiled from data extracted Moneycontrol.com



Interpretation:

EPS indicates the company's profitability by showing how much money a business makes for each share of its stock. In 2020, the Lowest EPS was of Elgi Rubber Company Ltd and the highest was of MRF Ltd. In 2021, The lowest EPS was of Somi Conveyor Beltings Ltd and the highest was of MRF Ltd. In 2021, the lowest EPS was of Somi Conveyor Beltings Ltd and the highest was of MRF Ltd. MRF Ltd is very Strong in terms of EPS compared to other companies in the Rubber Industry.

5.2.8 Dividend per share

Dividend per share (DPS) is the sum of declared dividends issued by a company for every ordinary share outstanding. The figure is calculated by dividing the total dividends paid out by a business, including interim dividends, over a period of time, usually a year, by the number of outstanding ordinary shares issued. A company's DPS is often derived using the dividend paid in the most recent quarter, which is also used to calculate the dividend yield.

$$\text{Dividend Per Share} = \frac{\text{Total Dividen Paid}}{\text{Number of Equity Shares}}$$

Table 5.9 – Dividend per Share of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	3.00	3.50	5.00
GRP	5.50	2.50	9.00
Some Conveyor Beltings Ltd	0.00	0.00	0.00
JK Tyre& Industries	0.70	2.00	1.50
Elgi Rubber Company	0.16	0.00	0.00
Tube Investment of India Ltd	3.50	3.50	3.50
MRF Ltd	100.00	150.00	150.00
Apollo Tyres	3.00	3.50	3.25
CEAT Ltd	12.00	18.00	3.00
Balkrishna Industries Ltd	20.00	17.00	28.00

Source – Compiled from data extracted Moneycontrol.com



Interpretation:

DPS is the total amount of dividends attributed to each individual share outstanding of a company. DPS allows an investor to determine how much income from the company he or

she will receive on a per-share basis. MRF Ltd has paid the highest dividends to its shareholders over these three years compared to other companies in the Rubber Industry. Somi Conveyor Beltings Ltd has not paid any dividends to its shareholders over these three years. Compared to Somi Conveyor Beltings Ltd, MRF Ltd can be more attractive from the investors point of view in terms of DPS.

5.3 Liquidity Ratio

A liquidity ratio is a type of financial ratio used to determine a company's ability to pay its short-term debt obligations. The metric helps determine if a company can use its current, or liquid, assets to cover its current liabilities. In each of the liquidity ratios, the current liabilities amount is placed in the denominator of the equation, and the liquid assets amount is placed in the numerator. A liquidity ratio is used to determine a company's ability to pay its short-term debt obligations. When analysing a company, investors and creditors want to see a company with liquidity ratios above 1.0. A company with healthy liquidity ratios is more likely to be approved for credit.

The most commonly used liquidity ratios are as under:

- Current Ratio
- Quick Ratio

5.3.1 Current Ratio

The current ratio is the simplest liquidity ratio to calculate and interpret. Anyone can easily find the current assets and current liabilities line items on a company's balance sheet. Divide current assets by current liabilities, and you will arrive at the current ratio.

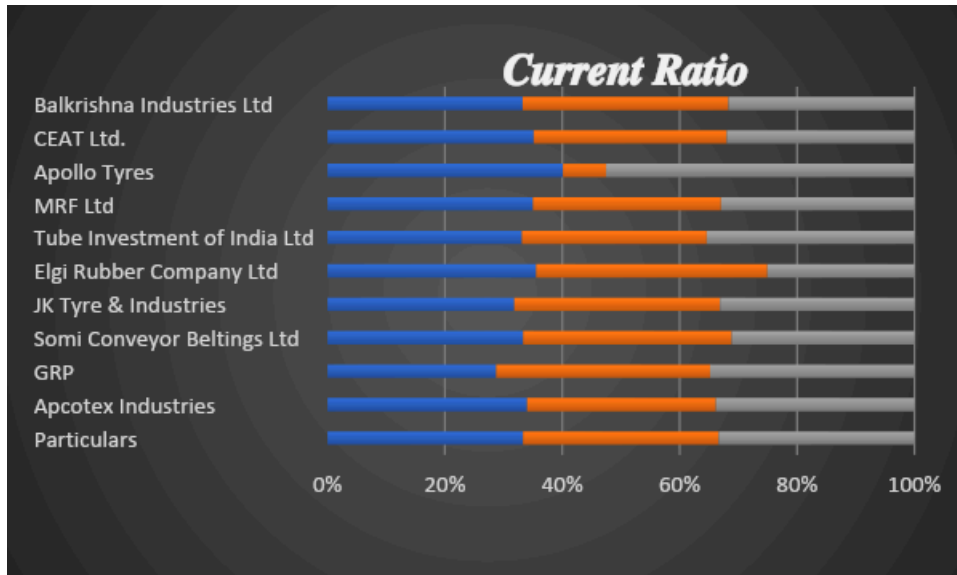
$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Table 5.10 – Current Ratio of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	1.85	1.75	1.84
GRP	1.23	1.56	1.49
Some Conveyor Beltings Ltd	2.13	2.27	1.99
JK Tyre& Industries	0.98	1.08	1.02
Elgi Rubber Company	1.66	1.84	1.17
Tube Investment of India Ltd	1.02	0.97	1.09
MRF Ltd	1.54	1.41	1.45

Apollo Tyres	0.71	0.13	0.93
CEAT Ltd	0.78	0.73	0.71
Balkrishna Industries Ltd	1.28	1.35	1.22

Source – Compiled from data extracted Moneycontrol.com



Interpretation:

The current ratio is an indication of a firm's liquidity. It indicates a company's capacity to repay short-term loans due within the next year. The current ratio of Apollo Tyres and CEAT Ltd. Are less than 1.00 means it does not have the capital on hand to meet its short-term obligations if they were all due at once. Means it does not enough current assets to meet its current obligation. Current ratio greater than 1.00 indicates that the company has the financial resources to remain solvent in the short term. 1.5 current ratio is ideal.

5.3.2 Quick Ratio

The quick ratio is a stricter test of liquidity than the current ratio. Both are similar in the sense that current assets are the numerator, and current liabilities is the denominator. However, the quick ratio only considers certain current assets. It considers more liquid assets such as cash, accounts receivables, and marketable securities. It leaves out current assets such as inventory and prepaid expenses because the two are less liquid. So, the quick ratio is more of a true test of a company's ability to cover its short-term obligations.

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}}$$

Table 5.11 – Quick Ratio of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	1.84	1.32	1.29

GRP	0.83	1.05	1.02
Some Conveyor Beltings Ltd	0.79	1.14	0.82
JK Tyre& Industries	0.63	0.64	0.61
Elgi Rubber Company	0.96	1.116	0.76
Tube Investment of India Ltd	0.61	0.64	0.69
MRF Ltd	0.99	1.01	0.86
Apollo Tyres	0.27	0.65	0.45
CEAT Ltd	0.38	0.36	0.36
Balkrishna Industries Ltd	0.89	0.84	0.69

Source – Compiled from data extracted Moneycontrol.com

Interpretation:

The quick ratio represents the extent to which a business can pay its short-term obligations with its most liquid assets. In other words, it measures the proportion of a business's current liabilities that it can meet cash and assets that can be readily converted to cash. A quick ratio of 1 or above indicates that the company has sufficient liquid assets to satisfy its short-term obligations. Apcotex Industries and GRP Quick ratio above one. Apcotex Industries and GRP company has sufficient current liquid assets to meet its short-term obligations.

5.4 Leverage Ratio

A leverage ratio is any kind of financial ratio that indicates the level of debt incurred by a business entity against several other accounts in its balance sheet, income statement, or cash flow statement. These ratios provide an indication of how the company's assets and business operations are financed (using debt or equity).

5.4.1 Debt-to-Equity Ratio

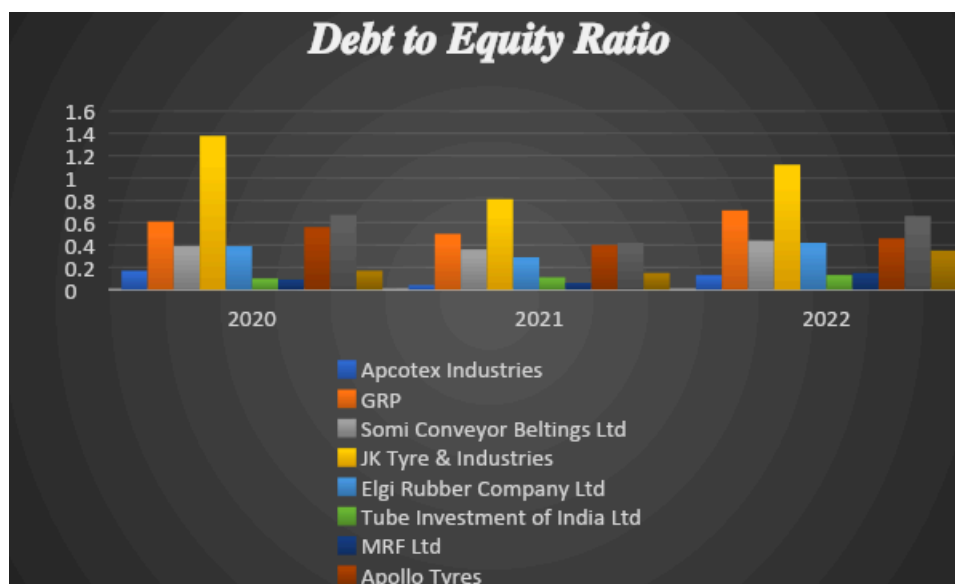
The debt-to-equity (D/E) ratio is used to evaluate a company's financial leverage and is calculated by dividing a company's total liabilities by its shareholder equity. The D/E ratio is an important metric used in corporate finance. It is a measure of the degree to which a company is financing its operations through debt versus wholly owned funds. More specifically, it reflects the ability of shareholder equity to cover all outstanding debts in the event of a business downturn. The debt-to-equity ratio is a particular type of gearing ratio.

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Shareholder's Equity}}$$

Table 5.12 – Debt to Equity Ratio of top 10 companies of India

Particulars	2020	2021	2022
Apcotex Industries	0.17	0.04	0.13
GRP	0.61	0.50	0.71
Some Conveyor Beltings Ltd	0.39	0.36	0.44
JK Tyre& Industries	1.38	0.81	1.12
Elgi Rubber Company	0.39	0.29	0.42
Tube Investment of India Ltd	0.10	0.11	0.13
MRF Ltd	0.09	0.06	0.15
Apollo Tyres	0.56	0.40	0.46
CEAT Ltd	0.67	0.42	0.66
Balkrishna Industries Ltd	0.17	0.15	0.35

Source – Compiled from data extracted Moneycontrol.com



Interpretation:

Debt to equity ratio shows the company's capital structure and how much part of it was financed by Debt (Bank loans, Debentures, Bonds, etc.) A ratio less than 1 implies that the assets are financed mainly through equity. A lower debt to equity ratio means the company

primarily relies on wholly-owned funds to leverage its finances. Almost every firm that a debt-equity ratio less than 0.5, that means the firm is a low-risk investment for lenders or interested investor.

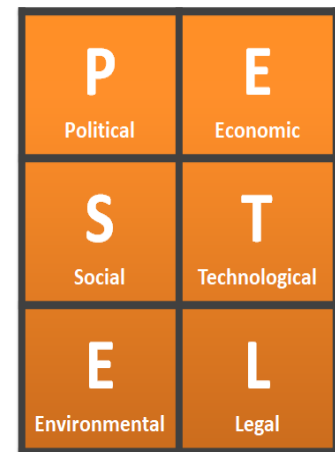
Chapter – 6: Industry Analysis

India is one of the world's fastest expanding economies and is both the largest producer and third-largest user of natural rubber. However, there are significant challenges with the Indian rubber industry. As a result of India's increased participation in the global economy, the Indian rubber sector has grown stronger and more significant. India is one of the world's fastest expanding economies and is both the largest producer and third-largest user of natural rubber.

India is the world's second-fastest-growing major economy, with an annual growth rate of 8-9%, expanding foreign currency reserves, rapid capital market expansion, and FDI inflows. South India has a high concentration of large and medium-sized businesses, as well as automobile manufacturing. In recent years, it was believed that the world's rubber production was highly volatile. When compared to the rest of the globe, India's rubber production remains stable at 6% per year.

6.1 PESTEL Analysis

The acronym PESTEL refers to a method for determining the macro (external) forces that affect a business. The letters stand for Political, Economic, Social, Technological, Environmental, and Legal. In this post, we'll look at the aim of a PESTEL analysis, as well as the advantages and disadvantages of using it in business. Let's take a look at each PESTEL analysis component one by one.



Political variables

These assess the possible influence of the government and government policies on a company or industry. In addition to trade, economic, and taxes measures, this would entail political stability and policy.

Economic variables

An economic component has a direct impact on the economy's performance, which in turn has a direct impact on the profitability of the industry. Interest rates, employment and unemployment rates, raw material costs, and currency exchange rates are also influences.

Social Elements

The key considerations here are recognising new trends and the social environment. This helps a marketer better understand the needs and desires of customers in a social setting. Among the contributing variables include changing family demographics, educational achievement, cultural fads, attitudinal alterations, and lifestyle changes.

Technological Aspects

One of the technological factors is the rate of technological innovation and development that could have an impact on a market or sector. Changes in digital or mobile technology, automation, and R&D could all be influences. It is common to focus just on digital technical improvements, but distribution, manufacturing, and logistical innovations must also be considered.

Environmental Elements

Environmental factors are those that are influenced by ecological elements and their surroundings. As CSR (Corporate Sustainability Responsibility) and sustainability become more significant, this component is becoming increasingly critical in how firms should function. Climate, recycling habits, carbon footprint, garbage disposal, and sustainability are all important considerations.

Legal Aspects

A company must be informed of the norms and regulations in the nations where it does business. They must also be kept up to date on any changes in the legislation and how they may affect how their firm is run. Among these include employment rules, consumer laws, health and safety legislation, international trade regulations, and other factors. Political and legal components may overlap, but the key difference is that legal factors must be followed, whilst political variables are led by government policy.

6.1.1 Political Factors of the Rubber Industry

Political factors greatly influence the aspects that can affect the Rubber industry's long-term profitability in a specific nation or region. The Rubber Company operates in more than a dozen countries, exposing it to a wide range of political systems and environmental problems. Diversifying systemic political environment risks is critical to success in such a globally competitive Rubber & Plastics sector. Rubber Company might carefully analyse the following factors before entering or investing in a specific market:

- Political stability and importance of the Rubber sector in the country's economy.
- Level of corruption - especially levels of regulation in the Consumer Goods sector.
- Bureaucracy and interference in the Rubber industry by the government.
- Legal framework for contract enforcement.
- Intellectual property protection.
- Trade regulations & tariffs related to Consumer Goods.
- Favored trading partners.
- Antitrust laws related to Rubber & Plastics.
- Pricing regulations – Are there any pricing regulatory mechanism for Consumer Goods.
- Taxation - tax rates and incentives.
- Wage legislation - minimum wage and overtime.
- Work week regulations in the Rubber industry.
- Mandatory employee benefits.
- Industrial safety regulations in the Consumer Goods sector.
- Product labelling and other requirements in the Rubber industry.

6.1.2 Economical Factors of the Rubber Industry

Macroeconomic factors such as inflation, savings rate, interest rate, foreign exchange rate, and economic cycle influence total demand for goods and services as well as total investment in an economy. While micro environmental factors such as industry norms have an impact on a firm's competitive advantage. Rubber companies can forecast not only the sector's but also the organization's growth trajectory by employing country-level economic indicators such as growth rate, inflation, and industry-level economic indicators such as Rubber & Plastics industry growth rate, consumer spending, and so on. When doing a PESTEL analysis, the following economic factors have a substantial impact on the rubber industry:

- Type of economic system in countries of operation – what type of economic system there is and how stable it is.
- Government intervention in the free market and related Consumer Goods
- Exchange rates & stability of host country currency.
- Efficiency of financial markets – Does Cooper Tire & Rubber Company needs to raise capital in local market?
- Infrastructure quality in Rubber & Plastics industry
- Comparative advantages of the host country and Consumer Goods sector in the particular country.
- Skill level of workforce in the Rubber & Plastics industry.
- Education level in the economy
- Labor costs and productivity in the economy
- Business cycle stage (e.g. prosperity, recession, recovery)
- Economic growth rate
- Discretionary income
- Unemployment rate
- Inflation rate
- Interest rates

6.1.3 Social Factors of the Rubber Industry

The way of life and culture of a society influence organizational culture in a specific situation. Rubber Company marketers will comprehend the clients of a specific market and will design the Rubber industry marketing message for consumers based in large part on the people's common thoughts and attitudes. Rubber Company leadership should do a PESTEL analysis on the following social aspects:

- Demographics and skill level of the population
- Class structure, hierarchy, and power structure in society.
- Education level as well as education standard in the Rubber Company's industry
- Culture (gender roles, social conventions etc.)
- Entrepreneurial spirit and broader nature of the society. Some societies encourage entrepreneurship while some don't.
- Attitudes (health, environmental consciousness, etc.)
- Leisure interests

6.1.4 Technological Factors of the Rubber Industry

Technology is rapidly disrupting a wide range of sectors. The transportation industry is an excellent example of this concept. Over the last five years, the sector has changed at a breakneck pace, leaving established enterprises with little time to adjust. Uber and Lyft are now the market leaders in the taxi industry. Google is boosting automation in the automobile business, while Tesla, which has announced an electrical car revolution, is upending production.

A corporation should assess the technological status of the industry as well as the rate at which it is being disrupted by technology. Slow technological disruption will provide a firm more time to adapt and be lucrative, whereas quick disruption may give a firm little time to adjust and be profitable. Understanding these consequences is required for technological analysis:

- Recent technological developments by Rubber Company competitors
- Technology's impact on product offering
- Impact on cost structure in Rubber & Plastics industry
- Impact on value chain structure in the Consumer Goods sector
- Rate of technological diffusion

6.1.5 Environmental Factors of the Rubber Industry

Different markets have different norms or environmental requirements, which might impact an organization's profitability in that market. Even within the same country, states frequently have different liability and environmental requirements. In the United States, for example, Florida and Texas have distinct liability requirements in the event of an accident or a natural disaster. Similarly, many European countries provide significant tax incentives to enterprises working in the renewable energy industry.

Before entering new markets or launching a new business in an existing market, the firm should thoroughly analyse the environmental criteria required to operate in those markets. Among the environmental considerations that a corporation should consider in advance are-

- Weather
- Climate change
- Laws regulating environmental pollution
- Air and water pollution regulations in Rubber & Plastics industry
- Recycling
- Waste management in the Consumer Goods sector
- Attitudes toward “green” or ecological products
- Endangered species
- Attitudes toward and support for renewable energy

6.1.6 Legal Factors of the Rubber Industry

Many countries' structures and legal systems are insufficient to protect an organization's intellectual property rights. A corporation should carefully assess its choices before entering

such markets because doing so could result in the theft of its secret competitive edge. When entering a new market, Rubber Company's leadership should consider various legal considerations.

- Anti-trust law in the Rubber industry and overall in the country.
- Discrimination law
- Copyright, patents / Intellectual property law
- Consumer protection and e-commerce
- Employment law
- Health and safety law
- Data Protection

6.2 Porter's Five Forces Model

The book "How Competitive Forces Shape Strategy" by Michael E. Porter in 1979 revolutionized the field of strategy. This framework, popularly known as "Porter's Five Dynamics," which provided a road map for extensively studying competing forces, also influenced a generation of academic studies.

The Porter Five Forces Analysis is a strategic management method for examining an industry's competitive landscape and identifying its key profitability drivers. Managers in the Rubber sector can use the Porter Five Factors framework to better understand how the five competing factors effect profitability and to design a strategy for increasing the firm's competitive edge and long-term profitability.

Porter's Five Forces approach is significantly influenced by classical microeconomics. In the study, the five forces that define an organization's industrial structure are as follows:

- 1. Threat of new entrants**
- 2. Rivalry among existing players**
- 3. Bargaining power of suppliers**
- 4. Bargaining power Buyers**
- 5. Threat of substitute products and services**



Porter's Five Forces is a comprehensive strategy framework that moved strategic decisions away from simply examining current competitors. The Rubber Industry can establish a lasting competitive advantage in the business environment, according to Porter's Five Forces. Managers in the rubber industry can use Porter's Five Forces to create a strategic position in the rubber industry, but they can also investigate profitable prospects within the Consumer Goods sector.

6.2.1 Risk of Entry by Potential Competitors

New entrants in the rubber business bring innovation and new ways of doing things, putting pressure on companies to lower prices, cut expenses, and offer customers new value

propositions. Existing companies must tackle all of these difficulties and construct strong barriers to keep their competitive edge.

How existing Rubber Companies can combat the threats posed by entrants from new markets

- By creating new products and services. New products not only attract new customers but also provide existing customers a reason to keep buying from established Rubber Companies.
- Through the use of economies of scale, the fixed cost per unit can be minimized.
- Increasing resources and investing in R&D. In a competitive market where existing enterprises continuously set high standards, newcomers are less likely to enter. It narrows the window of exceptional earnings for new enterprises, deterring them from entering the market.

6.2.2 Rivalry Among Current Competitors

If competition among current participants in a sector is fierce, it will push down prices and reduce the industry's total profitability. Companies here operate in a highly competitive industry. This competition has an impact on the organization's overall long-term profitability.

How The Companies can tackle Intense Rivalry among the Existing Competitors in the industry

- Building a sustainable distinction is one way that Companies can combat the industry's intense competition.
- By increasing its size to be more competitive
- partnering with rivals to expand the market rather than only fighting for a small market.

6.2.3 Bargaining Power of Suppliers

The majority of rubber companies get their raw materials from several sources. Monopolistic suppliers can lower margins. Rubber companies can profit from the market. Strong consumer goods suppliers use their bargaining power to force rubber firms to pay more. Increased supplier bargaining strength generally reduces Rubber's overall profitability.

How The Rubber Companies can tackle the Bargaining Power of the Suppliers

- By creating a productive supply chain with a variety of vendors.
- By experimenting with product designs using various materials. A corporation can switch to another if the price of one raw material increases.
- Developing loyal suppliers whose companies are dependent on the corporation. One thing The Companies can learn from Nike and Wal-Mart is how they built third-party manufacturers, whose business is wholly dependent on them, resulting in third-party manufacturers having substantially less bargaining leverage than Nike and Wal-Mart.

6.2.4 Bargaining Power of Buyers

Buyers should exercise extreme caution while making purchasing decisions. They want to spend as little money as possible while still getting the greatest things. This has an impact on The Rubber Companies' long-term profitability. Rubber Company's customers have more bargaining power and can demand larger discounts and offers as the company's clientele grows more exclusive and powerful.

How The Rubber Companies can tackle the Bargaining Power of Buyers

- By developing a huge consumer base. This will be beneficial in two ways. Buyer bargaining power will be reduced, and the corporation will be able to streamline its sales and manufacturing methods.
- By fast generating new stuff. Customers usually seek out discounts and promotions on well-known products; therefore, if The Rubber Companies continues to manufacture new products, it may limit consumers' capacity to bargain.
- The Rubber Company's existing consumers will be less likely to switch to one of its rivals as a result of new goods.

6.2.5 Threat of Substitute Products

When a new good or service meets a comparable client's demand differently, industry profitability suffers. Hardware storage discs, for example, can be substituted with services such as Dropbox and Google Drive. If a substitute product or service has a value proposition that differs significantly from the market's current options, it constitutes a major threat.

How The Rubber Companies can tackle the Treat of Substitute Products / Services

- By being service oriented rather than just product oriented.
- By understanding the core need of the customer rather than what the customer is buying.
- By increasing the switching cost for the customers.

6.3 SWOT Analysis

Rubber Industry internal and external macro environmental issues are abbreviated as SWOT (Strengths, Weaknesses, Opportunities, and Threats). Internal resources, knowledge, and industry limits frequently limit the sector's strengths and disadvantages. Opportunities and dangers are analysed in light of dominating market dynamics as well as other aspects such as economic, political, social, health and safety, technological, legal, and environmental considerations.

According to a global CEO poll done by the Harvard Business Review and Brightline Initiative, just 20% of organizations stated strategic goals are met. The remaining 80% of strategic goals are not accomplished due to insufficient planning, inadequate resource allocation, and poor execution.

Successful businesses foresee market trends more accurately than their competitors, spend resources to the production of goods and services that capitalize on those trends, fend off threats from rivals, and meet customers' expectations for value. The MRF is the largest and

best-known corporation in the Indian rubber industry. It manufactures, distributes, and sells tyres and related materials for various vehicle kinds, such as tubes, flaps, trade rubbers, and conveyor belts. Here is a SWOT analysis of the company.

6.3.1 Strengths

Industrial Notoriety and Brand Reputation: MRF has dominated the tyre industry for more than 55 years, with an average market share of 50% of India's overall market.

Effective Leadership: The MRF was founded by Mr. K.M. MammenMappilai, the most successful business promoter ever discovered in India and the originator of the famed Manorama group. Mr. K.M. Philipp, the current full-time manager of MRF, is known as the "PATRIARCH of Indian Rubber" for his pioneering efforts and visionary leadership that enabled the sector preserve strength, stature, and permanence during difficult years.

Experience: The MRF was established in 1946, one year before India gained independence. MRF has grown alongside the country's independent industry as a result of its understanding of the important signals of the Indian Rubber sector. MRF has seen the industry's overall sluggishness and pace.

Financial: The previous year's total sales were Rs. 8080.45 Crores. Over the years, sales, profit before tax, profit after tax, reserves, net worth, and total sales have all increased. It merely shows MRF's ability to turn a profit.

Manufacturing units and Distribution Channels: MRF has six production plants in South India, including Goa, Medak in Andhra Pradesh, Tiruvattiyur and Arakkonam in Tamil Nadu, Puduchery and Kottayam in Kerala, and Tiruvattiyur and Arakkonam in Kerala. A well-organized distribution system has been established with the purpose of distributing the commodities, and it includes both direct and indirect channels (selling through intermediaries or agents). Exports are also included in sales.

Company's total production vs the Total Industrial Production: MRF Tyres has had the greatest percentage increase in output when compared to the overall industry. According to a segment-by-segment assessment, the heavy commercial MRF has a 17% market share, compared to the whole industry's 13%. MRF controls 30% of the market for light commercial vehicles, whereas the whole industry is only growing by 10%. MRF's growth in the passenger/jeep segment is 40%, compared to 39% for all industrial production.

Customers: Audi, Daewoo, Daimler Chrysler, Fiat, Ford, GM, Honda, Hyundai, Maruthi-Suzuki, Renault, Reva, Skoda, Tata, Toyota, Royal Enfield, HHML, Bajaj, HMSI, Yamaha, TVS, and Suzuki are just a few of the well-known automakers who use MRF tyres.

Quality: Each product is tested soon after it is manufactured, and MRF is an ISO 9001-certified company, therefore the product's quality is assured. MRF and the Mansfield Tire & Rubber Company in the United States began collaborating in 1955 to improve product quality. Furthermore, MRF is the only company in India that has technological cooperation with Vapocure Australia for their curing technology. All six MRF plants are 16949/ISO 9001 certified, indicating the high quality of their output. All goods are tested both inside and

outside to verify they meet OEM and MRF requirements, as well as any applicable national standards such as BIS, JIS, ETRTO, and T&RA.

Technology Research and Development: MRF has a staff of 300 engineers and scientists working on ways to design tyres that fulfil the needs of customers. MRF designs use the most advanced technologies available.

Tie-ups and Business Diversification: MRF has collaborated with a number of other significant international industrial corporations to build new businesses in order to diversify its activities. Funskool, India's current leading toy producer, was founded through a collaboration by MRF Tyres and Hasbro Inc., USA. MRF Speciality Coating, which has an 80% market dominance in this business, was formed as a result of a collaboration between MRF tyres and Bayer Germany. MRF created Pace Academy training locations around India to teach fast bowlers. Furthermore, the previously announced collaboration with Vapocare.

6.3.2 Weaknesses

Internal factors within the firm that prohibit it from achieving its actual performance are referred to as weaknesses. The following is a list of flaws.

The cost function: According to the financial report, overall costs are rising in the same proportion as total revenues. This indicates MRF Tyres' ability to achieve the highest level of cost management. Raw material prices have a direct impact on the rubber sector because they account for 70% of total production costs and include natural rubber, crude oil, and other goods.

Substantial capital is required: MRF Tyres' production activities necessitate a significant quantity of cash. A large amount of money was also required for research methods, other humanitarian endeavours, and sponsorships.

Huge Expectations: As the market leader in the Indian rubber business, MRF Tyres will be continually scrutinized and will need to work hard to maintain its standards. The pricing strategy used by MRF is critical since the cost of rubber in India is directly tied to the cost of obtaining rubber from MRF.

Product Range: MRF exports its items to other countries, however, the majority of its offerings are aimed at the Indian market.

6.3.3 Opportunities

Opportunities are beneficial situations in the organization's environment that can be described as a usual trend, a change of some kind, or an unmet need that generates increasing demand for a good or service and allows the company to enhance its position by providing it. The following are the MRF Opportunities.

Stayed alive throughout the Great Depression: MRF Tyres had survived the downturn despite a little fall in its market share during the Great Depression, which fell to 40%. Even during the worst recession in decades, their overall sales and profitability increased. It displays widespread support for its products, and the company's future seems bright.

Tie-ups: Because the MRF has tie-ups with other firms and developed the leading organizations in those specific industries, we can predict more future collaboration with others for the diversification of its product range as well as the improvement of quality for their current products.

Overseas Trade: Because of its significant experience in global trade through exporting and collaborations with foreign enterprises, the MRF has a large market potential abroad. MRF will be welcomed with open arms in every foreign country as it seeks to diversify its business.

Reserves: The MRF has a substantial reserve of INR 1686.44 crores that it can utilize for future objectives. As a result, funding for all of their future objectives can be obtained straight from the corporation.

Tariff Regulations: In December 2008, excise taxes were reduced from 14% to 10%, and in February 2009, they were reduced to 8%. This provided tyre manufacturers with numerous opportunities to get raw materials from other sources, which helped to reduce production costs.

The expanding economy and it's needs: The Indian economy is predicted to increase by 8.5 percent this year, following five years of average yearly growth, which is fantastic growth. Furthermore, the country's vehicle industry grew by 27.6 percent last year, indicating a rise in demand for domestic tyre supply as well as additional demand from exports. As a result, MRF is in a terrific position.

Infrastructure in India: India's infrastructure is rising in lockstep with the country's GDP. Both the federal and state governments exercise extreme prudence while constructing infrastructure, particularly roadways, agriculture, and forests. As a result, MRF has been presented with yet another amazing chance.

International Economic Growth: The shifting global economy, as well as the advent of new, significant economies such as Brazil, provide MRF with several opportunities.

6.3.4 Threats

The threat is the requirements or challenges in the next environment. The risks caused by MRF are classified as follows:

The current strike: Because of the large number of automotive and auto component companies in Chennai, sometimes known as the "Detroit of Asia," a labour strike is currently taking place both within MRF and throughout the entire automotive industry. It had rocked practically the whole sector. As a result of the strike, two MRF manufacturing sites in Tamil Nadu have already shut down. This is a major threat to MRF.

The cost of raw materials is rising: Both crude oil and natural rubber prices are steadily growing, both nationally and globally. According to prominent international rubber groups such as the Association of Natural Rubber Producing Countries (ANRPC) and the International Rubber Study Group, the supply of natural rubber would be constrained for the next two years, driving increasing prices (IRSG). These two types of raw materials account

for 70% of total production costs. Both the MRF and the rubber sector are at risk as a result of this.

Cheaper items from China: The cheapest tyres can be found in China. While the pricing is relatively inexpensive in comparison to MRF's outstanding items, the quality will be exceedingly low. Due to the low pricing, it is only able to capture 5% of the market share in the Indian sector. This poses yet another threat to MRF.

Size of the Industry	The Size of the Indian Rubber Industry is: about 6000 unit comprising 30 large scale, 300 medium scale and around 5600 small scale and tiny sector units.
<i>Table 7.1 Overview of the Industry</i>	
Output per annum	Today Indian Rubber Industry consists of turnover of Rs 12000 crores.
Percentage In World Market	India is the world's largest producer and the third largest consumer of natural rubber.
Market capitalization	India's Rubber production varies between 6 and 7 lakh tons annually which amounts to Rs. 3000 crores.

Cycles in the automobile industry: The cyclical nature of the sector alludes to the use of secondhand cars. As a result, the automobile industry's sales will fall slightly, hurting the sales of its suppliers. This also offers a risk.

Chapter –7: -Future Scenario of the Indian Rubber

The strength and importance of the Indian rubber industry have grown in tandem with India's growing role in the global economy. India's economy is one of the world's fastest-growing, and it is both the world's largest producer and third-largest consumer of natural rubber. With a continuous yearly growth rate of 8-9%, expanding foreign currency reserves, rapid expansion in capital markets, and FDI intake, India firmly asserts itself as the world's second fastest growing major economy. The presence of major and medium-sized firms in South India, as well as a high concentration of vehicle manufacturing, has made Chennai an appropriate venue for the India Rubber Expo.

The last few years have been described as extremely volatile for global rubber output. Every year, India produces 6% more rubber than the rest of the world combined. The Indian rubber sector has grown significantly over the years.

Indian Rubber Producing Areas are divided into two zones traditional and non-traditional

Table 7.2 Traditional and Non-Traditional Zones of Rubber Producing areas

Traditional Zone	Non-Traditional Zone
Kanyakumari in Tamil Nadu	Coastal regions of Karnataka
Districts of Kerala	Goa
	Andhra Pradesh
	Odisha
	Some areas of Maharashtra
	Northeastern states (mainly Tripura)
	Andaman and Nicobar Islands

Kerala accounts for almost 90% of India's total natural rubber production. Kerala and Tamil Nadu account for 86% of the natural rubber-growing region.

The Indian Rubber Consumption is as follows

- Automotive tire sector: 50% consumption of all kinds of rubbers
- Bicycles tires and tubes: 15%
- Footwear: 12%
- Belts and hoses: 6%
- Camelback and latex products: 7%
- Other products: 10%

Market capitalization

India produces between 6 and 7 lakh tonnes of rubber each year, worth around Rs. 3000 crores. Ribbed Smoked Sheets (RSS), which account for 70% of all rubber produced in India, are also imported, accounting for 45% of total rubber imports. The Indian rubber business is currently worth 12000 crores of rupees. Rubber is primarily used in the tire industry, which accounts for more than 52% of the total output in India. Kerala is the largest user of rubber, followed by Maharashtra and Punjab. Despite being one of the world's leading rubber producers, India still imports rubber. India currently imports approximately 50,000 tonnes of rubber each year.

Size of the industry

The Indian rubber industry has around 6000 units, including 30 large-scale, 300 medium-scale, and approximately 5600 small-scale and minor sector businesses. These companies create over 35 000 rubber goods, employ 400 000 people, including 2 2000 technically qualified support workers, and pay Rs. 40 billion in taxes, tariffs, and other levies to the national exchequer. The rubber plantation sector in India produces more than 630 000 tonnes of natural rubber each year, with more than 1 million tonnes expected in the near future. As a result, the Indian Rubber Industry plays an important role in the country's economy.

Domestic and Export Share

India's natural rubber export share has increased dramatically over time, reaching 76000 tonnes in 2003-04. According to a recent estimate, India exported more than Rs. 2000 cores worth of rubber goods, including tires. These are the goods that are shipped abroad.

- Rubber and canvas shoes
- Tires for bicycles
- Tires and tubes for automobiles
- Belts and beltings
- pharmaceutical products
- rubber hoses, Cots, and aprons
- sheeting

Latest developments

- The Indian rubber sector is expected to grow at a rate of more than 8% per year over the next decade, with per capita consumption of 0.8 kg as opposed to 14 kg. There is a lot of space for growth, development, and exports in the next years. Rubber exports were worth Rs. 30 billion in 2005.
- Increases in the automobile sector, greater average living standards for people, and overall faster industrialization all add to the promise of growth. Rubber consumption per person in India is barely 800 grammes per year, compared to 12 to 14 kilos in Japan, the United States, and Europe. India is still a long way from attaining saturation in terms of rubber product utilization. It is a component that will add to the industry's tremendous growth potential in the next years.
- India is the fourth-largest consumer of natural rubber and the third-largest producer of rubber in the world.
- India is the world's fifth-largest user of both natural and synthetic rubber combined.
- The only two nations in the world with the ability to use up the whole domestic supply of natural rubber are China and India.

7.1 Literature review related to the rubber industry

“India needs 150,000 tonnes of natural rubber by 2025-26: Rubber Board chief”

Rubber Board Chairman SawarDhanania believes that there is an urgent need to extend the area under rubber cultivation on a war footing in order to satisfy the country's 15 lakh tonne natural rubber (NR) need by 2025-26. This will help to meet domestic demand, minimise dependency on imports, and restrict foreign currency outflows. The Rubber Board has earmarked a large area of land in West Bengal and the northeast for rubber farming. According to Dhanania, the Board devised the project "NE-MITRA" (North East Mission of Tyre Industry for Rubber Augmentation) to establish rubber plantations in the region with finance from consuming industries. According to present trends, he claims that India's NR supply will not be sufficient to meet the demands of the consumer industry, as consumption is expected to rise 15 lakh tonnes by 2025-2026. Currently, imports are needed to balance the production-consumption gap, resulting in a huge outflow of foreign currency. Thus, to meet domestic demand, reduce dependency on imports, and limit the outflow of foreign cash, it is critical to expand the area under rubber cultivation on a war footing.

According to Rubber Board Executive Director K.N. Raghavan, who presented the report on the current domestic status of NR, NR production increased in the country to 7,75,000 tonnes during 2021-22 from 7,15,000 tonnes during 2020-21, an increase of 8.4% compared to an increase of 0.4% registered during 2019-20. Only 5,26,500 hectares (73.2%) of the 8,26,660 hectares under rubber and 7,18,800 hectares tappable during that time period contributed to the year's NR production. According to Rubber Board Executive Director K.N. Raghavan, who presented the report on the current domestic status of NR, NR production increased in the country to 7,75,000 tonnes during 2021-22 from 7,15,000 tonnes during 2020-21, an increase of 8.4% compared to an increase of 0.4% registered during 2019-20. Only 5,26,500 hectares (73.2%) of the 8,26,660 hectares under rubber and 7,18,800 hectares tappable during that time period contributed to the year's NR production.

“What to Expect in The Rubber Industry in the Future?”

IRC

The rubber business has a lot of space to grow if government policies are effectively implemented. It will shortly exceed its 80,000-crore target. Every year, only one to eight kilograms of rubber are consumed. In some countries, the amount of rubber used per person appears to be excessive. As a result, the rubber industry has a lot of room to grow in the future. Addressing the obstacles that may stymie the rubber sector's expansion is also critical. Increased rubber imports are concerning, and specific steps should be taken to save the sector.

“India’s performance in rubber sector impressive”

The Hindu

Mr. Budhraj, a tire industry veteran, argued that the outbreak had created an unprecedented global crisis. The domestic economy, and particularly exports, have rebounded and been

revitalized in great part due to India's auto and tyre industries. The indigenous natural rubber sector must capitalize on its bright future and great potential. The rubber business provides the crucial fuel that India's economy requires to grow. The entire rubber value chain can see the future now that it is focused on growth," he added. India's rubber use increased by 22% by 2021, with both natural and synthetic rubber being utilised more frequently. The global demand for rubber increased by 11% in 2021.

The public and private sectors' investments and regulatory actions aided the sector's expansion. The government adopted incentives and reforms to improve the business environment. According to Mr. Budhraj, the government's self-sufficiency plan was also critical to the sector's success.

“Rubber Industry Likely to Double Its Exports By 2025”

Business World

According to the All India Rubber Industries Association (AIRIA), the non-tire rubber business, which is currently worth USD 2 billion, aims to triple its exports by 2025. AIRIA held an event to promote the exchange of ideas and suggestions for the successful functioning of the rubber industry in the coming years. During the conference, SawarDhanania, president, Shashi Singh, senior vice president, Vikram Makar, immediately-past president, Vinod Bansal, chairman of the export committee, and 50 important non-tire commodity exporters are present. The meeting's goal was to draw attention to the challenges and opportunities confronting India's rubber business.

"By 2025, it is expected that the global market for rubber products, which is presently valued at roughly USD 212 billion, will rise as well," said president SawarDhanania. We believe that because MSMEs are so important to India's economy and commerce, India's free trade agreements (FTAs) should contain measures to address the special difficulties, demands, and limits that MSMEs may face while doing business in foreign markets. As a result, we ask the government to take steps to ensure that the terms of our FTAs benefit MSMEs for internalization and that trade facilitation is integrated into MSME development objectives, Dhanania concluded. SMEs can operate globally by creating an equal opportunity export infrastructure, improving their access to capital, educating them about successful marketing channels, and facilitating connections with trade corporations.

Conclusion

The overall analysis includes the Rubber Industry's breadth and viability, as well as its financial, technological, and market potential. The project provides sufficient funds to repay the loan while also offering a good return on capital investment. When the project's social and economic impact is examined, it has the potential to produce additional jobs. It will satisfy the need for rubber, allowing other companies to increase their production and services in this industry. As a result, more cyclical employment and livelihood generation would occur. So, we may infer that the industry is technically, socially, and commercially successful in all respects.

India is a large market. Continued reform of the tax structure and moderation of excise rates for rubber would:

- 1) Provide the basis for upgradation of consumption.
- 2) Meet consumer aspirations in line with international trends.
- 3) Enlarge foreign exchange earnings.
- 4) Increase Government revenues.
- 5) Bring the multiplier impact of increased farmer incomes to the rural economy.
- 6) Provide Indian manufacturers a growing base to invest in brands and technology to compete effectively.
- 7) If Company is well positioned to take the leadership role in the process of realizing this potential and thereby contributing to the well-being of all stakeholders.

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