CHAPTER-III
PRODUCT STRATEGY

There are 21 major tyre companies in India, almost all of them in the private Sector. There are ten large companies manufacturing a wide range of tyres, mainly bus and truck tyres. Medium sized companies, numbering eleven, mostly manufacture two and three-wheeler tyres. Each tyre company is having its own marketing strategy.

This chapter is divided in three groups.

(a) Study of market segments

(b) Pricing Research

(c) Consumer feedback to new products.

STUDY OF MARKET SEGMENTS

Market consists of buyers, and buyers differ in one or more respects. They may differ in their wants, purchasing power, Geographical locations, buying attitudes, and buying practices. Any of these variables can be used to segment a market[1].

Market segments are large identifiable groups within a market, such as tyre buyers seeking basic transportation, Tyre buyers seeking high performance, tyre buyers seeking safety. A niche is a more narrowly defined group that may seek a special combination of benefits. As the
seller subdivides a market by introducing more defining characteristics, the segments tend to devolve into a set of niches.

Market segments normally attract several competitors, whereas a niche attracts one or only a few competitors. Niche marketers presumably understand their niche's needs so well that their customers willingly pay a price premium. For example, Apollo obtains a high price for its Aeroplane because its loyal buyers feed that no tyre company comes close to offering the product - Service membership bundle desired by these customers.

An attractive niche could be characterized as follows: The customers in the niche have a distinct and somewhat complex set of needs; they will pay a premium to the firm best satisfying their needs; the niche marketer would need to specialize its operations to be successful; and the niche leader is not easily attacked by other competitors[2].

What is Grouped is Forming Tyre Industry Segments: one of the problems involved in segmentation is to know what precisely is being grouped to form segments. As far as consumers are concerned, they are not mutually exclusive categories. But since classes should be mutually exclusive by and large, what precisely is that which we are grouping into segments? The answer is that we are grouping buyer's probability of purchasing different types of offering.
But for effectiveness of the Segmentation it is necessary that a marketer must describe its segments both in terms of what is wanted and who is likely to buy it. In other words, we must define the configuration of benefits sought and also draw up a profile of these in the segment that distinguishes them from the members of other segments.

A good, practical, Approach for gathering comprehensive knowledge about what is wanted and who is likely to buy it is to ask yourself questions such as.

What

* benefits does the customer seek?

* Factors influence demand?

* Functions does the product perform for the customer?

* Are the important buying criteria?

* Is the basis for comparison with other products?

* Risk does the customer perceive?

* Services do customers expect?

How

* Do customers buy?

* Long does the buying process last?
* Do various elements of the marketing programme influence customers at each stage of the process?

* Do the product fit into their style or operation?

* Much are they willing to spend?

* Much do they buy?

Where

* Is the decision made to buy?

* Do customers seek information about the product.

* Do customers buy the product?

When

* Is the first decision to buy made?

* Is the product repurchased?

Why

* Do customers buy?

* Do customers choose one brand as opposed to another?

Who

* Are the occupants of segments identified by previous questions?

* Buys our product, and why?

* Buys our competitor's products, and why?
When asking questions such as these we have keep in mind the following points.

* The list of questions is only suggestive, this will have to review to suit the specific situation.

* This will have to collect the necessary data to supply the answers.

The markets for tyres i.e. the users could be broadly classified into seven market segments as under[3].

1. Replacement Tyres
2. Big fleet operators.
3. Large Institutional Buyers.
4. State Road transport corporation.
5. Original equipment manufacturers.
6. Government of India (defence and air ways)
7. Export markets.

The biggest market segments is of replacement tyre users they are the vehicle owners who buy tyres for replacement of old tyres which have worn out and become unserviceable. Since one third of the market is constituted by truck and bus owners who contribute 80 percent to sales,
more attention is paid to the truck and bus tyre users. The purchase decision of a truck or bus tyre user rests mainly on the overloading capacity. A truck transportor emphasises the amount of goods that can be carried in each trip and, therefore, mileage is the most important criterion for purchase. The passenger car tyre user lays emphasis on load bearing capacity but primarily brand image and brand perception are considered to be more important. The taxi tyre sub-Segment considers ease of Maintenance and quality rather than the loading capacity.

PRICING RESEARCH

The issue of tyre pricing has been controversial. There have been frequent price increase effected by tyre companies which have allegedly been due to an informal cartel arrangement\[4\]. The tyre industry is accused of collusive price increases on the other hand, the industry spokesman deny the allegations and claim that the increases have been due to the high raw materials costs and excise and sales tax. Pricing of Tyre depends upon the raw material.

The raw materials constitute proportion of tyre costs, estimated to be about 75 percent. The major raw materials are natural rubber, nylon tyre cord, carbon black, and other rubber chemicals. The prices of many of raw materials have been increasing over the last few years affecting the tyre prices adversely\[5\]. Another major factor which affects the prices
of tyres is the incidence of excise and sales taxes. On an average, the total tax over the selling price of a tyre is estimated to be around 35 percent. The raw material are also subjected to heavy taxation. A comparison of excise duty structure reveals that tyres are more taxed than some luxury goods. Being highly prices tyres typically account for 20 percent of the total operating costs of a standard truck. To maintain an even price, the Bureau of Indian standards has finalised a fixed margin for specific kinds of tyres. The margins for truck and bus tyres are fixed at percent and 7.5 percent for all other types of tyres the dealers cannot charge more than. These margins, though they are at liberty to sell at lower prices.

Rubber market was rather sedate but renunerative during May and June 2003. The crop generation was in low key first on account of deficient rains and then owing to excess rains by third week of June Demand was not strong owing to the tight money situation. Supply was not also comfortable. Most of the growers were conserving the crop for sale during June anticipating the monsoon rains to lash out and disrupt tapping. Sales were mostly by growers who depended upon the Crop for the daily bread.

The RSS4 market was fluctuating between Rs. 46 and Rs. 49.50 per Kg in May. Average during the month was Rs. 48.62 as the market showed a tendency to rule mostly at or near the higher level backed by
June opened with the market further firming up to Rs. 49.75 per Kg. The pre monsoon showers were light and the sun was very hot. Rains played truant during the first fortnight of June and allowed the summer heat to peak. Day temperature shot up above 40 degree celcius in many parts of the country the hot sun mopped up whatever moisture the Scanty rains provided to the soil in the absence of sufficient soil moisture, the trees could flush out new fibrous roots to take in the nutrients, production fall.

The intense heat had its impact on the rubber manufacturing sector as well. Most of the small units considerably reduced the factory operations in the north and other parts of India, while in South India the units pared down production because of the high cost of thermal power. Power generation from the hydel projects was low as water level in the reservoirs dropped down. Hence factory operations of most of the units was below normal. Low operation reduced the demand for rubber. The futures market also fell, quoting lower rates of around Rs. 47.50 per Kg. For July delivery and around Rs. 48.00 for August and September deliveries. However, the fall in price may not lost long with the projected rainfall of 96% of the long period. Average (LPA) in 2003, torrential downpours are likely to continue and upset tapping of rubber trees in July this would create supply trees in July this would create supply crunch, paying the way for the price to rise.
Price fall helped the domestic market to keep parity with the world price:

Earlier, domestic price was ruling above the world price. During the first fortnight of May, price of RSS 3 abroad fluctuated around the equipment of Rs. 44.50 per Kg and during the second fortnight, about Rs 47.50. Block rubber TSR 20 was fluctuating around Rs 40 per Kg in the global market while its price in India was much higher, between Rs 45 and Rs 48.50 per Kg. As the world price ruled low, major NR consumers in India imported largely the block rubber.

Rubber import was cheaper even after paying the 25% custom duty, as it did not attract the 12.65% purchase tax levied in Kerala, the rubber growing state which produced over 90% of the NR in India. A major portion of the import was block rubber TSR 20, the price of which remained lower than price of RSS 3 by about Rs 8 per Kg in the world market. In the past, there were occasions for TSR 20 to climb over the price of RSS 1, when demand was strong in the European markets. Then the major portion of the import consisted of sheet Rubber RSS 3.

The price of latex concentrate was around Rs 33.00 per Kg in the International market till the third firmed up to fluctuate around Rs 34.00 per Kg for a week and with the advent of June, went ahead to cross Rs 35.00 per Kg. In the U.S. currency latex price was above 75 cents per Kg.
at the producing centres. However latex import was nominal as its custom duty remains high at 70%. Only a few units in the export processing zones (EPZ) imported latex as import of raw material to the EPZS is a free of duty.

Despite the fluctuations in the price of sheet and block rubber, latex price almost remained steady at Rs. 38 per Kg (Wet weight) most of the time during the two month period, as the major processors were not ready to sell latex low, even through the demand was low. Early in May latex fetched Rs. 39.00 per Kg, but after a week the price declined to Rs. 38.00 when demand fell, as the hot climate was not conductive to production of dipped goods. By the end of June the price has fallen further to Rs. 37.50 per Kg.

Now rubber import can be made without any restriction and the consumers go in for imports when domestic market tends to rise. The practice will continue but may cease to be operative once the domestic price moves in tanders with the world price. Now that growers get a remunerative price, any attempt to engineer a price rise through supply management in more imports to restrain the domestic price.

**Natural Rubber position in 2002 - 03:**

The final figures of India production, consumption, stock, export and import of NR during 2002/03 are now available. Production achieved
a growth of 2.9% to 649,435 tonnes, substantially ahead of the previous years growth of 0.2% to 631,400 tonnes. Consumption made a healthy growth of 9%, rising to 695,425 tonnes compared to 638,210 tonnes in 2001/02. In this, the tyre sector’s growth was massive at 16% where as growth in the non-tyre sectors was a lacklustre 2.5%. Import of rubber was around 25,000 tonnes and the export over 55,000 tonnes. Export have brought down the stock level below two month’s consumption requirement.

**Position in 2003-04:**

The stock carried down to the year 2003/04 is 110,325 tonnes this is not considered to enough to ensure smooth flow of rubber from the producing centers in the far south to the consuming regions in the west, east and north India. Normally a stock cover of two month’s consumption requirement is considered essential for such flow. Two month’s consumption during 2003/04 would amount to 119,000 tonnes. As the carry over stock is lower by about 9,000 tonnes and the consumption in 2003/04 is estimated to be higher by 27,000 tonnes, the consumers may bring in imports to make the deficiency and also as additional quantum to restrain any hike in domestic price.

The quantum of imports would also depend upon the international price rubber price was ruling in India at Rs. 47.0 per Kg for RSS 4 during the last week of June, where as the price abroad for RSS 3 was
also ruling around this figure. A rise in the world price cannot be ruled out as the peak production season draws to a close. The economist intelligence unit has predicted in its latest quarterly report that the world NR price may rise by 9.2% in 2003 and by 19.3% in 2004. The prediction is based on the possible supply crunch.

The rubber board has projected a 5.5% growth in NR production at 685,000 tonnes during 2003-04, but the consumption has been worked out to grow only 2.5% to 712,000 tonnes. Import is expected to be at 40,000 tonnes. Through export of NR has been projected at 50,000 tonnes, it is unlikely to touch that mark as the indigenous price may remain remunerative and move neck and neck with the world price. Rubber export was not a profitable exercise for agencies in India. They did not make a fair margin from the exports of 2002-03 it was the intermediaries who made profit.

The country to country price realisation was not uniform since the dealers concluded sale deals with the agents abroad at varying margins/commissions. Here we can see the erosion of a collective bargaining power as there was no co-ordinated effort. Each exports was eager to get the export incentive ranging from Rs. 3.50 to Rs. 5.00 per Kg, but cared less to realise the ruling price in the world market this kind of operation would not help India to avert loss making exports.
The exports have resulted in a short recovery of Rs. 5.72 per Kg compared to Indian average price, or Rs. 5,720 per tonne. Low owing to the short recovery was Rs. 316.38 million on the entire export of 55,311 tonnes the Central Government has incurred an amount of above Rs. 200 million as export incentive. Exporters mainly relied on the intermediaries in the international market. Though such third party arrangements cannot be avoided in the Initial stage, the already available facility was not taken advantage of.

**Interventions in Domestic Market:**

The most important policy shift with regard to domestic market stabilization was the phasing out of the buffer stock scheme in Feb. 1994, which was introduced by the government of India in Feb. 1986 to stabilize the domestic market[7]. Thereafter government’s control on NR price was confined to fixation of benchmark price on the basis of the cost of production on the crop as estimated by the cost Accounts branch under the Ministry of Finance Government of India. The benchmark price of Rs. 2490 per 100 Kg for RSS4, fixed in Feb. 1994, was revised to Rs. 3405 in September 1998. As the benchmark price was only a reference price and its notification was not supplemented with any regular measure to ensure its realization by the growers, it could not make any impact in the market.
The most important factor which had a bearing on NR prices in India during the nineties was the slow down in the Internal demand growth of NR. Since the second half of 1996-97 and the resultant accumulation at surplus. The excess supply situation affected the NR prices in India since November 1996 and the price fall was step till December 1997. The average price of RSS 4 Grade, which was Rs. 5112 per 100 Kg in October 1996, came down to Rs. 2970 in December 1997. At this juncture the Government of India intervened in the domestic market in August 1997 by procuring the surplus through the STC. Through the demand sector recovered during 1999-2000, the extent of resilience was not strong enough to absorb the entire surplus accumulated in the country during the provisions two years and the depressed conditioned in the market continued necessitating continuation of the procurement operation by the STC. The STC had procured about 35000 tonnes of NR in four phases from August 1997 to October 2000 and sold it to the advance License holders.

In the first phase of intervention despite procuring 9600 tonnes from the market, prices continued to fall from Rs. 3937 per 100 Kg in July 1997 to Rs. 2653 in April 1998 for RSS 4 but during the second phase of operation from August 1998 to October 1999 involving the procurement of 19800 tonnes, price experienced a certain, degree of stabilisation the average price of RSS 4 in October 1999 was Rs. 2958 as
against Rs. 3022 in October 1998. But this cannot be considered to have influenced the domestic market.

Yet another major event had been the notification of the minimum price as per the provisions of the rubber act 1947. Minimum price was fixed at Rs. 3209 per 100 Kg for RSS 4 and Rs. 3079 per 100 Kg for RSS 5. The basis of arriving at these minimum prices was on landed cost taking the annual moving average price in the International market as reference price. The rationale for choosing an import parity price has been to ensure that the domestic price move in tandem with international price even with Interventions such as fixation of minimum price. The statutory minimum price of Rs. 3209 fixed for RSS 4 was below the average price prevailed in the domestic market.

During June, July and August 2001, however, the notified minimum price was higher than the price prevailed during the first 11 days in September 2001 (Table 3.1)

Table 3.1: Domestic and International price before fixation of Minimum price.

<table>
<thead>
<tr>
<th>Period</th>
<th>Average price of NR (Rs. 100/Kg) at India price</th>
<th>Average price of NR (Rs. 100/Kg) at International price</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2001</td>
<td>3553</td>
<td>2899</td>
</tr>
<tr>
<td>July 2001</td>
<td>3389</td>
<td>2783</td>
</tr>
<tr>
<td>August 2001</td>
<td>3601</td>
<td>2740</td>
</tr>
<tr>
<td>September 2001</td>
<td>3103</td>
<td>2633</td>
</tr>
</tbody>
</table>
Domestic and International Price before fixation of minimum price

Indian Price (in Rs. 100/Kg)

- June 2001: 3103
- July 2001: 3553
- August 2001: 3601
- September 2001: 3389

International Price (in Rs. 100/Kg)

- June 2001: 2633
- July 2001: 2899
- August 2001: 2740
- September 2001: 2783

Fig. - 8
The notification has made the transactions of RSS 4 and RSS 5 below the minimum price illegal. In the absence of any mechanism to intervene in the market the period immediately after the notification witnessed several problems, the net result of which was the producers being taken to task by the traders as well as consumers[8].

A major development in response to the notification of minimum price was the move by the consumer industry to source NR from the International market and the resultant surge in Import as evident from Table 2. The total import of NR during the period from September 2001 to March 2002 was 36986 tonnes as against 4134 tones during the corresponding period in the previous year.

Table 3.2 : Surge in Import after Notification of, Minimum price

<table>
<thead>
<tr>
<th>Period</th>
<th>2001-02</th>
<th>2000-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>8767</td>
<td>968</td>
</tr>
<tr>
<td>October</td>
<td>3955</td>
<td>918</td>
</tr>
<tr>
<td>November</td>
<td>5406</td>
<td>749</td>
</tr>
<tr>
<td>December</td>
<td>6225</td>
<td>278</td>
</tr>
<tr>
<td>January</td>
<td>6437</td>
<td>334</td>
</tr>
<tr>
<td>February</td>
<td>3900</td>
<td>232</td>
</tr>
<tr>
<td>March</td>
<td>2296</td>
<td>655</td>
</tr>
<tr>
<td><strong>Total from September to March</strong></td>
<td><strong>36986</strong></td>
<td><strong>4134</strong></td>
</tr>
</tbody>
</table>
Surge in Import and Notification of minimum price

Fig. - 9
In nutshell, the notification of minimum price by the Government based on the order of the High court of Kerala to support the domestic market, did not yield the desired results.

To tide over the difficult situation the Government adopted several measures, the most significant of which being the export promotion measures of NR.

The International market registered a sharp uptrend since the beginning of 2001 and taking advantage of the situation, export of NR from the country picked up substantially together with this, the domestic consumption sector also has registered an accelerated growth since the beginning of 2002. As a result of these positive factors the domestic market took an upward spiral and on 27 March 2002 the market price of RSS 4 went above the notified minimum price at Indian price has increased from Rs. 3214 during March 2002 to Rs. 3979 during June 2002, Rs. 4196 during December 2002 and further to Rs. 4517 during March 2003.

The conclusion is that despite the various levels of state interventions in the domestic market in the form of procurement of the surplus and notification of minimum price, the objective of realizing a
sustained recovery in price was not achieved and in fact the notification of minimum price only aggravated the problems in the domestic sector. The major domestic factor which helped NR prices to recover since March 2002 was the market force which of acceleration in the indigenous. Demand of NR especially the demand from auto tyre manufacturing sector which posted an impressive 17% growth during 2002-03. Export of 53000 tonnes of NR from the country during 2002-03, facilitated by the attractive price in the international market and the export promotion measures, had a major impact in the domestic NR sector.

**Trends in the Domestic and International Markets**: The pricing of Tyre depends upon the natural rubber. The annual average price of RSS 4 grade in Indian market and that of the equivalent grade RSS 3 in International market for the period 1990 to 2002 and the monthly averages from January 2003 to March 2003 are given in table 3.

The last column of the table gives the price at Indian price expressed as percentage of the price at international price. It is seen that the Indian price, which was higher than the international price by 51 percent during 1990, has synchronized with the International price since 1992.
After 1991 export of rubber products from the country picked up substantially from Rs. 2631 million during 1990-91 to Rs. 10953 million during 1995-96 and to Rs. 21530 million during 2001-02. This had facilitated increased duty-free import of NR, till it was banned in February 1999. Another factor, which narrowed down the price difference between the two markets, was the devaluation of India Rupees by the Government of India during 1991. The devaluation has made the International price higher in rupees terms. (Table 3).

Various policy changes in Indian rubber market since the beginning of the nineties are facilitating a faster market integration and the long-run trend in the domestic market since 1992 is determined by the international market. However, the domestic price has fluctuated on either side of the international trend, in accordance with the demand-supply and stock positions of NR in the domestic market. Through the interventions by the government in the domestic market in the form of procurement of the surplus and enforcement of statutory minimum price could not yield the desired goal and solving the crisis that prevailed in the domestic market since November 1996, the crisis was overcome by market forces which operated since the beginning of 2002 in the form of rise in the International market, surge in the export and acceleration in the domestic consumption, which ultimately propelled the Indian NR prices.
<table>
<thead>
<tr>
<th>Year/Month</th>
<th>Price of RSS4 at Indian market</th>
<th>Price of RSS3 at International market</th>
<th>Price at Indian market as % of price at International market</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US $</td>
<td>Indian Rs.</td>
<td>US $</td>
</tr>
<tr>
<td>1990</td>
<td>119.67</td>
<td>2147</td>
<td>79.42</td>
</tr>
<tr>
<td>1991</td>
<td>86.95</td>
<td>2128</td>
<td>73.38</td>
</tr>
<tr>
<td>1992</td>
<td>80.36</td>
<td>2463</td>
<td>80.17</td>
</tr>
<tr>
<td>1993</td>
<td>81.17</td>
<td>2546</td>
<td>80.92</td>
</tr>
<tr>
<td>1994</td>
<td>98.95</td>
<td>3107</td>
<td>110.04</td>
</tr>
<tr>
<td>1995</td>
<td>151.24</td>
<td>5059</td>
<td>150.37</td>
</tr>
<tr>
<td>1996</td>
<td>144.28</td>
<td>5122</td>
<td>134.20</td>
</tr>
<tr>
<td>1997</td>
<td>107.31</td>
<td>3988</td>
<td>97.24</td>
</tr>
<tr>
<td>1998</td>
<td>71.62</td>
<td>3013</td>
<td>68.55</td>
</tr>
<tr>
<td>1999</td>
<td>69.16</td>
<td>2997</td>
<td>61.02</td>
</tr>
<tr>
<td>2000</td>
<td>68.85</td>
<td>3125</td>
<td>66.25</td>
</tr>
<tr>
<td>2001</td>
<td>66.25</td>
<td>3109</td>
<td>58.21</td>
</tr>
<tr>
<td>2002</td>
<td>74.48</td>
<td>3621</td>
<td>76.02</td>
</tr>
<tr>
<td>Jan. 2003</td>
<td>89.66</td>
<td>4300</td>
<td>90.28</td>
</tr>
<tr>
<td>Feb. 2003</td>
<td>91.77</td>
<td>4389</td>
<td>98.72</td>
</tr>
<tr>
<td>Mar. 2003</td>
<td>94.76</td>
<td>45.17</td>
<td>105.79</td>
</tr>
</tbody>
</table>

Tyre companies import RSS 3 grade from the international market to substitute RSS 4 grade in domestic market. Hence prices of these two grades are compared.
Refers to RSS 3 price at Singapore market. Since transactions of RSS 3 at International market have become nominal, its price is not quoted.

CONSUMER FEEDBACK ABOUT THE PRODUCTS

According to the JD Power Asia Pacific 2003 India Tyre customer. Satisfaction index (TCS1) study released in January, Indian Tyre major MRF and Japanese against Bridgestone, have emerged joint leaders in customer satisfaction for 2nd consecutive year[9].

This is the third year of this study by JD Power, which studies customer satisfaction with original tyres at 12 to 15 months of ownership about 2,700 owners of over 20 different vehicle models from India's major cities took part in the survey, conducted from July to september last year. The study gauged overall tyre performance based on attributes, grouped into four weighted factors appearance, wearability, traction and highway performance.

The survey revealed that MRF and Bridgestone were leaders with equal index score points of 768 out of 800, with JK tyres following closely with 766. In last year's survey, MRF and Bridgestone had scored 742 each above the Industry average of 736.

Meanwhile in this year's Survey, Goodyear scored 751 and Ceat, 730 the Survey showed that MRF tyres performs particularly well in the
premium compact and luxury car segment while JK Tyres excel within the mid-size car segment. Ceat performs well in the entry compact and MUV car segments, while Goodyear. Scores high in the van segment.

Sanjay Ralhan, Senior analyst and country manager, JD power, Asia pacific, emphasized the need for tyremakers to pay close attention to customer opinions and experiences of their products, or OEM satisfaction has a direct influence on customer intent to repurchase the brand and to recommend it to others[10]. He commented that the overall TCSI score for the Indian tyre Industry has improved by 28 points as compared to last year, reflecting substantial efforts made by the tyremakers.

The study shows that the number one problem concerning customers remains damage from punctures. Brands are the most important factor considered by customers when buying tyres and has the most impact on their purchase decision Brand differentiation is therefore a key success factor in the extremely competitive Indian tyre Industry.

In June, the Japanese tyre giant Bridgestone corporation announced. That it had signed its first-ever contract to supply tyres to Airbus the company will be supplying tyres for the Ultra advanced A 380, a next-generation super Jumbo aircraft.

Tyres for the A 380's nose and main landing gear will be supplied by the fourth quarter or 2005. Bridgestone is developing new generation
aircraft tyres for the A380, which is expected to go into commercial service in early 2006. The tyres will feature a newly developed belt structure, which will contain ultra high strength cord and provide superior elasticity. It will bring about improvements in resisting external damage, in performing reliable even after sustaining external damage, in minimizing tyre weight and in extending tyre life by reducing wear.

Bridgestone explains that since a fully loaded A380 will weigh over 560 tones, its tyres will need to support that weight through repeated take off and landings at speed of up to 370 Km. per hour. The company says it has been able to meet Airbus's most rigorous demands in regard to performance, quality and other criteria. Bridgestone, the world's largest tyre company has a 34% share of the global market for tyres for large and medium sized airliners Aircraft tyres are manufactured at the company's plant in Japan[^11]. It operates four re-treading plants for aircraft tyres in the US, Belgium, Hongcong and Tokyo and Tyre makers. expect that certainly it satisfy the need of all types of the customers.

JK tyres plans to have tie-ups with professional retreading and re-gooving companies which will allow a greater serviceability of radial tyres across India, without direct expenditure on Service infrastructure. JK tyre will supply retread companies like Elgitread India, Indian rubber and stanes tyres and rubber products with retreading information to service its radial tyres.

[^11]: Japan
According to the survey of consumers, CEAT has increased its capacity in tyres for the two and three-wheeler market to 500,000 units per month, according to the company, CEAT is aiming to boost its market share in the motorcycle segment by 9% to 20% fiscal year, as well as consolidating its presence in the scooters segment, where it currently has a 25% market share.

Radial tyre is first introduced by JK Tyre, JK Tyre is the flagship division of the Indian corporate group, JK Industries, in investing Rs. 105 core for capacity expansion at the Vikrant radial truck tyre plant and will also increase the number of service outlets over the next three years for the good satisfaction of the customers. So according to the large group of customers, Radial tyres satisfied the all types relating to the product.

The NHTSA (National Highway Traffic Safety Administration) recently issued new and more stringent tyre performance requirements in the U.S., and Smithers Scientific Services is getting ready to provide testing in accordance with these requirements.\textsuperscript{[12]}

Smithers, a leading independent testing, research and consulting firm, has traditionally provided compliance and research testing for the NHTSA, as well as to many other clients, tyre manufacturers, and raw material suppliers, and will continue to do so in accordance with these requirements.
Smithers, a leading independent testing, research and consulting firms has traditionally provided compliance and research testing for the NHTSA, as well as to many other clients, tyre manufacturers and raw material suppliers, and will continue to do so in accordance with the new standard. The TREAD ACT of 2000 mandates MJTSA revise and update its safety performance requirements for tyres, and on June 23, the agency issued and the final rule for new Federal Motor vehicle safety Standard 139.

The company conducts compliance tire testing at its indoor laboratories in Ravenna and materials testing on tire components at its Akron laboratories. While tyre performance tests and evaluations are conducted at the company's winter test facility in Michigan.
REFERENCES


(121)
