A Study on Operational Efficiency of Select Tyre Companies in India

Dr.G. Shanthi[1], V. Sheelarani[2]

[1]Assistant Professor in Commerce, Thiruvalluvar Government Arts College
Rasipuram, Namakkal District, Tamilnadu, India

[2]Ph.D. Research Scholar, Periyar University, Salem and Assistant Professor in Commerce
JKK Nattraja College of Arts & Science, Komaramapalyam, Namakkal District,Tamil Nadu

International Journal of Commerce & Business Studies
Volume 2, Issue 4, October-December, 2014, pp. 09-16
ISSN Online: 2347-2847, Print: 2347-8276, DOA : 03112014

ABSTRACT

The Indian tyre industry has been reporting good growth forms over the past few years, stimulated by growing passenger vehicle and two-wheeler market. It has emerged as one of the most competitive markets in the globe and with the emergence of new technology, ultra-modern production facilities and availability of raw materials, the sector is poised to grow further. Hence this study is started with the motive as to check about the operational parameters of Indian tyre companies. This study used secondary data and the data was collected for the period from 2005-06 to 2012-13. This study checked the growth of tyre industry in India with various financial data. This study has been checked with the charting techniques, ADF unit root test, financial ratio analysis and efficiency analysis. It is ascertained from the study, truck & bus, passenger car and two wheeler segments is the major revenue contributor to the tyre industry. This study strongly concluded that the operational efficiency of the tyre companies is at satisfactory level.

Keywords: *Tyre Industry, Operational Efficiency, Performance of Tyre Companies, Productivity, Profitability.*

1. INTRODUCTION

Indian tyre industry is an integral part of automobile industry. The tyre industry in India is primarily a domestic industry which has an annual turnover of around Rs.50,000 crores. The industry is majorly dependent on automobile for its growth prospects. In addition to that replacement market gives a major share of revenues. The industry has now started focussing more on the exports. In India the tyre industry has almost 39 manufacturers but is mainly dominated by 10 large companies. Also it could be broadly divided into 5 categories based on the different auto segments. The market has been segmented by product category in the following manner, like tractors and earth movers, light commercial vehicles, trucks and bus, passenger cars, two wheelers and off the road. Two wheelers is the biggest market segment followed by passenger cars and trucks and bus. Although tractors and light commercial vehicles are quite old market segment but they are not very big in size. Off the road (OTR) has been discovered as the new niche segment. The industry is highly raw material intensive. Raw material cost accounts for 65-70% of the total production cost of tyres. Natural rubber is the major raw material used by the industry and accounts for around 43% of the total cost. The other raw materials consumed by the tyre industry are crude derivatives such as synthetic rubber, nylon tyre cord fabric, and carbon black and rubber chemicals. As the raw material are dependent on the crude prices, their cost are very unpredictable. Based on the customer segments, the tyre market can be broadly divided into two categories like original equipment manufacturers (OEM) and replacement

ISSN (O) 2347-2847
(P) 2347-8276

market. OEM includes automobile manufacturers and the demand from this sector fluctuates directly in line with end-use demand for the automobile segment; it is thus prone to a high degree of cyclicality. Replacement market consists of replacing old tyres; demand for tyre depends on on-road vehicle population, road conditions, vehicle scrap rule, overloading norms, retreading intensity and miles driven. It is less cyclical than OEM demand and is generally a higher-margin business for tyre manufacturers. It almost accounts for 50% share in total sales.

The companies involved in the tyre industry indulge into fierce competition with each other for better market share and profits. But still some of the manufacturers manage to have a unique business model which strengthens its market presence. In the manufacture of a new tyre, approximately 75%-80% of the manufacturing cost is incurred in tyre body and remaining 20%-25% in the Tread, the portion of the tyre which meets the road surface. Hence, by applying a new Tread over the body of the worn tyre, a fresh lease of life is given to the tyre, at a cost which is less than 50% of the price of a new tyre. This process is termed as tyre retreading. However, the body of the used tyre must have some desirable level of characteristics to enable retreading. It can't also be done if the tyre has already been over used to the extent that the fabric is exposed.

2. STATEMENT OF THE PROBLEM

The tyre industry acts as a catalytic agent for overall economic development. Investment in any industry or in any other sectors requires a wide variety of capital requirements, which are delivered with the assistance of automotive and tyre industries. Even though the tyre industry possesses an important place in the industrial set up of an economy, it is seen that the development of the industry in the state has not been adequate enough to meet the situation. The Indian tyre industry has long been recognized as a core manufacturing sector with the potential to drive national economic growth and foster the development of technological capabilities through its powerful backward and forward linkages, and the location of high value added manufacturing processes with domestic economies. Tyre industry in India comprises of all vehicles, light and heavy commercial vehicles, and agricultural tractors and other earth moving machineries, besides the component segment for all these categories. The industry is characterized about 80% of 2-3 wheelers production. This study has been carried to address the operational efficiency of selected Indian tyre companies in India.

3. RESEARCH METHODOLOGY

This study examines the operational efficiency of Indian tyre companies in terms of production and profitability in the highly competitive world. This study hypothesized that operational parameters of the tyre companies have a considerable impact on the distribution of goods and services. The study largely employs secondary data that are mainly available in published reports of companies, ATMA, SIAMS, CMIE reports and other published sources. This study collects data for the period from 2005-06 to 2012-13. The current research attempts have been conducted on various Indian tyre companies. The operational efficiency of the companies has been checked with the marketing and operational parameters. This study has been analyzed with the empirical framework of applying econometric techniques of Augmented Dickey-Fuller (ADF) unit root test, ratio analysis, efficiency analysis.

4. REVIEW OF LITERATURE

Nisha (2013) evaluated the performance of Indian tyre industry in terms of various financial indicators, sales trend, production trend, export trend for nine years time period. This study suggested that the tyre

 ISSN (O) 2347-2847
(P) 2347-8276

industry has been passing through turbulent phases characterized by enhanced debt burden, low utilization of assets, and above all, huge liquidity crunch. Shubhangi (2011) pointed out about the determination of market characteristics, measurements of market potential/ demand projection, market share estimation and sales method and policies. This study also focussed on the market share of the domestic tyre companies and tried to find the sales and marketing management index of the relative buying power of the tyre industry. Kumar (2013) provided a snapshot of the tyre market. It started with a brief overview about the global tyre market showing the breakup of tyres produced for specific vehicles. This study also discussed the role and significance of the raw materials required for manufacturing tyres. It provides a breakup of the cost, the consumption and imports of raw material.

Ghosh et al. (2011) The Indian tyre industry staged a strong recovery in FY 2009-10, supported by a sharp revival in demand and relatively stable rubber prices. However, benefits accruing from a low-cost structure were short-lived, as natural rubber prices surged since December 2009, thereby making a severe impact on margins, despite industry wide price revisions by tyre manufacturers. Maheskumar (2013) The Indian tyre industry has been quick in adopting the latest technology trends through foreign collaborations and tailoring these to Indian needs. The manufacturers are also investing in development of green tyres. Mohanakumar & Geogre (2001) attempted to assess the impact of economic reforms on the automotive tyre manufacturing industry. This analysis focussed on the dominant truck and bus tyre segment. With the entry of MNCs in the post-reform period, the sector is on the verge of a major shake-up, underlining the need for rationalization of the product mix, favouring radial tyre with large-scale investment.

5. OBJECTIVES OF THE STUDY

This study has been initiated with the following objectives. These are:

1. To study the tyre sector performance in the recent past in terms of turnover and profitability.
2. To know the factors involved in raw material mix of tyre industries in India.
3. To check the factors affecting operational efficiency of tyre companies in India.
4. To check the operational efficiency of selected tyre companies in India.

6. ANALYSIS AND DISCUSSIONS

6.1. Tyre Industry in the Recent Past

Driven by the strong revival in automotive demand, particularly in the passenger vehicle and two-wheeler segments and export demand for tyres, the Indian tyre industry reported a healthy revenue growth of over 25% during fiscal 2010-11. However surge in input costs especially that of natural rubber (NR) negated any scale benefits, and resulted in a contraction of industry-wide operating margins by over 500 bps. This was despite numerous industry wide price hikes, cumulatively amounting to a 15-20% increase in tyre prices. Despite the worrying macroeconomic indicators and a general slowdown in domestic automotive sales, the Indian tyre industry continued to post a healthy 25-30% revenue growth during Q1, 2011-12 supported by strong replacement and export demand. Domestic OEM demand growth was also healthy at around 15-20%, albeit weaker than in the previous fiscal. However continued cost pressure from high cost NR inventory led to a 300-350 bps operating margin erosion, both on a year-on-year (y-o-y) and sequential quarter basis.

During the first quarter of 2011-12, rubber prices have softened (after peaking in April-11) with fall in international prices, slowdown in auto demand and drop in crude prices. However prices of synthetic

ISSN (O) 2347-2847
(P) 2347-8276

rubber continued to reign high, following the shortage of its key ingredient, butadiene. While some relief is expected following successful price hikes in Q1, 2011-12 and softening raw material prices, the industry is faced with several headwinds in the form of demand slowdown, threat of imports following removal of anti-dumping duty and large domestic capacity additions post 2011-12.

Table: 1 - Segment wise Domestic Demand Estimates (in 000s)

Segment	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Truck & Bus	11941	12367	13137	12839	14811	15668	16085
Passenger Car	14877	15632	17904	18040	21449	31701	28736
LCV	4529	4820	5320	5298	5739	6029	6688
Tractor	3113	3873	3934	3915	4923	5423	5667
ADV	325	381	409	281	294	311	293
Scooter	9519	9643	11604	10882	13558	20140	22194
Motor Cycle	21118	26079	27921	30148	35664	43118	44857
Industrial	514	635	733	568	538	616	681
Off the Road	106	115	141	136	161	191	196
TOTAL	**66032**	**73545**	**81103**	**82107**	**97137**	**119197**	**125397**

Source: SIAM, ATMA, ICRA estimates

Table: 2 - Industry Revenues and Profitability (Rs. in lakhs)

Particulars	FY-08	FY-09	FY-10	FY-11
Operating Revenues	16,764	18,922	22,128	28,212
Growth (%)		13%	17%	27%
OPBDITA	1,852	1,256	3,197	2,586
Growth (%)		-32%	155%	-19%
PAT	853	244	1,539	971
Growth (%)		-71%	531%	-37%
OPM (%)	11%	6.6%	14.4%	9.2%
NPM (%)	5.1%	1.3%	7%	3.4%

Source: SIAM, ATMA, ICRA estimates

The tyre industry continued its growth momentum in fiscal 2010-11 registered a strong growth in revenues backed by healthy demand from both the auto OEM and replacement segments and supported by capacity ramp-up by major players. This growth was driven by strong domestic OEM demand from the truck and bus, passenger vehicles and two-wheeler segments which saw unprecedented volume growth of over 25%. Even as the industry benefitted from the strong revenue growth during 2010-11, higher input costs, especially that of natural rubber, led to a sharp 19% decline in operating profits and 37% decline in net profits. Industry wide operating margins declined to 9.2% in fiscal 2010-11 as against 14.4% in fiscal 2009-10.

6.2. Factors involved in Raw Material Mix of Tyre

The tyre sector consumes approximately 63% of the total natural rubber consumed by the country. The Indian tyre industry is extremely sensitive to raw material prices which accounts for major portion of the tyre cost. The key raw materials used in the manufacturing process are given at Fig.1. Synthetic rubber (SR) can be used as a substitute for natural rubber (NR) or along with natural rubber but only to a limited extent in various industries. Generally NR and SR are used in 80: 20 ratios in the Indian tyre industry. This can vary depending on technical specifications of the tyre.

 ISSN (O) 2347-2847
(P) 2347-8276

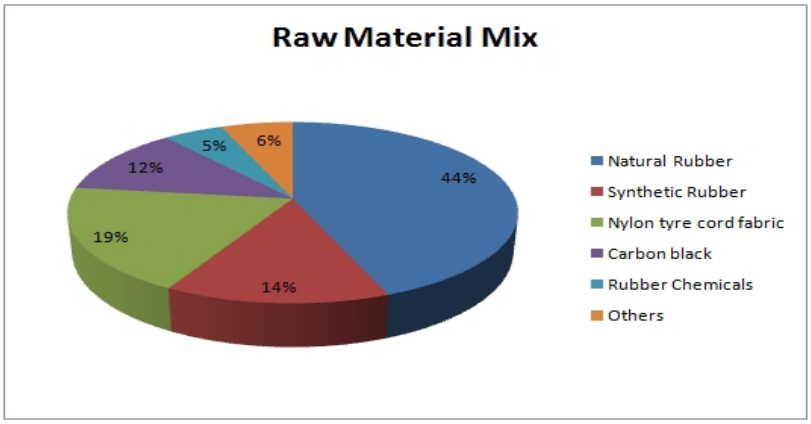

Figure: 1 – Raw Material Mix of Tyre Industry (Source: ATMA)

The other key raw materials consumed by the tyre industry are crude derivatives such as Nylon tyre cord fabric (NTCF), Carbon black and Rubber chemicals. While NTCF provides strength to the tyre, carbon black enhances the life span of the tyre. With only two domestic manufacturers for NTCF, India imports more than 50% of its requirements. Additionally, about 20% of the rubber chemicals are also imported by India. Duty free imports permitted against export of tyres, domestic demand insufficient to meet demand requirement, technical and commercial factors and access to multiple sources of supply are the reasons for import of raw materials.

Besides natural rubber, almost all the key raw materials are crude derivatives and are hence linked to crude oil prices. Crude oil prices have spiked up in recent months due to ongoing political uncertainty in the Middle East and from medium term perspective, prices are expected to trend higher on global economic recovery. In this backdrop, prices of SR and other crude derivates used in the manufacture of tyres are expected to remain firm over the medium term.

6.3. Factors affecting Operational Efficiency

Several factors affect the operation of tyre companies; these are mainly related with the aspects of material, operational, and financial. Material aspect covers its availability, price and its longer life. Operational aspect enlists management, marketing and planning. Finally financial aspects cover profitability, turnover and productivity. The unit root test used in this study investigates the nine factors and its stationary level along with its order of integration. Results for the unit root test for the different variables are presented in the table-3.

Table – 3: ADF Unit Root Test Results

Variables	ADF Test	ADF lag	95% Confidence	Order of Integration	Stationary Level @ 5%
Material Availability	-8.136	1	-3.4534	I (1)	Good
Uniform price	-11.264	1	-3.4542	I (1)	Good
Longer life of materials	-14.867	1	-3.4534	I (1)	Good
Policies of management	-6.114	1	-3.4542	I (1)	Good
Marketing strategies	-7.147	1	-3.4534	I (1)	Good
Business planning	-7.225	1	-3.4534	I (1)	Good
Profitability	-8.203	1	-3.4542	I (1)	Good
Turnover	-13.962	1	-3.4534	I (1)	Good
Productivity factors	-7.774	1	-3.4542	I (1)	Good

Source: ICRA

ISSN (O) 2347-2847
(P) 2347-8276

In order to confirm the stationarity of the factors affecting on the operation of tyre companies, Augmented Dickey Fuller (ADF) test is performed on the series and the results show that of all variable are equally have stationary level. The results obtained from the above table shows that all the variable are integrated of order one, which means, all variables are I(1) variables at the 5% level of significance. All other variable are found to contain unit root, these results are consistent with similar results in the literature that most material and financial variables and operation of the tyre companies stands stationary. Thus, the profitability of tyre has different stationary process. The remaining factors are equally posses the stationary level at 5% significance is good. It is clear from the above analysis, these variables are completely rely on the concept of operational parameter is equally disturbed from time to time as per the uniqueness of the problem. While applying this test, the results are ranging from -6.114 to -14.867 for all the variables and significant at 5%.

6.4. Operational Efficiency of Indian Tyre Companies

The operational efficiency of Indian tyre companies has been check with the parameters like profitability, capital position and other business parameters for all companies included in tyre industry. Data were presented in the table-4 relating to operational efficiency of Indian tyre companies for the years from 2008-09 to 2012-13. This analysis has been restricted to last five years of the sample period.

Table No – 4: Operational Efficiency of Indian Tyre Companies

Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
No. of companies	39	39	40	40	40
No. of sales outlets	58902	64105	68186	72690	76776
No. of workers	796435	895532	917445	930178	1014182
Business per employee (in lakh)	532.95	642.18	766.44	887.59	988.68
Profit per employee (in lakh)	3.48	4.72	5.63	6.01	7.00
Capital Employed	219179	315488	367947	430161	509813
Capital to sales	1.31	1.42	1.25	1.84	1.87
Current ratio	0.96	0.97	1.03	1.01	1.02
Quick ratio	0.87	0.84	0.84	0.86	0.91
Net profit ratio	4.23	3.56	3.68	4.21	4.68
Return on capital employed	16.67	15.97	14.11	12.88	16.54
Inventory turnover ratio	7.77	6.65	7.01	8.02	9.28
Cost of funds (COF) to Net profit	4.82	5.80	5.96	5.10	4.73
Return on net worth	4.12	4.12	4.53	4.19	4.45
Operating expenses ratio	17.32	14.01	13.6	14.85	17.05
Return on Assets	1.05	1.12	1.13	1.05	1.10
CRAR	12.32	13.00	13.98	14.54	14.44

Source: ATMA

Table-4 revealed that the aggregated data on the profitability, capital and other business parameters of Indian tyre industry. The number companies are prevailing around 40 and there is an increasing trend persists on the number of sales outlets, which touched the mark 76776 in the financial year 2012-13. Similarly, the number of employees working in the banking sector also tremendously increasing and touched the mark of one million in the same financial year. Business per employee is Rs. 532.95 lakhs in 2008-09 and it reached Rs. 988.68 lakhs in 2012-13. Profit per employee seems doubled with the period of five years. Similarly, capital employed, capital to sales, current ratio, quick ratio and net profit are progressively increasing for the past five financial years. Likely, inventory turnover ratio, return on net worth is also increased during the last five financial years. Cost of funds position is satisfactorily found in the sample period. In overall, the operational efficiency of the tyre industry is showing progressive growth.

ISSN (O) 2347-2847
(P) 2347-8276

In addition to that, efficiency of the selected tyre companies can be measured through the ratio of output to input. If the variables are two or more, this can be addressed by constructing an efficiency frontier from weighted outputs and weighted inputs. Variables on the frontier are assigned an efficiency score of 1 while those inside receive scores ranges from 0 to1. In this study, productivity, profitability and turnover are assumed as outputs on the other hand number of sales outlets, capital employed and total operating expenses are taken as inputs. Based on the analysis framework six companies are selected. Table-5 presents efficiency scores from 2008-09 to 2012-13. It measures the relationship between output and input with the above parameters.

Table No – 5: Operational Efficiency Analysis

Companies	2008 -09	2009 -10	2010 - 11	2011 - 12	2012 - 13
Falcon Tyres	0.69	0.72	0.71	0.74	0.76
CEAT Tyres	0.79	0.80	0.83	0.82	0.83
Apollo Tyres	0.83	0.87	0.92	0.87	0.86
Goodyear Tyres	0.83	0.83	0.86	0.89	0.92
JK Tyres	0.84	0.87	0.92	0.93	0.98
MRF	0.88	0.89	0.92	0.93	0.99

Source: ATMA

It is concluded that the perceived low efficiency of tyre companies appear to result from their connotation of generating revenues in addition to other output and their operational efficiency. This phenomenon clearly shows about the operational efficiency of the tyre companies. Falcon tyres trend shows that the operational efficiency ranges from 0.69 to 0.76 during the last five years. Similar type of movement is persisted to CEAT, Goodyear, JK Tyres and MRF. During the last two financial years, the Apollo tyres efficiency parameter is declining the previous financial year. Hence it is concluded that the Indian tyre companies together enhanced their efficiency constantly up to the sample period.

7. CONCLUSION

It is learnt that from this study, major technological changes have taken place in tyre design from the conventional bias or diagonal ply of the past to the current steel-belted radial tyres, tubeless tyres, tyres with low aspect ratios, puncture resistant tyres and so on. Testing standard have also evolved accordingly to ensure high performance, mileage, safety, reliability and longevity of the tyres. The Indian tyre industry has been quick in adopting the latest technology trends through foreign colorations and tailoring these to Indian needs. The tyre manufacturers are also investing in development of green tyres and in capacity expansion for radial tyres. Innovative technologies like self-inflation and run flat tyres are also gaining popularity in the Indian market. Increasing sales of passenger and commercial vehicles in developing countries and a strong demand for replacement tyre is providing significant opportunities for players in the automotive tyre industry. A projected CAGR of around 4 per cent over the next five years for the global tyre market means an estimated $187 billion by 2017. It is estimated from that study, in 2011-12, the Indian tyre industry recorded a turnover of Rs.300 billion, producing 119.2 million tyres, amounting to 1.49 million metric tonnes. India has 40 listed tyre companies of which the top 10 companies account for over 96% of the country’s total tyre production.

ISSN (O) 2347-2847
(P) 2347-8276

It is evident that in India, trucks & bus, passenger cars and two wheelers possess the prominent share in the tyre market. Profitability position of Indian tyre companies stands at satisfactory level and continuously producing handsome revenues. Natural rubber is the highest input used in the production of tyres. Operational efficiency of tyre companies are largely affected by the profitability and productivity parameters. Operational efficiency of tyre companies is in efficient manner so as to meet the increasing demand conditions of the market. Operational efficiency of firms shows that it which constantly increasing from past five financial years. The progress made by the industry during the recent past is exceptionally well.

REFERENCES

[1] Nisha, R. (2013), "An Overview of the Financial Performance of Indian Tyre Industry – Comparison among Leading Tyre Companies", *Innovating Journal of Business and Management*, Vol.2 (5), pp.128-130.

[2] Shubhangi, R. S. (2011), "A Study on Different Sales Strategy Adopted by Tyre Industry in India and find the Impact on Sales", *VSRD International Journal of Business & Management Research*, Vol.1 (6), pp.376-382.

[3] Kumar, G. R. (2013), "A Study on Sales Strategy adopted in India in Tyre Industry, How to Change the same to benefit the Customer", *International Journal of Advanced Trends in Computer Science and Engineering*, Vol.2 (6), pp.5-8.

[4] Ghosh, A., Ray, S., Ponniah, P. & Dwibedy, S. (2011), "Indian Tyre Industry: Margins may come Under Pressure notwithstanding Robust Volumes", *An ICRA Perspective*, pp.1-12.

[5] Maheskumar, S. (2013), "The Indian Tyre Industry: Driven by Technology", Facts for you, pp.8-12.

[6] Mohanakumar, S. & George, T.K. (2001), "Impact of Economic Reforms on Tyre Industry", *Economic and Political Weekly*, Vol.36, (12), pp.1044-1050.