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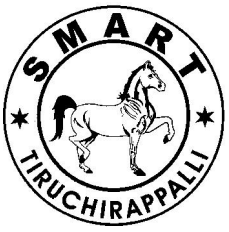

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FINANCIAL COMPETITIVENESS OF FIRMS: A STUDY OF THE INDIAN AUTOMOBILE INDUSTRY

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Abstract

Competitiveness is the ability of firms, to perform better than rivals, where performance is dependent on both financial and non-financial conditions of the firm. This study empirically examined the financial competitiveness of Indian automobile companies, for the period from 2001-02 to 2015-16. Out of 42 variables, 13 factors were extracted and these thirteen factors, put together, explaind 76.122 per cent of the total variance. Factor analysis was applied, to identify the factors that significantly contributed to the financial competitiveness. The result indicated that among the three sectors, passenger cars and multiutility vehicles sector were most dominating, followed by two and three wheelers sector and commercial vehicles sector. The commercial vehicles sector was obviously ruled by Eicher Motors Ltd whereas passenger cars and multi-utility vehicles sector was dominated by Honda Siel Cars India Limited and Maruti Udyog Limited. The result of this study would help consumers, to judge the competitive performance of these firms, from the product quality and investment point of view.

Keywords: *Competitiveness, Financial Performance, Indian Automobile Industry, Profitability, Liquidity, Solvency and Financial Competitiveness.*

JEL Code: *L62*

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1. Introduction

In today's globalized economic environment, competitiveness has become more important than ever, for a firm's survival and success. The changing economic conditions such as reduced trade barriers, spread of technology, lower cost of transportation and communication, have led to increase in competition, among firms in the industry. Such an intense competition, at the global and national level, requires firms to improve their competitiveness. This improvement is not only beneficial to firms but also to the competitiveness of an economy as a whole.

Porter (1990) defines competitiveness as the ability of a firm, to successfully compete, in a given business environment. Firms' competitiveness meant the ability to compete in the world market, with a global strategy **(Porter 1998a, 1998b)**. According to **Lall (2001),** firm competitiveness is the ability of a firm, to do better than benchmark companies, in terms of profitability, sales or market share. **Buckley, et al., (1988)** consider competitiveness to be related to firm's long-run profit performance, its ability to compensate employees and generate superior returns for shareholders. **ADB (2003)** maintains that competitiveness is a firm's ability to survive under competition, by being competitive.

This study focuses on the financial performance and competitiveness of a firm. If profitable opportunities exist, firms increase their production and sales, which indicate the existence of good financial performance and it also suggests that the firm is doing better, in terms of competitiveness. A bad financial performance suggests that the firm or industry experiences falling competitiveness. As competitiveness is linked to a large number of variables, defining it is in itself a research problem. Keeping this in mind, an effort has been made, to construct competitiveness index, that can measure a firm's competitive position in the industry, which it can sustain in medium to long-run.

2. Review of Literature

Burange and Shruti Yamini (2008) assessed the competitiveness, among the firms in Indian automobile industry and constructed a competitiveness index, for a sample of fourteen firms, for the period 2005-2006. The marginal difference, between the competitiveness of different firms, revealed the tough competition among the firms in the Indian automobile Industry. **Wang Dongmei and Sun Zhaoliang (2009),** using the factorial analysis method, analysed their financial competitiveness, in listed real estate companies. The results indicated that the operational capability recorded the greatest impact on the company's financial competitiveness, profitability exercised large impact and solvency recorded little impact on the company's financial competitiveness. **Liargovas and Skandalis (2010)** investigated financial and non-financial determinants of firm competitiveness, using a data set of 102 companies, listed on the Athens Stock Exchange, during the period between 1997 and 2004. The results showed that leverage, centrality of the location, firm size, export activity, liquidity and management competence, did have significant impact on firm competitiveness. The study by, **Ourania Notta et al., (2010),** discussed the indicators of competitiveness and factors affecting competitiveness, in the case of Greek Food and Beverage firms, for the period 2003-2007, based on 300 food manufacturing firms. The study results proved that market share and age influenced profitability positively while the impact of leverage and firm growth on profitability was found to be negative, which demonstrated that in order to achieve high growth, firms sacrificed profits. **Gonzalo Maldonado Guzman et al., (2010)** in their study, analysed the effects of competitiveness among a sample of 322 enterprises of the Furniture Industry, in Spain. The results showed that financial performance, cost reduction and the use of technology, did

have impact positively, on the competitiveness level of companies. Based on the conceptual framework of financial competitiveness **Linwei and Linbo Shao (2013)** presented a financial competitiveness evaluation index system, based on four aspects, including profitability, solvency, sustainable development and operational capacity, in 105 listed real estate companies. High-scoring company recorded strong profitability, sustainable development and operational capacity whereas low scoring company exhibited weak profitability and poor ability of sustainable development. **Karabag et al., (2014)** investigated the determinants of competitiveness among Turkish firms, operating in the Textile and Apparel Industry. Results of factor analysis identified eight constructs of competitiveness, three of which were considered as the most significant. These included product differentiation, efforts across foreign markets and State support. **Ungureanu, et al., (2015)** presented the level and evolution of indicators, for determining the degree of competitiveness, in the Metallurgical Industry, in Romania. Reducing costs, improving product quality, increasing labour productivity and capacity to release positive cash flows, were critical factors in ensuring competitiveness. **Elif Akben-Selauk (2016)** investigated the factors, affecting firm competitiveness, in Turkey. The present study is an attempt to fill this gap, by offering additional empirical evidence, from the Indian Automobile Industry.

3. Statement of the Problem

The automobile industry, in India, grew under a highly regulated and protected economic environment, over the period 1950 to 1985. The initial changes, introduced in 1985, eased the licensing requirements. The Indian Industrial Sector has undergone fundamental regulatory changes in recent times as a consequence of the economic reforms, put together, between 1988 and 1991. The policy changes, in the automobile industry, took place in two phases i.e. pre-liberalisation (total control and partial de-control) and post-liberalisation periods. The policy environment continued to be geared towards imposing trade and investment regulations, constraining the growth of big business houses and regulating exchange rates **(Narayanan, 2001)**. This new situation demands more accurate tools for measuring the performance of the companies, employees, and other stakeholders. Hence this study aims to build new methods, for analyzing the performance of the corporations.

4. Need of the study

The liberalisation of economic policies and outward orientation, introduced since 1991, brought about dramatic change in the industry. Growth trends of key industry indicators such as industry volumes, export performance and domestic sales, are improving every year, with a steady rate. Domestic manufacturers, acting as a global hub for exports, are also gaining acceptance. Domestic players maintain capacity utilization, at a healthy level. Consolidation of the industry has gained momentum. Foreign automobile firms have arrived. There is a long list of foreign companies, that are forging alliances, with their Indian counterparts **(Burange and Shruthi Yamini, 2008).** Against this background, this study would help all the stakeholders.

5. Objective of the Study

The primary objective of the study was to construct a financial competitiveness composite index, that can measure a company's competitive position, in the industry.

6. Hypothesis

The following hypothesis was framed and tested in this study, with respect to financial competitiveness of firms.

NH-1: The automobile companies do not have the same values of financial performance.

7. Research Methodology

7.1 Sample Selection

There are 26 companies, operating in the Indian automobile industry. Due to several constraints, only twenty companies were selected, which included five under commercial vehicles, six under passenger cars and multi-utility vehicles and nine under two and three wheeler sectors. The list of sample companies is included in **Table-1.**

7.2 Sources of Data

The data were collected from PROWESS database of Centre for Monitoring Indian Economy (CMIE). Besides, relevant data were collected from BSE Stock Exchange, Annual Survey of Industry, etc.

7.3 Period of the Study

The data were collected for the period 2001-02 to 2015-16.

7.4 Tools Used

Ratio analysis and Factor analysis were used in this study. Factor analysis was used, to interpret the relationship, amongst the values of different variables.

8. Analysis of Data

The financial competitiveness of the selected companies of the Indian automobile industry was constructed, on the basis of concentrates, on 11 sub-indicators, namely, profitability, assets utilization, cost effectiveness, liquidity, working capital efficiency, solvency, market values, export performance, value added, productivity and macro-economic variables. Forty two ratios, pertaining to financial competitiveness of the Indian automobile industry, used in the factor analysis, are presented in **Table-3.** In this industry, by grouping the data set into factors caused 23.878 per cent of variance during the study period. Since more cost effectiveness ratios were loaded into the factor, it was termed the **Cost factor.** This factor totally contributed to 14.741 per cent of variance. **Macro-economic factors** such as IR, GDP, MS and WPI were highly loaded in the second factor and its contribution to the total variance was 12.425 per cent. Profitability ratios such as ROCE, assets utilization ratios such as TATR and solvency ratios such as PR and LTDTDR, were highly loaded in the third factor and it was termed the **Profitability and Solvency factor.** This factor totally contributed 8.178 per cent to the total variance.

In the fourth factor, the hypothetical variables, which were highly loaded, included cost effectiveness ratio, FCTSR working capital efficiency ratios such as RMHP and WIPHP and productivity factors, such as TFP and this factor was termed the **Working capital and Productivity factor.** Its contribution was 6.387 per cent to the total variance. The variables, which were highly loaded in the fifth factor, included profitability ratios such as RONW and solvency ratios such as DER and CGR. This factor was termed Profitability **and Solvency factor,** which contributed 5.660 per cent to the total variance. Profitability ratios such as OPMR and cost effectiveness ratios such as FOTSR, were highly loaded in the sixth factor and it can be termed the **Profitability and Cost factor.** Its contribution to the total variance was 5.358 per cent. The liquidity ratios such as CR, QR and CPR and working capital efficiency ratios such as FGHP, were highly loaded in the seventh factor and its contribution to the total variance was 4.605 per cent. It was named the **Liquidity factor.**

In the eighth factor, the hypothetical variables, which were highly loaded, included market value ratios such as EPS and BVPS and value added ratios such as MVA and it was called **Market value and Value added factor.** Its contribution to the total variance was 4.309 per cent. Assets utilization ratios such as FATR and ITR and market value ratios such as PER, were highly loaded in the ninth factor and this factor can be termed the **Assets utilization and Market value factor.** Its contribution to the

total variance was 3.606 per cent. The tenth factor was highly loaded into the working capital efficiency ratios such as DTR and solvency ratios such as ICR and it can be termed the **Working capital and Solvency factor** and its contribution to the total variance was 3.094 per cent. Profitability ratios such as ROTA and value added ratios such as EVA were highly loaded into the eleventh factor and it can be named the **Profitability and Market Value factor** and its contribution to the total variance was 2.786 per cent. Similarly, working capital efficiency ratios such as RHP and market value ratios such as DYR were included in the twelfth factor and it was called the **Working capital and Market value factor** and its contribution to the total variance was 2.539 per cent. The thirteenth factor was highly loaded with working capital turnover ratio and it can be termed the **Working capital factor** and its contribution to the total variance was 2.432 per cent.

In the present study, **ten broad categories** of indicators such as profitability, asset utilization, cost effectiveness, liquidity, working capital efficiency, solvency, market value, foreign trade, productivity and value added performance, were considered, to determine the financial competitiveness of selected companies, in the Indian automobile industry. Performances were ranked, according to the indicators. After ranking each component of sub-indicators, these rank scores were aggregated into a composite score. The formula, used for this, is given below:

$$V_i = \frac{1}{n}\sum_{i=1}^{n} x_i$$

Where, V_i is i_{th} indicator, x_i is the i_{th} sub-indicator and n is the number of sub-indicators within the indicators. This composite competitive index can be used, to measure a firm's competitive position in the industry, which it can sustain in medium to long run. The sector wise, composite financial competitive index and ranks of the firms, for indicators, are presented in **Table-4.** In the commercial vehicles sector, Eicher Motors Ltd occupied the first place. This was largely due its position in profitability, assets utilization and solvency indicators. However, the company's performance, in productivity and value added, was accorded the 4th position, among the selected companies. Tata Motors Ltd was in the second position in the competitiveness index. It can be noted here that this company was ranked first in cost effectiveness, working capital, market value and value added, indicators but still obtained only the second rank in the overall index, mainly because of poor performance in profitability, liquidity and solvency indicators under which it was places in the fourth place. In the list of competitive performance, 3rd, 4th and 5th positions were held by Swaraj Mazda Ltd, Ashok Leyland Ltd and Bajaj Tempo Ltd.

Among the passenger cars and multiutility vehicles sector companies, Honda Siel Cars India Ltd was placed first. This may be due to its position in the assets utilization, cost effectiveness and liquidity indicators. In competitiveness rankings, among two and three wheelers sector companies, Hero Honda Motors Ltd occupied the first position. It is worth noting that this company secured first rank under six indicators, namely, profitability, assets utilization, cost effectiveness, working capital, market value and productivity. Bajaj Auto Ltd was placed at the second position, in the competitiveness index. TVS Motor Company Ltd occupied the third position, which may be due to assets utilization, working capital, cost effectiveness and market value indicators. In the list of competitive performance, 4th, 5th, 6th and 7th positions were taken by Maharashtra Scooters Ltd, Majestic Auto Ltd, Kinetic Motor Company Ltd and Kinetic Engineering Ltd. Scooters India Ltd and LML Ltd, under all the indicators, performed very badly. Hence the companies were placed in the 8th and 9th positions.

The overall competitiveness rankings, for the selected companies of the Indian automobile industry, are presented in **Table-2.** In the overall

competitiveness rankings, Hero Honda Motors Ltd was placed first. This result was largely due to its position in the productivity performance and working capital efficiency. However the company's performance, in foreign trade and liquidity, was very low and hence, it occupied the 18th position occupied in the list of sample companies. Bajaj Auto Limited was in the second position in the overall competitiveness rankings. Honda Siel Cars India Ltd did well as it stood at number-3 position. The company occupied the first position, in assets utilization, cost effectiveness and liquidity. Maruti Udyog Ltd was placed at the fourth position. It can be noted here that this company secured the first rank in profitability and solvency indicators but still it could get only the fourth rank, in the overall index mainly because of poor performance in productivity and working capital indicators. In this list of overall competitive performance, 5th, 6th and 7th positions went to TVS Motor Company Ltd, Eicher Motors Ltd and Mahindra and Mahindra Ltd, with little difference in the total scores. Nevertheless, the strength of TVS Motor Company was evident under working capital and assets utilization indicators. Eicher Motors Ltd was doing well in assets utilization, solvency, profitability and working capital indicators whereas productivity performance was relatively poor. Value added and profitability indicators were the strongest for Mahindra and Mahindra Ltd, which was offset by working capital and assets utilization indicators. Tata Motors Ltd, Hyundai Motors India Ltd and Swaraj Mazda Ltd occupied 8th, 9th and 10th positions, in the list of overall competitiveness rankings. All were very close to each other although Tata Motors Ltd was exceptionally good in value added, working capital, assets utilization and cost effectiveness and average in other indicators. The strength of Hyundai Motors India Ltd was its market value and export where it obtained the first position but because of poor rating in productivity, profitability and cost effectiveness, the overall score was low. But Swaraj Mazda Ltd recorded average performance, in all the indicators of competitiveness. Companies such as Maharashtra Scooters Ltd, Ashok Leyland Ltd and Ford India Private Ltd were placed in the 11th, 12th and 13th rankings respectively, in the list of index of competitiveness, in which they were very close in scoring. Ashok Leyland Ltd was ranked first in productivity and foreign trade indicators and Ford India Private Ltd was ranked first in productivity performance. In the case of other indicators, all these three companies exhibited average performance. Bajaj Tempo Ltd, Hindustan Motors Ltd and Majestic Auto Ltd were in 14th, 15th and 16th positions, in the list of competitive rankings. All were very close to each other and recorded very poor performance in all the indicators. Scooters India Ltd, Kinetic Motor Company Ltd, Kinetic Engineering Ltd and LML Ltd performed very badly, under all the indicators of competitiveness and they were placed in 17th, 18th, 19th and 20th in rankings respectively, in the list of index of competitiveness. Since the financial performance of sample companies differed, the null hypothesis **NH-1** is accepted.

9. Findings

The findings of the study reflect the relative competitive position of the sample companies and also the overall picture of the industry. Out of twenty sample companies, Hero Honda Motors Ltd scored the highest in the group, getting top most ranking mainly because of productivity performance and working capital efficiency. This was followed by Bajaj Auto Ltd, which had scored second rank due to value added performance, profitability and cost effectiveness. Honda Siel Cars India Ltd did well as it stood at number three position, due to asset utilization, cost effectiveness and liquidity. Maruti Udyog Ltd stood at the fourth position, due to its profitability and solvency performance. Among the three sectors, passenger cars and multi-utility vehicles sector dominated, followed by two and three wheelers sector and commercial

vehicles sector. The commercial vehicles sector was obviously ruled by Eicher Motors Ltd whereas passenger cars and multi-utility vehicles sector was dominated by Honda Siel Cars India Ltd and Maruti Udyog Ltd. Further, two and three wheelers sector was dominated by Hero Honda Motors Ltd and Bajaj Auto Ltd.

10. Conclusion

In this study, an effort was made to construct an index, that reflects the financial competitiveness of companies, in the Indian automobile industry. A composite competitiveness index is defined as the combination of individual indicators, that represent different dimensions of the concept, whose description was the objective of the analysis. It is hoped that the overall index will prove to be helpful, in framing competitive policies, by the firms. It will also be useful to consumers, to judge the competitive performance of these firms, from the product quality and investment point of view.

11. Limitation

The present study was largely based on ratio analysis, which has its own limitations, Statistical tests exposed the analysis, to the same constraints, applicable to statistical tools, and the financial statement did not keep pace with the changing price level.

12. Scope for Further Research

An analysis of competitiveness of Indian automobile industry, inclusive of both financial and non-financial indicators, can provide ample scope for further research. A considerable scope for further research also exists in the area of diversification, mergers and takeover. Another interesting theme would be comparing sick and healthy units, public sector and private sector and family owned corporate and MNCs.

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Table-1: List of Sample Companies

Sl. No.	Sectors / Companies	Year of Incorporation	Ownership	Market share (%)	Total market share (%)
	Commercial Vehicles (5)				
1.	Ashok Leyland Ltd	1956	Hinduja Group	35.62	
2.	Tata Motors Ltd	1956	Tata Group	34.22	
3.	Bajaj Tempo (Force) Ltd	1958	Firodia Group	11.50	
4.	Eicher Motors Ltd	1982	Eicher Group	10.65	
5.	Swaraj Mazda Ltd	1983	State and Private Sector	6.75	**98.74**
	Passenger Cars and Multi utility Vehicles (6)				
6.	Hindustan Motors Ltd	1942	Birla C.K.Group	8.31	
7.	Mahindra and Mahindra Ltd	1945	Mahindra and Mahindra	17.17	
8.	Maruti Udyog Ltd	1981	Private (Foreign)	36.60	
9.	Hyundai Motors India Ltd	1996	Private (Foreign)	19.50	
10	Honda Siel Cars India Ltd	1999	Private (Foreign)	10.22	
11	Ford India Private Ltd		Ford FIGO India Owners group	05.04	**96.84**
	Two and Three Wheelers(9)				
12.	Bajaj Auto Ltd	1945	Bajaj Group	18.80	
13.	LML Ltd	1972	LML Group	11.58	
14.	Maharashtra Scooters Ltd	1975	Bajaj Group	7.80	
15.	TVS Motor Company Ltd	1982	T.V.S. Group	12.93	
16.	Kinetic Motor Company Ltd	1984	Firodia Group	11.75	
17.	Hero Honda Motors Ltd	1984	Hero (Munsals) Groups	10.54	
18.	Kinetic Engineering Ltd	1970	Firodia Group	9.72	
19.	Majestic Auto Ltd	1986	Hero Group	9.04	
20.	Scooters India Ltd	1972	Central Govt. Commercial Enterprise	7.65	**99.81**

Source: PROWESS Database.

Table-2: Overall Rankings and Scores of Indian Automobile Companies

Company	Rank	Score
Hero Honda Motors Ltd	1	6.61
Bajaj Auto Ltd	2	6.84
Honda Siel Cars India Ltd	3	7.41
Maruti Udyog Ltd	4	7.82
TVS Motor Company Ltd	5	8.03
Eicher Motors Ltd	6	8.32
Mahindra and Mahindra Ltd	7	8.58
Tata Motors Ltd	8	9.50
Hyundai Motors India Ltd	9	9.70
Swaraj Mazda Ltd	10	9.92
Maharashtra Scooters Ltd	11	10.03
Ashok Leyland Ltd	12	10.47
Ford India Private Ltd	13	10.88
Bajaj Tempo Ltd	14	12.26
Hindustan Motors Ltd	15	12.63
Majestic Auto Ltd	16	12.65
Scooters India Ltd	17	13.24
Kinetic Motor Company Ltd	18	13.82
Kinetic Engineering Ltd	19	13.89
LML Ltd	20	14.29
Industry Average	**10.34**	

Source: Computed using SPSS20

Table-3: Summary of Factor Analysis – Rotated Factor Loadings (Whole Industry)

Variables	Factors													Communality
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Operating Margin	-.029	.057	.105	-.017	-.161	**.877**	-.018	.054	.070	.032	.088	.005	.027	.828
Net Profit Margin	**-.967**	.063	.025	.018	-.013	.163	.030	.27	.036	.017	.012	.004	.016	.971
Return on Capital Employed	-.015	-.201	**.758**	-.016	-.031	.066	.105	.002	.041	-.008	.410	-.115	.054	.818
Return on Total Assets	-.019	-.113	.186	-.062	-.219	.087	.083	.007	.244	.087	**.702**	.030	.155	.699
Return on Net worth	-.031	-.190	.227	-.177	**-.489**	.144	.075	-.038	.262	.011	.376	.266	.098	.677
Total Assets Turnover	-.045	.047	**.827**	.039	-.038	-.148	-.128	.051	.228	.119	-.128	.051	.040	.820
Fixed Assets Turnover	-.054	.026	.155	-.078	.014	-.253	-.054	.028	**.663**	.161	.152	.108	-.058	.605
Working Capital Turnover	-.010	-.050	-.007	-.042	.023	.011	-.105	-.003	-.149	.030	.027	.075	**.809**	.700
Inventory Turnover	-.055	.233	.064	-.250	-.140	-.169	.096	.215	**.466**	.142	.427	-.218	.108	.706
Debtors Turnover	-.010	.007	.026	-.085	-.063	-.014	.134	-.034	-.024	**.856**	.017	-.097	-.011	.775
RM as % of Total Cost	**.568**	.022	.018	.088	.078	-.357	.143	.104	.286	.155	-.006	.098	.119	.626
Wages as % of Total Cost	**.750**	.064	-.024	-.012	-.022	.617	-.027	-.020	-.015	-.012	-.052	.002	-.023	.954
Factory Overhead as % to Total Cost	-.030	.098	-.105	.328	.338	**.722**	.035	-.011	-.199	-.049	-.111	-.010	-.043	.822
Administration and selling and Distribution Overhead to Total Cost	**.985**	-.037	-.003	-.057	-.005	-.007	-.033	-.025	-.038	-.021	-.004	-.007	-.011	.978
Financial Charges to Total Cost	.004	-.017	-.218	**.548**	.338	-.104	.072	-.091	-.415	-.040	-029	-.009	-.079	.668
Total Cost as % on Sales	**.979**	.012	-.020	-.028	.007	.181	-.023	-.011	-.005	-.004	-.026	.006	-.009	.995
Current Ratio	-.088	-.122	.127	.010	-.078	-.053	**.739**	.005	-.040	.219	-.056	.313	-.137	.763
Quick Ratio	-.037	.111	.077	-.007	.084	.058	**.783**	.008	.164	.034	.078	.118	-.132	.708
Cash Position Ratio	-.009	.001	-.188	-.126	.004	-.012	**.723**	-.006	-.012	-.025	-.019	-.279	.175	.683
Raw Material Holding Period	-.018	-.032	-.128	**.885**	-.006	.029	-.039	-.081	-.151	.019	-.115	-.047	-.075	.853
Work – in – Progress Holding Period	-.031	.118	-.115	**.744**	.205	.271	.026	-.139	-.154	-.087	-.129	.135	-.090	.792
Finished Goods Holding Period	-.080	-.052	.133	.077	.034	-127	**.404**	-.328	-.323	.010	-.190	.329	.087	.578
Receivables Holding Period	.059	.033	-.071	.304	.562	.095	.189	-.069	.019	-.186	.000	**.470**	-.072	.728

Variables	Factors													Communality
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Payables Payment Period	**.991**	-.039	-.011	.004	-.017	.013	-.043	-.026	-.018	-.014	-.003	-.004	-.010	.986
Cash Conversion Cycle Period	**-.989**	.039	.004	.056	.039	-.007	.050	.015	.008	.006	-.006	.023	.004	.988
Debt Equity Ratio	-.008	.021	.042	.005	**.851**	-.031	-.089	-.012	-.027	.002	-.186	-.026	-.017	.771
Interest Coverage Ratio	-.005	.094	.025	-.050	-.025	.002	.008	-.026	.034	**.837**	.041	-.006	.020	.718
Proprietary Ratio	-.013	-.043	**.812**	-.251	-.064	.112	.036	.069	.130	.047	.005	.153	4.100E-5	.790
Long – Term Debt to Total Debt	-.008	-.115	**.838**	-.152	.160	.009	.063	-.036	-.155	-.078	.078	-.091	-.045	.815
Capital Gearing Ratio	-.001	.002	.074	.018	**.884**	.022	.080	-.038	-.035	-.036	.037	-.045	.086	.810
Earnings Per Share	-.021	-.062	-.033	.001	.241	.006	-.032	**.795**	.009	.014	.150	.002	-.050	.721
Price Earnings Ratio.	-.016	-.026	.016	-.029	-.068	.120	.133	-.066	**.519**	-.173	-.117	080	-.137	.381
Book Value per Share-	-.015	-.043	.046	-.063	-.110	.004	-.028	**.853**	-.022	-.020	.051	.080	-.050	.762
Dividend Yield Ratio	-.018	-.116	-.003	-.015	-.064	-.018	.058	.007	-.009	-.066	-89	**.704**	.060	.533
Export as % to Total Sales	**.539**	.208	-.065	.385	.147	-.197	-.053	.032	-.289	-.076	.25	-.171	-.056	.673
Economic Value Added	-.021	.103	-.008	-.080	-.013	-.067	-.118	.140	-.171	-.018	**.570**	.104	-.185	.455
Market Value Added	-.017	-.019	.055	-.018	-.145	.004	.036	**.708**	.026	-.047	-.045	-.086	.093	.548
Total Factor Productivity	-.043	.118	-.030	**.746**	-.099	-.008	-.119	.137	.280	-.116	.031	.017	.174	.740
Interest Rate	.041	**-.476**	-.140	-.015	.020	.104	-.265	-.012	-.135	.091	.239	.086	-.456	.629
Gross Domestic Product	-.016	**.967**	-.100	.052	.027	.063	-.025	-.046	-.007	0.52	.030	-.043	-.045	.963
Money Supply	-.013	**.963**	-.102	.052	.036	.064	-.033	-.045	-.006	.059	.035	-.053	-.052	.959
Whole Sale Price Index	-.022	**.983**	-.064	.048	.027	.036	.020	-.041	.013	.034	-.015	-.052	.039	.983
Eigen Value	**6.191**	**5.218**	**3.435**	**2.683**	**2.377**	**2.250**	**1.935**	**1.810**	**1.514**	**1.299**	**1.170**	**1.066**	**1.021**	
% of Variance	**14.741**	**12.425**	**8.178**	**6.387**	**5.660**	**5.358**	**4.605**	**4.309**	**3.606**	**3.094**	**2.786**	**2.539**	**2.432**	**76.122**
Cum. % Variance	**14.741**	**27.166**	**35.343**	**41.731**	**47.391**	**52.749**	**57.356**	**61.666**	**65.272**	**68.365**	**71.151**	**73.690**	**76.122**	
Kaiser – Meyer – Olkin Measure of Sampling Adequacy									**- 0.636**					
Bartlett's Test of Shericity									**- 6.848 E 3 (Sigx.000)**					
Extraction Method: Principal Component Analysis.									**Rotation Method: Varimax with Kaiser Normalization**					

Source: Computed using SPSS20

Table-4: Financial Competitiveness – Overall and Sector wise Scores and Ranks of the companies for Indicators

Companies	Overall Index		Profitability Index		Assets Utilisation Index		Cost Effectiveness		Liquidity Index		Working capital Efficiency Index		Solvency Index		Market Value Index		Foreign Trade Index		Productivity Performance Index		Value Added Performance Index	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Ashok Leyland Ltd	10.47	**4(12)**	2.40	**2(5)**	4.40	**5(12)**	3.00	**4(8)**	1.30	**1(2)**	4.30	**5(13)**	2.20	**2(4)**	3.00	**3(11)**	1.00	**1(1)**	1.00	**1(1)**	3.00	**3(8)**
Tata Motors Ltd	9.50	**2(8)**	3.00	**4(10)**	2.20	**2(3)**	2.60	**1(3)**	4.00	**4(11)**	2.00	**1(2)**	3.40	**4(10)**	2.70	**1(7)**	2.00	**2(4)**	2.00	**2(4)**	1.50	**1(2)**
Bajaj Tempo Ltd	12.26	**5(14)**	4.60	**5(13)**	3.60	**4(8)**	3.60	**5(10)**	4.30	**5(12)**	3.50	**4(10)**	3.00	**3(8)**	3.25	**5(14)**	5.00	**5(13)**	5.00	**5(13)**	2.50	**2(6)**
Eicher Motors Ltd	8.32	**1(6)**	2.20	**1(3)**	2.00	**1(2)**	2.85	**3(7)**	1.60	**2(4)**	2.16	**2(3)**	1.80	**1(2)**	2.75	**2(9)**	3.00	**3(7)**	4.00	**4(10)**	3.50	**4(9)**
Swaraj Mazda Ltd	9.92	**3(10)**	2.80	**3(8)**	2.80	**3(7)**	2.80	**2(5)**	3.60	**3(10)**	3.00	**3(7)**	4.60	**5(13)**	3.20	**4(13)**	4.00	**4(10)**	3.00	**3(7)**	4.50	**5(12)**
Hindustan Motors Ltd	12.63	**6(15)**	5.60	**5(16)**	4.40	**5(12)**	4.60	**5(13)**	5.30	**5(15)**	4.50	**6(14)**	5.80	**6(16)**	4.00	**6(15)**	5.00	**5(13)**	4.00	**4(10)**	2.50	**3(6)**
Mahindra and Mahindra Ltd	8.58	**3(7)**	2.20	**2(3)**	4.60	**6(14)**	3.80	**4(11)**	3.00	**3(6)**	4.16	**5(12)**	3.80	**4(11)**	2.25	**4(4)**	4.00	**4(10)**	2.00	**2(4)**	1.50	**1(2)**
Maruti Udyog Ltd	7.82	**2(4)**	1.60	**1(1)**	2.20	**2(3)**	2.80	**2(5)**	3.33	**4(8)**	3.66	**4(11)**	1.40	**1(1)**	2.00	**2(2)**	2.00	**2(4)**	5.00	**5(13)**	2.00	**2(4)**
Hyundai Motors India Ltd	9.70	**4(9)**	3.60	**4(12)**	3.80	**3(10)**	5.00	**6(14)**	2.60	**2(5)**	2.83	**2(5)**	2.80	**3(7)**	0.50	**1(1)**	1.00	**1(1)**	6.00	**6(16)**	-	**-**
Honda Siel Cars India Ltd	7.41	**1(3)**	2.60	**3(7)**	1.80	**1(1)**	1.60	**1(1)**	1.00	**1(1)**	3.00	**3(7)**	2.00	**2(3)**	2.20	**3(3)**	6.00	**6(16)**	3.00	**3(7)**	-	**-**
Ford India Private Ltd	10.88	**5(13)**	5.40	**6(14)**	4.20	**4(11)**	3.00	**3(8)**	5.60	**6(16)**	2.80	**1(4)**	5.20	**5(15)**	2.50	**5(5)**	3.00	**3(7)**	1.00	**1(1)**	-	**-**

Companies	Overall Index		Profitability Index		Assets Utilisation Index		Cost Effectiveness		Liquidity Index		Working capital Efficiency Index		Solvency Index		Market Value Index		Foreign Trade Index		Productivity Performance Index		Value Added Performance Index	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Bajaj Auto Ltd	6.84	**2(2)**	2.40	**2(5)**	3.60	**3(8)**	2.60	**2(3)**	3.33	**3(8)**	3.00	**3(7)**	3.00	**3(8)**	3.00	**4(11)**	4.00	**4(10)**	3.00	**3(7)**	1.00	**1(1)**
LML Ltd	14.29	**9(20)**	8.20	**8(19)**	6.80	**8(19)**	7.00	**8(19)**	7.33	**8(19)**	6.33	**7(18)**	6.45	**7(18)**	6.75	**8(19)**	1.00	**1(1)**	7.00	**7(18)**	3.50	**3(9)**
Maharashtra Scooters Ltd	10.03	**4(11)**	2.80	**3(8)**	4.80	**4(15)**	5.50	**6(17)**	4.33	**4(13)**	5.00	**4(15)**	2.20	**1(4)**	2.70	**2(7)**	-	**-**	9.00	**9(20)**	5.00	**5(13)**
TVS Motor Company Ltd	8.03	**3(5)**	3.00	**4(10)**	2.65	**2(6)**	4.00	**3(12)**	6.33	**6(17)**	2.83	**2(5)**	4.80	**5(14)**	2.75	**3(9)**	6.00	**6(16)**	4.00	**4(10)**	3.55	**4(11)**
Kinetic Motor Company Ltd	13.82	**6(18)**	8.40	**9(20)**	6.20	**7(18)**	7.50	**9(20)**	4.66	**5(14)**	6.16	**6(17)**	6.40	**6(17)**	5.75	**6(17)**	5.00	**5(13)**	8.00	**8(19)**	7.50	**7(15)**
Hero Honda Motors Ltd	6.61	**1(1)**	1.80	**1(2)**	2.60	**1(5)**	2.50	**1(2)**	7.00	**7(18)**	1.50	**1(1)**	2.60	**2(6)**	2.50	**1(5)**	7.00	**7(18)**	1.00	**1(1)**	2.00	**2(4)**
Kinetic Engineering Ltd	13.89	**7(19)**	7.20	**7(18)**	7.40	**9(20)**	6.00	**7(18)**	3.30	**2(7)**	7.50	**9(20)**	8.20	**9(20)**	7.00	**9(20)**	3.00	**3(7)**	6.00	**6(16)**	7.00	**6(14)**
Majestic Auto Ltd	12.65	**5(16)**	5.40	**5(14)**	5.60	**6(17)**	5.16	**4(15)**	7.66	**9(20)**	5.66	**5(16)**	7.00	**8(19)**	6.70	**7(18)**	2.00	**2(4)**	2.00	**2(4)**	8.00	**9(17)**
Scooters India Ltd	13.24	**8(17)**	5.80	**6(17)**	5.40	**5(16)**	5.18	**5(16)**	1.33	**1(3)**	7.16	**8(19)**	4.40	**4(12)**	5.50	**5(16)**	8.00	**8(19)**	5.00	**5(13)**	7.55	**8(16)**
Industry Average	**4.05**		**4.05**		**4.00**		**4.01**		**4.20**		**4.05**		**3.55**		**3.78**		**3.80**		**3.88**		**10.34**	

Source: Computed using SPSS20. Figures in parenthesis denote overall ranks of the companies in whole automobile industry.