



PROFITABILITY ANALYSIS OF TVS MOTORS LTD.

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ABSTRACT :

Automotive industry is a wide range of companies and organizations involved in the design, development, manufacturing, marketing, and selling of motor vehicles. It is one of the world's most important economic sectors by revenue. Despite the fact that many large companies have problems with overcapacity and low profitability, the automotive industry retains a very strong influence and importance. The industry also provides well-paying jobs with good benefits, has heavy linkages with supplier industries (which gives it an oversized role in economic development, and has a strong political influence. The automobiles sector is compartmentalized in four different sectors which are as follows:

The automotive industry in India is one of the largest in the world with an annual production of 23.37 million vehicles in FY 2014-15, following a growth of 8.68% over the last year. It is one of the key drivers that boost the economic growth of the country. Since the de-licensing of the sector in 1991 and the subsequent opening up of 100% FDI through automatic route, Indian automobile sector has come a long way. Today, almost every global auto major has set up facilities in the country. The world standing for the Indian automobile sector, as per the Confederation of the Indian industry is as follows:

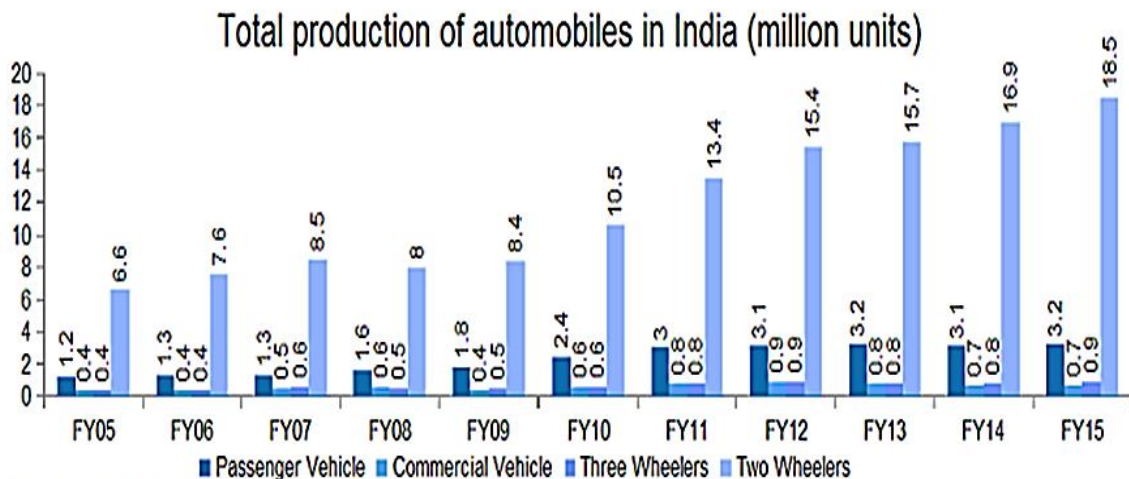
Keywords: FDI, automotive industry, automatic route

INTRODUCTION :

India is the second largest two-wheeler manufacturer, the largest motorcycle manufacturer and the fifth largest commercial vehicle manufacturer in the world. The Two Wheelers segment, with 81% market share, is the leader of the Indian Automobile market, owing to a growing middle class and a young population. Moreover, the growing interest of companies in exploring the rural markets further aided the growth of the sector. India is also a prominent auto exporter and has strong export growth expectations for the near future. In FY 2014-15, automobile exports grew by 15% over the last year.

The overall Passenger Vehicle (PV) segment has 13% market share driven by demand for utility vehicles, the sales of passenger vehicles increased by 11.04% to 242,060 units in April 2016. While sales of passenger cars went up by 1.87% to 162,566 units in April 2016, those of utility vehicles grew by 43% to 62,170 units. Sales of commercial vehicles maintained its momentum on back of replacement demand and grew by 17.36% to 53,835 units. The two-wheeler industry also performed well. While sales of scooters increased by 35.86% to 468,368 units, the demand for motorcycles shot up by a strong 16.24% to 1,024,926 units.

Growth Trend



The auto industry produced a total 19.84 million vehicles in April-January 2016, including passenger vehicles, commercial vehicles, three wheelers and two wheelers, as against 19.64 million in April-January 2015. Domestic sales of Passenger Vehicles grew by 8.13% in April-January 2016 over the same period last year. The domestic sales of Commercial Vehicles increased by 9.43% in April-January 2016 over the same period last year. Sales of Medium & Heavy Commercial Vehicles (M&HCVs) increased at 30.19%.

Automobile exports grew at a CAGR of 14.65% during 2010-15. Passenger Vehicles, Commercial Vehicles, Three Wheelers and Two Wheelers grew by 6.89%, 13.77%, 18.69% and 16.60% CAGR during 2010-15. Two wheelers accounted for the largest share of exports at 69.4% in FY15. Passenger vehicles comprised a sizeable 16.7 % of overall exports. However, the year 2013-2014 had seen a decline in the industry's otherwise smooth-running growth. High inflation, soaring interest rates, low consumer sentiment and rising fuel prices along with economic slowdown are the major reason for the downturn of the industry.

India is currently the seventh largest producer in the world with an average annual production of 23.36 Million vehicles, of which 3.57 Million are exported. The automobile industry in India is expected to be the world's third largest by 2016. Two wheeler production is projected to rise from 18.5 million in FY15 to 34 million by FY20. Furthermore, passenger vehicle production is expected to increase to 10 million in FY20 from 3.2 million in FY15. Following factors are determining the growth of the industry:

TVS Motor is the third largest two-wheeler manufacturer in India, with revenue of 11,244 Cr INR (2015-16). The flagship company of the TVS group has annual production capacity of 3.2 million 2 wheelers & 1.2 Lakh 3 wheelers. The company employs more than 8000 employees with a Production capacity of 2.8 million vehicles, Sales of over 2 million vehicles And Presence in over 50 Countries.

Objective of the study

1. To analyse area-wise & model-wise sales volume.
2. To find out Model-wise contribution for each area.
3. To know the Model-mix and Area-mix impact on area profitability and market share.
4. To recommend for increasing region-wise profitability and overall market share.

Scope of the Study

1. The study is based on the sales data of TVS Motor Company, Hosur, for the FY 2015-16.
2. It analyses the profitability of each model and geographic segment.
3. It will help the company to optimize resources to changing customer needs by giving an insight to the sales team and brand team.
4. The sales and brand teams can focus the target setting not only with the sales but also with profitability and market share.
5. Further this analysis may also be helpful in alignment of individual targets with the company's goals and objectives.
6. The company can also rationalise the expenditures made at different stages by comparing with the revenue generated in a particular period.
7. Some models which were withdrawn by the company during the year 2015-16 are excluded from the study.

Research Methodology

Research Design: A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. It is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data.

In this study I have used quantitative research approach which involves the collection of quantitative data, which are put to rigorous quantitative analysis in a formal and rigid manner. This approach further includes experimental, inferential, and simulation approaches to research

Type of Research:

Descriptive Research: Descriptive research is used in the study because it will ensure the minimization of bias and maximization of reliability of data collected. I have used fact and information already available in ERP for the previous years and analyse these to make critical evaluation of the available material. The main objective of descriptive research is describing the state of affairs as it prevails at the time of study. The term 'ex post facto research' is quite often used for descriptive research studies in social sciences and business research. The most distinguishing feature of this method is that the researcher has no control over the variables here. He/she has to only report what is happening or what has happened. Majority of the ex-post facto research projects are used for descriptive studies in which the researcher attempts to examine phenomena, such as the consumers' preferences, frequency of purchases, shopping, etc.

In the current study I have taken into consideration the previous year data provide by the organisation in due consideration with the prevailing practice. The research is also Exploratory in nature which is also known as formulative research design.

Exploratory / Formulative Research: The main objective of using such a research design is to formulate a research problem for an in-depth or more precise investigation, or for developing a working hypothesis from an operational aspect. The major purpose of such study is the discovery of ideas and insights. Therefore, such a research design suitable for such a study should be flexible enough to provide opportunity for considering different dimensions of the problem under study. The in-built flexibility in research design is required as the initial research problem would be transformed into a more precise one in the exploratory study, which in turn may necessitate changes in the research procedure for collecting relevant data.

Sampling:

Sampling Method: A convenience sampling is used for this study. In this method under non-probability sampling sample unit are selected at the convenience of the researcher. Convenience sampling method was adopted to select 1 year from the lifetime of the company since its operation. The data analysed in this study is obtained from the ERP-SAP used by the company from which the sample has been selectively chosen.

Non-probability sampling is the sampling procedure that does not afford any basis for estimating the probability that each item in the population would have an equal chance of being included in the sample. It is also known as deliberate sampling, judgment sampling and purposive sampling. This method is best suitable for the current study because under this type of sampling, the items for the sample are deliberately chosen by the researcher and the choice of items remains supreme. In such a case, the judgment of the researcher of the study assumes prime importance in this sampling design.

Sampling unit: A sampling unit may be a geographical area like a state, district, village, etc., or a social unit like a family, religious community, school, etc., or it may also be an individual and may be one or more of such units as per the requirement of the requirement of the study. For the purpose of my study I have taken into consideration data related to domestic sales, Contribution analysis, Freight outward and Industry and Market Share for the previous year 2015-16.

Sample size: Size of the sample refers to the number of items to be chosen from the universe to form a sample. The size of sample must be optimum. An optimum sample may be defined as the one that satisfies the requirements of representativeness, flexibility, efficiency, and reliability. I selected the cost and sales related data of 12 months for the previous year 2015-16 with respect to 11 different two wheeler models and 7 geographical segments.

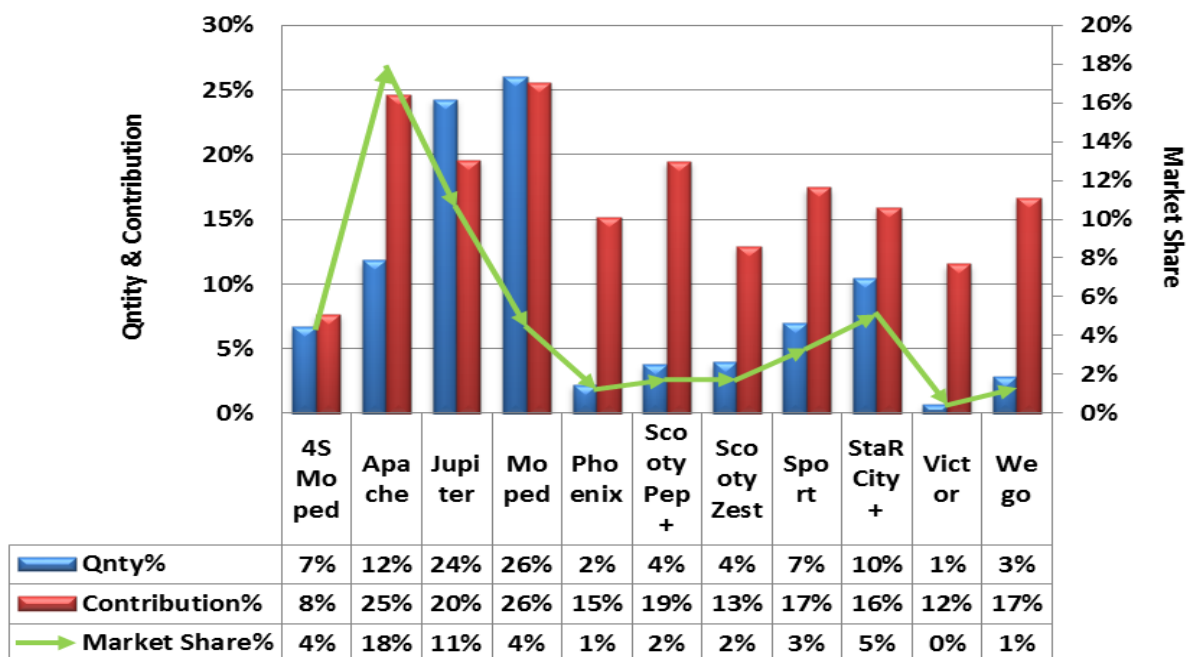
Data Collection:

- The data is collected from secondary source for analysis through extraction or mining from ERP-SAP.
- The secondary research was done to build an in-depth understanding of the processes.
- Information from various published sources, articles and the official site of the company are also used.
- Detailed analysis of secondary information is used to arrive at the specific frameworks provided in the report.

Data Analysis: In data analysis I have used simple descriptive statistics. It is an Excel based analysis by using frequency, mean and graphs. Column and line charts are used for clear representation of data.

DATA ANALYSIS & INTERPRETATION

Profitability analysis done in this study is from company’s point of view based on area wise and model wise contribution, market share and sales volume as a percentage of the total sales in the domestic segment. The study has been done from two different aspects; Model mix represents the contribution per unit, sales volume and market share of each model in a particular geographical segment. This reflects the model mix impact on area as well as the overall profitability. The area mix of the two-wheeler models shows the contribution per unit, sales volume and market share the company enjoys for the domestic geographical segments. This helps us to analyse the profitability of each model or Brand with respect to the industry size. Contribution/ Gross Margin are computed in the following process



Interpretation:

Fig.1 reveals the model mix of the domestic two wheeler segment of TVS Motor Company Limited for the year 2015-16. In the above graph we can see that Apache has 18% market share followed by Jupiter and Star city+ with 11% and 5% respectively. While Apache constitutes only 12%, moped and Jupiter constitute 26% and 24% respectively, a major portion of the total sales volume during 2015-16. Moped gives the highest contribution of 26% whereas Apache and Jupiter contribute 25% and 20% each. Other models such as Wego, Zest, Pep+, Victor, Sport, Phoenix which although contribute 15-20% each, have less than 10% of the overall market share.

Interpretation:

South Zone 1 model mix in Fig.2 reveals that Star city+ has the market share of 12% with only 6% of the total sales volume and 15% contribution followed by Moped and Apache with market share of 11% and 7% respectively. Apache contributes 27% by selling only 4% whereas Moped contributes 26% selling highest quantity of 39%. Both Jupiter and Scooty Pep+ give 21% contribution.

ANDHRA PRADESH

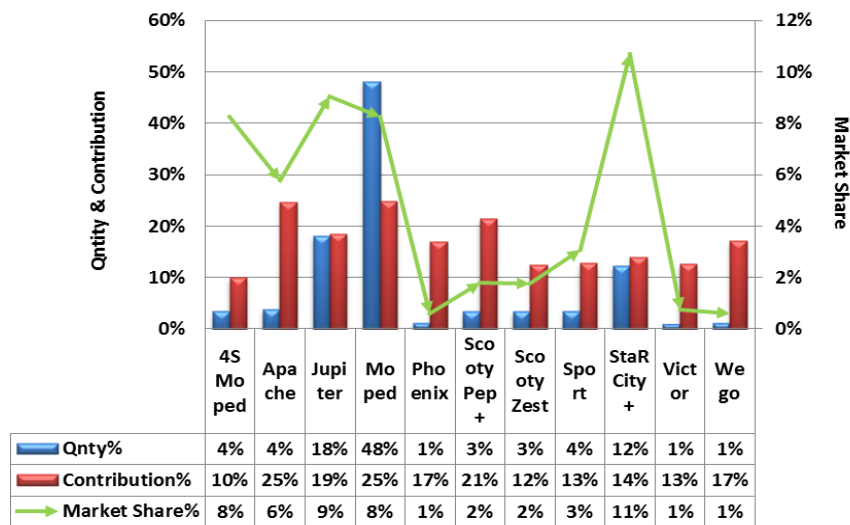


Fig.3

Interpretation:

From above Fig.3 it can be observed that in Andhra Pradesh Star city+ has the highest market share of 11% amongst other models but contributes only 14% selling 12% of the total volume. Moped and Apache have the highest contribution of 25% with 8% and 6% market shares respectively. Scooty Pep+ which has the second highest contribution of 21% has less than 2% market share. Jupiter contributes 19% with a market share of 9%. Both Moped and Jupiter have a major portion .i.e. 70% of the total sales volume.

KARNATAKA

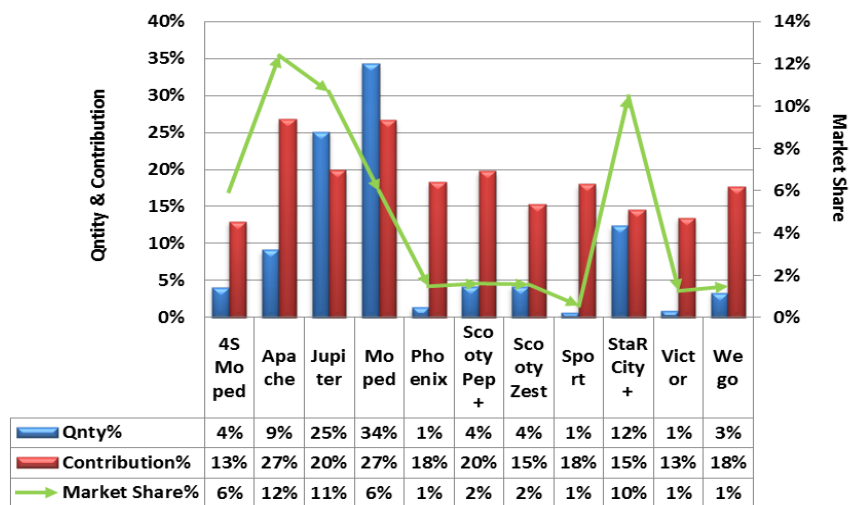


Fig.4

Interpretation:

In Fig.4 Moped and Apache have the highest contribution of 27% in Karnataka where Apache also has the highest market share of 12% but moped has only 6% share but 34% of the sales volume. Jupiter stands second with 11% market share and 20% contribution selling 25% of the total volume.

EAST-ZONE

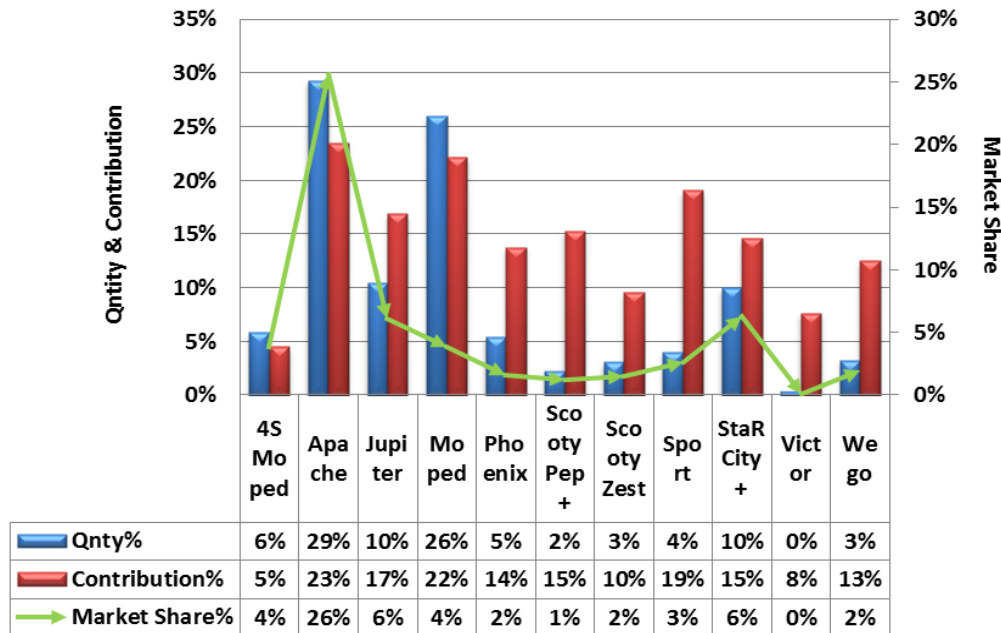


Fig.5

Interpretation:

In East Apache has the highest market share of 26% as well as gives the maximum contribution of 23% and accounts for 29% of the sales volume. Although Moped, Sport and Jupiter contribute 22%, 19% and 17% respectively but have less than 10% market share.

WEST ZONE

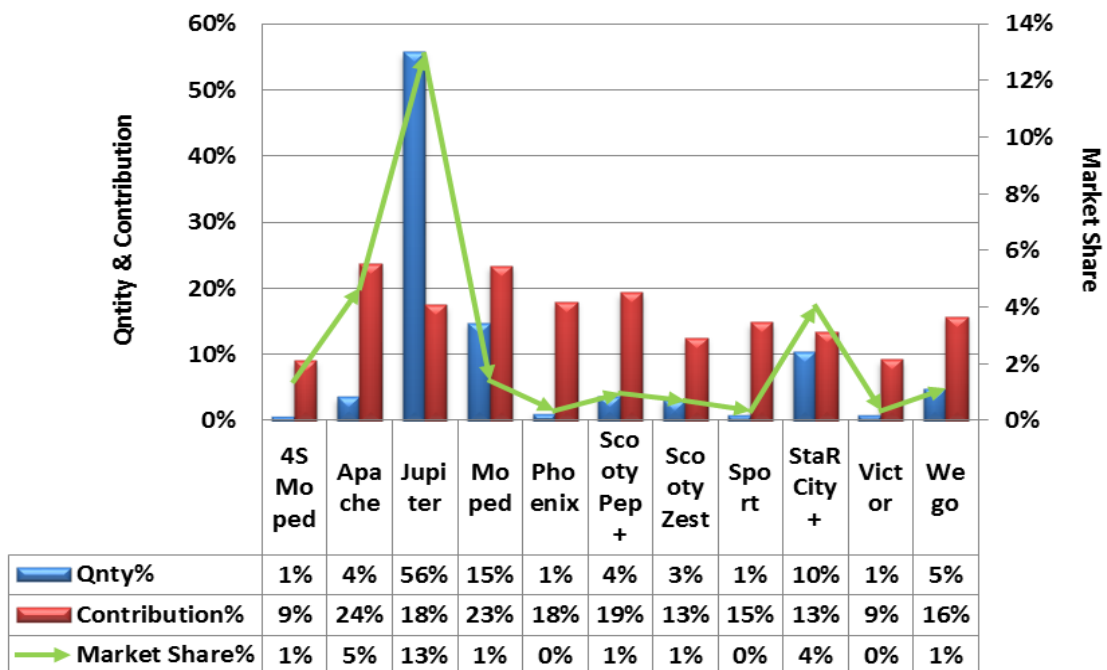


Fig.6

Interpretation:

Fig.6 reveals that in West Zone Jupiter accounts for 56% of the total sales volume of the company and also has the highest market share of 13% followed by Apache with a market share of 5% and accounting for only 4% of sale. Although Moped and Scooty Pep+ contribute 23% and 19% respectively but their market share is less than 3%.

CENTRAL ZONE

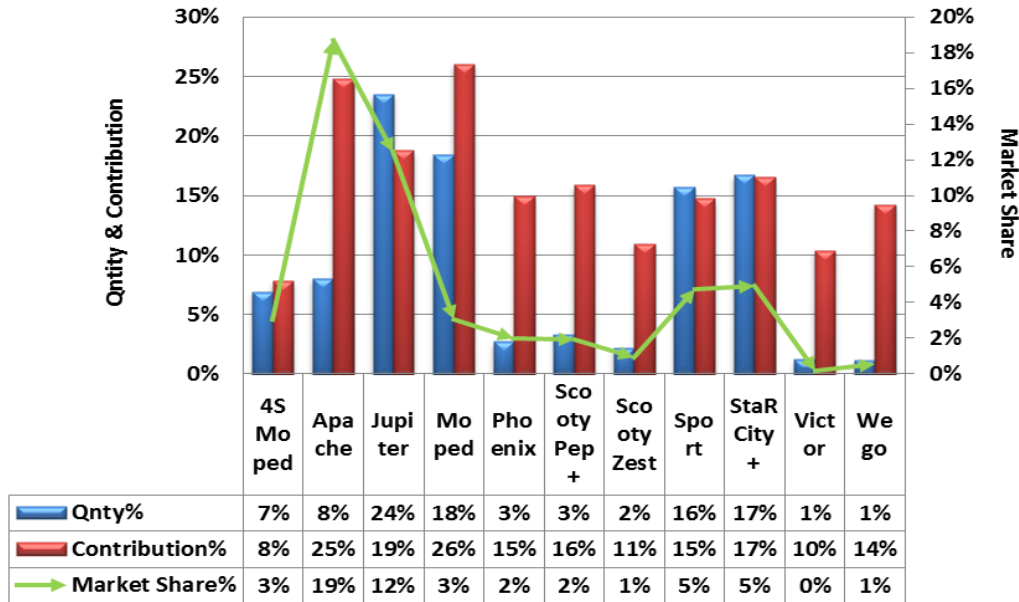


Fig.7

Interpretation:

The Central Zone sales volume is dominated by Jupiter and Moped at 24% and 18% respectively where Moped gives the highest contribution of 26% and Jupiter gives only 19%. Apache has the highest market share of 19% and contribution of 25% following Moped. Jupiter has a market share of 12% next to Apache with a good contribution of 19%.

NORTH ZONE

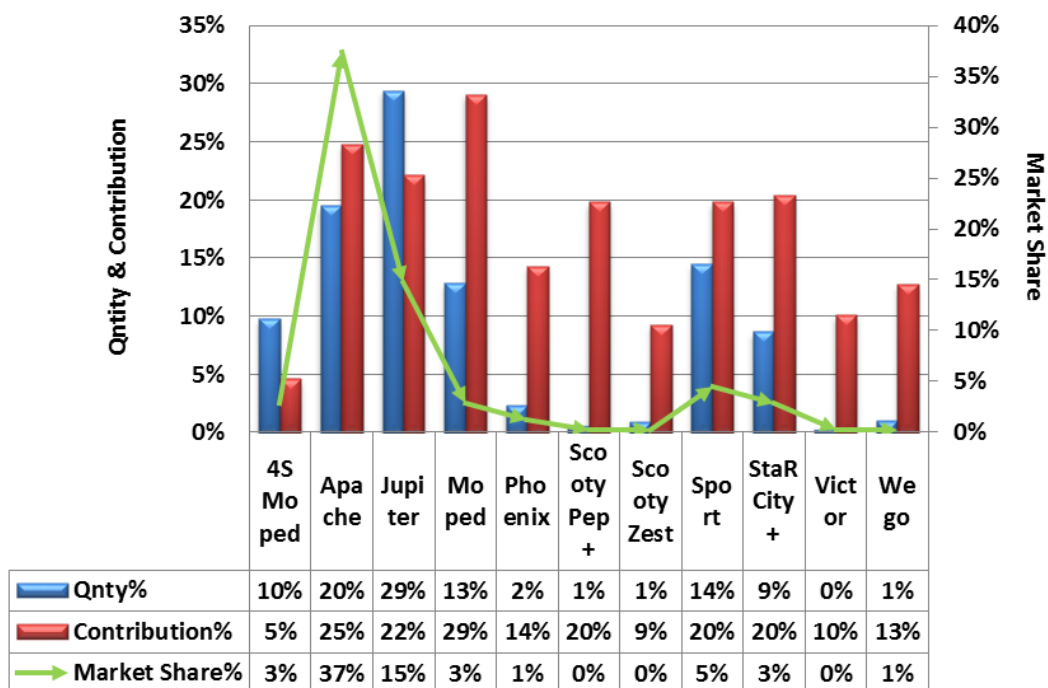


Fig.8

Interpretation:

As observed in Fig.8 Moped, Apache and Jupiter contribute maximum in the North Zone .i.e. 29%, 25% and 22% respectively. Apache leads in market share of 37.4% followed by Jupiter with 15%. Jupiter, Apache and Moped constitute 62% of the total sales volume.

Area Mix: APACHE

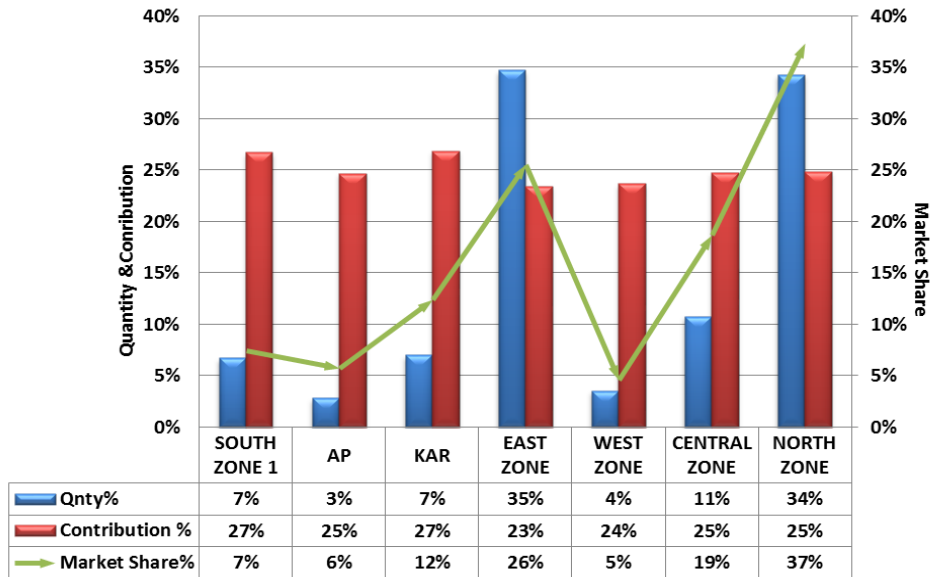


Fig.9

Interpretation:

As per Fig.9 Apache has the highest sales volume of 35% in East followed by North with 34% of sales. The premium model contributes more than 27% in Karnataka and South Zone1. In North it enjoys a market share of 37% where as in East it is about 26%.

JUPITER

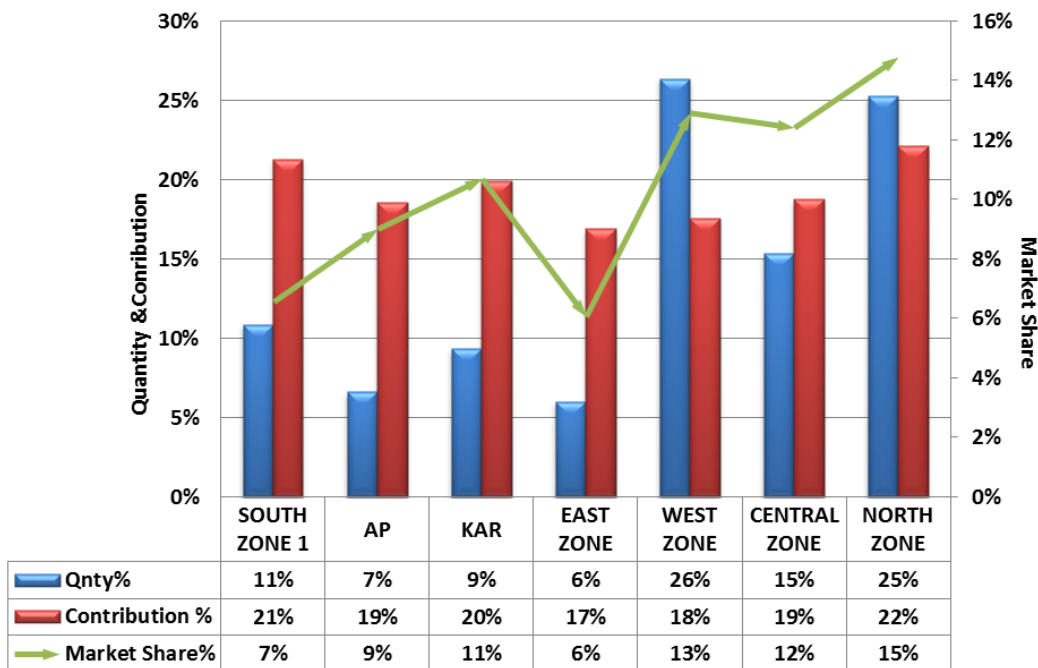


Fig.10

Interpretation:

Fig.10 reveals that Jupiter enjoys a market share of 15% in North, 13% in West and about 12% in the Central zone. The scooter model gives the highest contribution of 22% in North followed by South Zone 1 with 21% and Karnataka with 20%. It has the maximum sales of 26% in West Zone followed by North with a volume of 25%.

MOPED

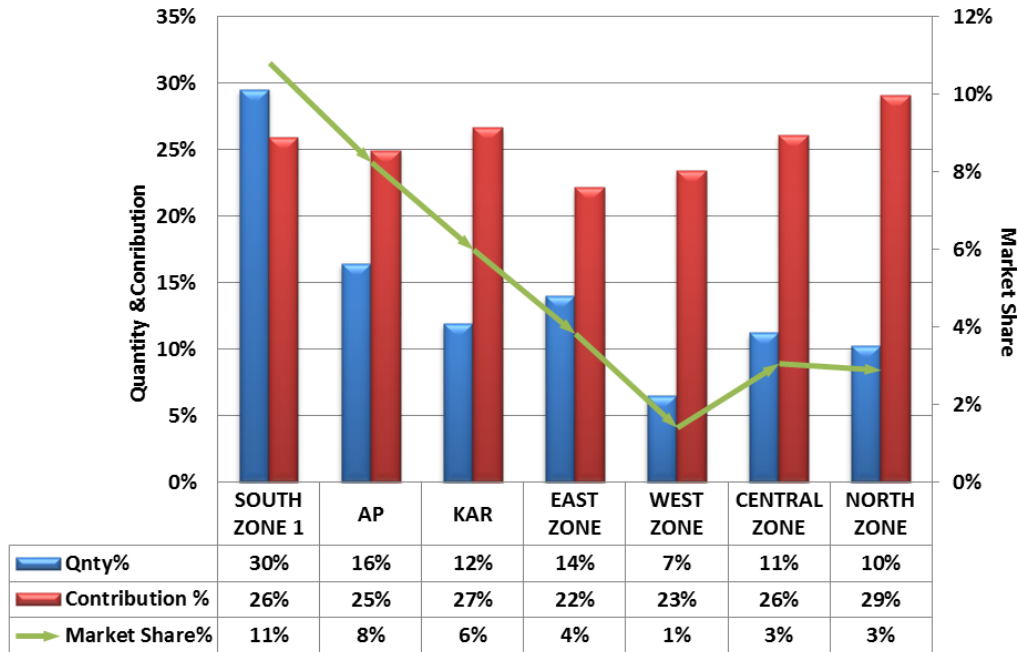


Fig.11

Interpretation:

Being the only player in the domestic moped segment, according to Fig.11 the company sells maximum mopeds in South Zone 1 i.e.30% with a market share of 11%. Although the contribution from North and Karnataka is 29% and 27% respectively which is more than that of South Zone1 i.e 26% but the sales volume of each is less than 15% and the market share is less than 10%. On an average Moped has an overall contribution more than 20% in all the 7 Zones.

PHOENIX

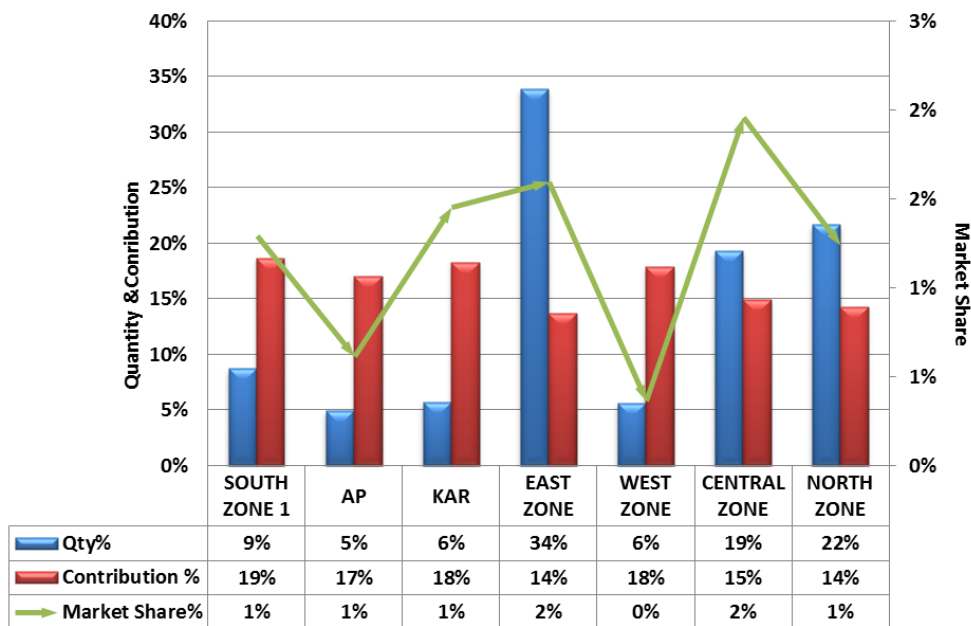


Fig.12

Interpretation:

Fig.12 shows that in Executive Motorcycle segment Phoenix has a market share of 1.6% and highest sales of 34% in East Zone. Although in South Zone and West Zone the model fetches contribution more than 18 % but the overall market share is less than 5%.

SCOOTY PEP+

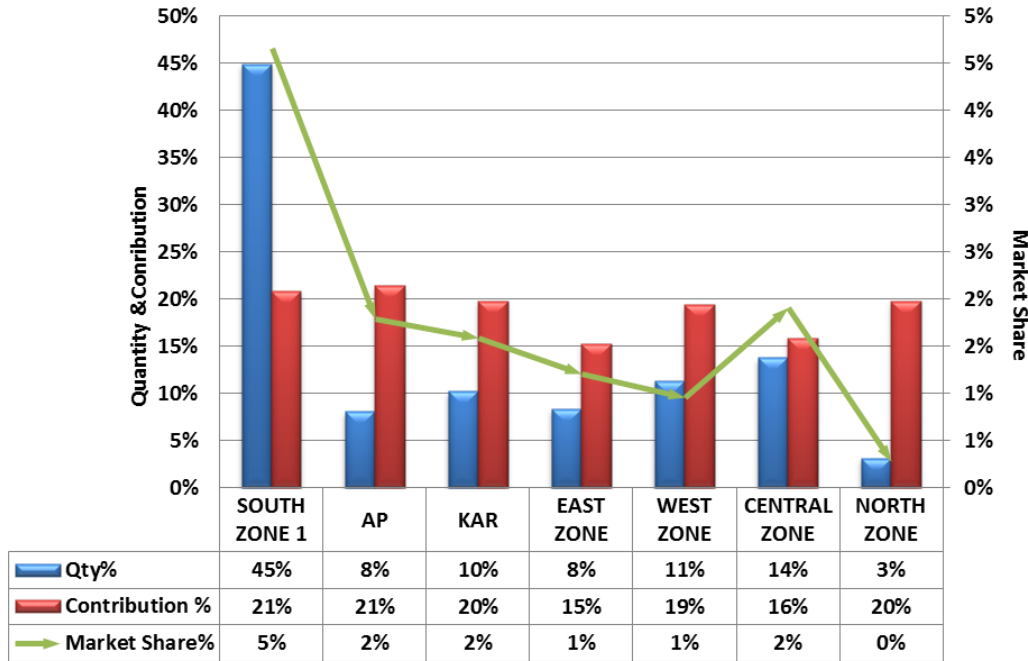


Fig.13

Interpretation:

In Fig.13 Scooty Pep+ enjoys a market share of 4.7% and the highest sales volume of 45% in South Zone 1. While in Andhra Pradesh the model has the highest contribution of 21%. South, Karnataka, North and West are almost in the same range of contributing an average of 20%.

SCOOTY ZEST

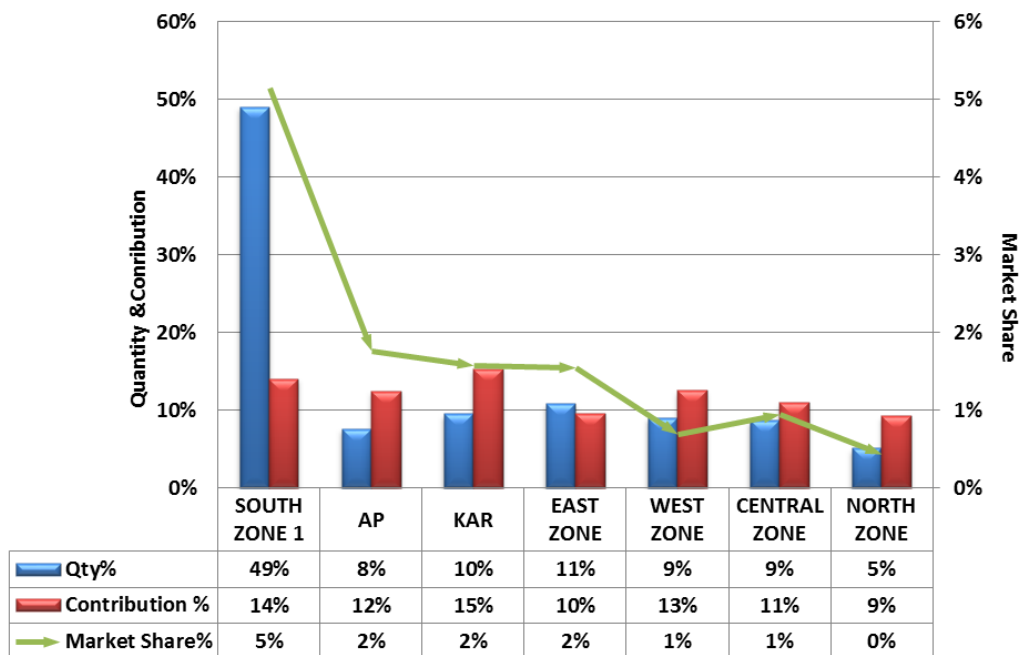


Fig.14

Interpretation:

In the above Fig.14, South Zone, Andhra Pradesh and Karnataka together have more than 60% of the sales volume enjoying more than 8% market share in Scooty Zest. The model gets a contribution of 15 % in Karnataka, 14% in South and around 12% in West and Andhra Pradesh.

SPORT

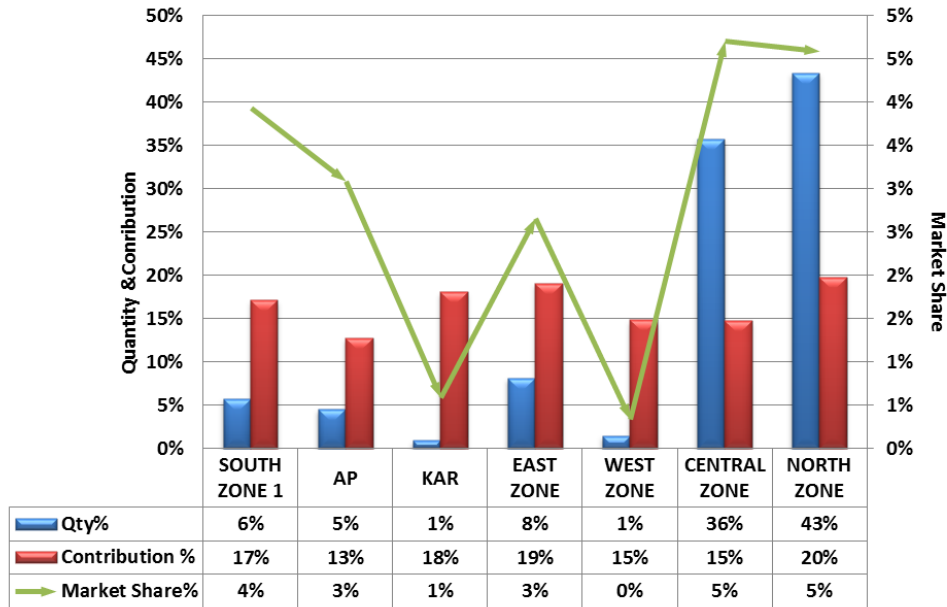


Fig.15

Interpretation

From the Fig.15 we can observe that the company records almost 80% of the sales from North and Central Zone for the sport model where maximum contribution margin of 20% is in the North followed by 19% in the East. Although the Sport model enjoys an overall market share of 20 %, the market share of Karnataka, East and West are as less than 5% from where the company gains an average contribution of 17%.

STARCITY +

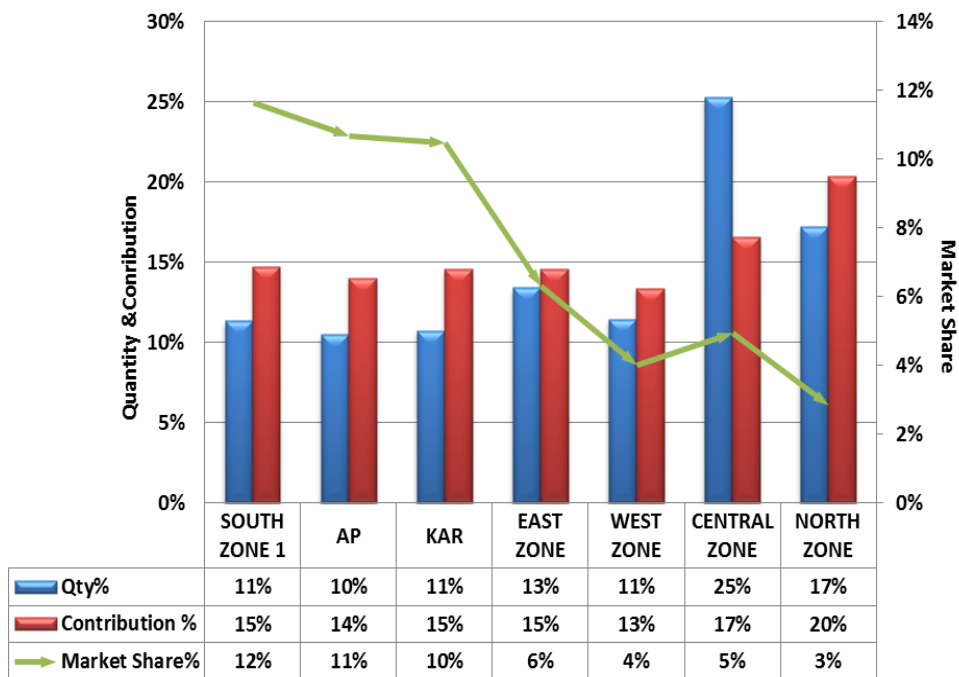


Fig.16

Interpretation:

Economy model Starcity+ has the market share of 12% in South Zone followed by Andhra Pradesh and Karnataka with 11% and 10% respectively. The company gets 25% of its sales volume from Central, 17% from North and 13% from East. The contribution margin in North is 20% and Central is 17% while other zones contribute an average of 14%.

VICTOR

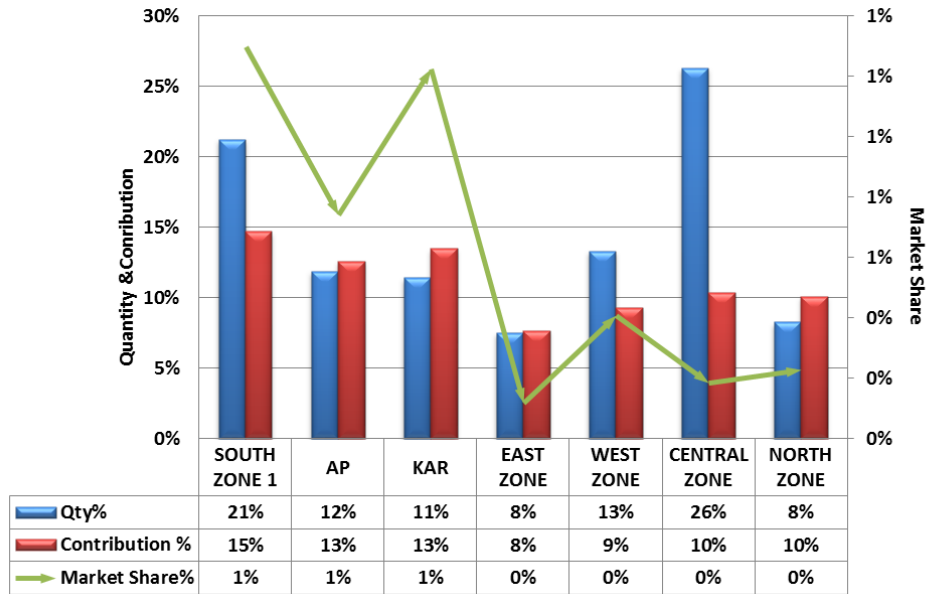


Fig.17

Interpretation:

As per Fig.17, In South Zone Victor has only a market share of 1.3%, sales volume of 21% and Contribution of 15%. The executive model although has the maximum sales in Central Zone but the contribution margin is 10% with a market share less than 1%. On an average the model gives a contribution of 10.6% from all other zones but has a very low domestic market share.

WEGO

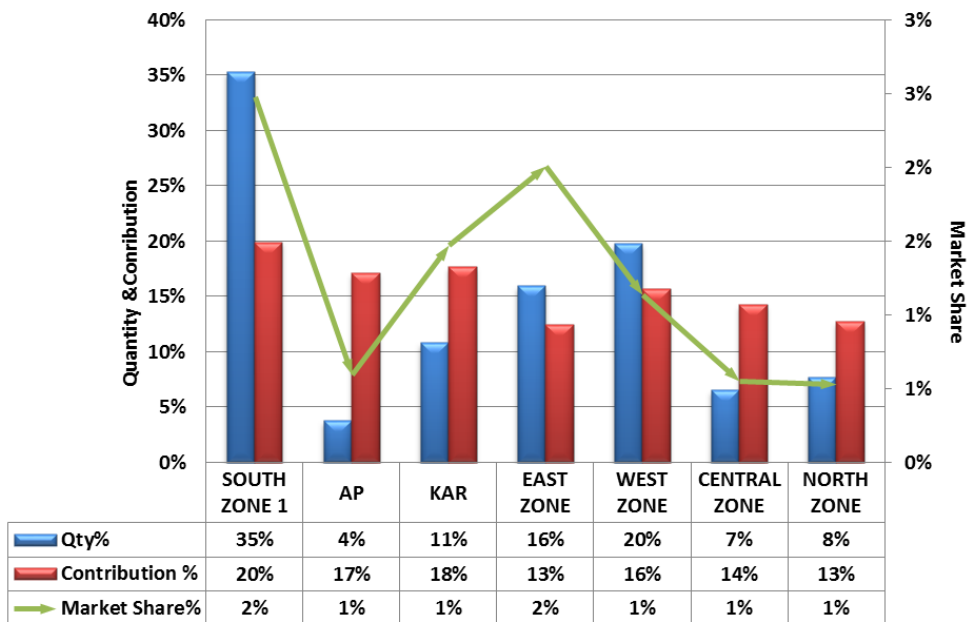


Fig.18

Interpretation:

In the above given Fig.18 Wego has the highest market share of 2.5% in South Zone1 with a maximum contribution of 19.9% and sales volume of 35%. On the other hand although East and Karnataka have a sales volume of 16% and 11% respectively their market share is less than 2%.

Findings and Conclusion :

The study gives an insight about the relationship between market share, sales volume and profitability and the profitability position of TVS Motor Company Limited in the two-wheeler segment.

Analysis Table

TWO WHEELER MODEL MIX												
ALL INDIA				SOUTH 1			AP			KAR		
MODELS	QTY%	CONTRIBUTION%	MARKET SHARE %	QTY%	CONTRIBUTION%	MARKET SHARE %	QTY%	CONTRIBUTION%	MARKET SHARE %	QTY%	CONTRIBUTION%	MARKET SHARE %
4S MOPED	7%	8%	4%	10%	10%	11%	4%	10%	8%	4%	13%	6%
APACHE	12%	25%	18%	4%	27%	7%	4%	25%	6%	9%	27%	12%
JUPITER	24%	20%	11%	13%	21%	7%	18%	19%	9%	25%	20%	11%
MOPED	26%	26%	4%	39%	26%	11%	48%	25%	8%	34%	27%	6%
PHOENIX	2%	15%	1%	1%	19%	1%	1%	17%	1%	1%	18%	1%
SCOOTY PEP+	4%	19%	2%	9%	21%	5%	3%	21%	2%	4%	20%	2%
SCOOTY ZEST	4%	13%	2%	10%	14%	5%	3%	12%	2%	4%	15%	2%
SPORT	7%	17%	3%	2%	17%	4%	4%	13%	3%	1%	18%	1%
STAR CITY+	10%	16%	5%	6%	15%	12%	12%	14%	11%	12%	15%	10%
VICTOR	1%	12%	0%	1%	15%	1%	1%	13%	1%	1%	13%	1%
WEGO	3%	17%	1%	5%	20%	2%	1%	17%	1%	3%	18%	1%
CENTRAL				EAST			WEST			NORTH		
4S MOPED	7%	8%	3%	6%	5%	4%	1%	9%	1%	10%	5%	3%
APACHE	8%	25%	19%	29%	23%	26%	4%	24%	5%	20%	25%	37%
JUPITER	24%	19%	12%	10%	17%	6%	56%	18%	13%	29%	22%	15%
MOPED	18%	26%	3%	26%	22%	4%	15%	23%	1%	13%	29%	3%
PHOENIX	3%	15%	2%	5%	14%	2%	1%	18%	0%	2%	14%	1%
SCOOTY PEP+	3%	16%	2%	2%	15%	1%	4%	19%	1%	1%	20%	0%
SCOOTY ZEST	2%	11%	1%	3%	10%	2%	3%	13%	1%	1%	9%	0%
SPORT	16%	15%	5%	4%	19%	3%	1%	15%	0%	14%	20%	5%
STAR CITY+	17%	17%	5%	10%	15%	6%	10%	13%	4%	9%	20%	3%
VICTOR	1%	10%	0%	0%	8%	0%	1%	9%	0%	0%	10%	0%
WEGO	1%	14%	1%	3%	13%	2%	5%	16%	1%	1%	13%	1%

Fig.19**The study highlights the following:**

- Motorcycles sales grew by 12.9% in 2015-2016. The Apache is among the highest selling 150cc motorcycles in India. The premium bike which was updated a few years ago is enjoying a market share of 18%. A major portion of the model is sold in East and North with an average contribution of 25% throughout the domestic segment. The company also has a potentially profitable market in Andhra Pradesh, Karnataka and South Zone. Both the executive models Phoenix and Victor have less than 2% market share. Although Phoenix contributes an average of 16%, only West zone, Andhra Pradesh and Karnataka market may prove to be profitable. In economy segment both Starcity and Sport contribute more than 15% on an average but the market share is less than 5%.
- In the recent years, the company has focussed its attention on scooters and the result has been the Jupiter, Wego and Scooty Zest. Jupiter was a big winner of the year with an overall market share of 11%. While it gives an average contribution of 19% from all zones specifically in Central, West and North zone, in South and Andhra Pradesh the model is unable to meet the demand. On the other hand the highly profitable Wego is continuously losing its market share below 2% all through the year. Similarly Scooty Zest is also lagging behind in gaining market

share with an average profitability of only 12%. Scooty Pep Plus which has been around for over a decade is a poor performer this year due to weak market share resulting in low sales volume.

- TVS MOTORS enjoys monopoly market in the Moped segment with mileage of 60 km/Lit and the power of 50 to 70 cc. Mopeds account for an average of 14% sales volume of the company in the domestic segment. With an average 25% contribution, it shares 11% of the market share.

From the above study it is concluded that:

- The advantages of large market share are greatest for businesses selling products that are purchased infrequently like the two wheeler vehicles by a fragmented customer group.
- While the analyses of the data base clearly demonstrate a strong general relationship between market share, sales volume and profitability, they also indicate that the importance of market share varies considerably from one type of two wheeler model or market segment to another.
- With a huge brand equity and as one of the biggest players in the two wheelers Indian market TVS Motor Company targets the middle-class youth from the age bracket of 25-35 who want a bike that is stylish and gives a good mileage. 'Scooty' as a brand has become a second name for the scooterrate segment.
- The company with its excellent research & development, and wide variety of products with low price, high fuel economy, eco-friendly less emission and unique design in every segment has a customer reach of over 15 million. Associating itself with celebrity brand ambassadors like Amitabh Bachchan, Sachin Tendulkar, Anushka Sharma, M.S Dhoni, Mahesh Babu and Virat Kohli has been proved to be successful branding strategy for TVS Motor.
- Company's widespread distribution network and good number of service centres covering all regions of its service areas have aided to combat strong competition from Indian as well as international brands.
- In present scenario, TVS Motor Company is relying on new launches and innovative customer connection programs The company is working on launching different versions of the TVS Jupiter in the coming years and the introduction of diverse variants of the Jupiter is one of the ways TVS is planning to capitalize the growing scooterisation trend in the country.
- Two wheelers industry is most known for the competitive market and rivalry. Two wheeler brands like Bajaj, Honda and Yamaha have come up with various product line and technology targeting the customer segment of age group 20 to 30 years who are more fascinated to sporty two wheelers. But TVS has very less sporty models available for customers to choose that has restrained power of the brand over the most targeted customer segment by its competitors. Although TVS has a better power over the mid aged economic class customer segment, competitors now are increasing their focus on taking over it too.

Recommendation :

- **Brand Profitability and Market Share:** The company has huge demand in moped, scooter and only in premium motorcycle; so these are key volume drivers in TVS motor company. Instead of only focusing on the sales volume it is high time for the company to stress both on profitability and market share of its model brands.
- **Production Constrains:** TVS lacks production flexibility in scooter segment. After introduction of TVS Jupiter, due to operational inefficiency the sales volume of Wego started declining leading to weaker market share year on year. The company needs to expand its production capacity for a highly profitable brand like Wego to exploit the existing potential market.
- **Model Mix:** Most of the R&D resources are being used in economy and executive products shading the premium segment. In such a situation it is advisable to pay extra attention in R&D to improve the use of personal transportation and premium vehicles because sales of premium vehicles are growing in recent years. Failure to recover from premium segment bike like Apache and emphasizing only on middle class customers has resulted in lower profitability when compared to last few years. The contribution from Apache is much higher than Starcity and Victor. Here the company is losing the opportunity in the higher segment. Improving capacity utilization and better mix to drive margin expansion could be an effective way to optimise profitability.
- **Positioning Strategy:** In economy and executive segment with a vast industry size TVS is unable to take the advantage of the untapped market which is reflected in low sales volume as well as poor market share of Phoenix, Victor, Starcity and Sport. The economy segment is highly exploitable if the company goes for an effective positioning strategy in rural market.
- **Unique and Differentiated Models:** Despite of a strong association with many celebrity Brand Ambassadors the company is not capable of improving its sales volume and profit margin. The marketing strategy of the company is required to be evaluated thoroughly. New launches can help the company gain market share. But for products to succeed in the long run, they have to be differentiated.
- **Minimise Cannibalization:** The Company must focus on combining individual models in a manner that benefits the entire organization while minimizing cannibalization between individual product lines. By coordinating the product line strategy with market demand and market needs, it can avoid cannibalization and lost revenue and sales. For Example- Scooty Zest has taken away the business of Scooty Pep plus during last few years due to inefficient product and pricing strategy.
- **Efficient Mechanism:** A strong mechanism needs to be developed by the company to measure the effectiveness of marketing activities in order to optimise long-term profitability.

Limitations of the study :

1. The study of profitability is done till the computation of gross margin, there is further scope of extending the analysis till PBT computation.
2. The actual variable cost components may differ for variants of a single model.

3. For some states secondary transportation cost from go-down to dealers are not considered for ease of calculation.
4. This study relates to the domestic two-wheeler segment only. Revenue from Accessories and components and other incomes are excluded from the purview of the study.

REFERENCES:

1. Balachandar, B. (2016). Two wheeler industry projects tepid growth despite recovery signs, May 31. Retrieved on July 20, 2019 <https://www.thehindubusinessline.com/companies/twowheeler-industry-projectstepid-growth-despite-recovery-signs/article8672253.ece>
2. Bora, P. (2017). India becomes No 1 two wheeler market, overtakes China, May 05. Retrieved on July 21, 2019 from <https://auto.ndtv.com/news/india-becomes-no1-two-wheeler-market-overtakes-china-1690084> BS Reporter (2019).
3. TVS Motor picks up minority stake in IoT firm Altizon, invests over 2.5 million, April 27. Retrieved on May 22, 2019
4. https://www.businessstandard.com/article/companies/tvs-motor-picks-up-minority-stake-in-iot-firmaltizon-invests-over-2-5-mn-119042700746_1.html Buckley,
5. P.J. and Prashantham, S. (2016). Global interim networks: The division of entrepreneurial labour between MNEs and SMEs. *The Academy of Management Perspectives* 30 (1): 40-58.
6. Chandrashekhar, A. (2019). TVS Motor invests \$3.85 Million in TagBox as part of Series A funding, May 08. Retrieved on May 09, 2019 from <https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/tvs-motorinvests-3-85-million-in-tagbox-as-part-of-series-afunding/articleshow/69239743.cms> Chesbrough, H.W. (2003).
7. The era of open innovation, MIT Sloan Management Review, Cambridge, MA, USA. Dalvi, A (2019). Mahindra exports the first batch of electric scooters to peugeot moto, september 26. Retrieved on November 08, 2019 from <https://www.autocarpro.in/news-national/mahindra-exports-first-batch-ofelectric-scooters-to-peugeot-moto-44194>
8. Daswani, S. (2017). TVS acquires 15% stake in electric vehicle startup ultraviolette automotive, december 08. Retrieved on May 21, 2019 from <https://inc42.com/buzz/tvs-funding-electric-vehicle/>
9. Doshi, A. (2019). TVS motor invests \$ 3.85 mn in machine learning company TagBox, May 09. Retrieved on June 02, 2019 from <https://www.vccircle.com/tvs-motorinvests-3-85-mn-in-machine-learning-company-tagbox> ElectronicB2B.com (2019).
10. Hero Motocorp developing multiple electric vehicle projects, July 06. Retrieved on December 25, 2019 from <https://www.electronicb2b.com/electric-vehicle/hero-motocorp-developingmultiple-electric-vehicle-projects/>