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Pandya, Vipulkumar A., 2011, “A *Comparative Analysis of Liquidity & Profitability of Indian Car Industry*”, thesis PhD, Saurashtra University

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**A THESIS SUBMITTED TO THE SAURASHTRA
UNIVERSITY FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY UNDER THE FACULTY OF COMMERCE,**

**“A Comparative
Analysis of Liquidity
& profitability of
Indian Car Industry”**

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DECLARATION

I hereby declare that the thesis I am submitting on the topic, **A Comparative analysis of Liquidity and Profitability of Indian Car Industry**, for award of the **Degree of Doctor of Philosophy** in Costing under the Faculty of Commerce is based on the research work carried out by me. No degree or diploma has been conferred upon me before, either by this or by any other University.

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CERTIFICATE

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Research Supervisor

[Dr. Pratapsinh L. Chauhan]

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PREFACE

The present study deals with the Analysis of Liquidity and profitability of car Industry in India which are mainly engaged in production of car products. This study is aimed at exploring analysis of Liquidity and Profitability performance of car Industry in India.

Automobile industry plays a very vital role in the Indian Economy. Its connections with various other sectors of the economy make it an important component of the economy. Infrastructural development of a nation comprises of urban development, rural development and industrial development, but the hidden requirement of infrastructure is the connectivity between various regions, which is fulfilled by the automobile industry. The auto industry plays a significant role in shaping a country's economy and development. The manufactures of heavy commercial vehicle had given rise to a new era in the Indian history. Slowly many firms started setting up various small manufacturing units in India. As a result the first few passenger vehicles such as the Fiat, Premiere Padmini, Lemhrata scooters, etc came into production in India.

The Indian Automobile industry includes two - wheelers, trucks, cars, buses and three - wheelers which play a crucial role in growth of the Indian economy. India has emerged as Asia's fourth largest exporter of automobiles, behind Japan, South Korea and Thailand. The Country is expected to top the world in car volumes with approximately 611 million vehicles on the nation's roads by 2050. The Economic progress of this industry is indicated by the amount of goods and services produced which give the capacity for transportation and boost the sale of vehicles. There is a huge increase in automobile production with a catalyst effect by indirectly increasing the demand for a number of war materials like steel, rubber, plastics, glass, paint, electronics and services. The revenue generated due to these sectors also contributes to the enhancement of the national economy.

After the new Industrial revolution considerable changes have taken place in the transportation sector, in 11 years. The Indian car market has undergone. Phenomenal changes from the seller's market to the buyer's market. The Market is flooded with mid- sized cars of different segments like....

Today we see the unusual spectacle of too many cars chasing too few Indians. Today, one can observe that as compared to a few years back, in today's automobile market, a principal company offers wide range of models of different segment and their variants.

Like India's new - car Industry, the used - cars segment is booming, while at the same time reflecting changing Indian lifestyles and outlooks. Unofficial estimates gauge the unregulated used - car Industry as worth US \$ 6.28 billion. Organized used car business is estimated at a more \$1256 million, though no concrete studies have

been conducted. But this might change, as majors are now starting to open their own used – car shops, altering the haphazard way this business was earlier conducted. They offer quality checks, evaluation, warranties, after – sales service and rock bottom loan options.

In order to analysis the liquidity and profitability of the car Industry in India researcher has collected data from published according annual reports, some publications. Most useful information has been gathered from the various journals, reports periodicals and daily newspapers. It is hoped that the book will be of immense help and use to practicing financial Managers, Management, Government officers, employee, shareholders, academicians and research scholars.

The present study is divided into six chapters. The first chapter is the overview of the automobile industries. The second chapter is related with Research Methodology. In the third chapter, liquidity position of the car Industry has been analyzed. The fourth chapter, profitability analysis. In the fifth chapter is liquidity vis-à-vis profitability of car Industry. Finally in the last chapter suitable and significance suggestions have been made conclusion drawn.

First of all I convey my prostration to **GOD SHIVA**, who helped me a lot to complete my research work successfully. Without his blessing I could not have completed my research work.

I express my sincere thanks and gratitude to **Dr. Pratapsinh Chauhan** Professor, Head & Dean, Department of Business Management, Saurashtra University, Rajkot. Who has provided me remarkable and meticulous guidance in my research work from the beginning to the end. I am grateful to the honorable and dignified principal **Dr. Hamirsinh Zankat**, who is a source to inspiration of my research work.

I am also obliged to **Dr. Daxaben Pratapsinh Chauhan**, Professor, Head & Dean, Department of Commerce, Saurashtra University, Rajkot, for giving me valuable suggestions and moral boosting.

I deeply express my thanks to **Dr. Hiteshbhai Shukla, & Dr. Sanjaybhai Bhayani**, Associate Professor, Departments of Business Management, Saurashtra University, Rajkot, and **Dr. Shaileshbhai Paramar**, Associate Professor, Department of Commerce, Saurashtra University, Rajkot – for inspiring and providing valuable guidance in my work.

I deeply express my thanks to **Dr. Bhavsinh Dodia & Mr. Harishbhai Kher**, who have provided me a special guidance in my research work.

For completing the present work, I got assistance, valuable advice and suggestions, directly or indirectly from many of my relatives, well – wishers colleagues, officials and a special indebtedness of gratitude is due to my parents, who took keen interest through the work and inspired me.

I am also thankful to the staff member of Shri M. N. Kampani Arts & Shri A. K. Shah Commerce College, Mangrol. And I also want to

thank all the non-teaching staff of Department of Business Management, Saurashtra University, Rajkot.

Last but not least my wife **Neela** and my kids (son) - **Rudra & Harsh** have provided freedom. So how can I forget to express my feeling of thanking Them?

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LIST OF ABBREVIATION

EPS	EARNING PER SHARE
DPS	DIVIDEND PER SHARE
OMR	OPERATING MARGIN RATIO
NPMR	NET PROFIT MARGIN RATIO
RONW	RETURN ON NET WORTH
ROLF	RETURN ON LONG TERM FUND
CR	CURRENT RATIO
QR	QUICK RATIO
FATR	FIX ASSETS TURN OVER RATIO
ITR	INVENTORY TURNOVER RATIO
FCCR	FINANCIAL CHARGES COVERAGE RATIO
HM	HINDUSTAN MOTOR
MM	MAHINDRA & MAHINDRA
SD	STANDARD DEVIATION

CHAPTER - 1

OVERVIEW OF THE

AUTOMOBILE

INDUSTRY

CHAPTER 1

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CHAPTER 1

OVERVIEW OF THE AUTOMOBILE INDUSTRIES

1.1 HISTORICAL BACKGROUND OF AUTOMOBILE INDUSTRY

The history of the Automobile actually began about 4000 years ago when the first wheel was used for transportation in India. Several Italians recorded designs for wind driven vehicles. The first was Guido da Vigevano in 1335. Vaturio designed a similar car which was also never built. Later Leonardo da Vinci designed clockwork driven tricycle with tiller steering and a differential mechanism between the back wheel.

A Catholic Priest named father Ferdinand Verbiest is credited to have built a steam – powered car for the Chinese emperor Chien Lung in about 1678. There is no information about the automobile, only the event. Since James Watt didn't invent the steam engine until 1705, we can guess that this was possibly a model automobile powered by a mechanism.

Although by the mid – 15th Century the idea of a self – propelled automobile had been put into practice with the development of experimental car is powered by means of springs, clockworks, and the wind, In the year 1769, a French engineer by the name of Nicolas – Joseph Cugnot invented the first automobile to run on roads. Designed by Cugnot and Constructed by M. Brezin. This automobile, in fact, was a self – powered, three – wheeled military tractor that made the use of a steam engine. The range of the automobile however, was very brief and at the most, it could only run at a stretch for fifteen minutes. In addition, these automobiles were not fit for the roads as the steam engines made them very heavy and large, and required ample starting time. It had a top speed of a little more than 3.2 km/h and had to stop every 20 minutes to build up a fresh head of steam.

Evans was the first American who obtained a patent for “a self – propelled carriage”. He, In Fact, attempted to create a two – in – one combination of a steam wagon and a flat – bottomed boat, which didn’t receive any attention in these days. During the 1830’s the steam car had made great advances. But stiff competition from railway companies and crude legislations in Britain forced the poor steam automobile gradually out of use on roads. The early steam – powered automobiles were so heavy that they were only practical on a perfectly flat surface as strong as iron. A road thus made out of iron rails became the norm for the next hundred and twenty five years. The Automobiles got bigger and heavier and more powerful and as such they were eventually capable of pulling a train of many cars filled with freight and passengers.

Carl Benz and Gottlieb Daimler, both Germans, Share the credit of changing the transport habits of the world, for their efforts laid the foundation of the great motor industry as we know it today. First, Carl Benz invented the petrol engine in 1885 and a year later Daimler made a car driven by motor of his own design and the rest is history.

France too had joined the motoring scenario by 1890 when two Frenchmen Panhard and Levassor began producing automobiles powered by Daimler engine and Daimler himself possessed by the automobile spirit, went on adding new features to his engine. He built the first V – Twin engine with a glowing platinum tube to explode the Cylinder gas – the very earliest form of sparking plug. The engines were positioned under the Seat in most of the Daimler as well as Benz Cars. However, the French duo of Panhard and Levassor made a revolutionary contribution when they mounted the engine in the front of the car under a ‘bonnet’.

Charles Duryea built a car carriage in America with petrol engine in 1892, followed by Elwood Haynes in 1894, thus concrete the way for motor cars in that country.

For many years after the introduction of automobiles, there kinds of power sources were in common use; Steam engines, gasoline or petrol engines, and electrical motors. In 1900, over 2300 automobiles were registered in New York, Boston, Massachusetts, and Chicago of these 1170 were Steam Cars, 800 were electric Cars, and only 400 were gasoline Cars.

In ten years from the invention of the petrol engine, the motor car had evolved itself into amazing designs and shapes. By 1898, there were 50 automobile manufacturing companies in the united state. In that year, Henry Ford revolutionized the manufacture of automobiles with his assembly – line style of production and brought out the model T, a Car that was inexpensive, versatile, and easy to maintain. This lead to the development of the industry and it first begun in the assembly lines of his car factory. The several methods adapted by Ford, made the new invention (i.e. Car) popular amongst the rich as well as the masses.

INDIAN AUTOMOBILE INDUSTRY

Automobile industry plays a very vital role in the Indian Economy. Its connections with various other sectors of the economy make it an important component of the economy. Infrastructural development of a nation comprises of urban development, rural development and industrial development, but the hidden requirement of infrastructure is the connectivity between various regions, which is fulfilled by the automobile industry. The auto industry plays a significant role in shaping a country's economy and development. The manufactures of heavy commercial vehicle had given rise to a new era in the Indian history. Slowly many firms started setting up various small manufacturing units in India. As a result the first few passenger vehicles such as the Fiat, Premiere Padmini, Lemhrata scooters, etc came into production in India.

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1.2 OVERVIEW OF INDIAN AUTOMOBILE INDUSTRY

During early 60s & 70s automobiles came largely in twos.

In scooters, you had a Lamhrata or a Vespa.

In motorcycles, you had a Bullet or a Java.

In cars, you had to choose between an Ambassador and a Fiat.

In trucks, it was either an Ashok Leyland or a Tata.

In tractors, it was between a Swaraj and a Mahindra.

This situation reflected the India of yester years. Economic reforms and deregulation have transformed that scene. Automobile industry has written a new inspirational tale. It is a tale of exciting multiplicity, supreme growth and enjoyable consumer experience – all within a few years. India has already become one of the fastest growing automobile markets in the world. This is a tribute to leaders and managers in the industry and, equally to policy planners. The automobile industry has the opportunity to go beyond this remarkable achievement. It is standing on the doorsteps of a quantum dive.

The Indian automobile industry is going through a technological change where each firm is engaged in changing its processes and technologies to maintain the competitive advantage and provide customers with the optimized products and services. Starting from the two wheelers, trucks, and tractors to the multi utility vehicles, commercial vehicles and the luxury vehicles, the Indian automobile industry has achieved splendid achievement in the recent years.

The era from 1940 to late 1950's experienced the emerging period of the industry; where in a number of new companies came into existence for the production of the automobiles. Amongst these very few companies survived the impositions of the government. A major part of the private sector in the potential industry was swiped out due to license raj imposed by the government. The government

had a socialistic approach towards development, thus the auto industry did not face much competition in its initial stages. Due to lack of competition the industry faced losses in form of low purchases due to the same automobile models. The growth of the industry during this period was very slow due to the low economic status of the country.

A few changes in the growth rate were seen during the years 1970 to 1980 when a few new industries entered the market with new models. This profited the market and enhanced the growth of the industry. The companies such as Telco (currently owned by Tata Motors), Ashok Leyland and Bajaj Premier entered the market with the launch of the new range of commercial vehicles. The market for the first time had faced such a growth. This growth also affected the national economy. This marked the start of a new segment for profit production in the Indian economy which would grow on to become a major sector of the economy. During the years 1980 to 1990 the automobile market was further opened. The Japanese were the first global player to occupy the Indian industry. They entered into joint venture with the Indian companies and started the production work. It marked the origin of the leading manufacturer of automobile in India, The Maruti Suzuki. The alliance brought a few new twists in the market. With new models entering the market, the growth rate further increased. Automotive industry became a major contributor to the GDP of the country. During this era, the prime minister Dr. P. V. Narasinha Rao and the then finance minister Dr. Manmohan Singh foresighted the growth opportunity of the automotive sector.

In the year 1991 the new reforms were introduced. The new rules and regulations introduced attracted a number of new changes to the industry. The changes brought in were:

Privatization in India: The restrictions of license raj on the private sector of the industry were abolished. As a result new private sector

companies entered the market and the competition gained new heights. People encouraged the introduction of new models in the industry and the profits further increased.

Tax reforms in india : The taxes on the industries not only automotive industry but all the other industries were reduced. This change resulted in an overall increment in the national economy, which brought India on the international map as a new player with potential markets.

1.3 HISTORY OF CAR IN INDIA

From the singsong rhythm of the bullock cart to the jet-age, India has traveled a long way. An average Indian's dream car may not be the design-savvy Honda or the stately limousine, but he sure can dream, and afford, the Maruti now.

Advent of cars in India

It was in 1898 that the first motorcar rode down India's roads. From then till the First World War, about 4,000 cars were directly imported to India from foreign manufacturers. The growing demand for these cars established the inherent requirements of the Indian market that these merchants were quick to pounce upon.

The Hindustan Motors (HM) was set up in 1942 and in 1944, Premier Autobackmobile (PAL) was established to manufacture automobiles in India. However, it was PAL who produced the first car in India in 1946, as HM concentrated on auto components and could produce their first car only in 1949.

It was left to another company, Mahindra and Mahindra (M&M) to manufacture sturdier utility vehicles, namely the American Jeep.

In the 50s, the Government of India granted approval to only 7 car dealers to operate in India - HM, API, ALL, SMPIL, PAL, M&M and Telco.

The protectionist policies continued to remain in place. The 60s witnessed the establishment of the two-three wheeler industry in India and in the 70s, things remained much the same.

Since the 80s, the Indian car Industry has seen a major resurgence with the opening up of Indian shores to foreign manufacturers and collaborators.

The 90s have become the melting point for the car industry in India. The consumer is king. He is being constantly wooed by both the Indian and foreign manufacturers. Though sales had taken a dip in the first few months of 1999, it is back to boom time. New models like Maruti's Classic, Alto, Station Wagon, Ford's Ikon, the new look Mitsubishi Lancer are all being launched with an eye on the emerging market.

In these last years of the millennium, suffice it is to say that Indian cars will only grow from strength to strength.

The Car industry in India has seen a tremendous growth and seems to be the fastest growing sector in the world. Indian cars have gained acceptance all over the world, and the demand for cars made in India shows no signs of decline whatsoever. The Indian car sector has responded with an exponential progress in the number of new models launched in the recent past.

The craze for Indian cars among people is growing day by day. Hence, all the Indian car manufacturers are giving tough competition to each other by opting innovative and unique ideas to capture the Indian car market. The Indian car industry deals with different types of cars. Major Indian cars comprise big cars, small cars, sports cars,

luxurious cars, etc. Most of the Indian car models are swank and designed on cutting-edge technology platforms, and each year there is a slew of latest car launches.

1.4 DEVELOPMENT OF CAR INDUSTRY

Like many other nations India's highly developed transportation system has played a very important role in the development of the country's economy over the past to this day. One can say that the automobile industry in the country has occupied a solid space in the platform on Indian economy. Empowered by its present growth, today the automobile industry in the country can produce a diverse range of vehicles under three broad categories namely cars, two – wheelers and heavy vehicles.

Starting its journey from the day when the first car rolled on the streets of Mumbai in 1898, the Indian automobile industry has confirmed an exceptional growth to this day. Today, the Indian automobile industry presents a galaxy of varieties and models meeting all possible expectations and globally established industry standards. Some of the leading names in the Indian automobile industry include Maruti Suzuki, Tata Motors, Mahindra and Mahindra, Hyundai Motors, Hero Honda and Hindustan Motors in addition to a number of others.

During the early stages of its development, Indian automobile industry heavily depended on foreign technologies. However, over the years, the manufacturers in India have started using their own technology evolved in the native soil. The booming market place in the country has attracted a number of automobile manufacturers including some of the reputed global leaders to set their foot in the soil

looking forward to enhance their profile and prospects to new heights. Following a temporary setback on account of the global economic recession, the Indian automobile market has once again picked up a remarkable momentum witnessing a buoyant sale for the first time in its history in the month of September 2009. As a significant milestone in its progress, the monthly sales of passenger cars in India exceeded 100,000 units in February 2009.

At present, about 75 percent of India's automobile industry is made up by small cars, with the figure ranking the nation on top of any other country on the globe. Over the next two or three years, the country is expecting the arrival of more than a dozen new brands making compact car models.

Recently, the automotive giants of India including General Motors (GM), Volkswagen, Honda, and Hyundai, have declared significant expansion plans. On account of its huge market potential, a very low base of car ownership in the country estimated at about 25 per 1,000 people, and a rapidly surging economy, the nation is firmly set on its way to become and outsourcing platform for a number of global auto companies. Some of the upcoming cars in the India soil comprise Maruti A – Star(Suzuki), Maruti Splash (Suzuki), VW Up and VW Polo (Volkswagen), Bajaj small car (Bajaj Auto), Jazz(Honda) and Cobalt, Aveo (GM) in addition to several others.

Motor cycles manufacture makes up the major share in the two-wheeler segment of the Indian automobile industry. About 50% of the motorcycles are manufactured by Hero Honda. While Honda manufactures about 46% of the scooters, TVS produces 82% of the mopeds running on the Indian roads.

Tata Motors is the leader in the Indian commercial vehicles market while it holds more than 60% share. Tata Motors also enjoys

the credit of being the world's fifth largest manufacturer of medium and heavy commercial vehicles.

India is up-and-coming a significant manufacturer, especially of electrical and electronic equipment, automobiles and auto-parts. During 2000-2005 of the total FDI inflow, electrical and electronic (including computer software) and automobile accounted for 13.7 per cent and 8.4 per cent respectively.

Korean auto-makers think India is a better destination than China. Though China provides a bigger market for automobiles, India offers a potential for higher growth. Clearly, manufacturing and service-led growth and the increasing consumerisation make India one of the most important destinations for FDI.

FOREIGN COMPANIES IN THE INDIA AUTO-SECTOR

Until the mid – 1990s, automobile industry in India consisted of just a handful of local companies with small capacities and obsolete technologies. Nevertheless, after the sector was thrown open to foreign direct investment in 1996, some of the global majors moved in and , by 2002, Hyundai, Honda, Toyota, General Motors, Ford and Mitsubishi set up their manufacturing bases.

Over the past four to five years, the country has seen the launch of several domestic and foreign models of passenger cars, multi-utility vehicles (MUV's), commercial vehicles and two-wheelers and a robust growth in the production of all kinds of vehicles. Moreover, owing to its low-cost, high-quality manufacturing India has also emerged as a significant outsourcing hub for auto components and auto engineering design, a rivaling Thailand. German auto-maker Volkswagen AG, too, is looking to enter India.

India is expected to be the small car hub for Japanese major Toyota. The car, a hot hatch like the Swift or Getz is likely to be exported to markets like Brazil and other Asian countries. This global car is crucial for Toyota, which is looking to improve its sales in the BRIC (Brazil, Russia, India, and China) markets.

Two multi-national car majors – Suzuki Motor Corporation of Japan and Hyundai Motor Company of Korea – have indicated that their manufacturing facilities will be used as a global source for small cars. The burst in in-house product development skills and the exclusively high concentration of small cars will influence the country's ability to become a sourcing hub for sub-compact cars.

A heartening feature of the changing automobile scene in India over the past five years is the newfound success and confidence of domestic manufacturers. They are no longer afraid of competition from the international auto majors.

For instance, today, Tata Motor's Indigo leads the popular customer category, while its Indica is neck-to-neck with Hyundai's Santro in the race for the top-slot in the B Category. Meanwhile M&M's Scorpio has beaten back the challenge from Toyota's Qualis to lead the SUV segment. Similarly, a few Indian winners have emerged in the motorbike market – the 150 and 180cc Pulsar from Bajaj and 110cc Victor from the TVS stable.

Automobile majors such as Maruti Udyog, Toyota, Hyundai have now finalized their plans to invest in some of the critical auto components. According to the Automotive Component Manufacturers Association of India (ACMA) officials, auto component manufacturers are expected to invest about Rs. 10,000 crore over the next five years at the rate of Rs. 2,000 crore per annum.

According to analysts, the auto component industry could emerge as the next success story after software, pharmaceuticals, BPO and textiles. The size of the global auto component industry is estimated at \$1 trillion and is set to grow further. Against this backdrop, Mckinsey's latest report has estimated that the sector has the potential of increasing its exports to \$25 billion by 2015 from \$1.1 billion in 2004.

1.5 MAJOR PLAYERS IN INDIAN AUTOMOBILE SECTOR

- ☉ Maruti Udyog Ltd.
- ☉ General Motors India
- ☉ Ford India Ltd.
- ☉ Eicher Motors
- ☉ Bajaj Auto
- ☉ Daewoo Motors India
- ☉ Hero Motors
- ☉ Hindustan Motors
- ☉ Hyundai Motor India Ltd.
- ☉ Royal Enfield Motors
- ☉ Telco
- ☉ TVS Motors
- ☉ DC Designs
- ☉ Swaraj Mazda Ltd.
- ☉ Mahindra & Mahindra
- ☉ Tata Motors
- ☉ Toyota Kirloskar Motor Ltd.
- ☉ Volkswagen Group
- ☉ Honda Sael Cars India Ltd
- ☉ Nissan Motors Ltd
- ☉ Fiat India Automobiles Pvt. Ltd.
- ☉ Skoda India Ltd.
- ☉ Mitsubishi Motors India Ltd.

- Ⓢ Audi Motor Ltd.
- Ⓢ Chavrolet Motor Ltd.
- Ⓢ BMW Cars Ltd.
- Ⓢ Reva Electric Ltd.

MAJOR PLAYERS

There are as many as 24 players in the Indian Automobile Industry in that especially car segment, which shows that Indian Automobile industry is the biggest automobile industry in the world, in terms of numbers of players in the industry. The players in the Indian Automobile Industry – car segment are listed below:

Toyota Kirlosker Motor Limited



General Motors India Pvt. Limited



Volkswagen Group



Das Auto.

Hyundai Motor India Limited



Ford India Limited



Honda Siel Cars India Limited



Nissan Motors Limited



Maruti Udyog Limited



Mahindra & Mahindra Limited



Fiat India Automobiles Pvt. Limited



Hindustan Motors Limited



Tata Motors India Limited



Skoda India Limited



Daewoo Motors India Limited



Mitsubishi Motors India Limited



Audi Motor Limited



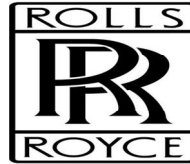
Chavrolet Motor Limited



BMW Cars Limited



Rolls – Royee Motor Limited



Reva Electric Limited



Force Motors Limited



Porsche Motors Limited



Lamborghini Limited



San Motors Limited



1.6 INDIAN GDP GROWTH RATE OF AUTOMOBILE INDUSTRY

The Gross Domestic Product (GDP) in India expanded 7.7 percent in the second quarter of 2011 over the previous quarter. Historically, from 2000 until 2011, India's average quarterly GDP Growth was 7.45 percent reaching an historical high of 11.80 percent in December of 2003 and a record low of 1.60 percent in December of 2002. India's diverse economy encompasses traditional village farming, modern agriculture, handicrafts, a wide range of modern industries, and a multitude of services. Services are the major source of economic growth, accounting for more than half of India's output with less than one third of its labor force. The economy has posted an average growth rate of more than 7% in the decade since 1997, reducing poverty by about 10 percentage points. This page includes: India GDP Growth Rate chart, historical data, forecasts and news. Data is also available for [India GDP Annual Growth Rate](#), which measures growth over a full economic year.



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The market value of Automobile Industry is more than US\$8 bl. And Contribution in India GDP is near about 5% and will be double by 2016. The automotive industry in India grew at a computed annual growth rate (CAGR) of 11.5 percent over the past five years, but growth rate in last FY 2008-09 was only 0.7% with passenger car sales shows 1.31% growth while Commercial Vehicles segment slumped 21.7%.

RECESSION

All the major auto companies enjoyed the high growth ride till the mid 2008. But at the end of the year, industry had to face the hard truth and witnesses the fall in sales and revenue. In December 2008, overall production fell by 22% over the same month last year.

Global recession has hit the Indian auto industry also India is strong and growing industry but the impact of recession is evident on industry as sales & growth of automobile companies have declined.

INFLATION

Despite of negative inflation (-.21% on 22-Aug-09) we can see an increasing trend of sales in auto sector. A moderate amount of inflation is important for the proper growth of an economy like India because it attracts more private investment. The fall in wholesale prices from a year earlier is mainly due to a statistical base effect and doesn't suggest contraction in demand, the Reserve Bank of India said, while revising its inflation forecast for the FY through March to around 5% from 4%.

In last FY despite of skyrocketing oil prices Indian automobile Industry was not as much affected and experts think that Indian

automobile industry will continue to grow despite all obstacles – oil price hike, higher interest rates.

However, the effect of inflation has affected every sector which is related to car manufacturing and production. The increase in the price of fuel and the steel due to inflation has led to a lower growth rate of the car industry in India. The effect of inflation has taken the rise in the price rate of the cars by 3-4% which in turn suffices the need to meet the rise in price of the raw materials to build a car. The car market and the car industry witnessed a fall of 8-9%.

FDI's

In India FDI up to 100 percent, has been permitted under automatic route to this sector, which has led to a turnover of USD 12 billion in the Indian auto industry and USD 3 billion in the auto parts industry. India enjoys a cost advantage with respect to casting and forging as manufacturing costs in India are 25 to 30 percent lower than their western counter parts. The Investment Commission has set a target of attracting foreign investment worth US\$5 billion for the next seven years to increase India's share in the global auto components market from the existing 0.9 percent to 2.5 percent by 2015. FDI inflows in Automobile Industry 2008-09 was Rs. 5,212 Cr an increase of 47.25% compare to 2007-08, while in April – May 2009 it was around Rs. 497 Cr.

1.7 INDIAN AUTOMOBILE INDUSTRY AT GLOBAL LEVEL

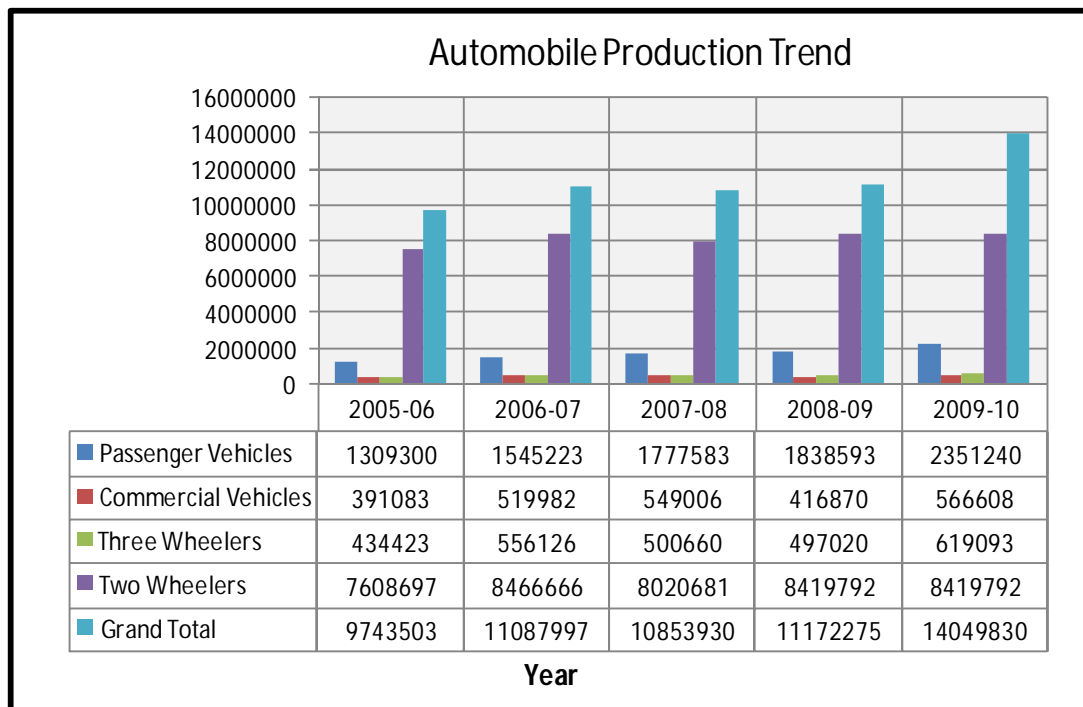
The period starting from 1950's India was considered as slow going and closed economy but the scenario has been changed and from 2004-05 it started considering as fast growing and open economy.

Moreover....

- o India ranks 1st in the global two – wheeler market.
- o India is the 4th biggest commercial vehicle market in the world
- o India ranks 11th in the international passenger car market.
- o India ranks 5th pertaining to the number of bus and truck sold in the world
- o India is the second largest tractor manufacturer in the world.

A Nations economy is well known from its transport system. For instant and rapid growth in economy, a well –developed and well-networked transportation system is essential. As India’s transport network is developing at a fast pace, Indian Automobile Industry is growing too. Also, the Automobile industry has strong backward and forward linkages and hence provides employment to a large section of the population. Thus the role of Automobile Industry is very essential in Indian economy.

CHART NO. 1.1
PRODUCTION TREND

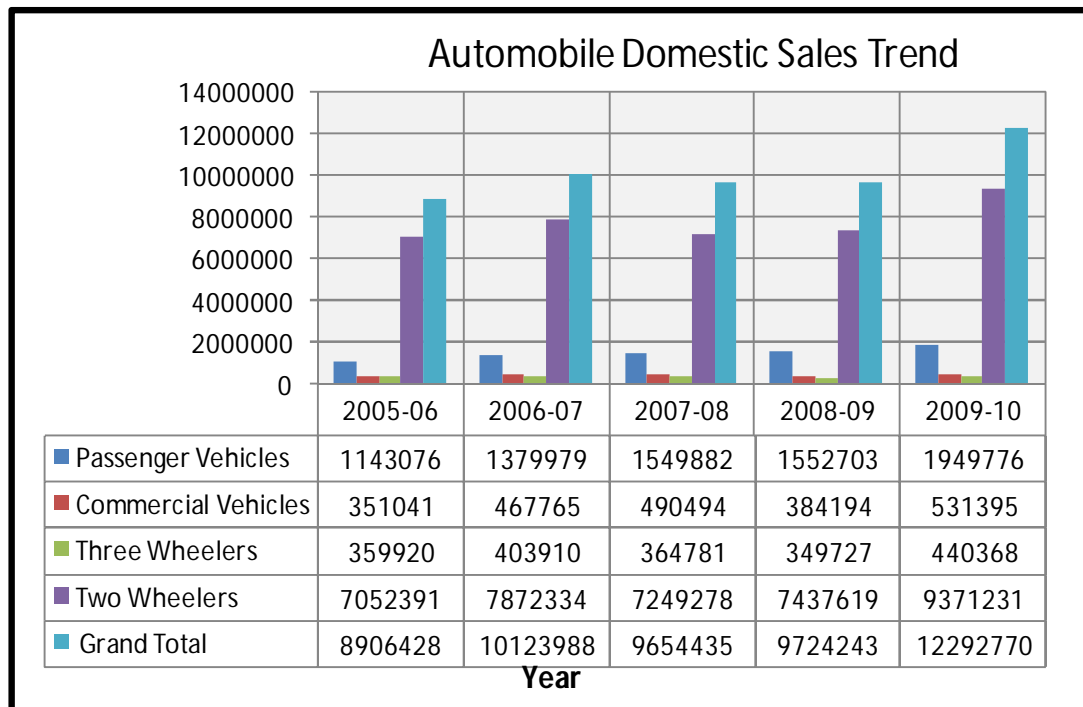


As shown in the charge above, we can say that overall it shows increasing trend(except financial year 2007-08 due to recession on

period commencement)but there is ups and down in the different segments of the industry.

Production of three wheelers have gone down through out the period of 2007 to 2009 moreover production of commercial vehicles also shows decline in the year 2008-09 but had a quick pick – up in the year 2009-10. It reflects the power of getting healed from abnormal circumstances prevailed in the industry. Well passenger vehicles segment in growing stagnantly through out the period of five years.

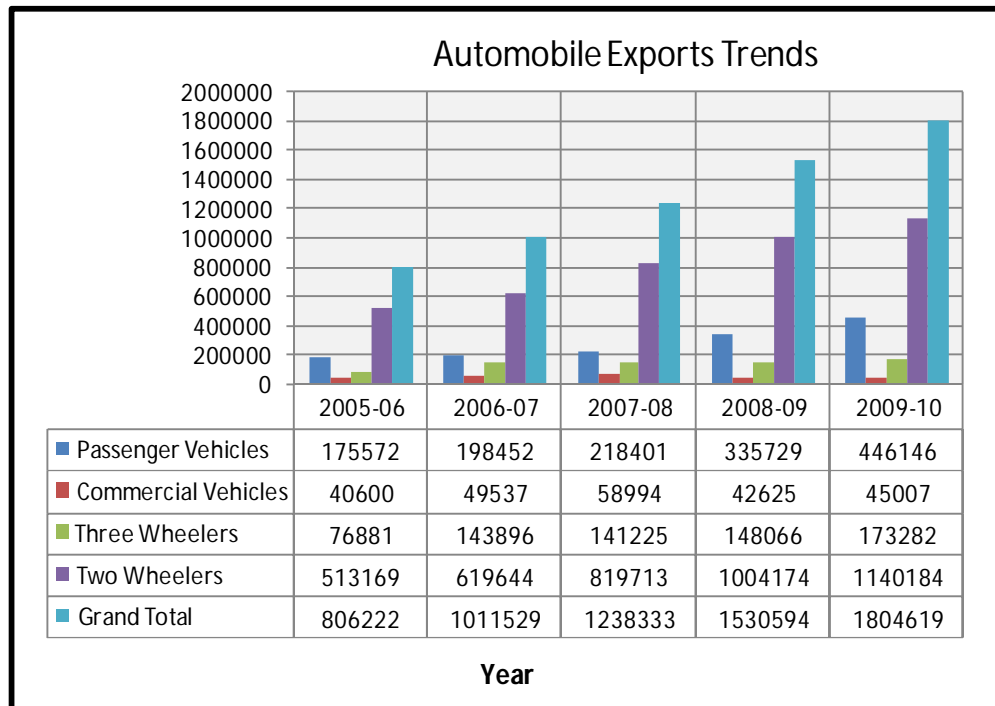
CHART NO. 1.2
DOMESTIC SALES TREND



Domestic sales plays major role in providing revenue to the industry and three by to the economy as a whole. Despite of facing major recession upsets it has tried to maintain its level of sales. As shown in the chart above, overall it was 8.9 million units in 2004-05 which during the period of five years grew up to 12.29 million units in 2009-10.

Sales of three wheeler fall-down for the period of two year i.e. 2007 to 2009. Sales of commercial vehicles increased during 2006 to 2008 again fall during the year 2008-09 finally had picked up in the year 2009-10. Two wheelers performed very well except the year 2007-08 but finally in 2009-10 it recorded huge growth in sales. Moreover performance of passenger vehicles remain constantly at growing state.

CHART NO. 3
EXPORTS TREND



Society of Indian Automobile Manufacturers (SIAM), automobile sales (including passenger vehicles, commercial vehicles, two – wheelers and three – wheelers) in the overseas market increased to 1.80 million units in 2009-10 from 1.53 million units in 2008-09. Export of passenger vehicles increased from 218,401 in 2007-08 to 335,739 units in 2008-09.

There is a continuous increase in the export of automobile since the financial year 2005-06, except for the decline in the export of commercial vehicles in the financial year 2008-09, which may be attributed to the global economic recession.

Despite recession, the Indian automobile market continues to perform better than most of the other industries in the economy in coming future; more and more MNC's coming in India to setup their ventures which clearly shows the scope of expansion.

A LOOK AT YEAR 2011 FOR THE INDUSTRY

The calendar year 2010 was great for the Indian auto industry and it did bring in many surprises from the day one of 2010. The Indian car sales were at its best boosting the morale of many car manufactures.

The year 2010 did bring in lot of hope in the auto Industry after a rough late 2008 and early 2009. Let us just hope that the year 2011 brings in many more cheers and smiles on the faces of people associated with the Indian auto industry. I have come up with a list of predictions for this year by looking at what the bygone year had given us.

Domestic Sales Volumes Will Rise But Growth Could Come Down:

The 2010 calendar year was great for the Indian automobile industry, and sales of vehicles are expected to continue upward journey in 2011. However, the industry may not be able to copy the growth rates registered in the last two years. In the first half of 2010, the industry witnessed a steep 32% average monthly sales growth, which came down to 25% in the latter half. In addition, the year – on – year growth in sales is expected to be higher during the latter half of 2011 as compared to the growth in the first half of the year. Along with the high base effect of 2010, the awaited firm up of interest rates could also bring about the reduction in growth rates this year.

EXPORTS TO INCREASE IN 2011 :

Almost 65% of total automobile exports from India are two – wheelers, and as a result, performance of this segment has a major influence on overall auto export volumes. And after experiencing over 30% jump in exports in 2010, the industry is expected to register moderate growths in two – wheeler exports in 2011. Nonetheless, a competitive and aggressive approach from the original equipment manufacturers vehicle categories (commercial vehicles, passenger vehicles and two & three wheelers) would help bring an increase in overall export of vehicles from the Indian market in 2011. Additionally, there are many companies that want to make India their export hub, thereby increasing the chances of increasing exports.

HEALTHY ECONOMIC GROWTH TO UPLIFT SALES

Healthy growth of the economy would drive the automobile sales in the domestic market. The chief growth drivers of the automobile industry in the Indian market would be stable economic environment, healthy IIP growth, favorable liquidity and availability of finance. Other things that would positively affect the Indian automobile industry include road network development activities, strong growth in construction activities and expected healthy performance of the industrial sector.

When it comes to personal transport vehicles, increase in disposable income and a strong line up of upcoming new launches is expected to boost demand and sales. The passenger vehicle industry (cars + utility vehicles) is expected to witness launch of as many as 30 new models/variants in 2011.

Much in with 2010, 2011 will also see a lot of action in the small car segment. Sales of luxury cars is also going to grow at a fast pace. Sports utility vehicles (SUV), which have a relatively smaller market

share in the Indian passenger vehicle market is also going to grow up to tremendously as manufactures have lined up 10 new model launches for the coming year. Indian car manufacturers are also doubling up their efforts to push their passenger vehicles into the rural and semi – urban markets, which would greatly enhance sales.

PROFIT MARGINS TO IMPROVE MARGINALLY:

The Indian automobile is expected to record growth in revenues supported by in the domestic as well as export market. Nevertheless, as the commodity prices are expected to remain constant, the pressure on margins would increase largely. Besides, the entry of several other OEMs that have lined up elaborate investment plans is also going to benefit the industry in the domestic market.

The new car launches that have been lined up for this year are going to increase expenditure on advertising and promotional activities. But that is no cause for the buyers as these companies are likely to transfer only a small part of the cost burden by increasing the car prices.

Strategies that Manufacturers are Likely to Adopt are:

Commercial Vehicles

- New model launches
- Product innovation would take prime importance to create new market segments
- Launch new cars for the international market
- Easy car finance options for potential customers
- Competitive pricing

Passenger Vehicles

- New models / variants launch
- Greater importance to rural and semi – urban markets

- Dealership network expansion
- Used car business expansion

1.8 ACHIEVEMENTS

The development story of the Indian automobile industry cannot be complete without mentioning the Pioneer Mr. J.R.D. Tata's role in setting up the Tata group with high standard Engineering Research Centre(ERC) in 1965 to facilitate technological advancement. Pioneering the indigenization of scientific knowledge for trucks in collaboration with Mercedes Benze and launched Maruti 800 in the year 1983 which changed the dynamics of the passenger car sector in India. It was also known as the people's car. 60% of the Indian commercial vehicle market is dominated by Tata Motors.

The first automobile was launched in Indian in the year 1897 in Bombay.

Today India is being recognized as potential emerging auto market.

The industry adds up foreign players to their investments.

80% of the segment size is contributed by two – wheelers & motorcycles.

Indian passenger vehicle market is dominated by cars(79%) unlike the USA.

India is the largest three-wheeler & two-wheeler market in the world. It is second largest tractor manufacturer in the world, fifth largest commercial vehicle manufacturer in the world.

India crossed the 1 million mark as the fourth largest car market in Asia recently.

The industry is expected to grow to US\$ 40 billion by 2015 from the current level of US\$ 7 billion in 2008. By the year 2016 the industry is expected to contribute 10% of the nation's GDP.

Very recently history has been created in the world of Automobile Industry by Ratan Tata, Chairman (Tata Motors) by launching the world's cheapest car NANO. The price of the car was around one lakh

which gained instant recognition in the automobile industry across the globe. It heralded the coming to age of the Indian Automobile Industry.

India is the second Largest Producer of Motorcycles in the world (5.2 Mln) after China which has a production volume of 12 Mln.

1.9 AUTOMOTIVE MISSION PLAN 2016

The bumper – to – bumper traffic of global automobile biggies on the passage to India has finally made government sit up and take notice. In a bid to drive greater investments into the sector, ministry of heavy industries has decided to put together a 10-year mission plan to make India a global hub for automotive industry.

“The ten year mission plan will also set the roadmap for budgetary fiscal incentives”

The Government of India is drawing up an Automotive Mission Plan 2016 that aims to make India a global automotive hub. The idea is to draw an innovative plan of action with full participation of the stakeholders and to implement it in mission mode to meet the challenges coming in the way of growth of industry. Through this Automotive Mission Plan, Government also wants to provide a level playing field to the players in the sector and to lay a predictable future direction of growth to enable the manufactures in making a more informed investment decision.

1.10 CONCEPTUAL FRAMEWORK OF SELECTED CAR INDUSTRY

MARUTI SUZUKI INDIA LIMITED

Maruti Suzuki India Limited a partial subsidiary of Suzuki Motor Corporation of Japan, is India's largest passenger car company, accounting for over 45% of the domestic car market. The company offers a complete range of cars from entry level Maruti 800 and Alto, to hatchback Ritz, A star, Swift, Wagon-R, Estillo and sedans DZire, SX4 and Sports Utility vehicle Grand Vitara.

It was the first company in India to mass-produce and sell more than a million cars. It is largely credited for having brought in automobile revolution to India. It is the market in India and on 17 September 2007, Maruti Udyog Limited was renamed Maruti Suzuki India Limited. The company's headquarters are located in Delhi.

Maruti Suzuki is India's number one leading automobile manufacturer and the market leader in the car segment, both in terms of volume of vehicles sold and revenue earned. Until recently, 18.28% of the company was owned by the Indian government, and 54.2% by Suzuki of Japan. The BJP-led government held an initial public offering of 25% of the company in June 2003. As of 10 May 2007, Govt. of India sold its complete share to Indian financial institutions. With this, Govt. of India no longer has stake in Maruti Udyog.

Maruti Udyog Limited(MUL) was established in February 1981, though the actual production commenced in 1983 with the Maruti 800, based on the Suzuki Alto kei car which at the time was the only modern car available in India, its only competitors- the Hindustan Ambassador and Premier Padmini were both around 25 years out of date at that point. Through 2004, Maruti Suzuki has produced over 5

Million vehicles. Maruti Suzukis are sold in India and various several other countries, depending upon export orders. Models similar to Maruti Suzukis (but not manufactured by Maruti Udyog) are sold by Suzuki Motor Corporation and manufactured in Pakistan and other South Asian countries.

The company annually exports more than 50,000 cars and has extremely large domestic market in India selling over 730,000 cars annually. Maruti 800, till 2004, was the India's largest selling compact car ever since it was launched in 1983. More than a million units of this car have been sold worldwide so far. Currently, Maruti Suzuki Alto tops the sales charts and Maruti Suzuki Swift is the largest selling in A2 segment.

Due to the large number of Maruti 800s sold in the INdian market, the term "Maruti" is commonly used to refer to this compact car model ("Maruti" is another name of the Hindu god, Hanuman).









Maruti Suzuki has been the leader of the Indian car market for over two decades.








MARUTI SUZUKI MODELS

- 🌀 Maruti 800
- 🌀 Alto
- 🌀 WagonR
- 🌀 Estilo
- 🌀 A-star
- 🌀 Ritz
- 🌀 Swift
- 🌀 Swift DZire
- 🌀 SX4
- 🌀 Omni
- 🌀 Eco
- 🌀 Gypsy
- 🌀 Grand Vitara
- 🌀 Swift
- 🌀 Swift DZire

PRODUCT RANGE

CURRENT :-

Model Name	Segment	Picture
800 (Launched 1983)	Small-Size (Hatchback)	
Omni (Launched 1984)	MUV	
Gypsy (Launched 1985)	SUV	
Alto (Launched 2000)	Small – Size (Hatchback)	
WagonR (Launched 2002)	Mid-Size (Hatchback)	
Swift (Launched 2005)	Mid – Size (Hatchback)	
Estilo (Launched 2009)	Mid-Size (Hatchback)	
SX4 (Launched 2007)	Premium Car (Sedan)	

Swift Dzire (Launched 2008)	Mid – Size (Sedan)	
A-star (Launched 2008)	Mid – Size (Sedan)	
Ritz (Launched 2009)	Mid – Size (Hatchback)	
Eco (Launched 2010)	MUV	
Alto K10 (Launched 2010)	Premium Car (Hatchback)	
Grand Vitara (Launched 2007) (Imported)	SUV	
Kizashi (Launched 2011) (Imported)	SUV	

A-star and SX4 are manufactured in Manesar, Grand Vitara is imported from Japan as a completely built unit (CBU), remaining all models are manufactured in Maruti Suzuki's Gurgaon Plant.

Suzuki Motor Corporation, the parent company, is a global leader in mini and compact cars for three decades. Suzuki's technical superiority lies in its ability to pack power and performance into a compact, lightweight engine that is clean and fuel efficient.

Nearly 75,000 people are employed directly by Maruti Suzuki and its partners. It has been rated first in customer satisfaction among all car makers in India from 1999 to 2009 by J D Power Asia Pacific.

Maruti Suzuki is one of the companies in India which has unparalleled sales and service network. As of March 2010 it has 802 dealerships across 555 towns and cities in India. To ensure the vehicles sold by them are serviced properly, Maruti Suzuki has 2,740 workshops (including dealer workshops and Maruti Authorised Service Stations) in 1,335 towns and cities. It has 30 Express Service Stations on 30 National Highways across 1,314 cities in India. The company is planning to expand the number of dealerships to 1,500 by 2015.

Service is major revenue generator of the company. Most of the services stations are managed on franchise basis, where Maruti Suzuki trains the local staff. Other automobile companies have not been able to match this benchmark set by Maruti Suzuki. The Express Service stations help many stranded vehicles on the highways by sending across their repair man to the vehicle.

TATA MOTORS

Tata Motor's is a part of the Tata Group manages its shareholding through Tata Sons. The company was established in 1950 as a locomotive manufacturing unit and later expanded its operations to commercial vehicle sector in 1954 after forming a joint venture with Daimler-Benz AG of Germany. Despite the success of its commercial vehicles, Tata realized his company had to diversify and he began to look at other products. Based on consumer demand, he decided that building a small car would be the most practical new venture. So in 1998 it launched Tata Indica, India's first fully indigenous passenger car. Designed to be inexpensive and simple to build and maintain, the Indica became a hit in the Indian market. It was also exported to Europe, especially the UK and Italy. The oldest Indian state transport undertaking is "North Bengal State Transport Corporation" founded by the Raj Durbar regime in the year 1945, the 1st April. With three buses and three trucks. Is still vibrant and running providing service to hundreds of commuters of North Bengal region of West Bengal link.

2 ACQUISITIONS

- ✚ In 2004 Tata Motors acquired Daewoo's truck manufacturing unit, now known as Tata Deawoo Commercial Vehicle, in South Korea.
- ✚ In 2005, Tata Motors acquired 21% of Aragonese Hispano Carrocera giving it controlling rights of the company.
- ✚ In 2007, Formed a joint venture with Marcopolo of Brazil and introduced low-floor buses in the Indian Market.
- ✚ In 2008, Tata Motors acquired British Jaguar Land Rover (JLR), which includes the Daimler and Lanchester brand names.
- ✚ In 2010, Tata Motors acquired 80% stake in Italy-based design and engineering company Trilix for a consideration of €1.85 million. The acquisition is in line with company's objective to enhance its styling/design capabilities to global standards.


3 EXPANSION

After years of dominating the commercial vehicle market in India, Tata Motors entered the passenger vehicle market in 1991 by launching the Tata Sierra, a multi utility vehicle. After the launch of three more vehicles, Tata Estate (1992, a station wagon design based on the earlier 'Tata Mobile'(1989), a light commercial vehicle), Tata Sumo (LCV, 1994) and Tata Safari(1998, India's first sports utility vehicle). Tata launched the Indica in 1998, the first fully indigenous passenger car of India. Though the car was initially planned by auto-analysts, the car's excellent fuel economy, powerful engine and aggressive marketing strategy made it one of the best selling cars in the history of the Indian automobile industry. A newer version of the car, named Indica V2, was a major improvement over the previous

version and quickly became a mass-favorite. Tata Motors also successfully exported large quantities of the car to South Africa. The success of Indica in many ways marked the rise of Tata Motors.

PRODUCT RANGE

CURRENT

Model Name	Segment	Picture
Tata Indica V2	Small – Size (Hatchback)	
Tata Indica V2 Xeta	Small – Size (Hatchback)	
Tata Indigo CS	Mid – Size (Sedan)	
Tata Indigo XL	Mid – Size (Sedan)	
Tata Manza	Premium Car (Sedan)	
Tata Aria	SUV	
Tata Nano	Small – Size (Hatchback)	

Tata Xenon XT	Pickups	
Tata Safari	Utility Vehicle	
Tata Sumo Victa	Utility Vehicle	
Tata Grande mkii	Utility Vehicle	

HINDUSTAN MOTORS



Hindustan Motors (HML), the GP Birla flagship incorporated in 1942, set up a car assembly plant at Okha Port, Gujarat. In 1948, it shifted its activity to Uttarpara, West Bengal, to manufacture cars and trucks.

A division at Indore manufactures fuel-efficient engines and transmissions for cars in collaboration with Isuzu Motors, Japan. It diversified its activities over the years by undertaking the manufacture of heavy engineering equipment at Uttarpara, and had set up a plant at Triuvallur to manufacture earth moving equipment. And a plant at hour of Heavy duty automatic transmissions for earth moving equipment. For the products at Triuvallur, it has technical collaborators with Catepillar, US. THE collaborators for the Hosur plant are General Motors, US, and Twin Disc, US. The divisions at Triuvallur, Indore and Hosure have been accredited with the ISO 9001 certification.

HML introduced a diesel version of the contest car with diesel power train manufactured at the company's Pithampur plant, with technology from Isuzu Motors, Japan. It has launched the Opel Astra which is manufactured at Halol, Gujarat, in collaboration with Adam Opel, Germany (a subsidiary of General Motors, US).

PRODUCT RANGE

CURRENT

Model Name	Picture
Ambassador	
DC-Roller	

The Lancer car manufactured in collaboration with Mistubishi Motors, Japan at its Tiruvallur plant has been as 'the best quality car' and no. 1 in the sales satisfaction survey conducted by JD Power Asia.

HML has undertook a Rs. 75-crore modernization drive for its oldest brand, Ambassador, in order to launch a modern, improved version of the car while retaining its core design. It introduced the upgraded version of Ambassador, popularly known as 'classic 1500 Diesel' in the financial year 199-2000.

HML has marketing and servicing arrangement with Mitsubishi for the SUV Pajero. The company is the sole selling agent for Pajero CBUs and the arrangement covers marketing and servicing. HML is talking to Mitsubishi about assembling the Pajero at its Chennai plant in a low volume manner.

It unveiled the CNG version of its Rural Transport Vehicle (RTV). The vehicle made in alliance with Australia-based OKA Motor Company will be sold in both the passenger and a 1.5 tonne cargo version.

The company entered into an agreement with Ford India Ltd in 2001-02 for supply of engines & transmissions for its Pithampur Factory. The supply of engines & transmission was commenced from December, 2002 and March 2003 respectively. The licensing agreement with Mitsubishi Motor Corporation Ltd was concluded for the introduction of Premium Utility Vehicle Pajero and sales of the car were started in September, 2002. It has also completed the work for restyled Ambassador car, which is likely to be introduced in the current financial year. A new utility vehicle (Trekker) has also been developed by HML with a full metal body. The supplies of engines and transmission have also commenced to General Motors India Ltd.

The Company has also started 'Remote Services Division' at Chennai as software Technology Park.

Currently the Company is having three subsidiaries i.e. Hindustan Motor Finance Corporation Ltd, HM Export Ltd and Hindustan Motors Ltd., U.S.A.

The company has decided to hive off the component Business of the company that is the Power Unit Plant of the company at Pithampur and the Power Products Division at Hosur into its subsidiary AVTEC Ltd and also decided to invite Actis Capital LLP through its investment vehicle Actis Power train Investments Ltd to acquire 30% stake in the new company. As part of the terms and conditions, the Promoter Group of the company has agreed to acquire 21% stake in AVTEC. With this transaction, AVTEC would be India's largest independent engines and transmission manufacturer, supplying critical auto components to global OEMs including GM, Ford, and Caterpillar and for Mitsubishi cars in India. The sale of these two units to AVTEC Ltd, the new formed Company, was completed on 28th June 2005.

4 GENERAL MOTORS JOINT VENTURE

Hindustan and General Motors have had several tie-ups in the post independence era to produce Bedford Trucks, Vauxhall Motors(1980 to 1990), Allison Transmission and off- road equipment. In 1994, GM and Hindustan (C K Birla) formed a 50-50 joint venture, General Motors India to make Opel Astra cars. GM bought out the Halol, Gujarat plant from Hindustan in 1999.

MAHINDRA & MAHINDRA

Mahindra & Mahindra was set up a steel trading company in 1945. It soon expanded into manufacturing general – purpose utility vehicles, starting with assembly under license of the iconic Willys Jeep in India. Soon established as the Jeep manufactures of India, M & M later branched out into the manufacture of light commercial vehicles (LCVs) and agricultural tractors. Today, M&M is the leader in the utility vehicle segment in India with its flagship UV Scorpio and enjoys a growing global market presence in both the automotive and tractor businesses.

Over the past few years, M & M has expanded into new industries and geographies. They entered into the two-wheeler segment by taking over Kinetic Motors in India. M & M also has controlling stake in REVA Electric Car Company and acquired South Korea's Ssang Yong Motor Company in 2011.

The US Reputation Institute recently ranked Mahindra among the top 10 Indian companies in its 'Global 200: The World's Best Corporate Reputations' list.

AUTOMOTIVE

Mahindra & Mahindra is a major automobile manufacture of utility vehicles, passenger cars, pickups, commercial vehicles, and two wheelers, Its tractors are sold on six continents It has acquired plants in China and the United Kingdom, and has three assembly plants in the USA, M & M has partnership with international companies like Renault SA, France and International Truck and Engine Corporation, USA.

M & M has global presence and its products are exported to several countries. Its global subsidiaries include Mahindra Europe Srl. based in Italy, Mahindra USA Inc., Mahindra South Africa and Mahindra (China) Tractor Co. Ltd.

M & M made its entry into the passenger car segment with the Logan in April 2007 under the Mahindra Renault joint venture. M & M will make its maiden entry into the heavy trucks segment with Mahindra Navistar, the joint venture with International Truck.

M & M's automotive division makes a wide range of vehicles including MUVs LCVs and three wheelers. It offers over 20 models including new generation multi-utility vehicles like the Scorpio and the Bolero. It formerly had joint venture with Ford called Ford India Private Limited to build passenger cars.

PRODUCT RANGE

CURRENT

Model Name	Picture
Logan	
Bolero	
Scorpio	
Xylo	

At the 2008 Delhi Auto Show, Mahindra executive said the company is pursuing an aggressive product expansion program that would see the launch of several new platforms and vehicles over the next three years, including an entry-level SUV designed to seat five passenger and powered by a small turbo diesel engine. True to their word, Mahindra & Mahindra launched the Mahindra Xylo in January 2009, and as of June 2009, the Xylo has sold over 15000 units.

Also in early 2008, Mahindra commenced its first overseas CKD operations with the launch of the Mahindra Scorpio in Egypt, in partnership with the Bavarian Auto Group. This was soon followed by assembly facilities in Brazil. Vehicles assembled at the plant in Bramont, Manaus, include Scorpio Pick Ups in single and double cab pick-up body styles as well as SUVs.

Mahindra & Mahindra has controlling stakes in Reva electric and has submitted letter of Intent for South Korea's SSangyong.

Mahindra plans to sell the diesel SUVs and pickup trucks starting in late 2010 North America through an independent distributor, Global Vehicles USA, based in Alpharetta, Georgia. Mahindra announced it will import pickup trucks from India in knockdown kit (CKD) form to circumvent the Chicken tax. CKDs are complete vehicles that will be assembled in the U.S. from kits of parts shipped in crates. On 18 October 2010, however, it was reported that Mahindra had indefinitely delayed the launch of vehicles into the North American market, citing legal issues between it and Global Vehicle after Mahindra retracted its contract with Global Vehicles earlier in 2010, due to a decision to sell the vehicles directly to consumers instead of through Global Vehicles. However, a November 2010 report quoted John Perez, the CEO of Global Vehicle USA, as estimating that he expects Mahindra's small diesel pickups to go on

sale in the U.S. by spring 2011, although legal complications remain, and Perez, while hopeful, admits that arbitration could take more than a year. Later reports suggest that the delays may be due to an Mahindra scraping the original model of the truck and replacing it with an upgraded one before selling them to Americans.

In 2010, India's Mahindra & Mahindra Limited was named as the preferred bidder to acquire the bankruptcy-protected Ssang Yong Motor Company, Mahindra is expected to gain a controlling stake in the company by March 2011 and the planned acquisition has been approved by South Korea's Free Trade Commission.

1.9 CONCLUSION

Like many other nations India's highly developed transportation system has played a very important role in the development of the country's economy over the past to this day. One can say that the automobile industry in the country has occupied a solid space in the platform on Indian economy. Empowered by its present growth, today the automobile industry in the country can produce a diverse range of vehicles under three broad categories namely cars, two – wheelers and heavy vehicles.

Starting its journey from the day when the first car rolled on the streets of Mumbai in 1898, the Indian automobile industry has confirmed an exceptional growth to this day. Today, the Indian automobile industry presents a galaxy of varieties and models meeting all possible expectations and globally established industry standards. Some of the leading names in the Indian automobile industry include Maruti Suzuki, Tata Motors, Mahindra and Mahindra, Hyundai Motors, Hero Honda and Hindustan Motors in addition to a number of others.

The Indian automobile industry has come a long way since in the first car ran on the streets of Bombay (now Mumbai) in 1898. The initial years of the industry were characterized by unfavorable government policies. The real big change as we see in the industry today, started to take place with the liberalization policies that the government initiated in the 1991. The liberalization policies had a salutary impact on the Indian economy and the automobile industry in particular.

The automobile industry in the country is one of the key sectors of the economy in terms of the employment opportunities that it offers. The industry directly employs close to around 0.2 million

people and indirectly employs around 10 million people. The prospects of the industry also has a bearing on the auto-component industry which is also has a bearing on the auto-component industry which is also a major sector in the Indian economy directly employing 0.25 million people.

The Indian automotive industry has flourished like never before in the recent years. This extra-ordinary growth that the Indian automotive industry has witnessed is a **result** of a two major factors namely, the improvement in the living standards of the middle class, and an increase in their disposable incomes.

Moreover, the liberalization steps, such as, relaxation of the foreign exchange and equity regulations, reduction of tariffs on imports, and refining the banking policies, initiated by the Government of India, have played an equally important role in bringing the Indian Automotive industry to great heights. It is estimated that the **sale** of passenger cars have tripled compared to their sale in the last five years. Thus, the sale of cars has reached a figure of 1 million users and is **expected** to increase further. It's also to be noted that the demand for luxurious models, SUVs, and mini-cars for family owners, have shot up, largely due to increase in the consumer's buying capacity.

The increased demand for Indian automobiles has **resulted** in a large number of multinational auto companies, especially from Japan, U.S.A., and Europe, entering the Indian market and working in collaboration with the Indian firms. Also, the institutionalization of automobile finance has further paved the way to sustain a long-term high growth for the industry.

The product of cars has greatly increase in the last decade. It passed the one million mark during 2003-04 & has more than doubled in 2010.

Our fast developing Gujarat has also inspiring atmosphere for establishing Automobile Industry. The Gujarat is committed to create hub for Automobile in Gujarat. Needless to say that Tata Motor has already started its manufacturing unit in Gujarat. Whereas Maruti Suzuki is going to start it unit in Gujarat.

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CHAPTER – 2

RESEARCH

METHODOLOGY

CHAPTER 2

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CHAPTER - 2

RESEARCH METHODOLOGY

2.1 INTRODUCTION

The title of the problem of the subject of this study is " A comparative analysis of liquidity vis-à-vis profitability of Indian car industry".

The Automobile industry plays a very vital role in the Indian Economic. Its connections with various other sectors of the economy make it an important component of the economy. Infrastructural development of a nation comprises of urban development, rural development and industrial development, but the hidden requirement of infrastructure is the connectivity between various regions, which is fulfilled by the automobile industry. The Auto industry plays a significant role in shaping a county's economy and development. The manufactures of heavy commercial vehicle had given rise to a new era in the Indian history. Slowly many firms started setting up various small manufacturing units in India.

Therefore, it is assumed that in the factor which are obstruction the liquidity vis-à-vis profitability position of car units could manage properly then units would come out with a better working result.

This study based on the secondary data derived from annual published reports of selected car companies or computer data. Various researchers have been conducted under Accompany commerce, Management, Economics etc. Faculty of Saurashtra University. However no research has been conducted "A Comparative Analysis of liquidity vis-à-vis profitability of Indian car Industry". Thus, this study would be an original contribution to the problem of the study in unique every respect.

2.2 PROBLEM IDENTIFICATION

Automobile is one of the most important industries in Indian economy. It has played a vital role in the development of country. The first car rolled out on the streets of Mumbai (than Bombay) in 1897-98. However, during the last three or four decades the Industry has achieved substantial progress. Indian has the fourth largest car market in Asia. Financial soundness of business enterprise largely depending upon the profitability can be achieved after control over the cost of production like cost of raw material consumed. Excise duty power and fuel cost, interest burden, administrative expense, selling and distribution expense etc. That have been increased heavily on the other hand price of the car is decreased in this circumstance to keep the progress of business enterprise. It is very essential for management. In present environment to achieve the profit trends to introduce various cost control techniques over expenditures and maximum output.

Another problem of industry is short supply of raw material and shortage of electricity supply and heavy electric charges. It is also making effect on cost of production and financial position. Other problem is Tax and duty structure and differential taxation system. The sales tax structure is not standardized across the country also a limited road network with poor road surface did not help matters much. These problem also effect directly or indirectly on cost of production. The objectives of final analyst are as (1) external (2) Internal. An external analyst has to depend upon the published information of financial statement, which are not on lightening themselves while internal analyst know everything regarding the information provided in financial statements.

Study of financial statement analysis is always made objectively. Generally, external analysts use information as per their requirements. Financier would like to know profitability. Management would be interested in the operational efficiency and profitability. Position of the management profitability vis-à-vis liquidity also balances in the portfolio. But if the management likes profitability, liquidity is less and the liquidity is like the profitability is less. The various stockholders of business enterprise like management, investors, bankers, financial institutions, creditors, employs, government economist, prospective investors etc, look at sound financial position of the business enterprise.

2.3 SURVEY OF THE LITERATURE

There is a wide range of literature available on financial performance analysis of different companies in conforming to its dynamic value and significance of intuitive nature. A good dealing in analytical part of literature exists at broad levels like size and technology, problem Associated with profitability productivity, financial performance, and capacity utilization. Relevant existing literature and studied have been clipped below. A researcher has studied of this literature for gaining insight into the problem.

(1) The most important pioneering books were written by PODDAR in 1962 and 1966 respectively, in which an attempt has been made to enumerate all the historical facts regarding various aspects of the industry. Some institutions like C.M.A. association of Trade and Industry, Tariff Commission, Commerce Research Bureau, Economics Times, National Productivity Council etc. have made attempts to study the general problems in historical perspectives.

(2) **CHAKRAVARTY AND REDDY** had written an article on the financial performance of the industry for period from 1967 to 1971 by making comparison in 1973. They used ratio analysis as major tool for financial performance and had studied 22 ratios of profitability, proprietary, liquidity and turnover groups.

(3) **KAURA AND SUBRAMANIAM** published an article on the financial performance of 10 units relating to the period from 1972 to 1979 which mainly observed liquidity, profitability, financial structure and overall performance. For this study they used conventional ratio analysis and merit rating approach. They found that the financial strength of the units have declined over the years.

(4) **RAO AND CHANDAR...** have made attempt to assess the financial efficiency of cement companies for the period from 1970-71 to 1977-78 which covers 70% of entire industry. They found out that the profitability of selected companies had decreased continuously from 1970-71 to 1974-75 owing to causes such as inflationary pressure in the country, continuous fall in capacity utilization due to drastic power-cuts and shortage of coal, oil and wagon. The profitability increased in 1975-76 because of appreciable increase in the sales.

(5) **DR. S. J. PARMAR** Published a book in 2001. The book is a systematic study of the modern financial measurement techniques useful for management in planning and controlling corporate activities. With increasing participation by the general public and financial institution as present and corporate bodies have to be on their guard and manage their efficient financial efficiency in the area of globalization. This book covers topics of concept and measurement of profitability, cost & sales trend, profit margin, assets turnover, analysis of return on investment common size of value added statements.

(6) **BUTALAL C. AJMERA** has done his dissertation "interpretation and analysis of financial statement of two selected units of Birla group", in the year 2001 by using conceptual framework of financial statement, Research plan, profile of the cement industry. Birla group of companies a bird eye view, liquidity position, financial structure and suggestion, the period of 1994-95 to 1998-99. The study reveals the course of profitability.

(7) **DR. MISS KAILASH P. DAMOR** has done research on "A comparative analysis of profitability trends in co-operative sugar industry of India" in the year 2002. In her research she has given clear idea about profit and profitability.

Profit means; "it is an excess of Income over expenses."

Profitability means "it is a capacity of earning profit."

Profitability is related with two words, Profit and Ability. We discuss the word profit in many senses but the word profit is used as per its purpose, where as the ability shows the capability of earning profit from business. Profitability also shows our capacity of how much return we can give to our investors on their investment.

(8) **DR. SANJAY BHAYANI** Published a book in 2003 "Practical Financial Statement Analysis". The study covered 16 public limited cement companies in private sector. He made study of analysis of profitability, working capital, Capital structure and activity of Indian Cement industry. In his research he revealed various problems of Cement Industries and suggested remedied for the problem. He also suggested for the improvement of profitability and techniques of cost control.

(9) DR. RASIK N. BAVARIA has completed his research on “A comparative analysis of profitability vis-à-vis Liquidity performance in cement industry of India” in the year 2004.

He has given importance of profitability and liquidity; by the term ‘Liquidity’ is meant the debt- repaying capacity of an undertaking. It refers to the firm’s ability to meet the claims of suppliers of goods services and capital.

Study of financial statement analysis is always made objectively. Generally, the external analyst uses the information as per his requirements. Financier would like to know profitability. Management would be interested in the operational efficiency and profitability.

Position of the management profitability vis-à-vis liquidity should also balance in the portfolio. But if the management likes profitability, liquidity becomes less and if the liquidity is liked more the profitability gets less, for a short period of time. In the long run both will go together.

(10) DR. HARISH P. DESAI

He has done his Ph.D. on “Financial performance appraisal of selected district dairies co-operative in Gujarat” in may 2006.

Under this study he has made a modest attempt in assessing the financial health of the selected co-operative dairy units by applying accounting tools and techniques of the date of nine district co-operative dairy unions in Gujarat State.

For this purpose he has used many accounting tools and techniques like common size statement, Ratio analysis, etc. He has also used some statistical techniques like, mean, Regression, F-test, T-test, Diagrammatic and graphic presentation of data.

(11) DR. DEEPAK M. SHARMA

Here, the researcher has done his research work on Indian Banking Sectors. He has calculated the profitability and productivity of various banks. The title of his thesis is "Critical Evolution of Indian Banking sector." [with reference to private sector banks & Public sector banks] for purpose of finelin the profitability the researcher has used the analysis of common size Financial Statement.

(12) DR. SHIVUBHAI C. VALA

he has done his Ph.D. on "A comparative study of profitability vis-a-vis liquidity of co-operative milk producers unions of gujarat state." in February - 2011.

Under this study he has given clear idea and importance of profitability and liquidity. By the term liquidity is meant the debt - repaying capacity of an undertaking. It refers to the firm's ability to meet the claims of suppliers of goods services and capital.

For this purpose he has used many accounting tools and techniques like common size statement, Ratio analysis etc. He has also used some statistical techniques like mean, regression, F-test, T-test, Diagrammatic and graphic presentation of data.

(13) DR. KANAK N. ATKOTIA

"Analysis of Profitability performance of Tea Industry in India" - thesis submitted by Kanak N. Atkotia. In it, conceptual framework of financial performance, profile of the tea industry in India, analysis of profitability, financial structure, working capital and analysis of activity is included and also suggestions are given.

(14) DR. KRIPAL SING has written a book on “Automobile Engineering”. This book keep emphasizes on the fundamental aspect like the wheels, types, external and internal parts of automobile. Author has narrated the functioning process of the automobile in very easy language.

(15) The research paper presented in International Journal of Research in Commerce and Management on “Comparative Financial Performance Evaluation of Maruti and Hyundai” by prof (Dr.) S. C. Chitkara. in this paper, ratio analysis is used mainly. Statistical techniques like average, s.d. and cov are used to draw conclusion.

(16) A book has been written by C. R. Kothari on ‘Research methodology’ in which the statistical techniques related to data analysis explained very well. This book is special about the qualitative techniques of the research.

2.4 THE RESEARCH METHODOLOGY.

(1) The title of the study is a comparative analysis of liquidity and profitability of Indian car industry.

(2) OBJECTIVES OF THE STUDY

- (i)** To examine the liquidity position and analysis of liquidity
- (ii)** To analysis of the profitability
- (iii)** To analysis liquidity vis-à-vis profitability
- (iv)** To make suggestions of profitability and liquidity for financial soundness.

(3) HYPOTHESIS

- (1) There is no significant difference in liquidity trends of car industry.
- (2) There is no significant difference in profitability trends of car industry.

(4) DATA COLLECTION

The main source of data used for the study was secondary, drawn from the annual profit and loss account and balance sheet Figures as found in annual reports of the selected units. The other data sources and opinions expressed in commercial Journals, Magazines, News Papers, Accounting literature, various Journals of car. Automobile industry annual review etc. have been also used in this study

(5) PERIOD OF THE STUDY

The liquidity and profitability study is made for a period of 5 years from 2005-2006 to 2009-2010.

(6) UNIVERSE OF THE STUDY

The universe of the study consists of all the limited companies working in India. And listed in stock exchanges of India.

(7) SAMPLING DESIGN

For the purpose of the study the following four major player in the Automobile Industry.

Name of the companies:

- (1) **MARUTI SUZUKI LTD.**
- (2) **TATA MOTORS**
- (3) **HINDUSTAN MOTORS**
- (4) **MAHINDRA & MAHINDRA**

The following is in brief description of a sample units.

MARUTI SUZUKI INDIA LTD.

Introduction

Type	:	Public (BSE Maruti, NSE Maruti)
Industry	:	Automotive
Founded	:	1981 (as Maruti Udyog Limited)
Headquarters	:	Delhi, India
Key People	:	Mr. Shinzo Nakanishi, MD and CEO
Products	:	Automobiles, Motorcycles
Parent	:	Suzuki Motor Corporation (Japan)
Website	:	www.Marutisuzuki.com

The Suzuki Motor Corporation began as Suzuki Loom Works in 1909 under Michio Suzuki and then was incorporated as Suzuki Corporation in the year 1920. Suzuki today offers its customers a wide range of motorcycles, automobiles, outboard motors and related products such as generators and motorized wheelchairs. It is the ninth largest car manufacturer in the world.

Maruti Udyog Limited (MUL), established in 1981, had a prime objective to meet the growing demand of a personal mode of transport, which is caused due to lack of efficient public transport system. The incorporation of the company was through an Act of Parliament.

Suzuki Motor Company of Japan was chosen from seven other prospective partners worldwide. Suzuki was due not only to its undisputed leadership in small cars but also to commitments to actively bring to MUL contemporary technology and Japanese management practices.

A license and a Joint Venture agreement were signed between Government of India and Suzuki Motor Company (now Suzuki Motor Corporation of Japan) in Oct 1982.

The objectives of MUL then are as cited below:

- Modernization of the Indian Automobile Industry
- Production of fuel-efficient vehicles to conserve scarce resources
- Production of large number of motor vehicles which was necessary for economic growth.

Maruti Udyog Ltd. (MUL) is the first automobile company in the world to be honored with ISO 9000:2000 certificate. It is said that the company takes approximately 14 hours to make a car. Maruti Suzuki fits every car-buyer's budget and any dream.

It was the first company in India to mass-produce and sell more than a million cars. It is largely credited for having brought in an automobile revolution to India. It is the market leader in India. More than half the cars sold in India are Maruti Suzuki cars. The company is a subsidiary of Suzuki Motor Corporation, Japan, which owns 54.2 per cent of Maruti Suzuki. The rest is owned by public and financial institutions. It is listed on the Bombay Stock Exchange and National Stock Exchange in India.

As on 17 September 2007, Maruti Udyog Limited was renamed Maruti Suzuki India Limited. Maruti Suzuki India Limited a partial subsidiary of Suzuki Motor Corporation of Japan is India's passenger car company, accounting for over 45% of the domestic car market.

The company offers a complete range of cars from entry level Maruti 800 and Alto, to hatchback Ritz, A star, Swift, Wagon-R, Estilo and sedans DZire, SX4 and Sports Utility vehicle Grand Vitara.

Maruti Suzuki has been the leader of the Indian car market for over two decades.

TATA MOTORS

Introduction

Type	:	Public (BSE : 500570) (NYSE : TTM)
Industry	:	Automotive
Founded	:	1945
Founder(s)	:	JRD Tata
Headquarters	:	Mumbai, Maharashtra, India
Key people	:	Ratan Tata, Chairman Ravi Kant, Vice Chairman Carl Peter Forsted, MD & Group CEO Prakash Telang, MD (Indian Operations)
Products	:	Automobiles and Engines
Parent	:	Tata Group
Subsidiaries	:	Jaguar Land Rover, Britain TDCV, South Korea Hispano Carrocera
Website	:	www.tatamotors.com

Tata Motors is a part of the Group manages its share-holding through Tata Sons. It was formerly known as TELCO (TATA Engineering and Locomotive Company). Tata Motors Ltd(NSE: TATA MOTORS, BSE: 500570, NYSE:TTM) is a multinational corporation. Its headquarter is in Mumbai, India.

The company was established in 1945 as a locomotive manufacturing unit and later expanded its operations to commercial vehicle sector in 1954 after forming a joint venture with Daimler-Benz AG of Germany.

Despite the success of its commercial vehicles, Tata realized his company had to diversify and he began to look at other products. Based on consumer demand, he decided that building a small car would be the most practical new venture. So in 1998 it launched Tata Indica, India's first fully indigenous passenger car. Designed to be inexpensive and simple to build and maintain, the Indica became a hit in hit Indian market. It was also exported to Europe, especially the UK and Italy.

Tata Motors, the first Company from India's engineering sector to be listed in the New York Stock Exchange (September 2004), has also emerged as an international automobile company.

Through subsidiaries and associate companies, Tata Motors has operations in the UK, South Korea, Thailand and Spain. It is expanding its international footprint, established through exports since 1961. The Company's commercial and passenger vehicles are already being marketed in several countries in Europe, Africa, the Middle East, South East Asia, South Asia and South America. It has franchisee/joint venture assembly operations in Kenya, Bangladesh, Ukraine, Russia, Senegal and South Africa.

The foundation of the Company's growth over the last 60 years is a deep understanding of economic stimuli and customer needs, and the ability to translate them into customer-desired offerings through leading edge R&D.

HINDUSTAN MOTORS

Hindustan Motors (HML), the GP Birla flagship incorporated in 1942, set up a car assembly plant at Okha Port, Gujarat. In 1948, it shifted its activity to Uttarpara, West Bengal, to manufacture cars and trucks.

A division at Indore manufactures fuel-efficient engines and transmissions for cars in collaboration with Isuzu Motors, Japan. It diversified its activities over the years by undertaking the manufacture of heavy engineering equipment at Uttarpara, and had set up a plant at Triuvallur to manufacture earth moving equipment. For products at Triuvallur, it has technical collaborators with Caterpillar, US. The collaborators for the Hosur plant are General Motors, US, and Twin Disc, US. The divisions at Triuvallur, Indore and Hosure have been accredited with the ISO 9001 certification.

HML introduced a diesel version of the contest car with diesel power train manufactured at the company's Pithampur plant, with technology from Isuzu Motors, Japan. It has launched the Opel Astra which is manufactured at Halol, Gujarat, in collaboration with Adam Opel, Germany (a subsidiary of General Motors, US).

The Lancer car manufactured in collaboration with Mitsubishi Motors, Japan at its Tiruvallur plant has been as 'the best quality car' and no. 1 in the sales satisfaction survey conducted by JD Power Asia.

HML has undertaken a Rs. 75-crore modernization drive for its oldest brand, Ambassador, in order to launch a modern, improved version of the car while retaining its core design. It introduced the upgraded version of Ambassador, popularly known as 'classic 1500 Diesel' in the financial year 199-2000.

HML has marketing and servicing arrangement with Mitsubishi for the SUV Pajero. The company is the sole selling agent for Pajero CBUs and the arrangement covers marketing and servicing. HML is talking to Mitsubishi about assembling the Pajero at its Chennai plant in a low volume manner.

It unveiled the CNG version of its Rural Transport Vehicle (RTV). The vehicle made in alliance with Australia-based OKA Motor Company will be sold in both the passenger and a 1.5 tonne cargo version.

The company entered into an agreement with Ford India Ltd in 2001-02 for supply of engines & transmissions for its Pithampur Factory. The supply of engines & transmission was commenced from December, 2002 and March 2003 respectively. The licensing agreement with Mitsubishi Motor Corporation Ltd was concluded for the introduction of Premium Utility Vehicle Pajero and sales of the car were started in September, 2002. It has also completed the work for restyled Ambassador car, which is likely to be introduced in the current financial year. A new utility vehicle (Trekker) has also been developed by HML with a full metal body. The supplies of engines and transmission have also commenced to General Motors India Ltd.

The Company has also started 'Remote Services Division' at Chennai as software Technology Park.

Currently the Company is having three subsidiaries i.e. Hindustan Motor Finance Corporation Ltd, HM Export Ltd and Hindustan Motors Ltd., U.S.A.

The company has decided to hive off the component Business of the company that is the Power Unit Plant of the company at Pithampur and the Power Products Division at Hosur into its subsidiary AVTEC Ltd and also decided to invite Actis Capital LLP through its investment vehicle Actis Power train Investments Ltd to acquire 30% stake in the new company. As part of the terms and conditions, the Promoter Group of the company has agreed to acquire 21% stake in AVTEC. With this transaction, AVTEC would be India's largest independent engines and transmission manufacturer, supplying critical auto components to global OEMs including GM, Ford, and Caterpillar and for Mitsubishi cars in India. The sale of these two units to AVTEC Ltd, the new formed Company, was completed on 28th June 2005.

MAHINDRA & MAHINDRA

Mahindra & Mahindra was set up a steel trading company in 1945. It soon expanded into manufacturing general - purpose utility vehicles, starting with assembly under license of the iconic Willys Jeep in India. Soon established as the Jeep manufactures of India, M & M later branched out into the manufacture of light commercial vehicles (LCVs) and agricultural tractors. Today, M&M is the leader in the utility vehicle segment in India with its flagship UV Scorpio and enjoys a growing global market presence in both the automotive and tractor businesses.

Over the past few years, M & M has expanded into new industries and geographies. They entered into the two-wheeler segment by taking over Kinetic Motors in India. M & M also has controlling stake in

REVA Electric Car Company and acquired South Korea's Ssang Yong Motor Company in 2011.

The US Reputation Institute recently ranked Mahindra among the top 10 Indian companies in its 'Global 200: The World's Best Corporate Reputations' list.

AUTOMOTIVE

Mahindra & Mahindra is a major automobile manufacture of utility vehicles, passenger cars, pickups, commercial vehicles, and two wheelers, Its tractors are sold on six continents It has acquired plants in China and the United Kingdom, and has three assembly plants in the USA, M & M has partnership with international companies like Renault SA, France and International Truck and Engine Corporation, USA.

M & M has global presence and its products are exported to several countries. Its global subsidiaries include Mahindra Europe Srl. based in Italy, Mahindra USA Inc., Mahindra South Africa and Mahindra (China) Tractor Co. Ltd.

M & M made its entry into the passenger car segment with the Logan in April 2007 under the Mahindra Renault joint venture. M & M will make its maiden entry into the heavy trucks segment with Mahindra Navistar, the joint venture with International Truck.

M & M's automotive division makes a wide range of vehicles including MUVs LCVs and three wheelers. It offers over 20 models including new generation multi-utility vehicles like the Scorpio and the Bolero. If formerly had joint venture with Ford called Ford India Private Limited to build passenger cars.

At the 2008 Delhi Auto Show, Mahindra executive said the company is pursuing an aggressive product expansion program that would see the launch of several new platforms and vehicles over the next three years, including an entry-level SUV designed to seat five passenger and powered by a small turbo diesel engine. True to their word, Mahindra & Mahindra launched the Mahindra Xylo in January 2009, and as of June 2009, the Xylo has sold over 15000 units.

Also in early 2008, Mahindra commenced its first overseas CKD operations with the launch of the Mahindra Scorpio in Egypt, in partnership with the Bavarian Auto Group. This was soon followed by assembly facilities in Brazil. Vehicles assembled at the plant in Bramont, Manaus, include Scorpio Pik Ups in single and double cab pick-up body styles as well as SUVs.

Mahindra & Mahindra has controlling stakes in Reva electric and has submitted letter of Intent for South Korea's SSangyong.

Mahindra plans to sell the diesel SUVs and pickup trucks starting in late 2010 North America through an independent distributor, Global Vehicles USA, based in Alpharetta, Georgia. Mahindra announced it will import pickup trucks from India in knockdown kit (CKD) from to circumvent the Chicken tax. CKDs are complete vehicles that will be assembled in the U.S. from kits of parts shipped in crated. On 18 October 2010, however, it was reported that Mahindra had indefinitely delayed the launch of vehicles into the North American market, citing legal issues between it and Global Vehicle after Mahindra related its contract with Global Vehicles earlier in 2010, due to a decision to sell the vehicles directly to consumers instead of through Global Vehicles. However, a November 2010 report quoted John Perez, the CEO of Global Vehicle USA, as estimating that he expects Mahindra's small diesel pickups to go on sale in the U.S. by spring 2011, although global complications remain, and Perez,

while hopeful, admits that arbitration could take more than a year. Later reports suggest that the delays may be due to an Mahindra scraping the original model of the truck and replacing it with an upgraded one before selling them to Americans.

In 2010, India's Mahindra & Mahindra Limited was named as the preferred bidder to acquire the bankruptcy-protected Ssang Yong Motor Company, Mahindra is expected to gain a controlling stake in the company by March 2011 and the planned acquisition has been approved by South Korea's Free Trade Commission.

(8) TOOLS AND TECHNIQUES FOR ANALYSIS OF FINANCIAL STATEMENTS

- (i)** Ratio Analysis Income
- (ii)** Common size Statement Analysis
- (iii)** Trend analysis
- (iv)** Anova Test
- (v)** Value added analysis
- (vi)** Other techniques

(i) RATIO ANALYSIS INCOME

“Ratio Analysis” is one of the prevalent and the most popular technique to measure the profitability of the business firm; it is used primarily to gain an insight into financial and operating aspects of a business firm. Ratio analysis is the process of determining and presenting in arithmetical terms the relationship between figures and group of figures drawn from financial statements. A ratio may be defined as “the indicated quotient of two mathematical expression” and as the relationship between two or more things”. The term accounting ratio, is used to describe significant relationship which exist between figures shown in financial statements profit & loss account and balance sheet.

The technique of ratio analysis involves four steps viz determining the accounting ratio to be used comparison of ratio with the standard set and interpretation. An analyst has to determine which ratio is to be used, and then he computes it and compares it with the standards but no such standards have been setup by the Indian Industries till today. The interpretation of ratio requires careful & detailed study and sound judgment on the part of the analyst.

(ii) COMMON SIZE STATEMENT ANALYSIS

Profitability analysis is very useful on comparative basis, so, it is of paramount importance that a series of statements over a period of years should be used. Comparative and common size income statement is the simplest technique of profitability analysis. In this technique, the figure of net sales is taken equal to one hundred and the percentage of individual items is computed likewise.

(iii) TREND ANALYSIS

Trend analysis is immensely helpful in marking comparative study of the changed in an item of groups of items over a period of time and to make conclusions regarding the change in date. For this purpose, a base year is selected and the amount of the item – relating to the base year is taken equal to a hundred and Index number are computed for other years based on the amount of item relating to the base years based on the amount of that item in those years.

(iv) ANOVA TEST

Analysis of variance (ANOVA) is an extremely useful technique concerning researches in the fields of economics, biology, education, business / industry and in researches of several other disciplines. This technique is used when multiple sample cases are involved. The significance of the difference between the means of two samples can be judged through either Z-test or the T-test, but the difficulty arises when we happen to examine the significance of the difference among more than two sample means at the same time. The ANOVA technique enables us to perform this simultaneous test and as such is considered to be an Important tool of analysis in the hands of a researcher. I have applied it on different ratios of the companies. So as to see that weather there is a significant difference between the performances of the companies or not.

(v) VALUE ADDED ANALYSIS

In this method two statements are prepared to show the generation of valued added and the application of value added. Value generated is computed by subtracting the total of the cost of bought – in – materials and services from the amount of sales income from services, which is termed as Gross Value Added.

(vi) OTHER TECHNIQUES

Various statistical techniques are used to provide a more accurate and scientific measurement form profitability analysis. These techniques are moving average, range, standard deviation, index numbers, regression, correlation, chi-square test, 'F' test and analysis of time service. Diagrams and graphs are also often used in profitability analysis.

2.5 LIMITATIONS OF THE STUDY

- (i)** The study is limited to 4 units of the auto sector.
- (ii)** This study based on secondary data taken from published annual reports and accounts of selected companies and as such its finding depends entirely on such data.
- (iii)** There are different methods to measure the liquidity and profitability of an industry in this connection views of experts differ from one another.
- (iv)** Profitability is affected by many factors, internal as well as external factors but the researcher has taken into consideration only some factors which are relevant to study.

- (v) The major limitation of the study is non – availability of the information as required by the research forms.
- (vi) It may be personal view differ from others.

2.6 CHAPTER PLAN

CHAPTER 1 : OVERVIEW OF THE AUTOMOBILE INDUSTRY

The chapter deals with history and development of Automobile industry in India. History of car industry. Industry development in the chronological order, Foreign companies in the India Auto – Sector major players in Indian Automobile sector achievement and mission plan of the automobile industry.

CHAPTER – 2 – RESEARCH METHODOLOGY

Introduction - problem identification – survey of the literature. The research methodology – the problem objectives of the study. Hypothesis, sampling design data collection – period of the study universe of study tools and techniques of analysis of financial statements – limitations of the study - chapter plan etc.

CHAPTER – 3 – ANALYSIS OF LIQUIDITY

The chapter deals with analysis of liquidity of selected car companies. It deals with the concept of liquidity and liquidity ratio of car industry in India. It has done with the help of different analytical tools such as ratio analysis – current liquidity ratio quick liquidity ratio – inventory turnover ratio financial charges coverage ratio.

CHAPTER – 4 – ANALYSIS OF PROFITABILITY

The chapter deals with analysis of profitability of selected car industry. It has done with the help of different analytical tools such as ratio – Analysis – Net Profit Ratio – Operating Margin Ratio – Earning Per Share, Dividend Per Share

CHAPTER – 5 COMPARATIVE ANALYSIS OF LIQUIDITY VIS- À-VIS PROFITABILITY

This chapter deals with analysis of liquidity vis-a-vis profitability of selected car companies. It has done with the help of different analytical tools such as ratio analysis.

CHAPTER – 6 SUMMARY, FINDING AND SUGGESTIONS

This chapter gives its emerging conclusion based on the analysis carried – out – and point out of variation of any from the literature. It also gives concrete suggestions for enhancing liquidity & profitability of financial soundness for cost control and liquidity position.

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CHAPTER – 3

ANALYSIS OF

LIQUIDITY

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CHAPTER - 3

ANALYSIS OF LIQUIDITY

3.1 CONCEPT OF LIQUIDITY

By the term 'liquidity' is meant the debt-repaying capacity of an undertaking. It refers to the firm's ability to meet the claims of suppliers of goods, services and capital. According to Archer and D'Ambrosio, liquidity means cash and cash availability, and it is from current operations and previous accumulations that cash is available, to take care of the claims of both the short-term suppliers of capital and the long-term ones. It has two dimensions; the short-term and the long-term liquidity.

Short-term liquidity implies the capacity of the undertaking to repay the short-term debt which means the same as the ability of the firm in meeting the currently maturing obligations from out of the current assets. The purpose of the short-term analysis is to derive a picture of the capacity of the firm to meet its short-term obligations out of its short-term resources, that is, to estimate the risk of supplying short-term capital to the firm.

Analysis of the firm's long-term position has for its rationale the delineation of the ability of a firm to meet its long-term financial obligations such as interest and dividend payment and repayment of principal. Long-term liquidity refers to the ability of the firm to retire long-term debt and interest and other long-run obligations. When relationships are established along these lines it is assumed that in the long-run assets could be liquidated to meet the financial claims of the firm. Quite often the expression 'liquidity' is used to mean short-term liquidity of the companies.

In the present study, liquidity is taken to mean the short-term liquidity which refers to the ability of the undertakings to pay off current liabilities. This is chosen because the study relates to the management of short-term assets and liabilities. In other words, the long-run success of an undertaking lies in its ability to survive in the immediate future. Further, a company may have tremendous potential for profitability in the long-run but may languish due to inadequate liquidity. It is, therefore, short-term liquidity that has been considered crucial to the very existence of an enterprise.

3.2 MEASUREMENT OF LIQUIDITY

Liquidity of an enterprise can be studied in two ways, namely, (i) Technical liquidity, and (ii) Operational liquidity. The difference between the two methods liquidity measurement depends upon whether one assumes the 'liquidation concept' business as in case of the technical liquidity or the 'going concern concept' of business as in the case of the operational liquidity.

The first method of computation of liquidity is based on the assumption that the firm might become insolvent at any time and whether, in such an event, the current assets held by the undertakings would be sufficient to pay-off the current liabilities. On the other hand, the computation of 'operational liquidity' attempts the measurement of the firm's potential to meet the current obligations on the basis of net cash flows originating from out of its own operations with the view that a manufacturing enterprise cannot pay off current liabilities from its current assts when it s in the run. It is assumed under this approach that firms are going firms and hence the liabilities are met through the net cash flows arising out of their operations.

TECHNICAL LIQUIDITY

Technical liquidity is normally evaluated on the basis of the following ratios in a business enterprise.

CURRENT RATIO

Current ratio expresses the precise relation between current assets and current liabilities. It is calculated by dividing current assets with current liabilities.

$$\text{Current Ratio} = \text{Current assets} / \text{Current liabilities}$$

It indicates the availability of current assets in rupees for every one rupee of current liabilities. A high ratio means that the firm has more investment in current assets. While a low ratio indicates that the firm in question is unable to retire its current liabilities. In fact, a satisfactory current ratio for any given firm is difficult to judge. For most manufacturing undertakings, a ratio of 2:1 is traditionally considered a bench-mark of adequate liquidity. However, to some of the undertakings like public utilities and service firms this standard ratio is not particularly useful in as much as they carry on inventories for sale.

Current ratio is equally useful to both the outsiders and management. To an outsider, it is a measure of the firm's ability to meet its short-term claims. So far as the management concerned, the ratio discloses the magnitude of the current assets that the firm carries in relation to its current liabilities. As regards the outsider, the larger the ratio, the more liquid is the firm. But, from the management point of view, a larger ratio indicates excess investment in less profit-generating assets. On the contrary, a low current ratio or downward trend in the ratio indicated the inefficient management of working capital.

Nevertheless, the current ratio is a crude and quick measures of the firm's liquidity as it is only a test of the quantity and not the quality. The limitation of this ratio as an indicator of liquidity lies in the size of the inventory of the enterprise. If inventory forms a high proportion of current assets, the 2:1 ratio might not be adequate, as a meaningful measure of liquidity.

QUICK OR ACID-TEST RATIO

Recognizing that inventory might not be very liquid or slow-moving, this ratio takes the quickly realizable assets and measures them against current liabilities. This is a more refined if somewhat conservative estimate of the firm's liquidity, since it establishes a relation between quick or liquid assets and current liabilities. To be precise of quick assets is one that can be converted into cash immediately or reasonably soon without loss of value. For instance, cash is the most liquid of all assets. The other assets which are considered to be relatively liquid and include in the quick category are accounts and bills receivable and marketable securities. Inventory and period expenses are considered to be less liquid. Inventories normally require some time for realizing into cash. The quick ratio is, then, expressed as a relation between quick assets and current liabilities, as:

$$\begin{aligned} \text{Quick Ratio} &= \text{Quick assets} / \text{Current liabilities} \\ &= \text{Current assets} - \text{Inventories} / \text{Current liabilities}. \end{aligned}$$

Conventionally, a quick ratio of 1:1 is considered to be a more satisfactory measure of liquidity position of an enterprise. In fact, this ratio does not entirely supplant the current ratio; rather, it partially supplements current ratio and when used in conjunction with it,

tends to give a better picture of the firm's ability to meet its claims out of short-term assets.

ABSOLUTE LIQUIDITY RATIO

Absolute liquidity ratio is the refinement of the concept of eliminating inventory as liquid assets in the acid-test ratio, because of their uncertain value at the time of liquidation. Although receivables are generally much more liquid in nature than inventories, some doubt may exist concerning their liquidity as well. So, by eliminating receivables and inventories from the current assets, another measure of liquidity is derived by relating the sum of cash and marketable securities to the current liabilities. Generally, an absolute liquidity ratio of 05:1 is considered appropriate in evaluating liquidity.

OPERATIONAL LIQUIDITY

Operational liquidity which is based on the going concern concept of business, is determined by expressing cash flows as a percentage of current liabilities. It is verified here whether the companies included in the study would be able to discharge its current liabilities from the cash flows generated from the operations.

3.3 DETERMINATES OF LIQUIDITY

So far, the measurement of liquidity was accomplished by comparing current assets with current liabilities. But, focus has not been thrown on the factors that determine liquidity. Several factors influence the liquidity position of an undertaking. Significant among them are:

- (a) The nature and volume of business;
- (b) The size and composition of current assets and current liabilities;

- (c) The method of financing current assets;
- (d) The level of investment in fixed assets in relation to the total long-term funds; and
- (e) The control over current assets and current liabilities.

Firstly, the nature and volume of business influence the liquidity of an enterprise. Depending upon the nature of the units, some firms require more of working capital than others. For some of the concerns like public utilities, less proportion of working capital is needed, vis-à-vis, manufacturing organizations. Besides, an increasing volume of business also enhances the funds needed to finance current assets. In these situations, if the firm does not divert some funds from the long-term sources, the liquidity ratios would be adversely affected.

Secondly, the size and the composition of current assets and current liabilities were the basic factors that determine the liquidity of an enterprise. If a higher investment is made in the current assets in relation to current liabilities, there would be a corresponding rise in the current ratio. While quick and other ratios depend on the composition of current assets.

Thirdly, the method of financing current assets causes changes in the liquidity ratios. If greater part of the current assets is financed from long-term sources, greater also would be the current ratio. On the other hand, if the concern depends much on the outside sources for financing current assets, the ratio would fall.

Fourthly, the absorption of funds by fixed assets is one of the major causes of low liquidity. As more and more of the firm's total funds are absorbed in this process, there will be little left to finance short-term needs and therefore liquidity ratios fall. Hence, the degree of liquidity is determined by the attitude of the management in the allocation of permanent funds between fixed and current assets.

Finally, stringent control over the current items causes fluctuations in the liquidity ratios. If investment in current assets is not taken care of properly the firm may accumulate excess liquidity, which may adversely affect the profitability. On the contrary, unduly strict control of the investment in all types of current assets may eventually endanger the existence of the firm owing to non-compliance of claims because of the shortage of funds. Similarly, control over current liabilities also plays an important role in determining liquidity of an enterprise by requiring the firm to contribute necessary funds from long-term sources to keep up the liquidity position.

3.4 EFFECTS OF LIQUIDITY

Liquidity of a business is one of the key factors determining its propensity to succeed or fail. Both excess and shortage of liquidity affect the interest of the firm. By excess liquidity in a business enterprise, it is meant that it is carrying higher current assets than are warranted by the requirements of production. Hence, it indicates the blocking up of funds in current assets without any return. Besides, the firm has to incur costs to carry them overtime. Further, the value of such assets would depreciate in times of inflation, if they are left idle. Owing to the cornering of capital, the firm may have resort to additional borrowing even at a fancy price.

On the other hand, the impact of inadequate liquidity more severe. The losses due to insufficient liquidity would be many. Production may have to be curtailed or stopped from the lack of necessary funds. As the firm will not be in a position to pay off the debts, the credit worthiness of the firm is badly affected. In general, the smaller the amount of default, the higher would be the damage done to the image of the unit. IN addition, the firm will not be able to secure funds from outside sources, and the existing creditors may

even force the firm into bankruptcy. Further, insufficient funds will now allow the concern to launch any profitable project or earn attractive rates of return on the existing investment.

Between the excess and inadequate liquidity, the latter is considered to be more detrimental, since the lack of liquidity may endanger the very existence of the business enterprise. Besides, both the excess and inadequate liquidity adversely affect the profitability, but liquidity itself is influenced by the low profitability. If the firm is earning very low rates of return or incurring losses, there would be no funds generated by the operations of the company which are essential to retire the debts. In fact, there is a tangle between liquidity and profitability, which eventually determines the optimum level of investment in current assets. Of the liquidity and profitability the former assumes further importance since profits could be earned with ease in subsequent periods, once the image of the unit is maintained. But, if the firm loses its face in the market for want of liquidity, it requires Herculean efforts to restore its position. Instances are not lacking of great industrial giants, with comfortable book profits coming to grief for want of liquidity.

3.5 ANALYSIS OF LIQUIDITY

The concept of liquidity within a business is vital to the understanding of financial management as it is the basic criteria of testing the short term liquidity position of the enterprise.

For the analyzing of liquidity of CAR Industry following ratio have been computed.

- (1) CURRENT RATIO
- (2) LIQUID RATIO / QUICK RATIO
- (3) INVENTORY TURNOVER RATIO
- (4) FIXED ASSETS TURNOVER RATIO.
- (5) FINANCIAL CHARGES COVERAGE RATIO

(1) CURRENT RATIO

The current ratio is a measure of the firm's short-term solvency. It explains the relationship between the correct assets and current liabilities. The current ratio is calculated by dividing current assets by current liabilities.

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

This ratio indicates the availability of current assets in rupees for every one rupee of current liabilities. A ratio of greater than one means that concern has more current assets than current liabilities. As a conventional rule, a current ratio of 2 : 1 or more is considered satisfactory. Tendon committee has recommended that ideal current ratio for bank financing is 1.33:1. However the current ratio is a crude-and-quick measure of the firm's liquidity.

If Income-tax paid in Advance is shown on Assets side of B/S. it must be deducted from Provision for Taxation and net amount of provision should be shown as Current Liability.

It is generally believed that 2:1 ratio shows a comfortable working capital position, i.e. the current assets should be twice the current liabilities. However, this rule should not be taken as hard and fast rule, because a ratio which is satisfactory for one business may not be satisfactory for the other. There may be instances when an enterprise may function satisfactorily even with a current ratio of one to one or less and some enterprise require much higher ratio than 2 to 1. If the amount of stock-in-trade is unduly large, then the 2 to 1 ratio may not be satisfactory. The Tendon Committee appointed by RBI had recommended a Current ratio of 1.33:1. The adequacy of this ratio depends upon a number of factors like the nature of business, the efficiency of collection department, the composition of current assets, the turnover of stock etc. If the turnover is quick and the collection is efficient, the business may be successfully carried on with a low current ratio.

Before giving any opinion about the liquidity of the company on the basis of current ratio. The types of assets, and the size must be considered. Sometimes, the current ratio seems to be high, because of excessive stock included in current assets. The reason may be low sales. Due to the high proportion of obsolete, slow moving stock, the current ratio may be high, but its capacity to pay current liabilities on maturity will be definitely weak.

TABLE NO. 3.1
CURRENT RATIO OF THE SELECTED CAR INDUSTRY UNDER THE
STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)

(in times)

Year → Company ↓	2005-06	2006-07	2007-08	2008-09	2009-10	Average	Standard Deviation	Co-Efficient of Variance
Maruti Suzuki	1.77	1.42	1.03	1.53	1.02	1.354	0.33	24.07
Tata Motor	1.24	1.24	0.89	0.84	0.62	0.966	0.27	27.95
Hindustan Motor	0.89	1.14	1.04	0.87	0.7	0.928	0.17	18.21
Mahindra & Mahindra	1.24	1.37	1.1	1.06	1.11	1.176	0.13	10.87
Average	1.29	1.29	1.02	1.08	0.86	1.11	0.18	16.63

The Current ratio of selected companies of car industry has been presented in the table no. 1.

In Maruti Suzuki Co. Ltd. The current ratio ranged between 1.02 times in 2009-2010. And 1.77 times in 2005-2006 with an average ratio of 1.35 times. The ratio showed decreased trend during the first three years of the study period and increased in the years of 2008-2009 and further decreased on 2009-2010. Moreover the company had not maintained the standard ratio of 2:1 times in whole years of research period. The standard deviation is 0.33 which is more than the average of industry. It means there is a more fluctuating in the current ratio of Maruti Suzuki Co. Ltd. The ratio is considered Satisfactory to meet current liabilities.

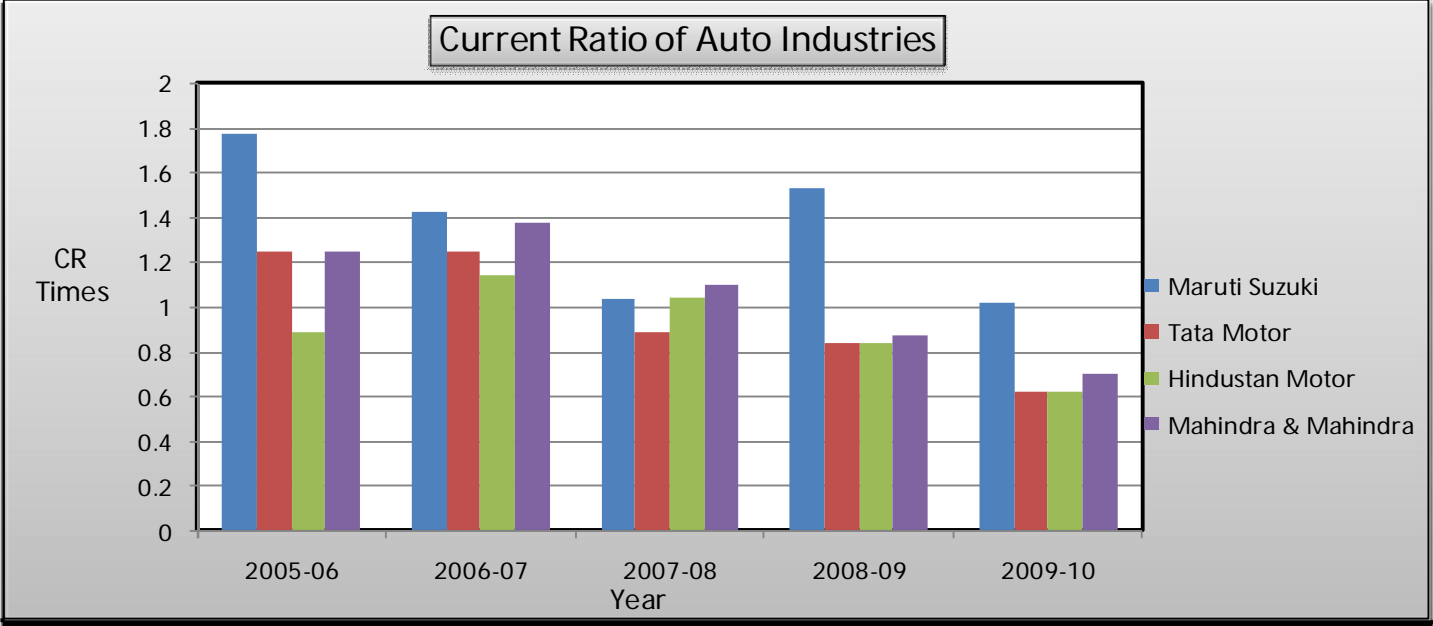
During the study period the current ratio of Tata motors Ltd. had been below the standard. It varied from 0.62 times in 2009-2010 to 1.24 times in first two years, 2005-2006 and 2006-2007. The average ratio of the company had been 0.966 times. In most of the years the company was not able to meet the current liabilities, The standard deviation is 0.27 which is more than the average of Industry. Liquidity position of the company was not so good.

The above table shows current ratio of Hindustan Motors Lt. The ratio ranged between 0.70 times in 2009-2010 to 1.14 times in 2006-07. The average ratio of the company was 0.92 times, which was below the average ratio of the car Industry. Companies current ratio showed fluctuated trend during the study period. The standard deviation is 0.17 which is little below than the average of Industry. The company is advised to increase its current assets to maintain the norms of 2:1.

In Mahindra & Mahindra Ltd. the current ratio showed mixed and increased trend. It did not maintain the standard. The ratio ranged between 1.06 times in 2008-2009 to 1.37 times in 2006-2007 with an average of 1.17 times. The standard deviation is 0.13 which is below than the average of Industry. The liquidity position of the company was good but the standard was not maintained.

The current ratio in the car Industry on the whole depicts a decreasing trend during the period covered by our study. We can say that the performance of Maruti Suzuki and Mahindra & Mahindra was better. The other company under the study has the average current ratio below the average ratio of the car Industry.

CHART NO. 3.1
CURRENT RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-2006 TO 2009-10)



ANOVA TEST ON CURRENT RATIO

Null Hypothesis:

- There is no significant difference in current ratio of selected car Industries

Alternative Hypothesis:

- There is significant difference in current ratio of selected car Industries.

Level of Significance :

- 5% level

TABLE NO. :- 3.2

ANALYSIS OF VARIANCE TEST (ANOVA) ON CURRENT RATIO AMONG THE GROUPS OF CAR – INDUSTRIES.

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.54143	4	0.135358	2.152974	0.124321	3.055568
Within Groups	0.94305	15	0.06287			
Total	1.48448	19				

❖ Current Ratio : (Liquidity)

Calculated F Value :- 2.152974

Table F Value : 3.055568

Result :- Insignificant

The analysis showed the insignificant result. It can be seen from the table, that the calculated value of F was found as 2.152974, while the Table Value of F was 3.055568, at 5% level of significance. The calculated value of F, being less than the Table value of F, the null Hypothesis stood accepted and the alternative

hypothesis got rejected at 5% level of significance. So it proves that the differences among the averages of this group were not much significant and the average liquidity of the groups of car Industries do not differ much.

(2) QUICK - RATIO :-

Formula of quick ratio is as follows

Quick Ratio = Quick Assets / Quick liabilities

Quick Assets = Current Assets - Stock - Debtors

Quick liabilities = Current liabilities - Bank overdraft

It is useful to know whether or not any enterprise is able to pay - back its debts very immediately. Instead of liquid ratio acid test ratio gives us this information more accurately. From current assets, stock and debtors, both are deducted and quick liquid assets are found out.

To get quick liquid assets, debtors are deducted. It is possible that collection may not be made immediately as and when required.

The quick ratio is a more refined measure of the firm's liquidity. An assets is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Cash it the most liquid asset generally a quick ratio of 1 to 1 is considered to represent a satisfactory current financial condition. A quick ratio of 1 to 1 or more does not necessarily imply sound liquidity position.

TABLE NO. :- 3.3
QUICK RATIO OF THE SELECTED CAR INDUSTRY UNDER THE
STUDY FOR THE PERIOD OF (2005-2006 TO 2009-10)

(in times)

Year →	2005- 06	2006- 07	2007- 08	2008- 09	2009- 10	Average	Standard Deviation	Co- Efficient of Variance
Company ↓								
Maruti Suzuki	1.31	1.13	0.66	1.26	0.67	1.006	0.32	31.63
Tata Motor	0.96	0.91	0.66	0.58	0.43	0.708	0.22	31.60
Hindustan Motor	0.5	0.67	0.59	0.41	0.37	0.508	0.12	24.44
Mahindra & Mahindra	0.83	1.01	0.74	0.83	0.86	0.854	0.10	11.49
Average	0.90	0.93	0.66	0.77	0.58	0.77	0.15	19.42

The table shows the quick ratio of Maruti Suzuki co. Ltd. the ratio in Maruti Suzuki co-Ltd. fluctuated from 0.66 times in 2007-08 to 1.31 times in 2005-06. The ratio showed decreased trend during the first three year of study period, than increased in 2008-09 and than decreased in 2009-10. First two years and then in year of 2008-09 of the study period the ratio had been above the standard which showed the good liquidity position. The average ratio of the company was 1.006 times. The standard deviation is 0.32 (SD 0.32) on an average the company maintain the standard norm of 1:1.

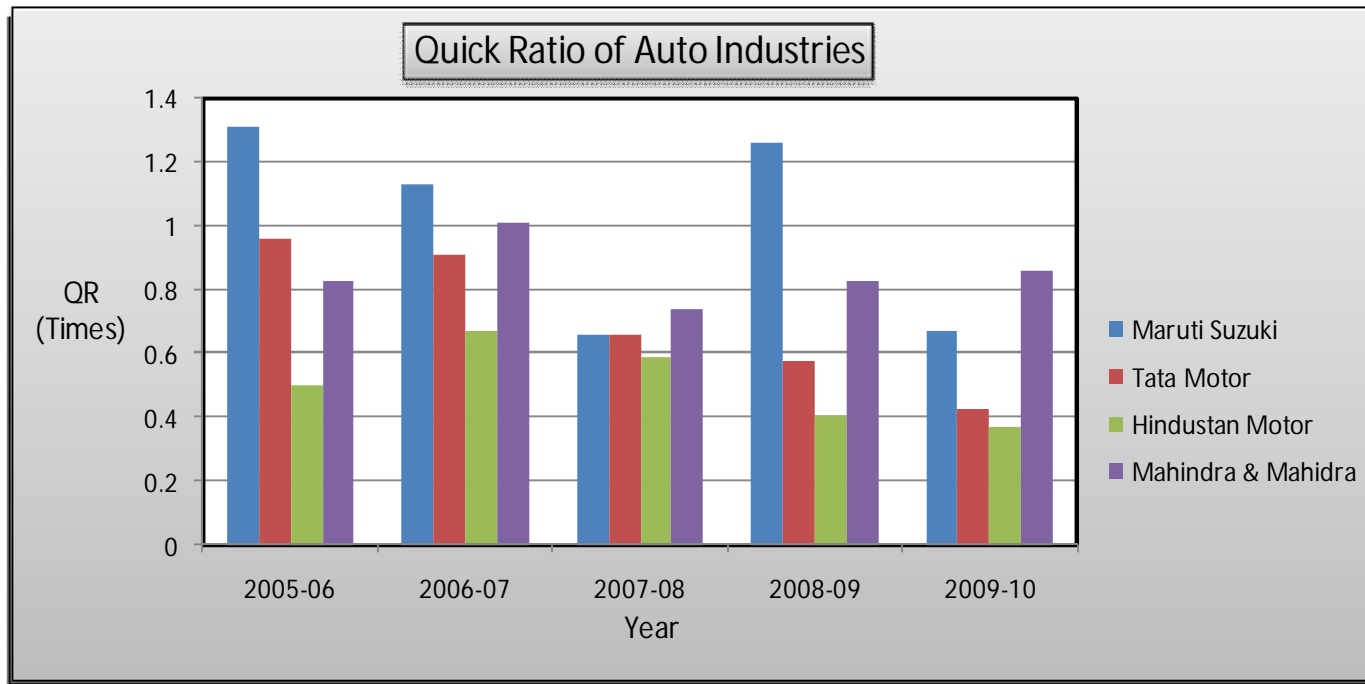
Quick Ratio in Tata motors Ltd. varied from 0.43 times in 2009-10 to 0.96 times in 2005-06. The average ratio of the company had been 0.708 times. The trend was decreasing during the research period. The company was not able to maintain the standard norm of 1:1. The standard deviation is 0.22. The liquid position of the company was not good.

The quick ratio of Hindustan motors Ltd. registered a fluctuating trend during the research period. It was varied from 0.37 times in 2009-2010 to 0.67 times in 2006-2007 with an average of 0.508 times. The company had not maintained the standard of 1:1. The standard deviation in 0.12. The liquidity position of the company was not sound. It can be said that the liquid position of the company was very much disturbed because the fund of its current creditors were not safe.

In Mahindra of Mahindra co. Ltd. quick ratio had been on an average of 0.854 times during the study period the trend was increasing during the first two years of the research period. Than decreasing slightly in 2007-08 and further increasing for the last two years of study period. The average ratio of the company was below the standard ratio 1:1. The standard deviation is 0.10. The liquid position of the company was not good.

On the basis of the above analysis it can be seen that the quick ratio of Maruti Suzuki Ltd was the highest followed by Mahindra & Mahindra Ltd, Tata motors Ltd and Hindustan Motors Ltd. Maruti Suzuki Ltd maintained the standard norms of the ratio while other selected companies under the study did not hold a reasonable and satisfactory position of liquidity.

CHART NO. - 3.2
QUICK RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF
(2005-2006 TO 2009-10)



ANOVA TEST ON QUICK RATIO

- Null Hypothesis :- There is no significant difference in quick ratio of selected car Industries during study period
- Alternative Hypothesis :- There is significant difference in quick ratio of selected car Industries during the study period.
- Level of significance: 5% Level

TABLE NO. :- 3.4
ANALYSIS OF VARIANCE TEST (ANOVA) OF QUICK RATIO
AMONG GROUPS OF CAR INDUSTRIES.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.35683	4	0.089207	1.305794	0.312413	3.055568
Within Groups	1.02475	15	0.068317			
Total	1.38158	19				

QUICK RATIO :-

Calculated F value : 1.305794

Table F value: 3.055568

Result: Insignificant

The analysis showed the Insignificant result. It can be seen from the table, that the calculated value of F was found as 1.305794, while the table value of F was 3.055568, AT 5% level of significance. The calculated value of F, being less than the table value of F, the null Hypothesis stood accepted and the alternative hypothesis got rejected at 5% level of significance. So it proves that the differences among the average of this group were not much significant and the average liquidity of the groups of the car Industries do not differ much.

(3) INVENTORY TURNOVER RATIO:

The number of times the average stock is turned over during the year is known as stock turnover. It is computed by dividing the cost of goods sold by the average stock in the business. Average stock is the average of opening and closing stock of the year. If however, the monthly figures of the stock are available, the average monthly stock will give a better turnover ratio. It is calculated dividing the cost of goods sold by the average inventory. Symbolically,

$$\text{Inventory Turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

If, figures for cost of goods sold are not available, then the ratio may be calculated on the basis of sales.

The inventory / stock turnover ratio measures how quickly inventory is sold. It is a test of efficient inventory management to judge whether the ratio of a firm is satisfactory or not, it should be compared over a period of time on the basis of trend analysis. It can also be compared with the level of other firms in that line of business as well as with industry average.

The ratio is very important in judging the ability of management with which it can move the stock. A high inventory turnover ratios is better than a low ratio. A high ratio implies good inventory management yet, a very high ratio calls for a careful analysis. It may be indicative of under investment in, or very low level of inventory.

The higher the turnover, the more profitable the business would be, The firm in such a case, will be able to trade on a smaller margin of gross profit. A low turnover indicates accumulation of slow moving obsolete and low quality goods, which is a danger signal to the management.

TABLE NO. :- 3.5
INVENTORY TURNOVER RATIO OF THE SELECTED CAR
INDUSTRY UNDER THE STUDY FOR THE PERIOD OF
(2005-06 TO 2009-10)

(in times)

Year →	2005-06	2006-07	2007-08	2008-09	2009-10	Average	Standard Deviation	Co-Efficient of Variance
Company ↓								
Maruti Suzuki	18.78	28.76	22.93	30.46	30.47	26.28	5.21	19.83
Tata Motor	12.63	13.26	14.44	13.47	13.5	13.46	0.65	4.83
Hindustan Motor	6.77	8.09	10.81	10.6	10.64	9.382	1.84	19.65
Mahindra & Mahindra	11.13	13.42	12.19	14.56	17.91	13.9	2.61	18.80
Average	12.33	15.88	15.09	17.27	18.13	15.76	2.24	14.24

The above table shows the inventory turnover ratio of Maruti- Suzuki Ltd. the inventory turnover ratio showed increased trend from 18.78 times in 2005-2006 to 28.6 times in 2006-2007, than it is declined in 2007-08 and further increased in 2008-2009. The average ratio of the company was 26.28 times. Which was above than the car industries. The standard deviation is 5.21 which was above than the average of industry. A high ratio implies good inventory management.

The inventory turnover ratio of the Tata motors Ltd. showed increased trend from 12.63 times in 2005-2006 to 13.5 times in 2009-2010 except 2008-2009. The average Ratio of the company was 13.46 times. The standard deviation is 0.65 which was below the than the average of Industry. Constant increasing trend of this ratio is good sign for the proper inventory management of the company.

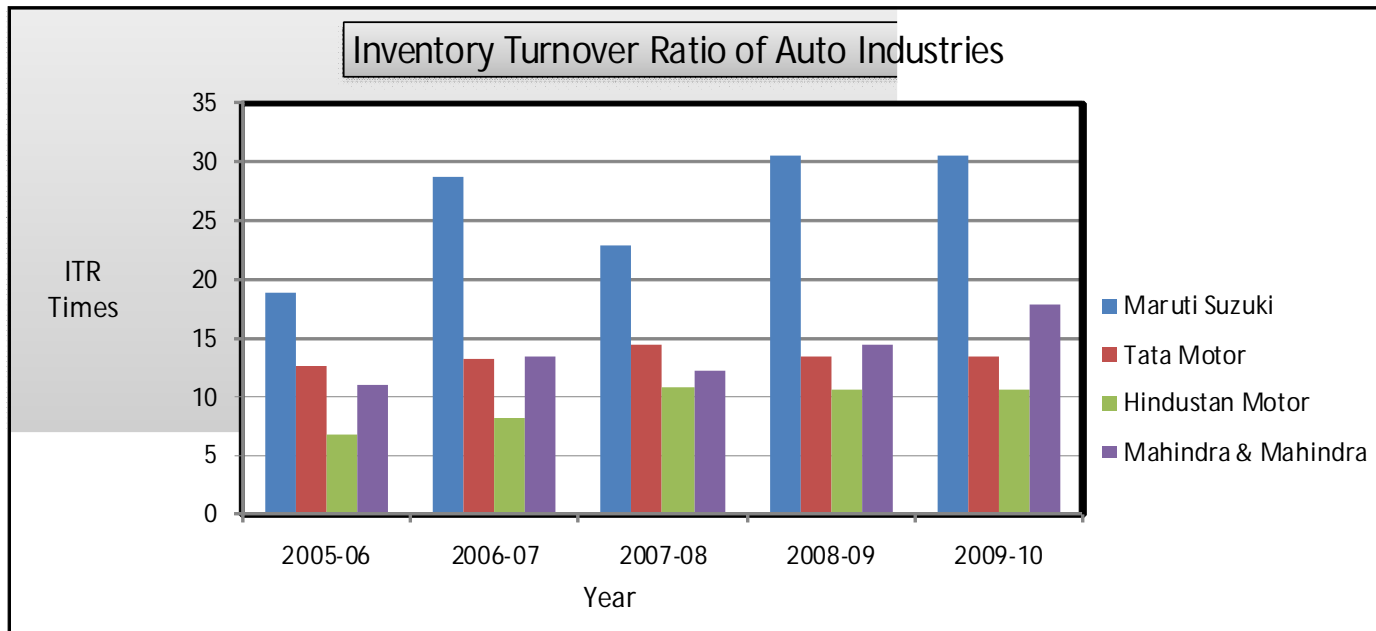
The inventory turnover ratio of Hindustan Motors shows upward trend for the first three years of the study period than decreasing in 2008-2009, Than further increasing in 2009-2010. The average ratio of the company was 9.38 times which was lower than the average ratio of car industry. The standard deviation is 1.84 which is lower than the average of industry. It does not mean that company was not maintain the proper inventory management. This may be treated as satisfactory turnover.

The inventory turnover ratio of M & M com shows the increasing trend during the study period except in 2007-2008. The average ratio of the company was 13.9 times. A high ratio the more efficient is the management of sales.

Among the four companies Maruti Suzuki Ltd had higher Inventory turnover ratio during the period of the study. This showed that the company was very efficient in converting the finished goods into sales.

Tata Motor and M. & M company had also maintain a good inventory turnover ratio during the study period. Hindustan Motors company was straggling to move inventory faster to compare with other Car Industry. due to poor production and marketing straggling.

CHART NO. 3.3
INVENTORY TURNOVER RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)



❖ ANOVA TEST OF INVENTORY TURNOVER RATIO

Null hypothesis : There is no significant difference in inventory turnover ratio of selected car industries.

Alternative hypothesis :- There is significant difference in inventory turnover ratio of selected car industries.

Level of significance :- 5% level

TABLE NO. :- 3.6
ANALYSIS OF VARIANCE TEST (ANOVA) ON INVENTORY
TURNOVER RATIO AMONG THE GROUPS OF CAR
INDUSTRIES.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	80.58148	4	20.14537	0.346431	0.842394	3.055568
Within Groups	872.2671	15	58.15114			
Total	952.8486	19				

❖ INVENTORY TURNOVER RATIO :-

Calculated F value :- 0.346431

Table F Value : 3.055568

Result :- Insignificant

The analysis showed the Insignificant result. It can be seen from the table, that the calculated value of F was found as 0.346431, while the table value of F was 3.055568, at 5% level of significance. The calculated value of F, being less than the table value of F, the null hypothesis stood accepted and the alternative hypothesis got rejected, at 5% level of significance.

(4) FIXED ASSETS TURNOVER RATIO

F.A.T. Ratio reflects the efficiency with which the company is utilizing its investments in fixed assets such as land building, plants, machinery vehicles etc. It indicates the efficiency of the organization, how profitably and adequately it uses its investments in fixed assets. This ratio as discussed in the total turnover ratio is a measurement of efficiency and profitability of the organization. This ratio can be expressed as:

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{cost of sale}}{\text{Total Fixed Assets}}$$

The higher the turnover Ratio, the more efficient the management and utilization of the fixed assets, while low turnover ratio indicates the under utilization of available resources and presence of idle capacity. This ratio can be higher in case of the established company as compared to a new company. In such case this ratio can express misleading impression regarding the relative efficiency with which fixed assets are being used.

This ratio measures as how many Rs. of sales are supported by each rupee in total fixed assets, a high ratio suggests management ability to make a good use its investments in fixed assets but the low ratio may be caused due to large outlays.

TABLE NO. :- 3.7
FIXED ASSETS TURNOVER RATIO OF THE SELECTED CAR
INDUSTRY UNDER THE STUDY FOR THE PERIOD OF
(2005-06 TO 2009-10)

(in times)

Year →	2005-06	2006-07	2007-08	2008-09	2009-10	Average	Standard Deviation	Co-Efficient of Variance
Company ↓								
Maruti Suzuki	2.46	2.41	2.48	2.38	2.82	2.51	0.18	7.08
Tata Motor	2.55	3.08	2.69	1.88	1.95	2.43	0.51	20.96
Hindustan Motor	0.95	1.37	1.45	1.3	1.28	1.27	0.19	15.03
Mahindra & Mahindra	2.85	3.14	3.22	2.84	3.85	3.18	0.41	12.93
Average	2.20	2.50	2.46	2.10	2.48	2.35	0.18	7.81

The table shows the fixed assets turnover ratio of Maruti Suzuki Ltd. The ratio shows fluctuating trend during the study period. The average ratio of the company was 2.51 times. The standard deviation is 0.18 which is the average of industry. Compare with other car company this ratio is found to be higher, it means the fixed assets are being used effectively to earn profits in the business.

The fixed assets turnover ratio of the Tata motors Co. shows the mixed trend during the study period. The fixed assets turnover ratio of Tata motors Ltd. ranged from 1.88 times in 2008-2009 to 3.08 times in 2006-2007. The standard deviation is 0.51 which is more than the average of industry. The average ratio of the company was 2.43 times which was the higher than the average of

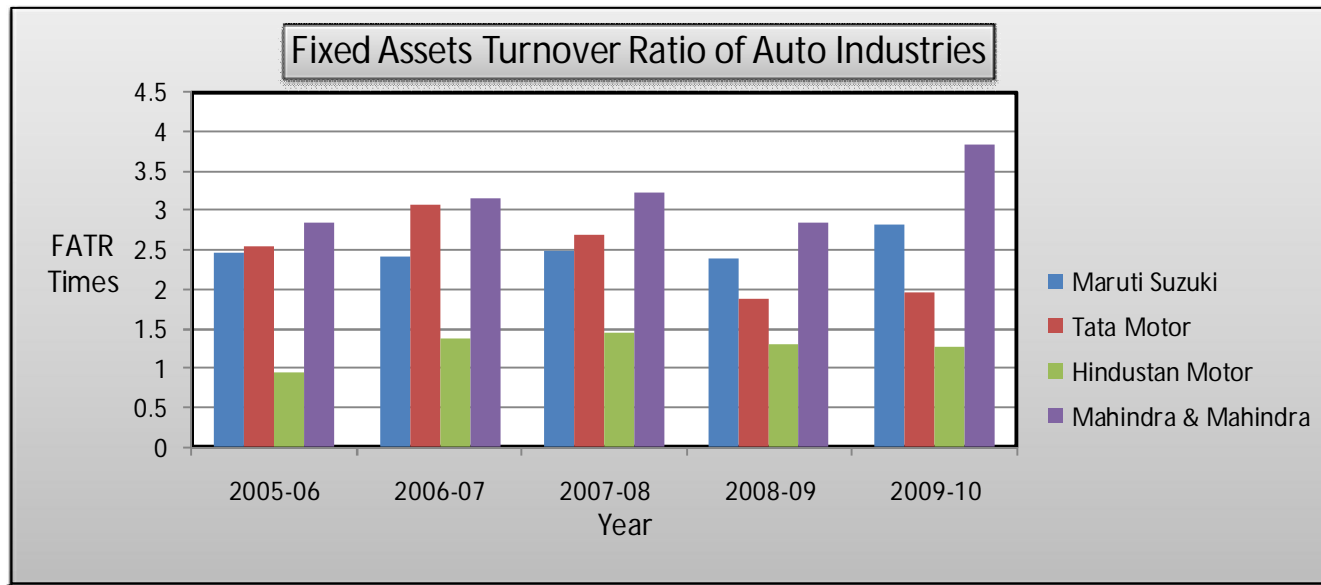
car Industry. It indicates higher efficiency. Company is more efficient is to use of fixed assets.

The FATR of the Hindustan Motors showed increased trend during the first three years of study period. Ratio rose from 0.95 times in 2005-2006 to 1.45 times in 2007-2008. The average ratio of the company was 1.27 times which was lower than the average ratio of car industry. The average ratio was satisfactory. It indicates that investments in fixed assets in more than what is necessary and must be reduced.

The FATR of the M & M company shows upward trend for first three years of the study period. Than decreasing in 2008-2009 than increasing in 2009-2010. The average ratio of the company was 3.18 times which was the higher than the average ratio of car industry. It indicated the more efficient the management and utilization of the fixed assets.

Among the selected four companies M & M had higher FATR during the study period. A high ratio suggests management ability to make a good use its investments in fixed assets. Maruti Suzuki. Tata Motors and Hindustan Motors had also satisfactory FATR.

CHART NO. – 3.4
FIXED ASSETS TURNOVER RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)



ANOVA TEST OF FIXED ASSETS TURNOVER RATIO

Null Hypothesis :- There is no significance difference in Fixed assets turnover ratio of selected car industries.

Alternative Hypothesis :- There is significant difference in fixed assets turnover ratio of selected car industries.

Level of Significance :- 5% level

TABLE NO. :- 3.8
ANALYSIS OF VARIANCE TEST (ANOVA) ON FIXED ASSETS
TURNOVER RATIO AMONG THE GROUPS OF CAR INDUSTRY.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.5378	4	0.13445	0.185282	0.942434	3.055568
Within Groups	10.88478	15	0.725652			
Total	11.42258	19				

Fixed Assets Turnover Ratio:-

Calculated F Value :- 0.185282

Table F Value :-- 3.055568

Result :- Insignificant

Above table indicated that the calculated value of F was 0.185282 while its table value was 3.055568. It means that the null hypothesis was accepted and alternative hypothesis was rejected at 5% level of significance. On the basis of F value test, it indicated there was significant difference of fixed assets turnover the selected car units of India. It means that some car units were better in utilizing its fixed assets. The ratio suggests management ability to make a good use its investments in fixed assets.

(2005- □ FINANCIAL CHARGES COVERAGE RATIOS

Coverage ratios are designed to relate the financial charges of a firm to its ability to service or cover them. One of the most traditional of the coverage ratios is the interest coverage ratio or times interest earned. This ratio is simply the ratio of earnings before interest and taxes for a particular reporting period to the amount of interest charges for the period. That is

$$\text{FCCR} = \frac{\text{Earning Before Interest and Taxes (EBIT)}}{\text{Interest Expense}}$$

This ratio serves as one measure of the firm's ability to meet its interest payments and thus avoid bankruptcy. In general the higher the ratio the greater the likelihood that the company could cover its interest payments without difficulty. It also sheds some light on the firm's capacity to take on new debt.

A broader type of analysis would evaluate the ability of the firm to cover all charges of a fixed nature. In addition to interest payments, we could include principal payments on debt obligations, preferred stock dividends, lease payments, and possibly even certain essential capital expenditures. An analysis of this type is a far more realistic gauge than a simple interest coverage ratio in determining whether a firm has the ability to meet its long-term obligations.

TABLE NO. :- 3.9
FINANCIAL CHARGES COVERAGE RATIO OF THE SELECTED
CAR INDUSTRY UNDER THE STUDY FOR THE PERIOD AT
(2005-2006 TO 2009-2010)

(in %)

Year→ Company ↓	2005- 06	2006- 07	2007- 08	2008- 09	2009- 10	Average	Standard Deviation	Co- Efficient of Variance
Maruti Suzuki	104.61	68.23	50.46	48.06	130.02	80.276	35.84	44.65
Tata Motor	8.08	7.62	7.19	3.64	3.56	6.018	2.23	37.05
Hindustan Motor	-2.03	-1.32	-0.9	-4.26	-4.8	-2.662	1.76	-66.22
Mahindra & Mahindra	39.6	77.85	17.37	11.86	21.26	33.588	26.84	79.92
Average	37.57	38.10	18.53	14.83	37.51	29.31	11.60	39.60

The above table shows the financial charge coverage ratio of Maruti Suzuki Ltd. ratio shows decreasing trend during the study period, except in the last year of study period in 2009-2010. The average ratio of the company was 80.27 percent which was the highest average ratio among the selected car Industry. That means that the company could cover its interest payments without difficulty. The standard deviation is 35.84 which is more than the average of industry. It means that there is a more fluctuating in the FCCR of Maruti Suzuki.

The ratio of financial charge coverage of Tata Motor Ltd showed downed trend throughout the study period. Ratio ranged from 3.56 percent in 2009-2010 to 8.08 percent in 2005-2006. The standard deviation is 2.23 which is lower than the average of

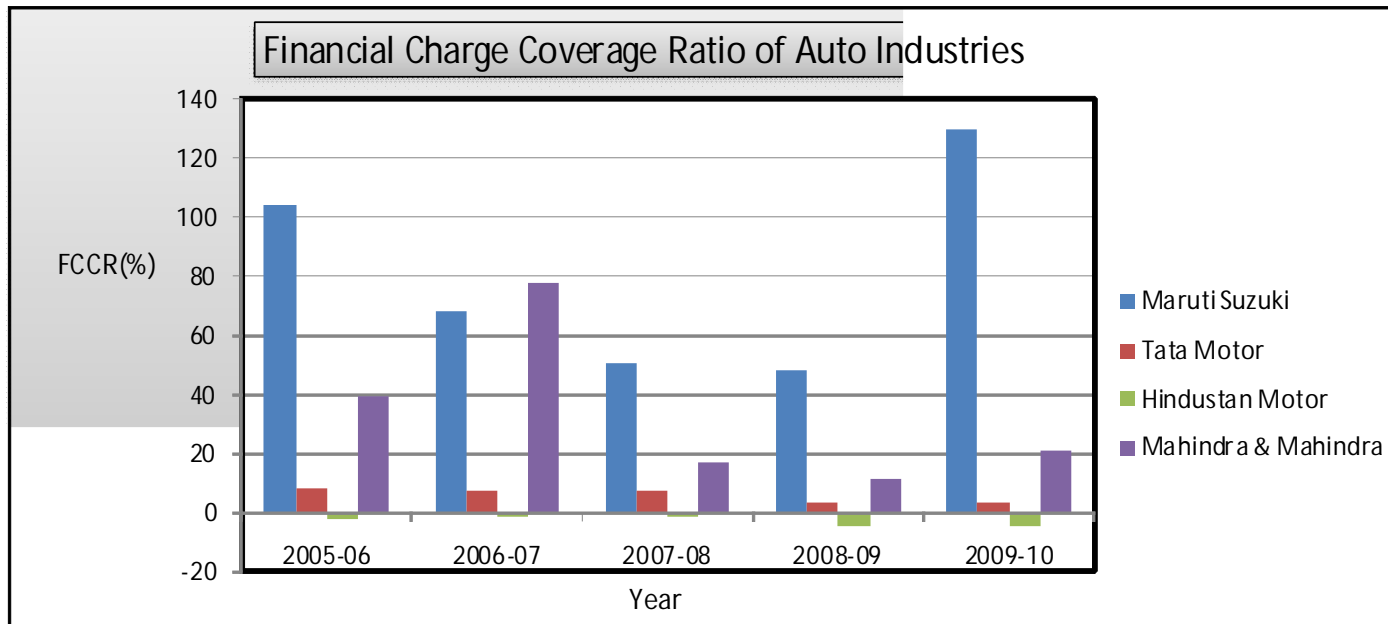
industry. The average ratio of the company was 6.018 percent, It is not good sign for the company's ability to cover annual interest.

The FCCR of Hindustan Motors Co. showed fluctuating trend during study period. The average ratio was minus 2.662 percent which shows a danger signal that the firm is using excessive debt and does not have the ability to offer assured payment of interest to the lenders.

The ratio of FCCR of M & M company showed fluctuating trend during the study period. Ratio ranged from 11.86 percent in 2008-2009 to 77.85 percent in 2006-2007. The average ratio of the M & M company was 33.588 percent which was higher than the average ratio of selected group company. That means that the company able to make contractual interest payments.

CHART NO. - 3.5

FINANCIAL CHARGES COVERAGE RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD AT (2005-2006 TO 2009-2010)



ANOVA TEST OF FINANCIAL CHARGES COVERAGE RATIO:-

- Null hypothesis :- There is no significant difference in financial charges coverage ratio of selected car industries during the study period.
- Alternative hypothesis :- There is significant difference in financial charge coverage ratio of selected car industries during the study period.
- Level of significance :- 5 % Level

TABLE NO. :- 3.10
ANALYSIS OF VARIANCE TEST (ANOVA) ON FINANCIAL CHARGES COVERAGE RATIO AMONG THE GROUPS OF CAR INDUSTRIES.

ANOVA						
Source of Variation	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	2154.339	4	538.5847	0.301427	0.872453	3.055568
Within Groups	26801.74	15	1786.783			
Total	28956.08	19				

Financial charges coverage Ratio:--

Calculated F value :- 0.301427

Table F value :- 3.055568

Result :- Insignificant

Above table indicated that the Calculated Value of F was 0.301427 while its table value was 3.055568. It means that the calculated value of F being less than the table value of F. The null hypothesis was accepted and alternative hypothesis was rejected at 5% level of significance. So it proves that the differences among the averages of this group were not much significant and the average liquidity of the groups of car industry do not differ much.

3.6 CONCLUSION:

The current ratio in the car Industry on the whole depicts a decreasing trend during the period covered by our study. We can say that the performance of Maruti Suzuki and Mahindra & Mahindra was better. The other company under the study has the average current ratio below the average ratio of the car Industry.

On the basis of the above analysis it can be seen that the quick ratio of Maruti Suzuki Ltd was the highest followed by Mahindra & Mahindra Ltd, Tata motors Ltd and Hindustan Motors Ltd. Maruti Suzuki Ltd maintained the standard norms of the ratio while other selected companies under the study did not hold a reasonable and satisfactory position of liquidity.

Tata Motor and M. & M Company had also maintain a good inventory turnover ratio during the study period. Hindustan Motors Company was straggling to move inventory faster to compare with other Car Industry. Due to poor production and marketing straggling.

Among the selected four companies M & M had higher FATR during the study period. A high ratio suggests management ability to make a good use its investments in fixed assets. Maruti Suzuki. Tata Motors and Hindustan Motors had also satisfactory FATR.

Financial charges coverage ratio of Maruti Suzuki Ltd. and other selected companies are indicated that there is a more fluctuating trend during the study period. FCCR of maruti Suzuki Ltd. higher than the other selected sample. While hindustan motors Ltd. has shown negative trend during the study period. Tata Motors Ltd. and M & M Ltd. has average trends of the study period in selected structure.

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CHAPTER - 4

ANALYSIS OF

PROFITABILITY

CHAPTER 4

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CHAPTER 4

ANALYSIS OF PROFITABILITY

4.1 INTRODUCTION

Profit is the legitimate object of our society and prima facie object of every business. It is barometer of the success of business. Profit is the pivot around which revolve the various activities of business. In the opinion of R.E.V. Duck and F.R.J. Jervis, "Perhaps the most important reason for keeping accounts as far as management of the business is concerned that the information contained in them provides the means of measuring the progress of a business, of testing it's pulse and at indicating when and where remedial action, if necessary, shall be taken".

The survival of any business depends upon it's earning capacity. Thus, if an enterprise fails to make profit, capital invested is eroded and if this situation prolongs, the enterprise ultimately ceases to exist. In fact, profit is the soul of business without which it is lifeless. Indeed, the efficiency of a business concern is measured by the amount of profits earned. The larger the profits the more efficient and profitable the business is demand to be. According to R. R. Gilchrist, the profit is the ultimate measure of effectiveness. A profitable company is likely to offer not only security of employment but also promotion prospects, job opportunities and the intense personnel motivation that comes from being associated with success.

Profitability means the profit earning ability of the enterprise and the capacity of management to generate surplus in the process of business operations. It is overall measure of efficiency.

Profitability is distinguished from “profits”. Profits refer to the absolute quantum of profits. Whereas the profitability refers to the ability to earn profits.

W. M. Harper remarks that profitability is a relative measure, it indicates the most profitability alternative. Profit, on the other hand, is an absolute measure – it indicates the overall amount of profit earned by a transaction very high profit does not always indicate a sound – organizational efficiency and low profitability is not always a sign of organizational sickness.

In many a situation, it so happens that when a concern is implementing expansion plans, it may run into short term losses, therefore it can be said that profit is not the prime variable on which the operational efficiency and financial efficiency of an organization can be compared.

Profitability is required to judge the degree of operational efficiency of management, controlling operations and performance. It is also used to study “relative efficiency” with other firms.

An analysis of profitability reveals how the profit position stands as a result of total translations made during the year, Such analysis is particularly interesting to the suppliers of funds who can evaluate their investment and take decision accordingly. On the other hand, profit ratios are equally helpful to the management because these ratios reflect the efficiency of the enterprise as a whole. B.B.Howod and M.Upton observed that the word “profitability” may be defined as the ability of a investment to earn to return on its use. Thus profitability is the ability of an organization to earn profits. In other words, profitability is a composite concept relating the efficiency of an organization to earn profits.

4.2 PRODUCTIVITY AND PROFITABILITY

The performance of business firm can be evaluated or measured from a number of perspectives, and there are various quantitative as well as qualitative criteria that can be employed for this purpose. Productivity and profitability are the two separate device for the measurement of overall efficiency of a business firm.

Productivity is defined as the ratio outputs to inputs, output in the form of products or services and input are the resources which are put in to convert into outputs. It is the quality or state of being productive. It is a concept that guides the management of production system and measures its success. It is the quality that indicates how efficiency the material, the labour, the capital and the energy can be utilized measurement and analysis of productivity can help to indentify area for corrective actions towards planning of business firm.

Capital and labour happen to be the two most important factor of production and the profitability of the business forms depends greatly on how efficiency and effectively it utilizes these two factors of Production. The productivity of capital can be measured by the ratio of output to capital employed. The higher the ratio greater would be the productivity of capital. If productivity of business firm increases the profitability will also increase. Thus profitability of the business firm largely depends on the productivity. Though both are different concepts of measuring the performance of business, their calculation is same base on the ratio. The calculation formulas are as under.

Profitability = Operating Income / Operating Assets

Productivity = Output / Input

Where operating income means, income from utilization of capital employed in the business firm and operating assets means

capital employed. Chen and Mc Garrach painted out that “with due allowance for temporary currency value fluctuations or changes in commodity or product price, there is strong positive co-relation among time series data measuring productivity, profitability and efficiency. Profit may be high or low due to change in selling price of commodities and services, inflationary effects, Governmental policy etc.

4.3 PROFITABILITY AND EFFICIENCY

Profitability is also not synonymous with Efficiency though it is an index of efficiency, it is regarded as a measure of efficiency and management guide to greater efficiency. No doubt profitability is an important yardstick of efficiency, but the extent of profitability cannot be taken as a final proof of efficiency. Some time satisfactory profits can make inefficiency and conversely a proper degree of efficiency can be accompanied by an absence of profit. The net profit figure simply reveals a satisfactory balance between the value received and value given. The change in operational efficiency is merely one of many factors on which profitability of an enterprise largely depends between cost and profitability. Moreover there are many other factors besides efficiency which affects the profitability.

4.4 FACTORS AFFECTING THE PROFITABILITY

The following are the two main factors which affects the profitability of a business firm.

- (1) **The Operational profit Margin.**
- (2) **The Rapidity of Turnover of capital employed.**

Profitability is the product of these two factors and, therefore maximum or optimum profits can be earned only by maximizing them. In technical terms, the combination of these two factors in known as the "Triangular Relationship." Its significance exits not only in its use as an analytical tool but also because the profitability ratio can be calculated directly from the specific earnings and investment data. It is also useful in explaining the two forces bearing upon ultimate results and therefore, establishes the area of business operations which must be properly controlled it expected results are to be achieved.

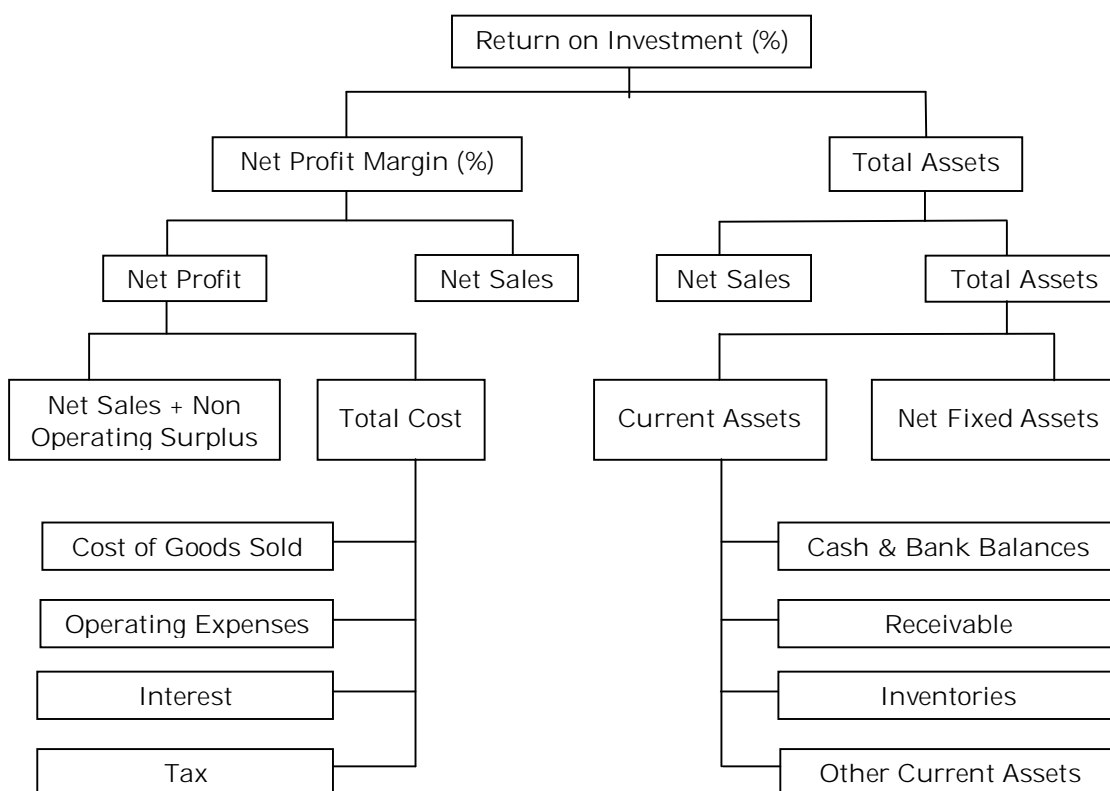
$$\text{Profitability} = \frac{\text{Sales}}{\text{Operating Assets}} \times \frac{\text{Operating Income}}{\text{Sales}} = \frac{\text{Operating Income}}{\text{Operating Assets}}$$

Where "Operating Assets" are used for capital employed and income from utilization of capital employed in the business firm, respectively. The inter-relationship between the above ratio has to be understood with a view to analyzing profitability. The rate of return on investment is the result of the profit margin and turnover of assets in sales. These two components are multiplied for arriving at the profit percentage on investment. Each of these two components is itself and end product of a sequence of interrelated factors. These components are helpful in investigating the financial composition, analyzing current financial position and formulating the financial forecasting for future of a business firm. Moreover, the interrelationship can also, be well understood with the help of Du-Pont Chart.

4.5 THE DU-PONT CHART

The inter-related components are shown profit path. The mechanics of profit path are based on the chart which is developed by E.D. Due-Pont De Nemours Company Welmington, USA. This chart is popularly known as Du-Pont chart. It is very useful device for evaluating profitability of inter industry and inter-product etc. The profit performance of business firm can be analyzed with the help of Du-Pont chart.

DU-PONT CHART SHOWING INTER-RELATIONSHIP OF FACTORS AFFECTING RETURN ON INVESTMENT.



It is clear from the Du-Pont chart that the rate of return on investment is affected by a number of factors. It may be noted that the analytical chain in this chart is developed along with tiers. The first sequence starts with the net profit margin shown in percentage, which is calculated by dividing net profit by net sales, net profit is equal to net plus non operating surplus less total cost and the total cost include cost of goods sold, operating expenses interest and tax. In the second tier the sequence states with total assets turn over, determined by dividing net sales by total assets. Total assets, of course represents current plus net fixed assets. Current assets include cash and bank balance, receivables, inventories and other current assets.

“The two tier approach concentrates attention on the separate forms contributing to profit. Improvement can be accomplished either through more effective use of available capital measured by the turn over sequence or through a better relationship between sales and expense measured by the profit margin sequence. For providing standard of evaluations, calculations are made on the ratio of return investments assets turnover and profit margin for compatible companies”.

Lastly, the financial decisions and policy matter decisions to the various factors shown in Du-Pont chart also affects the profitability. “Financial decisions affect both, the size of earnings stream or profitability and riskiness of the firm. Policy decisions affect, and profitability”.

4.6 IMPORTANCE OF PROFITABILITY

Profit is a very good indicator of business performance, but the real standard of performance of a business firm cannot be judged by the absolute size of its periodic profit. For that profitability is a good device, which represent the earning of a business firm. Modern management is engaged in the task of maximizing the profit and wealth. The efficiency of management is measure by the profitability of the business; the greater is the profitability of the business, the more will be efficiency.

“An analysis of the profitability reveals as to haw the position of profit stands as a result of total transactions made during the year. It need not be stressed that profitability is analyzed through the computation of profit ratios. Profitability of a business firm is very much helpful to the management, creditors and share holders of business firm. The management of business firm has to take some crucial managerial decision like further expansion, raising of additional finance and problem of bonus and dividend payment etc. and for this purpose the management greatly rely-upon the profitability of the business firm. Moreover, management cans evaluate the operational efficiency of the business firm. The creditors of a business firm. Are also interested in the profitability of business firm. On the basis of profitability they decide their policy regarding the business firm. The share holders are equally interested in the profitability of the company. The share holders of a business form cannot be judged by absolute size of its periodic profit. For that profitability is a good device which represent the earning capacity of a business firm. Modern management is engaged in the task of maximizing the profits and wealth. The efficiency of management is measured by profitability of the business; the greater is the profitability reveals as to how position of profit stands as a result of total transaction mode during the year. It need not be stressed that

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4.7 TECHNIQUES TO MEASURE PROFITABILITY

The Measurement of profitability is as essential as the earning of profit itself for a business firm. The profitability of a business firm can be evaluated or measured from number of perspectives, and there are various quantitative as well as qualitative method that can be employed for this purpose. The following major techniques may be used to measure profitability.




(I) RATIO ANALYSIS

“Ratio Analysis” is one of the prevalent and the most popular technique to measure the profitability of the business firm; it is used primarily to gain an insight into financial and operating aspects of a business firm. Ratio analysis is the process of determining and presenting in arithmetical terms the relationship between figures and group of figures drawn from financial statements. A ratio may be defined as “the indicated quotient of two mathematical expression” and as “the relationship between two or more things”. The term accounting ratio, is used to describe significant relationship which exist between figures shown in financial statements profit & loss account and balance sheet.

The technique of ratio analysis involves four steps viz. determining the accounting ratio to be used comparison of ratio with the standard set and interpretation. An analyst has to determine which ratio is to be used, and then he computes it and compares it with the standards but no such standards have been setup by the Indian Industries till today. The interpretation of ratio requires careful & detailed study and sound judgment of the part of the analyst.

❖ SIGNIFICANCE OF RATIO ANALYSIS

The significance of the ration analysis depends on the purpose of which it is mode by the analyst. The important paints of significance are as under:

-  A useful tool in the hands of management.
-  Inter firm comparison is possible.
-  Trend analysis may be easier.

❖ LIMITATIONS OF RATIO ANALYSIS

Ratio analysis suffers from a number of draw backs:
Difficulty in comparison due to

- a. Different procedure and practice followed by different firms.
- b. Different accounting periods.
- c. Every firm differs in age, size, etc.
- d. Price – level changes between two period.
- e. Conceptual diversity.
- f. Different meaning of the terms.
- g. Accounting limitations.
- h. Several ratio to draw conclusions.
- i. Ratio analysis conveys observations.
- j. Ratio may be misleading.

❖ CLASSIFICATION OF RATIOS:-

Ratio can be classified into two different categories depending upon the basis of classification.

1. The traditional classification
2. Classification based on nature of ratios.

1. TRADITIONAL CLASSIFICATION

The traditional classification has been made on the basic of the financial statements to which the determinates of a ratio belong. On this basis the ratio could be classified as:

(A) PROFIT AND LOSS ACCOUNT RATIO:

Ratio are calculated on the basis of the items of profit and loss account only.

(B) BALANCE SHEET RATIO:

Ratio are calculated on the basis of the figure of Balance Sheet only.

(C) COMPOSITE RATIO:

Ratio is calculated on the basis of profit and loss account as well as the balance sheet.

2. CLASSIFICATION BASED ON NATURE OF RATIO

To get the correct view of the profitability and financial soundness of a firm and to make a systematic study, Ratio are classified as under:

(A) LIQUIDITY RATIO:

This ratio indicates liquidity position of a company. These ratio shows the ability of a company to meet its short term obligation. Current ratio. Liquidity ratio and quick or acid-test ratio are included in liquidity ratio.

(B) LEVERAGE RATIO OR STRUCTURAL RATIO:

These ratios are used to guide the long term financial position of the firm. This ratio indicates the funds provided by the long term creditors and owners. Leverage ratio is calculated from balance sheet

items. Leverage ratio are (1) Debt equity ratio (2) Gearing Ratio (3) Debt to total capital ratio.

(C) ACTIVITY RATIO:

Activity ratios is concerned with how efficiency the assets of the firm are managed. These ratios express relationship between level of sales and the investment in various assets. Activity ratios include (1) Inventory turnover ratio (2) Debtor turnover ratio (3) Collection period ratio.

(D) COVERAGE RATIO:

The coverage ratios measure the relationship between what is normally available from operations of the firms and claims of the outsiders. Coverage ratios include (1) Interest coverage ratio. (2) Dividend coverage ratio. (3) Total coverage ratio.

(E) PROFITABILITY RATIO:

Profitability ratio are calculated to measure the managements Overall efficiency. Several other parties like creditors, share holders, prospective investors, bankers, financial institutions and the government are also interested in analysis of the profitability of a company. Therefore the following ratios can be computed to analyse the profitability. (i) Gross Profit Ratio (ii) Operating Margin Ratio (iii) Net Profit Ratio.

(II) COMPARATIVE AND COMMON SIZE INCOME STATEMENT ANALYSIS

Profitability analysis is very useful on comparative basis, so, it is of paramount importance that a series of statement over a period of years should be used. Comparative and common size income statement is the simplest technique of profitability analysis. In this technique, the figure of net sales is taken equal to one hundred and the percentage of individual items is computed likewise.

(III) TREND ANALYSIS

Trend analysis is immensely helpful in marking comparative study of the changes in item of groups of items over a period of time and to make conclusions regarding the change in date. For this purpose, a base year is selected and the amount of the item – relating to the base year is taken equal to a hundred and Index number are computed for other years based on the amount of item relating to the base years based on the amount of that item in those years.

(IV) VALUE ADDED ANALYSIS

In this method two statements are prepared to show the generation of valued added and the application of value added. Value generated is computed by subtracting the total of the cost of bought – in – materials and services from the amount of sales plus income from services, which is termed as Gross Value Added.

(V) OTHER TECHNIQUES OF MEASUREMENTS

Various statistical techniques are used to provide a more accurate and scientific measurement form profitability analysis. These techniques are moving average, range, standard deviation, index numbers, regression, correlation, chi-square test, 'F' test and analysis of time service. Diagrams and graphs are also often used in profitability analysis.

4.8 PROFITABILITY ANALYSIS OF CAR INDUSTRY :

The Profitability of Car Industry in India has been analyzed from the point of view of Financial Management and Shareholders. Profitability can be measured in terms of different components of profit and loss Account and balance sheet.

A Financial Manager is very much interested to locate and pin-point the causes which are responsible for low or high profitability. The financial manager should continuously evaluate the efficiency of its company in terms of profit. In analyzing the profitability of car industry in India from the point of view of financial management, following ratios are considered.

(1) RATIO OF EARNING PER SHARE (E.P.S.):-

Apart from the rates of return, the profitability of a firm from the point of view of the ordinary shareholders is the Earning per Share. It measures the profit available to the equity shareholders on a per share basis, i.e. the amount that they can get on every share held. It is calculated by dividing the profits available to the shareholders by the number of the outstanding shares. The profits available to the ordinary shareholders are represented by net profits after taxes and preference dividend. The formula for derivation of this ratio is:

$$\text{Earning Per Share} = \frac{\text{Net Profit available to equity holders}}{\text{No. of Ordinary shares Outstanding}}$$

Earnings per Share is a widely used term. Its usefulness in analyzing the effect of a change in leverage on the net operating earnings to the ordinary shareholders and, given the requirements of maximizing Earning Per Share, what would be an appropriate capital structure for a firm is discussed in detail. Yet, Earning Per Share as a measure of profitability of a firm from the owner's point of view should be used cautiously as it does not recognize the effect of increase in equity capital as a result of retention of earnings. In other words, if Earning Per Share has increased over the years, it does not necessarily follow that the firm's profitability has improved because the increased profits to the owner's may be the effect of an enlarged equity capital as a result of profit retentions, though the number of ordinary shares outstanding still remains constant. It only shows how much "theoretically" belongs to the ordinary shareholders.

TABLE NO. 4.1
EARNINGS PER SHARE RATIO OF THE SELECTED CAR
INDUSTRY UNDER THE STUDY FOR THE PERIOD OF
(2005-06 TO 2009-10) (in rs.)

Year →	2005-06	2006-07	2007-08	2008-09	2009-10	Average	Standard Deviation	Co-Efficiency of Variance
Company ↓								
Maruti Suzuki	43.87	53.69	55.94	42.81	83.15	55.89	16.31	29.17
Tata Motor	36.57	43.76	42.91	17.93	24.91	33.22	11.39	34.29
Hindustan Motor	3.5	-3.95	-4.93	-5.85	-6.99	-3.64	4.15	-113.85
Mahindra & Mahindra	26.51	40.38	37.29	35.41	36.19	34.98	5.57	15.92
Average	27.39	33.47	32.80	22.58	34.32	30.11	5.01	16.64

The above table No. 1 showed the ratio of EPS of Maruti – Suzuki Ltd. The ratio of EPS showed increased trend from 43.87 Rs In 2005-06 to 55.94 Rs. In 2007-08. Than is the decline in 2008-09 and further increased In 2009-10. The average ratio of the company was 55.89 Rs which was above than the car industries. The ratio of EPS was satisfactory in the company. The Standard Deviation is 16.31 which is more than the average of industry it means there is a more fluctuating in the EPS of Maruti Suzuki.

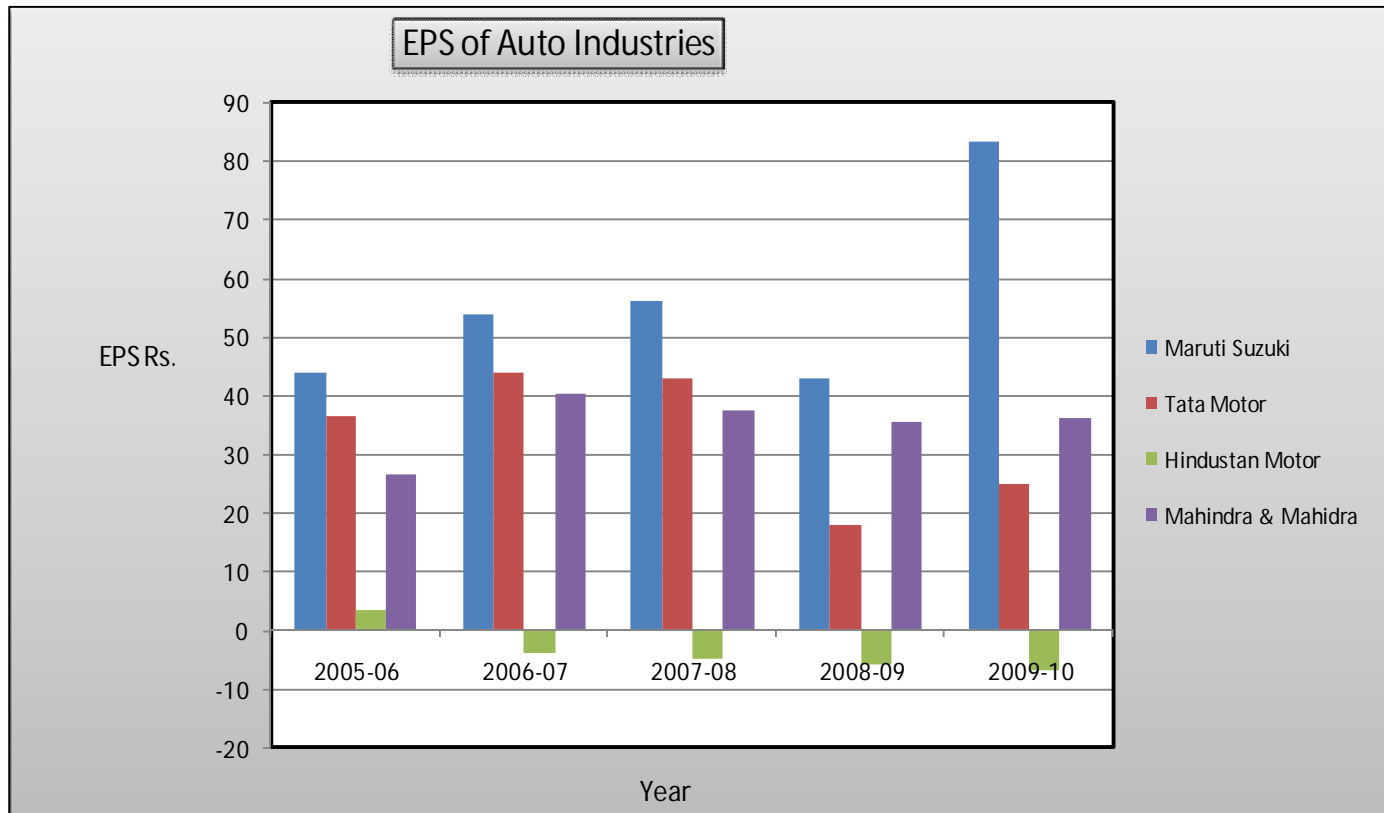
The ratio of EPS of Tata Motor Ltd showed increased trend from initial stage (first two years) of the study period. Than decreased in the year 2007-08. And further decreased in 2008-09. The EPS in 2009-10 was Rs. 24.91. The average ratio of the company was Rs. 33.22. The standard deviation is 11.39 which is more than the average of industry.

The EPS ratio of Hindustan Motors Co. showed decreasing trend during the study period. The average ratio was minus 3.64 Rs which shows unsatisfactory (negative) return.

The Ratio of EPS of M&M Co. showed increased trend from first two years of the study period, than decreased in 2007-08 and further decreased in 2008-09. The EPS in 2009-2010 was Rs. 36.91. The average ratio of the company was Rs 34.98. The standard deviation is 5.57 Which is little more than the average of industry. The ratio of EPS was satisfactory in this company.

On the basis of the above analysis it can be seen that the EPS ratio of Maruti Suzuki Ltd was the highest followed by M&M Ltd, Tata Motors Ltd and Hindustan Motors Ltd.

CHART NO. 4.1
EARNING PER SHARE RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)



ANOVA TEST OF EPS RATIO :

Null Hypothesis :- There is no significant difference in EPS Ratio of selected car industries during the study period.

Alternative hypothesis :- there is significant difference in EPS ratio of selected car industries during the study period.

Level of significance :- 5% level.

TABLE NO. :- 4.2
ANALYSIS OF VARIANCE TEST (ANOVA) ON EARNING PER SHARE RATIO AMONG THE GROUPS OF CAR - INDUSTRIES.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	401.6376	4	100.4094	0.142619	0.963514	3.055568
Within Groups	10560.56	15	704.04			
Total	10962	19				

Earning per share Ratio.

Calculated F Value :- 0.142619

Table F Value :- 3.055568

Result :- Insignificant

The above analysis show that the table value of EPS is higher than that of calculated value of F. The calculated value of F was 0.142619 while the table value of F was 3.055556 at 5% of significance. The calculated value of F, being less than the table value of F. The null hypothesis is accepted and the alternative hypothesis got rejected at 5% level of significance. That means there is no significance difference in EPS ratio of selected car industries during the study period.

(2) DIVIDENDS PER SHARE RATIO:-

The Earning per Share represents what the owner's are the critically entitled to receive from the firm. Apart from the net profit belonging to them is retained in the business and the balance is paid to them as dividend. The dividend paid to shareholders on a per share basis is the Dividends per Share Ratio. In other words, Dividends per Share Ratio is the net distributed profit belonging to the shareholders dividend by the number of ordinary shares outstanding. The formula for derivation of this ratio is:

$$\text{Dividends per Share Ratio} = \frac{\text{Profits after interest and preference Dividend paid to ordinary shareholders}}{\text{No. of ordinary shares outstanding}}$$

The shareholders have a definite preference for dividends relative to retention of earnings. The Dividends per Share Ratio would be a better indicator than EPS as the former shows that what exactly is received by the owners. Like the EPS, the Dividends per Share Ratio also should not be taken at its face value as the increased DPS may not be a reliable measure of the profitability as the equity based may have increased due to increased retention without any change in the number of outstanding shares.

TABLE NO. 4.3
DIVIDEND PER SHARE RATIO OF THE SELECTED CAR
INDUSTRY UNDER THE STUDY FOR THE PERIOD OF
(2005-06 TO 2009-10) (in rs.)

Year →	2005-06	2006-07	2007-08	2008-09	2009-10	Average	Standard Deviation	Co-Efficient of Variance
Company↓								
Maruti Suzuki	3.5	4.5	5	3.5	6	4.5	1.06	23.57
Tata Motor	13	15	15	6	15	12.8	3.90	30.46
Hindustan Motor	0	0	0	0	0	0	0.00	0.00
Mahindra & Mahindra	10	11.5	11.5	10	9.5	10.5	0.94	8.91
Average	6.63	7.75	7.88	4.88	7.63	6.95	1.26	18.15

Dividend Per Share (DPS) :-

The Table No. 3 shows the ratio of dividend per share of Maruti Suzuki Ltd. The ratio of DPS showed increased trend from Rs 3.5 in 2005-06 to Rs, 5.00 in 2007-08 than decreased in 2008-09 and then further increased in 2009-10. The average ratio of the company was Rs 4.5 which was little below than the average ratio of the car industries. The standard deviation is 1.06 which is below than the average of industry. The ratio of DPS was satisfactory in this company.

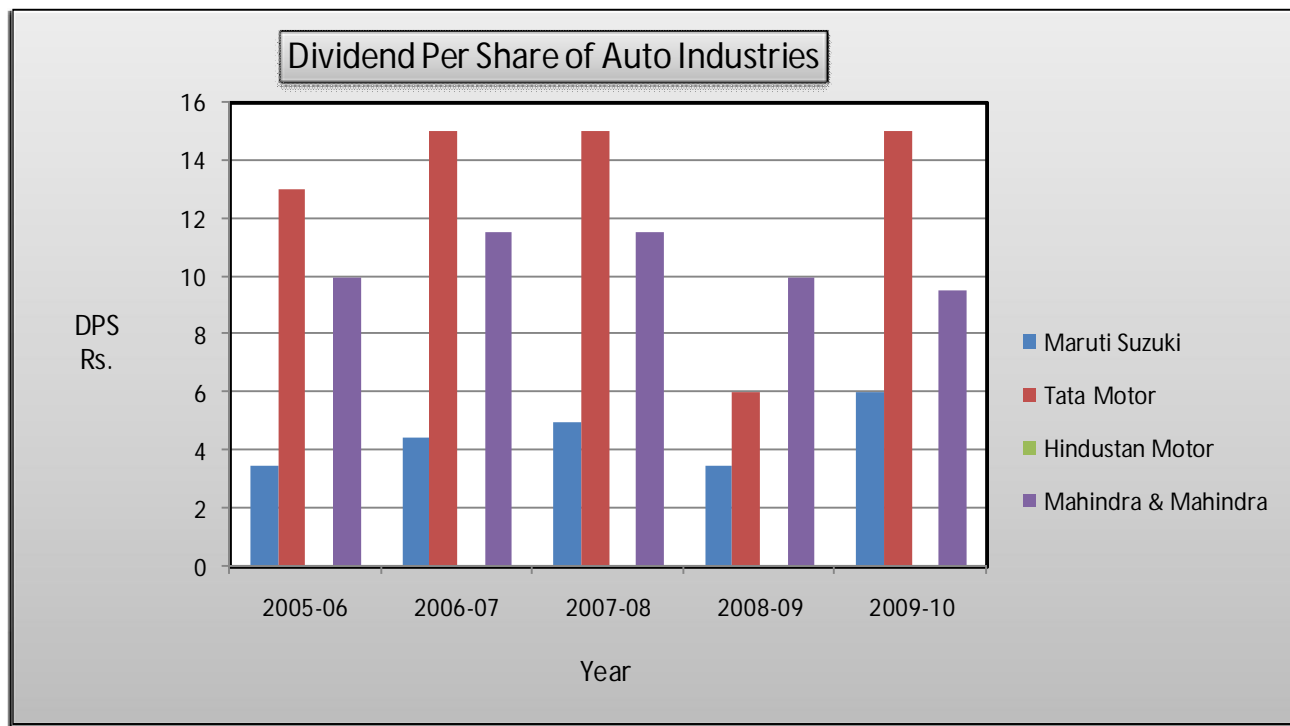
The ratio of DPS of Tata motors co Ltd. Showed increased trend from first three years of the study period. Then decreased in 2008-09 and then further increased in 2009-10. The average ratio of the company was Rs. 12.8 which was above than the car industries. The Standard Deviation is 3.90 which is more than the average of industry. It means there is a more fluctuating in the DPS of Tata Motors Ltd.

The ratio of DPS of Hindustan motors Co Ltd varied from zero rupees to zero rupees due to negative earning after tax. The company was not able to pay dividend to the share holders.

The ratio of DPS of M&M Company showed increased trend from Rs. 10.00 in 2005-06 to Rs 11.50 in 2007-08 than decreased in 2008-09 and further decreased in 2009-10. The average ratio of the company was Rs 10.50 which was above than the selected car industries of study period. The Standard Deviation is 0.94 which is below than the average of industry.

The DPS ratio in the car industry in the whole depicts an increasing trend during the study period except in 2008-09 year. The Hindustan motors company was not able to pay dividend to the shareholders due to negative earning after tax.

CHART NO. 4.2
DIVIDEND PER SHARE RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)



ANOVA TEST OF DIVIDEND PER SHARE (DPS) RATIO :

Null Hypothesis: - There is no significant difference in DPS Ratio of selected car industries during the study period.

Alternative hypothesis: - there is significant difference in DPS ratio of selected car industries during the study period.

Level of significance: - 5 % level.

TABLE NO. 4.4
ANALYSIS OF VARIANCE TEST (ANOVA) ON DIVIDEND PER SHARE RATIO AMONG THE GROUPS OF CAR - INDUSTRIES.

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	25.45	4	6.3625	0.173839	0.948406	3.055568
Within Groups	549	15	36.6			
Total	574.45	19				

Dividend per share Ratio (DPS).

Calculated F Value :- 0.173839

Table F Value :- 3.055568

Result :- Insignificant

The above table indicated the calculated value of F was 0.173839 while its table value was 3.055568, it means that the null hypothesis was accepted and alternative hypothesis was rejected at 5% level of significance. The calculated value of F being less than the table value of F, that means there is no significant difference in DPS ratio of selected car industries.

(3) OPERATING MARGIN RATIO:-

This ratio indicates the relationship between operating profit and net sales in the form of percentage. Operating profit arrived at by adjusting all non-operating expenses and incomes in net profit in the other words we can say profit before depreciation and taxes. A consistently high ratio tells us the effective and efficient operation of the business.

This ratio helps find out the profit arising out of pure production process i.e. the main business of production and sales. There by reflecting the effect of other incomes and expenses included in net profit.

$$\text{Operating Profit Ratio} = \frac{\text{Operation Profit}}{\text{Net Sales}} \times 100$$

Operation profit = Sales-(Cost of goods sold + operational expenditure)

**TABLE NO. 4.5
OPERATING MARGIN RATIO OF THE SELECTED CAR
INDUSTRY UNDER THE STUDY FOR THE PERIOD OF
(2005-06 TO 2009-10)**

(in %)

Year Company	2005- 06	2006- 07	2007- 08	2008- 09	2009- 10	Average	Standard Deviation	Co- Efficient of Variance
Maruti Suzuki	15.29	14.88	14.12	9.18	12.74	13.242	2.47	18.65
Tata Motor	10.68	9.7	10.53	6.71	11.4	9.804	1.83	18.69
Hindustan Motor	-4.25	-3.76	-3.36	-8.96	-9.28	-5.922	2.94	-49.62
Mahindra & Mahindra	10.71	11.45	10.23	9.81	16.29	11.698	2.64	22.55
Average	8.11	8.07	7.88	4.19	7.79	7.21	1.69	23.50

OPERATING MARGIN RATIO

The operating ratio of Maruti Suzuki Company shows the decreasing trend during the first four years of study period. The operating ratio of the company ranged from 9.18 percent in 2008-09 to 15.29 percent in 2005-06. The average operating ratio was 13.242%. The standard deviation is 2.47 which is more than the average of industry. The average operating ratio of Maruti Suzuki Company was satisfactory.

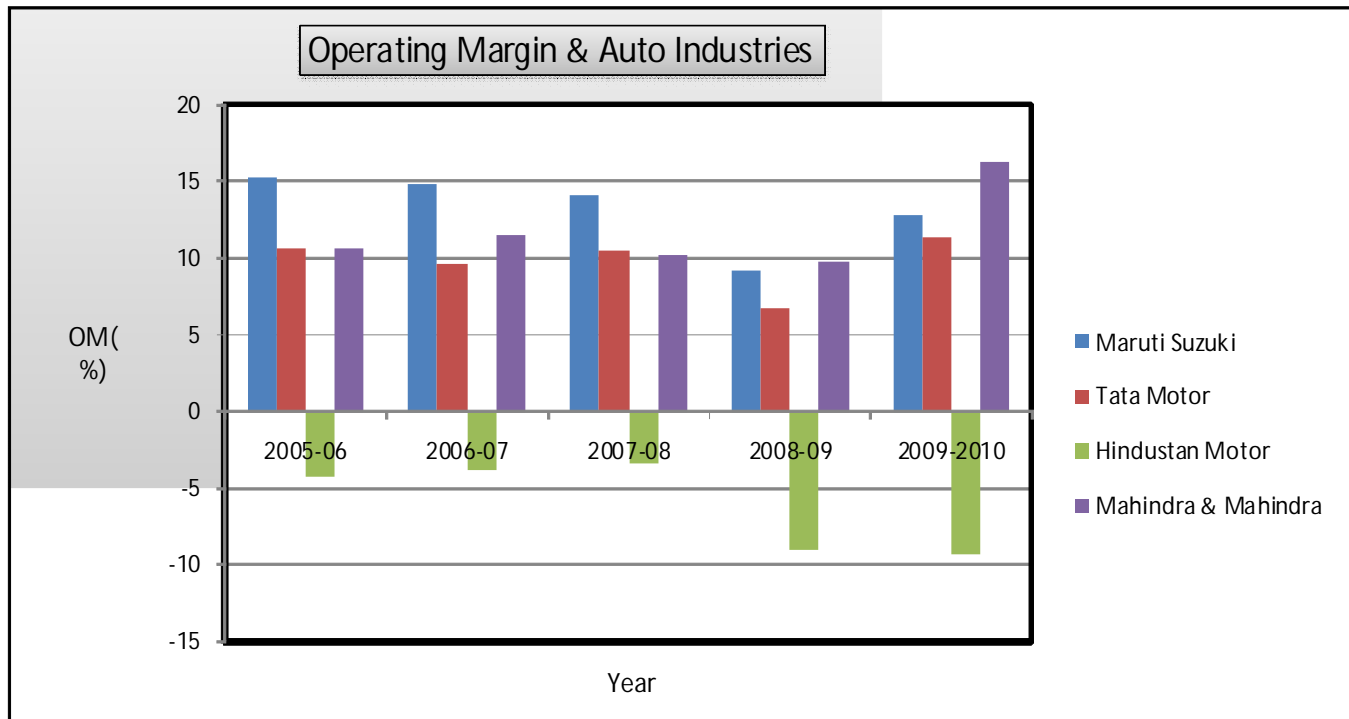
The operating ratio of Tata Motors Company showed fluctuating trend during the study period. The average ratio was 9.804 percent the ratio decline from 10.68 percent in 2005-06 to 9.7 percent in 2006-07. The ratio rose to 10.53 percent in 2007-08 and sharply decline to 6.71 percent in 2008-09. The standard deviation is 1.83 which is little more than the average of industry. It can be said that the position of operating ratio was not good.

The operating ratio of Hindustan Motors Ltd was negative (minus) which not good sign for the management. Management has to think about this. The ratio was marking a decreasing trend, during the study period. The average ratio was -5.922 percent. The position of operating ratio was not good.

The operating ratio of M&M Company shows upward trend for first two years of the study period than decreasing in 2007-08 and 2008-09, than sharply increasing 16.29 percent in 2009-10. The average ratio of the company was 11.69 percent, which was above than the car industries. The average operating ratio of M&M Company was good.

On the basis of the above analysis it can be seen that the operating ratio of Maruti Suzuki Ltd was the highest followed by Mahindra & Mahindra Ltd, Tata Motors Ltd and Hindustan Motors Ltd. Maruti Suzuki Ltd maintained the standard norms of ratio while other selected companies under the study did not hold a reasonable and satisfactory position of profitability.

CHART NO. 4.3
OPERATING MARGIN RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)



ANOVA TEST OF OPERATING MARGIN RATIO :-

Null Hypothesis: - There is no significant difference in Operating Margin Ratio of selected car industries during the study period.

Alternative hypothesis: - there is significant difference in Operation Margin Ratio of selected car industries during the study period.

Level of significance: - 5 % level.

TABLE NO. 4.6
ANALYSIS OF VARIANCE TEST (ANOVA) ON DIVIDEND PER SHARE RATIO AMONG THE GROUPS OF CAR – INDUSTRIES.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	45.89497	4	11.47374	0.139601	0.964873	3.055568
Within Groups	1232.84	15	82.18934			
Total	1278.735	19				

OPERATING MARGIN RATIO.

Calculated F Value :- 0.139601

Table F Value :- 3.05556

Result :- Insignificant

The above table indicated the calculated value of F was 0.139601 while its table value was 3.055568 it means that the null hypothesis was accepted and alternative hypothesis was rejected at 5% level of significance. The calculated value of F, being less than the table value of F, It proves that the differences among the averages this car group were not much significant and the average profitability of the car groups do not differ much.

(4) NET PROFIT MARGIN :-

The ratio is valuable for the purpose of ascertaining the over-all profitability of business and shows the efficiency of operating the business. It is the reverse of the operating Expense ratio. It is calculated as follows:

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} \times 100$$

Generally, the ratio is computed on the basis of net profit earned from operation of business and non-operating expenses and incomes are excluded, e.g. income from investments of surplus funds of business is non-operating asset income and so it is to be excluded. Loss on sale of asset is non trading loss and it is not taken into account. Generally, tax is deducted from profit while calculating this ratio.

This ratio indicates what portion of sales revenue is left to the proprietors after all operating expenses are met. The higher the ratio the better will 'be the profitability. In order to have a better idea of profitability, the gross profit ratio and net profit ratio may be simultaneously considered. If the Gross Profit is increasing over last five years, but the net profit is declining, it indicates that administrative expenses are slowly rising.

This ratio indicates the net margin on sales after meeting all expense and making all provisions. Profitability ratios should also be studied over a period of time because the trend could be very significant. An increase in the ratio over the previous period reflects an improvement in the operational efficiency of the unit.

Different version of net profit margin is synonymous in different levels or stages of return which are as follows:

$$\text{(2005-06 Net Profit Margin} = \frac{\text{Net Profit before interest and tax}}{\text{Sales}} \times 100$$

$$\text{(b) Net Profit Margin} = \frac{\text{Net Profit after interest and tax}}{\text{Sales}} \times 100$$

$$\text{(c) Net Profit Margin} = \frac{\text{Net Profit before int. and after tax}}{\text{Sales}} \times 100$$

TABLE NO. 4.7
NET PROFIT MARGIN RATIO OF THE SELECTED CAR
INDUSTRY UNDER THE STUDY FOR THE PERIOD OF
(2005-06 TO 2009-10)

(in %)

Year Company	2005-06	2006-07	2007-08	2008-09	2009-10	Average	Standard Deviation	Co-Efficient of Variance
Maruti Suzuki	9.53	10.29	9.34	5.72	8.34	8.644	1.78	20.55
Tata Motor	7.35	6.94	6.96	3.77	6.26	6.256	1.44	23.08
Hindustan Motor	-9.55	1.98	4.34	-6.16	-8.27	-3.532	6.28	-177.90
Mahindra & Mahindra	10.28	10.34	9.45	6.25	11.08	9.48	1.90	20.00
Average	4.40	7.39	7.52	2.40	4.35	5.21	2.20	42.25

The above table shows the net profit ratio of Maruti Suzuki Co Ltd shows the fluctuating trend during the study period. The net profit ratio of the company ranged from 5.72 percent in 2008-09 to 10.29 percent in 2006-07. The average net profit ratio of Maruti Suzuki company was 8.64 percent. The standard deviation is 1.78 which is lower than the average of industry. The ratio shows a better profitability position of the firm.

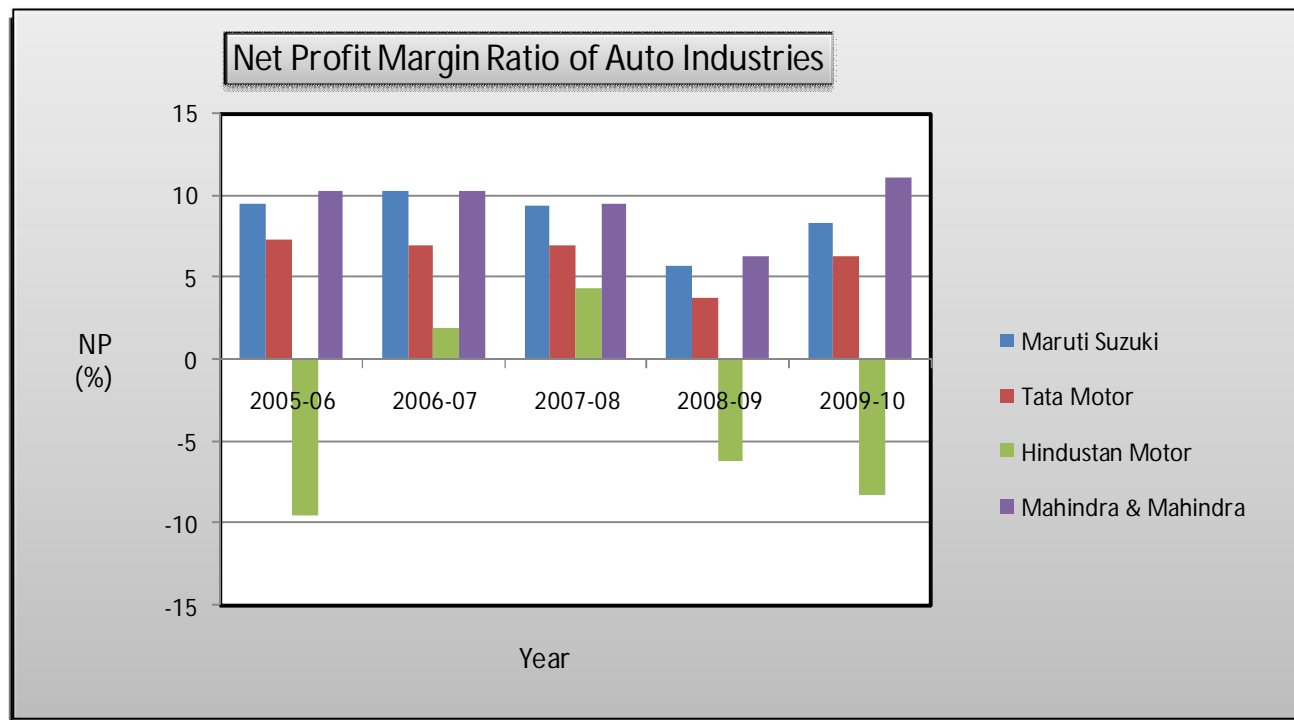
The net profit ratio of Tata Motors Co. showed declining trend during the study period except in 2009-10. The average ratio of the company was 6.25 percent which was above than the average of car Industry. The standard deviation is 1.44 which is lower than the average of industry. The ratio suggests a satisfactory position of the company.

In the Hindustan motors company net profit ratio ranged from minus 9.55 percent in 2005-06 to plus 4.34 percent in 2007-08. Ratio shows increasing trend during the first three years of study period than declined to minus 6.16 percent in 2008-09. The average ratio was minus 3.532 percent which showed unsatisfactory return on net sale.

Net Profit ratio of M&M Company shows the fluctuation trend during the study period. The net profit ratio of the company ranged from 6.25 percent in 2008-09 to 11.08 percent in 2009-10. The average ratio of M&M company was 9.48 percent this ratio was satisfactory during the study period.

It was revealed from the above analysis that the net profit ratio of M&M company Ltd was the highest followed by Maruti Suzuki, Tata Motors and Hindustan Motors Ltd. It means that M&M, Maruti and Tata Motors Ltd were done good job and result to good maintain net profit margin while Hindustan Motors was not doing good.

CHART NO. 4.4
NET PROFIT MARGIN RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)



ANOVA TEST OF NET PROFIT MARGIN RATIO :-

Null Hypothesis: - There is no significant difference in Net Profit Margin Ratio of selected car industries during the study period.

Alternative hypothesis: - there is significant difference in Net Profit Margin Ratio of selected car industries during the study period.

Level of significance: - 5 % level.

TABLE NO. 4.8
ANALYSIS OF VARIANCE TEST (ANOVA) ON NET PROFIT
MARGIN RATIO AMONG THE GROUPS OF CAR –
INDUSTRIES.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	77.60292	4	19.40073	0.445404	0.774095	3.055568
Within Groups	653.3634	15	43.55756			
Total	730.9663	19				

Profit Margin Ratio.

Calculated F Value :- 0.4454

Table F Value :- 3.05556

Result :- Insignificant

The above table indicated the calculated value of F was 0.4454 while its table value was 3.055568 it means that the null hypothesis was accepted and alternative hypothesis was rejected at 5% level of significance. On the basis of F value test, it indicated there was significant difference of the net profit

margin among the selected car unit in India, It means that some car units were done good job and result to net profit margin. It indicated that selected car units were managed and control the cost. So, there is a chance to improve the net profit margin in selected car units.

(5) RETURN ON NET WORTH RATIO :-

The Ratio of Return on owner's equity is a valuable measure for judging the profitability of an organization. This Ratio helps the shareholders of a company to know the return on investment in terms of profits. Shareholders are always interested in knowing as to what return they earned on their invested capital. Anthony and Reece opine that this ratio "reflects that how much the firm has earned on the funds invested by the shareholders (Either directly or through retained earnings).

They further point out that the ratio of return on owner's equity is most significant when the book value of the net worth is close to the market value of the stock since new capital is raised at market prices rather than at book value and firms are usually judged on their earnings performance relative to the market price of their stock.

This ratio is expressed in the percentage form of net profit earned to the owner's equity. The formula for the derivation of this ratio is:

$$\text{Return on Owner's Equity} = \frac{\text{Net Profit (After Int. \& Tax)}}{\text{Owner's Equity}} \times 100$$

In order to judge the efficiency with which the proprietors' Funds are employed in business, this ratio is ascertained. Proprietors' Equity or Proprietors' Funds include share capital and reserves. It is of great practical importance to the prospective investors, as it enables the profitability of a company to be compared with that of the other company. It also

indicates whether the return on proprietors' funds is enough in relation to the risks that they undertake. This ratio Shows what amount of dividend is likely to be received on shares. Naturally when return on shareholders' funds is to be calculated, the profit should be after interest and tax (PAT).

TABLE NO. 4.9
RETURN ON NET WORTH RATIO OF THE SELECTED CAR
INDUSTRY UNDER THE STUDY FOR THE PERIOD OF
(2005-06 TO 2009-10)

(in %)

Year Company	2005-06	2006-07	2007-08	2008-09	2009-10	Average	Standard Deviation	Co-Efficient of Variance
Maruti Suzuki	23.24	22.63	19.2	13.23	20.29	19.72	3.99	20.22
Tata Motor	24.77	24.67	21.18	7.45	9.61	17.54	8.38	47.79
Hindustan Motor	-74.5	-69.74	-70.32	-133.85	-348.13	-139.31	2.60	1.86
Mahindra & Mahindra	20.77	27.28	20.61	18.49	26.23	22.68	3.85	16.97
Average	-1.43	1.21	-2.33	13.06	18.71	19.98	9.47	47.40

RETURN ON NET WORTH RATIO :-

The above table shows ratio of return on net worth of Maruti Suzuki Company. The ratio showed a declining trend during the first four year of study period. The ratio was satisfactory in the base year of the study period but than it declined due to decrease in PAT (profit after tax) and increase in interest charges. The ratio roes from 13.23 percent in 2008-09 to 20.29 percent in 2009-10. The standard deviation is 3.99 which is lower than the average of industry. It means there is a more fluctuating in the return on net worth of Maruti Suzuki Ltd. But at the end the average ratio was satisfactory.

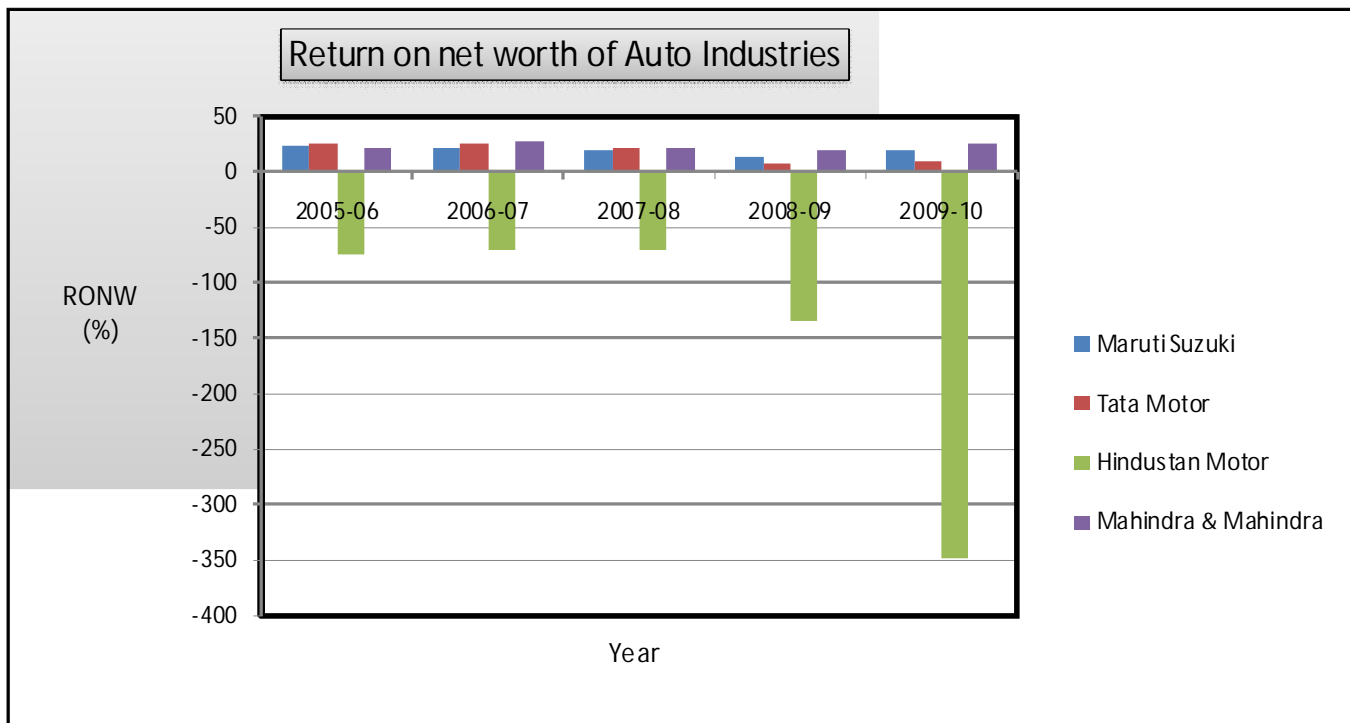
The ratio of return on net worth of Tata Motor Ltd was also showed a declining trend during the first four years of the study period than in the last year of the study period ratio slightly increased. The average ratio of the company was 17.54 percent was satisfactory.

The ratio of return on net worth of Hindustan Motor Ltd was negative through out of the study period which not good sign for the management has to think about this.

The ratio of return on net worth of M&M Co. was showing mixed trend during the study period. It shows upward trend for the first two years and than down trend and further upward trend at the last year of study period. The average ratio of M&M Company was 22.68 percent which was the highest than the average ratio of the car industry.

On the basis of the above analysis it can be seen that the return on net worth ratio of M&M company was the highest average followed by Maruti Suzuki, Tata Motors and Hindustan Motors Ltd. The ratio of Hindustan Motors Ltd has shown negative trend during the study period which was not acceptable. All over the M&M and Maruti Suzuki Company has performed well in earning on net worth except Tata motors and Hindustan Motors Ltd.

CHART NO. 4.5
RETURN ON NET WORTH RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)



ANOVA TEST OF RETURN ON NET WORTH :

Null Hypothesis :- There is no significant difference in return on Net worth ratio of selected car industries during the study period.

Alternative hypothesis :- there is significant difference in return on net worth Ratio of selected car industries during the study period.

Level of significance :- 5 % level.

TABLE NO. 4.10
ANALYSIS OF VARIANCE TEST (ANOVA) ON NET PROFIT
MARGIN RATIO AMONG THE GROUPS OF CAR –
INDUSTRIES.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	15716.79	4	3929.19	0.429	0.785	3.055568
Within Groups	137332.7	15	9155.51			
Total	153049.5	19				

Return on net worth : [Net worth related profitability]

Calculated F Value :- 0.429

Table F Value :- 3.05568

Result :- Insignificant

The analysis showed the insignificant result. It can be seen from the table, that the calculated value of F was 0.429 while the table value of F was 3.055568, at 5% level of significance. The calculated value of F, being less than the table

value of F , the null Hypothesis stood accepted and the alternative Hypothesis got rejected at 5% level of significance. So it proves that the differences among the average of this group were not much significant and the average profitability of the groups of the car industries does not differ much.

(6) RETURN ON LONG TERM FUND RATIO :-

The ROEC is the second type of ROI. It is similar to the ROA except in one respect. Here the profits are related to the total capital employed. The term capital employed refers to long term funds supplied by the lenders and owners of the firm. It can be computed in two ways. First, it is equal to non current liabilities (Long terms liabilities) Plus owner's equity. Alternatively, it is equivalent to net working capital plus fixed assets. Second, it is equal to long term funds minus investments made outside the firm. Thus the capital employed basis provides a test of profitability related to the sources of the long term funds. A comparison of this ratio with similar firms, with the industry average and over time would provide sufficient insight in to how efficiently the long term funds of owners and lenders are being used. The higher the ratio, the more efficient is the use of capital employed. The ratio is more appropriate for evaluating the efficiency of internal management. A high ratio is a test of better performance and low ratio is an indication of poor performance.

The formula for derivation of this ratio is :-
Operating profit before

$$\text{Return on net capital emp} = \frac{\text{Interest and tax}}{\text{Net capital employed}} \times 100$$

TABLE NO. 4.11
RETURN ON LONG TURN RATIO OF THE SELECTED CAR
INDUSTRY UNDER THE STUDY FOR THE PERIOD OF
(2005-06 TO 2009-10)

Year	2005-06	2006-07	2007-08	2008-09	2009-10	Average	Standard Deviation	Co-Efficient of Variance
Company								
Maruti Suzuki	33.47	30.74	27.35	17.48	28.8	27.568	6.09	22.08
Tata Motor	28.65	31.18	22.85	8.89	12.26	20.766	9.85	47.45
Hindustan Motor	-19.46	-21.19	-19.26	-47.59	-75.88	-36.676	24.98	-68.10
Mahindra & Mahindra	23.17	26.09	19.64	14.51	27.73	22.228	5.30	23.84
Average	16.46	16.71	12.65	-1.68	-1.77	8.47	9.45	111.51

Return on Long term fund Ratio :-

Table shows ratio of return on long term fund on Maruti Suzuki company ratio showed declining trend during the study period, except in 2009-2010. The average ratio of the company was 27.568 percent which was the above than the average of selected car industry. The standard deviation is 6.09 which is lower than the average of industry. The ratio suggests a satisfactory position of the company.

The ratio of return on long term fund of Tata Motor Ltd shows fluctuating trend during the study period. Ratio ranged up to 8.89 percent in 2008-09 to 33.47 percent in 2005-06. The average ratio of the company was 20.766 percent. The standard deviation is 9.85 which are more than the average of industry. The ratio was satisfactory during the study period.

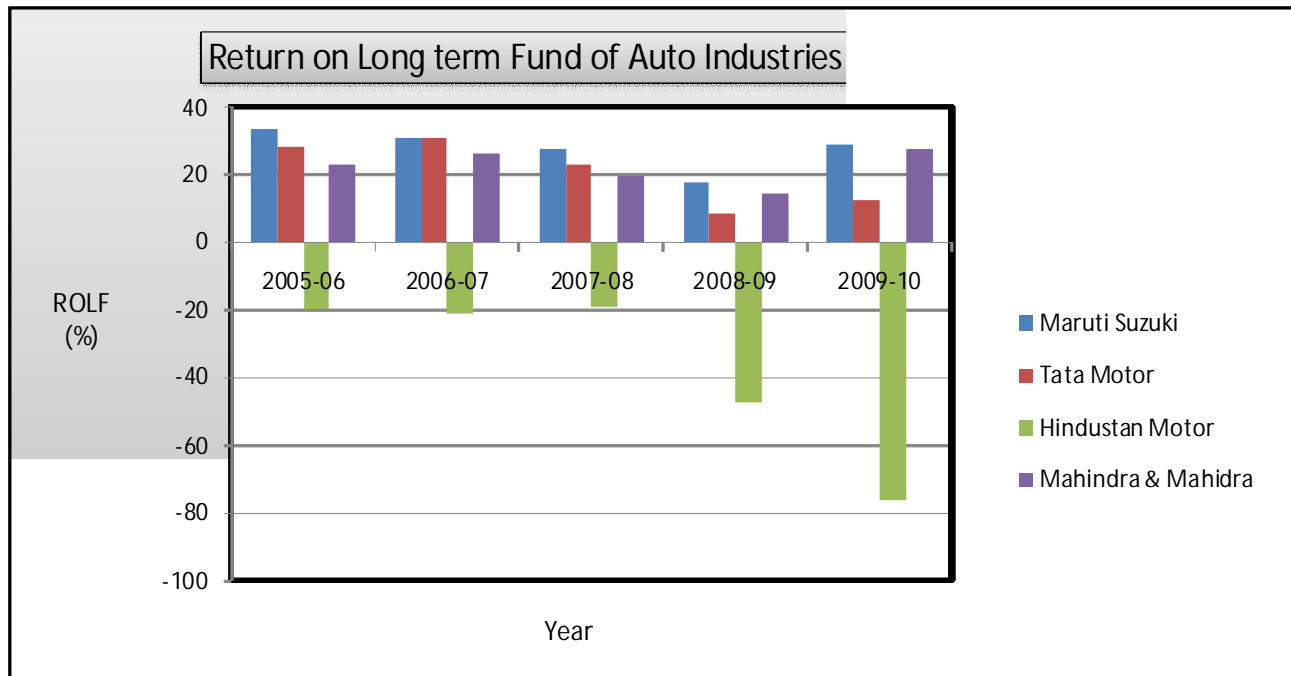
The ration of return of long term fund of the Hindustan Motors Ltd showed fluctuating trend during the study period.

The average ratio was minus 36.676 percent, which showed unsatisfactory return on long term fund.

The ratio return on long term fund of M&M Co, shows the increasing trend during first two years of study period. The long term fund ratio of M&M Company ranged from 14.51 percent in 2008-09 to 26.09 percent in 2006-07. The average return on long term fund ratio was 22.22 percent. The ratio was satisfactory during the study period.

It was revealed from the above analysis that the return on long term fund ratio of Maruti Suzuki Ltd Company was the highest during study period among selected companies. Maruti Suzuki, M&M and Tata Motor has maintain good position in business is to obtain satisfactory return on capital employed. The average ratio of Hindustan Motors Ltd was minus 36.676 percent which shows unsatisfactory return. All Company shows the good efficiency of business as whole except Hindustan Motors.

CHART NO. 4.6
RETURN ON LONG TERM FUND RATIO OF THE SELECTED CAR INDUSTRY
UNDER THE STUDY FOR THE PERIOD OF (2005-06 TO 2009-10)



ANOVA TEST OF RETURN ON LONG TERM FUND RATIO :-

Null Hypothesis :- There is no significant difference in Return on Long term fund ratio of selected car industries during the study period.

Alternative hypothesis :- there is significant difference in return on long term fund ration of selected car industries during the study period.

Level of significance :- 5 % level

TABLE NO. 4.12
ANALYSIS OF VARIANCE TEST (ANOVA) ON RETURN ON
LONG TERM FUND RATIO AMONG THE GROUPS OF CAR –
INDUSTRIES.

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	15716.79	4	3929.19	0.429	0.785	3.055568
Within Groups	137332.7	15	9155.51			
Total	153049.5	19				

Return on long term fund :

Calculated F Value :- 0.346898

Table F Value :- 3.05568

Result :- Insignificant

The analysis showed the insignificant result. It can be seen from the table, that the calculated value of F was found as 3.346898, while the table value of F was 3.055568, at 5% level of significance. The calculated value of F, being less than the table value of F, the null Hypothesis stood accepted and the alternative Hypothesis got rejected at 5% level of significance.

4.9 CONCLUSION:

On the basis of the above analysis it can be seen that the EPS ratio of Maruti Suzuki Ltd was the highest followed by M&M Ltd, Tata Motors Ltd and Hindustan Motors Ltd. moreover Earning per Share Hindustan motors Ltd. is in minus it means that EPS shows negative return.

The DPS ratio in the car industry in the whole depicts an increasing trend during the study period except in 2008-09 year. The Hindustan motors company was not able to pay dividend to the shareholders due to negative earnings after tax.

On the basis of the above analysis it can be seen that the operating ratio of Maruti Suzuki Ltd was the highest followed by Mahindra & Mahindra Ltd, Tata Motors Ltd and Hindustan Motors Ltd. Maruti Suzuki Ltd maintained the standard norms of ratio while other selected companies under the study did not hold a reasonable and satisfactory position of profitability.

It was revealed from the above analysis that the net profit ratio of M&M company Ltd was the highest followed by Maruti Suzuki, Tata Motors and Hindustan Motors Ltd. It means that M&M, Maruti and Tata Motors Ltd were done good job and result to good maintain net profit margin while Hindustan Motors was not doing good.

On the basis of the above analysis it can be seen that the return on net worth ratio of M&M company was the highest average followed by Maruti Suzuki, Tata Motors and Hindustan Motors Ltd. The ratio of Hindustan Motors Ltd has shown negative trend during the study period which was not acceptable. All over the M&M and Maruti Suzuki Company has performed well in earning on net worth except Tata motors and Hindustan Motors Ltd.

It was revealed from the above analysis that the return on long term fund ratio of Maruti Suzuki Ltd Company was the highest during study period among selected companies. Maruti Suzuki, M&M and Tata Motor has maintain good position in business is to obtain satisfactory return on capital employed. The average ratio of Hindustan Motors Ltd was minus 36.676 percent which shows unsatisfactory return. All Company shows the good efficiency of business as whole except Hindustan Motors.

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CHAPTER – 5

COMPARATIVE

ANALYSIS OF

LIQUIDITY VIS-À-VIS

PROFITABILITY

CHAPTER 5

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CHAPTER 5
COMPARATIVE ANALYSIS OF
LIQUIDITY VIS-À-VIS PROFITABILITY

5.1 INTRODUCTION

Liquidity and profitability are the two vital aspects of business life. Inadequate and excess working capital are the two extremes on the continuum of liquidity management. Inadequate working capital results in the risk of inability in meeting payments, schedules, while excess working capital adversely affects the profitability. A sound and systematic approach to the working capital management should ensure trade off between liquidity and profitability. Managerial decisions relating to cash, receivable, inventory and marketable securities are ultimately reflected in liquidity risk and profitability and in turn in the value of the firm.

Every firm aims to dig up maximum profits out of the invested capital pool.

The success of the company usually depends on its returns earned, keeping the liquidity prospects in view. Usually, it is a difficult task to trade off between the liquidity and profitability, as the conservative policy of working capacity may ensure.

Sound liquidity but endangers the profitability. On the other hands, aggressive policy helps in making profits but the liquidity is in not promised. Before deciding on an appropriate level of working capital investment a firm's management has to evaluate the tradeoff between expected profitability and the risk that it may be unable to meet its financial obligations.

Liquidity has an important relationship with profitability. If we have enough liquid resources, we may be able to get benefit of cash

discount on purchases and consequently that will be result in increasing profits. If we cannot pay the creditors for goods in the given period, we have to pay interest on the amount of purchases. Thus, shortage of liquid resources will result in low of cash discount and payment of interest. Bo the losses stock at desired manners and that will benefit us in circulation of business activities. Contrary to this, if we are not able to keep sufficient stock due to shortage of liquid resources, then the production cycle may not be continued and that will result in heavy losses.

Liquid resources of a business concern off all over to expand huge business activities more, and less in financial. In case of steel industry in India, the management of liquid resources plays a greater role because in comparison to others industries, the industry has capacity to pay its obligations promptly.

5.2 LIQUIDITY VIS-À-VIS PROFITABILITY:-

Working capital is related to liquidity and profitability are two important and major aspects of business life. No company can survive, if it has no liquidity. A company may exist without marking profits but can not survive without liquidity. A company not making profits may be treated as a sick unit, but one having no liquidity, may soon meet with its downfall and ultimately closed down. SO there is need of close relationship between liquidity and profitability, but they should be separately recognized and managed, In this context the interaction between liquidity and profitability is shown in the following 2x matrix.

Chart

		Liquidity	Liquidity
High	Profitability	Cell – 1	Cell – 2
Low	Profitability	Cell – 3	Cell – 4
		High	Low

Cell – 1:-

The strongest companies will be located in cell – 1 where both profitability and liquidity are high. And it good performance of unit.

Cell – 2 :-

The company which are in serious position will be located in cell – 2 where profitability is high but liquidity is low, it shows the shortage of fund for payment. So it needs to improve working capital management.

Cell – 3 :-

The companies which have high liquidity and low profitability are considered in a better financial condition.

Cell – 4 :-

The company which are located in cell – 4 are unsuccessful and corporate failure is imminent. Because of low liquidity and low profitability such firm can't survive.

The units, which strongest, located in cell -1, in which both profitability and liquidity are being achieved while firms cannot survive, which are in cell – 4 because in this position both profitability and liquidity are low. A question does arise that between cell – 2 and cell – 3 which condition is preferable. The answer is that being located

in cell – 2 poses a more serious threat to the enterprise. This if the company is high liquid through low profitable, it will generally be in a position to revise its strategy. If the company is high profitable but low liquid that may find that it is forced to be out of business before it gets the charge to correct the problem. So working capital management has thus become basic and broad measures of judging the performance of business firm.

(I) ANALYSIS OF EPS & CURRENT RATIO:-

Table 5.1 indicates the relation between EPS and current ratio of car Industry under study:-

TABLE NO. 5.1
A COMPARATIVE ANALYSIS OF EPS & CURRENT RATIO
(2005-06 TO 2009-2010)

Company Name	Average of EPS (Rs.)	Average of Current Ratio (in times)
Maruti Suzuki	55.89	1.354
Tata Motor	33.22	0.966
Hindustan Motor	-3.64	0.928
M & M	34.98	1.176
Yearly Average	30.11	1.11

Above table 5.1 shows the relationship between EPS & current ratio. In other word it reflects the relationship among profit number of shares and short term liquid financial position. The average of EPS for the sample companies is Rs. 30. While looking at the average of Maruti, Tata and M. & M. is above the average of the companies. While Hindustan Motors, average is in minus.

The Average of current ratio is 1.11 times for the sample companies while looking at the individual companies Maruti & M. &

M. is the above the average of the sample companies while Tata motors & H. M. is below the industry average.

(II) ANALYSIS OF EPS & QUICK RATIO :-

Table 5.2 indicates the relation between EPS and quick ratio of car industry under study.

TABLE NO. 5.2
A COMPARATIVE ANALYSIS OF EPS & QUICK RATIO
(2005-06 TO 2009-10)

Company Name	Average of EPS (in Rs.)	Average of Quick Ratio (In Times)
Maruti Suzuki	55.89	1.006
Tata Motor	33.22	0.708
Hindustan Motor	-3.64	0.508
M & M	34.98	0.854
Yearly Average	30.11	0.77

Above table 5.2 shows the relationship between EPS & quick ratio. In other word it reflects the relationship among profit number of shares and rigorous measure of a firm's ability to service short term liabilities. The average of EPS for the sample companies is Rs. 30. While looking at the average of Maruti Suzuki, Tata Motors and Mahindra & Mahindra is above the average of the companies while Hindustan motors average is in minus.

The average of Quick Ratio is 0.77 times for the sample companies while looking at the individual companies Maruti and M & M is the above the average of the sample companies. While Tat Motors and Hindustan Motors is below the industry average.

(III) ANALYSIS OF EPS & INVENTORY TURNOVER RATIO.

Table 5.3 Indicates the relation between EPS and inventory turnover ratio of car industry under study.

TABLE NO. 5.3
A COMPARATIVE ANALYSIS OF EPS & INVENTORY TURNOVER
RATIO (2005-06 TO 2009-10)

Company Name	Average of EPS (in Rs.)	Average of Inventory Turnover Ratio (In Times)
Maruti Suzuki	55.89	26.28
Tata Motor	33.22	13.46
Hindustan Motor	-3.64	9.382
M & M	34.98	13.9
Yearly Average	30.11	15.76

Table shows average of EPS in rupees whereas average inventory turnover ratio is shown in times when we compare them both it shows the direct relation between the two. It means if there is increase or decrease in earning per share. There is a same change in inventory turnover ratio. Its discussion is as under.

In the Maruti Suzuki industry the average EPS shown as Rs. 55.89. As against it the inventory turnover ratio is shown as 26.28 in times. The average EPS of the Tata motors Ltd is Rs. 33.22 and the inventory turnover ratio is 20.43 times. In the Hindustan Motors Ltd EPS shows in minus. As against it, Inventory turnover ratio is 1.27 times. In the M & M industry the average EPS shows as Rs. 34.98. As against it, the average inventory turnover ratio is shown as 3.18 in times.

(IV) ANALYSIS OF EPS & FIXED ASSETS TURNOVER RATIO

Table 5.4 indicates the relation between EPS and Fixed Assets turnover ratio of car industry under study.

TABLE 5.4
A COMPARATIVE ANALYSIS OF EPS & FIXED ASSETS TURNOVER
RATIO (2005-06 TO 2009-10)

Company Name	Average of EPS (in Rs.)	Average of Fixed Asset Turnover Ratio (In Times)
Maruti Suzuki	55.89	2.51
Tata Motor	33.22	2.43
Hindustan Motor	-3.64	1.27
M & M	34.98	3.18
Yearly Average	30.11	2.35

Table shows average of EPS in rupees whereas average fixed assets turnover ratio is shown in times. Seeing the above table it can be said that, there is direct relation between EPS and fixed assets turnover ratio.

The average of EPS for the sample companies is Rs. 30.11. whereas the average of fixed assets turnover ratio is 2.35 times for the sample companies. Looking at the individual companies Maruti Suzuki, Tata Motors and M & M is the above the average of the sample companies while Hindustan Motors is below the industry average.

(V) ANALYSIS OF EPS & FINANCIAL CHARGES COVERAGE RATIO.

Table 5.5 Indicates the relation between EPS and FCCR of car industry under study.

TABLE 5.5
A COMPARATIVE ANALYSIS OF EPS & FCCR
(2005-06 TO 2009-10)

Company Name	Average of EPS (in Rs.)	Average of FCCR (in %)
Maruti Suzuki	55.89	80.276
Tata Motor	33.22	6.018
Hindustan Motor	-3.64	-2.662
M & M	34.98	33.588
Yearly Average	30.11	29.31

Table shows the comparative analysis of average EPS and average financial charges coverage ratio. In other word it reflects the relationship among profit numbers of shares and the debt servicing capacity of a firm insofar as fixed interest on long term – loan is concerned. The average of EPS for the groups is Rs. 30.11. As against it the financial charges average ratio is 29.31 percent. Comparative to individual Maruti Suzuki and M & M is the above the average of the groups. While, Tata Motors and Hindustan Motors is below the industry average.

(VI) ANALYSIS OF DPS & CURRENT RATIO

Table 5.6 Indicates the relation between DPS and current ratio of car industry under study.

TABLE 5.6
A COMPARATIVE ANALYSIS OF DPS & CURRENT RATIO
(2005-06 TO 2009-10)

Company Name	Average of DPS (in Rs.)	Average of Current Ratio (In Times)
Maruti Suzuki	4.5	1.354
Tata Motor	12.8	0.966
Hindustan Motor	0.0	0.928
M & M	10.5	1.176
Yearly Average	6.95	1.11

Above table 5.6 shows the relationship between DPS & current ratio. It reflects the relationship among dividends paid the share holders per share basis and the short term liquid financial position. The average of DPS for the groups companies is Rs. 6.95 as against it average of current ratio is 1.11 times. Maruti Suzuki and Mahindra & Mahindra is the above than the average of sample companies.

(VII) ANALYSIS OF DPS & QUICK RATIO

Table 5.7 Indicates the relation between DPS and quick ratio of car industry under study.

TABLE 5.7
A COMPARATIVE ANALYSIS OF DPS & QUICK RATIO
(2005-06 TO 2009-10)

Company Name	Average of DPS (in Rs.)	Average of Quick Ratio (In Times)
Maruti Suzuki	4.5	1.006
Tata Motor	12.8	0.708
Hindustan Motor	00.0	0.508
M & M	10.5	0.854
Yearly Average	6.95	0.77

A comparative analysis for dividend per share with its quick ratio.

The DPS of Maruti Suzuki company is Rs. 4.5 as against its average quick ratio is 1.006 times.

In the Tata Motors its yearly average of DPS is Rs. 12.8 whereas the average quick ratio is 0.70 times.

In the Hindustan Motors Ltd. its average of Dividend per share is Rs. Zero because of loss as against its average quick ratio is 0.50 times.

The DPS of Mahindra & Mahindra company is Rs. 10.5 as against its average quick ratio is 0.85 times.

Seeing the above table it can be said that, if the quick ratio is high the DPS is also high. There is a direct relation between DPS & quick ratio.

(VIII) ANALYSIS OF DPS & INVENTORY TURNOVER RATIO

Table 5.8 indicates the relation between DPS and inventory turnover ratio of car industry under study.

TABLE 5.8
A COMPARATIVE ANALYSIS OF DPS & INVENTORY TURNOVER
RATIO (2005-06 TO 2009-10)

Company Name	Average of DPS (in Rs.)	Average of Inventory Turnover Ratio (In Times)
Maruti Suzuki	4.5	26.28
Tata Motor	12.8	13.46
Hindustan Motor	00.0	9.382
M & M	10.5	13.9
Yearly Average	6.95	15.76

Above table 5.8 shows the relationship between DPS and inventory turnover ratio. The average of dividend per share for the sample companies is Rs. 6.95. While looking at the average of Tata Motors and Mahindra & Mahindra is above the average of the companies.

The average of Inventory turnover ratio for the sample companies is 15.76 times. While looking at the individual companies Maruti Suzuki is the above the average of the sample companies. While Tata Motors, Hindustan Motors & Mahindra & Mahindra Ltd. is below the industry average.

(IX) ANALYSIS OF DPS & FIXED ASSETS TURNOVER RATIO.

Table 5.9 Indicates the relation between DPS and Fixed Assets turnover ratio of car industry under study.

**TABLE 5.9
A COMPARATIVE ANALYSIS OF DPS & FIXED ASSETS TURNOVER
RATIO (2005-06 TO 2009-10)**

Company Name	Average of DPS (in Rs.)	Average of Fixed Asset Turnover Ratio (In Times)
Maruti Suzuki	4.5	2.51
Tata Motor	12.8	2.43
Hindustan Motor	00.0	1.27
M & M	10.5	3.18
Yearly Average	6.95	2.35

Above table No.5.9 shows a comparative analysis for average dividend per share with its average of fixed assets turnover ratio.

The DPS of Maruti Suzuki Ltd is Rs. 4.5, where as against it average of FATR is 2.51 times.

In the Tata – Motors Ltd its yearly average of DPS is Rs 12.8, as against its average of FATR is 2.43 Times.

In the Hindustan Motors company the average dividend per share is Rs. Zero due to negative earning, as against its average FATR is 1.27 in times.

The DPS of Mahindra & Mahindra is Rs. 10.5 as against it average of FATR is 3.18 times.

(X) ANALYSIS OF DPS & FINANCIAL CHARGE COVERAGE RATIO

Table 5.10 Indicates the relation between DPS and FCCR of car Industry under study.

TABLE 5.10
A COMPARATIVE ANALYSIS OF DPS & FCCR
(2005-06 TO 2009-10)

Company Name	Average of DPS (in Rs.)	Average of FCCR (%)
Maruti Suzuki	4.5	80.276
Tata Motor	12.8	6.018
Hindustan Motor	00.0	-2.662
M & M	10.5	33.588
Yearly Average	6.95	29.31

Table No. 5.10 shows the relationship between average Dividend Per Share and average of Financial Charges coverage ratio.

The average of DPS for the sample companies is Rs. 6.95, while looking at the average of Tata – Motors and Mahindra & Mahindra is above the average of the companies while looking at the average of Hindustan Motors is Zero.

The average of Financial Charges Coverage ratio for the sample companies is 29.31 percent. While looking at the individual companies Maruti Suzuki and Mahindra & Mahindra is the above the average of the sample companies. Tata Motors & Hindustan Motor is below the Industry average.

(XI) ANALYSIS OF OPERATING MARGIN RATIO & CURRENT RATIO.

Table 5.11 Indicates the relation between operating margin ratio and current ratio of car industry under study.

**TABLE 5.11
A COMPARATIVE ANALYSIS OF OPERATING MARGIN RATIO &
CURRENT RATIO (2005-06 TO 2009-10)**

Company Name	Average of OMR (in %)	Average of Current Ratio (In Times)
Maruti Suzuki	13.242	1.354
Tata Motor	9.804	0.966
Hindustan Motor	-5.922	0.928
M & M	11.698	1.176
Yearly Average	7.21	1.11

Table No. 5.11 a comparative analysis of average operating margin ratio with its current ratio.

The operating margin of Maruti Suzuki is 13.24 percent as against its current ratio is 1.35 times. In the Tata Motors its yearly average of Operating Margin is 9.80 percent and its current ratio is 0.96 times. In the Hindustan Motors Ltd the operating margin is in minus 5.92 percent and its current ratio is 0.92 times. In the M. & M. the operating margin is in 11.69 percent as against its current ratio is 0.85 times.

(XII) ANALYSIS OF OPERATING MARGIN RATIO & QUICK RATIO

Table 5.12 Indicates the relation between operating margin ratio & quick ratio of car industry under study.

TABLE 5.12
A COMPARATIVE ANALYSIS OF OPERATING MARGIN RATIO &
QUICK RATIO (2005-06 TO 2009-10)

Company Name	Average of OMR (in %)	Average of Quick Ratio (In Times)
Maruti Suzuki	13.242	1.006
Tata Motor	9.804	0.708
Hindustan Motor	-5.922	0.508
M & M	11.698	0.854
Yearly Average	7.21	0.77

Table No. 5.12. This table shows the comparative analysis of average operating margin(percentage) and quick ratio in times.

The average of operating margin for the sample companies is 7.21 percent, where as quick ratio is 0.77 times.

Seeing the above table it can be said that, if the operating margin is high the quick ratio is also high. While while discussing the profitability, vis-à-vis, it can be said that, there is direct relation between operating margin ratio and quick ratio. It means, if the operating margin is high, the quick ratio is also high and if the operating margin ratio is low the quick ratio is proportionately low.

(XIII) ANALYSIS OF OPERATING MARGIN RATIO & INVENTORY TURNOVER RATIO

Table 5.13 Indicates the relation between operating Margin ratio & inventory turnover ratio of car Industry under study.

TABLE 5.13
A COMPARATIVE ANALYSIS OF OPERATING MARGIN RATIO & INVENTORY TURNOVER RATIO (2005-06 TO 2009-10)

Company Name	Average of OMR (in %)	Average of Inventory Turnover Ratio (In Times)
Maruti Suzuki	13.242	26.28
Tata Motor	9.804	13.46
Hindustan Motor	-5.922	9.382
M & M	11.698	13.9
Yearly Average	7.21	15.76

Above table no. 5.13 shows the relationship between operating margin ratio & average inventory turnover ratio. The average of operating margin ratio for the sample companies is 7.21 percent. While looking at the average of Maruti – Suzuki, Tata Motors and Mahindra & Mahindra is above the average of the companies. While Hindustan Motors average is in minus.

The average of inventory turnover ratio is 15.76 times for the sample companies. While looking at the individual companies Maruti Suzuki is the above the average of the sample companies rest of below the average. When we compare them both it show the direct relation between the two.

(XIV) ANALYSIS OF OPERATING MARGIN RATIO & FIXED ASSETS TURNOVER RATIO.

Table 5.14 Indicates the relation between operating Margin ratio & FATR of car Industry under study.

**TABLE 5.14
A COMPARATIVE ANALYSIS OF OPERATING MARGIN RATIO &
FATR (2005-06 TO 2009-10)**

Company Name	Average of OMR (in Rs.)	Average of FATR Ratio (In Times)
Maruti Suzuki	13.242	2.51
Tata Motor	9.804	2.43
Hindustan Motor	-5.922	1.27
M & M	11.698	3.18
Yearly Average	7.21	2.35

Table No. 5.14 shows a comparative analysis of operating margin ratio and average of fixed assets turnover ratio. It reflects the important indicator of the operational efficiency of a manufacturing enterprise and short term liquidity.

The average operating margin ratio of Maruti Suzuki Ltd. is 13.24 percent, as against it FATR is 2.51 times.

In the Tata Motors the average operating margin ratio is 9.80 percent, where as against it's the average FATR is 2.43 times.

In the Hindustan Motors the average operating margin ratio is in minus as against it average FATR is 1.27 times.

In the M & M company the average operating ratio is 11.69 percent where as against it average FATR is 3.18 times.

(XV) ANALYSIS OF OPERATING MARGIN RATIO OF FINANCIAL CHARGES COVERAGE RATIO.

Table 5.15 Indicates the relation between operating margin ratio & FCCR of Car Industry under study.

**TABLE 5.15
A COMPARATIVE ANALYSIS OF OPERATING MARGIN RATIO &
FCCR (2005-06 TO 2009-10)**

Company Name	Average of OMR (in %)	Average of FCCR Ratio (%)
Maruti Suzuki	13.242	80.276
Tata Motor	9.804	6.018
Hindustan Motor	-5.922	-2.662
M & M	11.698	33.588
Yearly Average	7.21	29.31

Above Table no. 5.15 shows the relationship between operating margin ratio and average of financial charges coverage ratio.

The average of operating margin ratio of the sample companies is 7.21 percent while looking at the average of Maruti Suzuki, Tata Motors and M & M is above the average of the companies while Hindustan Motors average in minus.

The average financial charges coverage ratio is 29.31 percent for the sample companies. While looking at the individual companies Maruti Suzuki, and M & M is the above the average of the sample companies while Tata Motors and Hindustan Motors is below the Industry average.

(XVI) ANALYSIS OF NET PROFIT MARGIN RATIO & CURRENT RATIO.

Table 5.16 Indicates the relation between Net profit margin ratio & current ratio of car industry under study.

**TABLE 5.16
A COMPARATIVE ANALYSIS OF NPMR & CURRENT RATIO
(2005-06 TO 2009-10)**

Company Name	Average of NPMR (in %)	Average of Current Ratio (In Times)
Maruti Suzuki	8.644	1.354
Tata Motor	6.256	0.966
Hindustan Motor	-3.532	0.928
M & M	9.480	1.176
Yearly Average	5.21	1.110

A comparative analysis for net profits margin ratio with its current ratio.

The net profit margin ratio of Maruti Suzuki company is 8.64 percent as against its current ratio is 1.35 times. In the Tata Motors its yearly average of Net Profit margin ratio is 6.25 percent and its current ratio is 0.96 times.

In the Hindustan Motors Ltd. the net profit margin ratio is minus 3.53 percent and its current ratio is 0.92 times. In the Mahindra & Mahindra the net profit margin ratio is 9.48 percent as against its current ratio is 1.17 times.

(XVII) ANALYSIS OF NET PROFIT MARGIN & QUICK RATIO.

Table 5.17 Indicates the relation between net profit margin ratio & quick ratio of car industry under study.

TABLE 5.17
A COMPARATIVE ANALYSIS OF NPMR & QUICK RATIO
(2005-06 TO 2009-10)

Company Name	Average of NPMR (in %)	Average of Quick Ratio (In Times)
Maruti Suzuki	8.644	1.006
Tata Motor	6.256	0.708
Hindustan Motor	-3.532	0.508
M & M	9.480	0.854
Yearly Average	5.21	0.77

Above table no. 5.17 shows the relationship between average of Net – Profit Margin ratio and Quick Ratio.

The average of net profit margin ratio of the sample companies is 5.21 percent while looking at the average of Maruti Suzuki, Tata Motors and Mahindra & Mahindra is above the average of the companies. While Hindustan – Motors average is in minus.

The average of Quick Ratio of the sample companies is 0.77 times. While looking at the individual companies Maruti Suzuki and Mahindra & Mahindra is the above than the average of the sample companies. While Tata Motors and Hindustan Motor is below the industry average.

**(XVIII) ANALYSIS OF NET PROFIT MARGIN RATIO & INVENTORY
TURNOVER RATIO.**

Table 5.18 Indicates the relation between Net Profit Margin ratio & Inventory turnover ratio of car industry under study.

**TABLE 5.18
A COMPARATIVE ANALYSIS OF NPMR & ITR
(2005-06 TO 2009-10)**

Company Name	Average of NPMR (in %)	Average of ITR (In Times)
Maruti Suzuki	8.644	26.28
Tata Motor	6.256	13.46
Hindustan Motor	-3.532	9.382
M & M	9.480	13.9
Yearly Average	5.21	15.76

Table no. 5.18 a comparative analysis of average net profit margin ratio and inventory turnover ratio.

Table no. 5.18 represents in the Maruti Suzuki company its average net profit margin is 8.64 percent, where as against its inventory turnover ratio is 26.28 times.

In the Tata Motors its average net profit margin ratio is 6.25 percent, as against its average Inventory turnover ratio is 13.46 times.

The average net profit margin ratio of Hindustan Motors is in minus, where as against its average inventory turnover ratio is 9.38 times.

In the Mahindra & Mahindra its average net profit margin ratio is 9.48 percent, and its average inventory turnover ratio is 13.9 times.

(XIX) ANALYSIS OF NET PROFIT MARGIN RATIO & FIXED ASSETS TURN OVER RATIO.

Table 5.19 Indicates the relation between Net Profit Margin ratio & FATR of car Industry under study.

TABLE 5.19
A COMPARATIVE ANALYSIS OF NPMR & FATR
(2005-06 TO 2009-10)

Company Name	Average of NPMR (in %)	Average of FATR (In Times)
Maruti Suzuki	8.644	2.51
Tata Motor	6.256	2.43
Hindustan Motor	-3.532	1.27
M & M	9.480	3.18
Yearly Average	5.21	2.35

Above table no. 5.19 shows the relationship between average of net profit margin ratio and average of Fixed Assets Turnover Ratio. In other word its reflects earning of the firm and the efficiency of a firm in managing and utilizing its assets.

The average net profit margin ratio for the sample companies is 5.21 percent, while looking at the average of Maruti Suzuki, Tata Motors and Mahindra & Mahindra is above the average of the companies, while Hindustan Motors average is in minus.

The average of Fixed Assets Turnover Ratio is 2.51 Times for the sample companies while looking at the individual companies, Maruti Suzuki, Tata Motors and Mahindra & Mahindra is the above the average of the sample companies while Hindustan Motors is below the industry average.

(XX) ANALYSIS OF NET PROFIT MARGIN RATIO & FINANCIAL CHARGES COVERAGE RATIO.

Table 5.20 Indicates the relation between NPMR & FCCR of car Industry under study.

TABLE 5.20
A COMPARATIVE ANALYSIS OF NPMR & FCCR
(2005-06 TO 2009-10)

Company Name	Average of NPMR (in %)	Average of FCCR (In %)
Maruti Suzuki	8.644	80.276
Tata Motor	6.256	6.018
Hindustan Motor	-3.532	-2.662
M & M	9.480	33.588
Yearly Average	5.21	29.31

Table no. 5.20 of comparative analysis for the average net profit margin ratio and the average of Financial charges coverage ratio.

The net profit margin ratio of Maruti Suzuki company is 8.64 percent, as against its average financial charges coverage ratio is 80.27 percent.

In the Tata Motors its average net profit margin ratio is 6.25 percent, as against it the average financial charges coverage ratio is 6.018 percent.

In the Hindustan Motor company its average net profit margin ratio is in minus and against its average financial charges coverage ratio is also in minus.

In the Mahindra & Mahindra its average net profit margin ratio is 9.48 percent. As against its average financial charges coverage ratio is 33.58 percent.

(XXI) ANALYSIS OF RETURN ON NET WORTH RATIO & CURRENT RATIO.

Table 5.21 Indicates the relation between rerun on net worth ratio & current ratio of car Industry under study.

TABLE 5.21
A COMPARATIVE ANALYSIS OF RONW & CR
(2005-06 TO 2009-10)

Company Name	Average of RONW (in %)	Average of Current Ratio (In Times)
Maruti Suzuki	19.72	1.354
Tata Motor	17.54	0.966
Hindustan Motor	-139.31	0.928
M & M	22.68	1.176
Yearly Average	19.98	1.110

Table no. 5.21 comparative analysis for average of return on net worth and average of current ratio. In other word it reflects the relationship among the profitability of a firm from the owners point of view and short term liquidity position. The average of return on net worth for the sample companies is 19.98 percent while looking at the average of M & M is above the average of the companies. While Maruti Suzuki and Tata Motors below the average.

The average of current ratio for the sample companies is 1.11 times. While looking at the individual companies Maruti Suzuki and Mahindra & Mahindra is the above average of the sample companies while Tata Motors and Hindustan Motors is below the Industry average.

(XXII) ANALYSIS OF RETURN ON NET WORTH RATIO & QUICK RATIO.

Table 5.22 Indicates the relation between RONW & Quick Ratio of car Industry under study.

TABLE 5.22
A COMPARATIVE ANALYSIS OF RONW & QUICK RATIO
(2005-06 TO 2009-10)

Company Name	Average of RONW (in %)	Average of Quick Ratio (In Times)
Maruti Suzuki	19.72	1.006
Tata Motor	17.54	0.708
Hindustan Motor	-139.31	0.508
M & M	22.68	0.854
Yearly Average	19.98	0.77

Above table no. 5.22 shows the relationship between the average return on net worth and quick ratio.

The average return on net worth ratio of Maruti Suzuki company is 19.72 percent, as against its average quick ratio is 1.006 times.

In the Tata Motors company the average return on net worth ratio is 17.54 percent, as against its average quick ratio is 0.708 times.

In the Hindustan Motors the average return on net worth is in minus. Whereas against its average quick ratio is 0.508 times.

In the Mahindra & Mahindra the average return on net worth is 22.68 percent, as against its average quick ratio is 0.85 times.

(XXIII) ANALYSIS OF RETURN ON NET WORTH RATIO & INVENTORY TURNOVER RATIO.

Table 5.23 Indicates the relation between RONW & Inventory turnover ratio of car Industry under study.

**TABLE 5.23
A COMPARATIVE ANALYSIS OF RONW & INVENTORY TURNOVER RATIO (2005-06 TO 2009-10)**

Company Name	Average of RONW (in %)	Average of Inv. Tur. Ratio (In Times)
Maruti Suzuki	19.72	26.28
Tata Motor	17.54	13.46
Hindustan Motor	-139.31	9.382
M & M	22.68	13.9
Yearly Average	19.98	15.76

Above table no. 5.23 shows a comparative analysis for the average return on net worth and average of inventory turnover ratio.

The average return on net worth of Maruti Suzuki Ltd. is 19.72 percent, whereas its average inventory turnover ratio is 26.28 times.

In the Tata Motor average return on net worth is 17.54 percent, as against its average inventory turnover ratio is 13.46 times.

In the Hindustan Motor the average return on net worth is in minus as against its average inventory turnover ratio is 9.38 times.

In the Mahindra & Mahindra Ltd. the average return on net worth is 22.68 percent, as against it's average inventory turnover ratio is 13.9 times.

**(XXIV) ANALYSIS OF RETURN ON NET WORTH RATIO &
FIXED ASSETS TURNOVER RATIO.**

Table 5.24 Indicates the relation between RONW & FATR of Car Industry under study.

**TABLE 5.24
A COMPARATIVE ANALYSIS OF RONW & FATR
(2005-06 TO 2009-10)**

Company Name	Average of RONW (in %)	Average of FATR (In Times)
Maruti Suzuki	19.72	2.51
Tata Motor	17.54	2.43
Hindustan Motor	-139-31	1.27
M & M	22.68	3.18
Yearly Average	19.98	2.35

Table no. 5.24 a comparative analysis of average return on net worth and average of Fixed Assets turnover ratio.

The average return on net worth Maruti Suzuki Ltd is 19.72 percent, whereas its average fixed assets turnover ratio is 2.51 times.

In the Tata Motors the average return on net worth is 17.54 percent, as against its average fixed assets turnover ratio is 2.43 times.

In the Hindustan Motors the average return on net worth is in minus where as its average Fixed Assets turnover ratio is 1.27 times.

In the Mahindra & Mahindra the average return net worth is 22.68 percent, as against its average fixed assets turnover ratio is 3.18 times.

(XXV) ANALYSIS OF RETURN ON NET WORTH RATIO & FINANCIAL CHARGES COVERAGE RATIO.

Table 5.25 Indicates the relation between RONW & FCCR of car Industry under study.

**TABLE 5.25
A COMPARATIVE ANALYSIS OF RONW & FCCR
(2005-06 TO 2009-10)**

Company Name	Average of RONW (in %)	Average of FCCR (In %)
Maruti Suzuki	19.72	80.276
Tata Motor	17.54	6.018
Hindustan Motor	-139-31	-2.662
M & M	22.68	33.588
Yearly Average	19.98	29.31

Above table no. 5.25 shows the relationship between the average return on net worth and financial charges coverage ratio.

The average of return on net worth ratio for the sample companies is 19.98 percent. While looking at the average of Mahindra & Mahindra is above the average of the companies while Maruti Suzuki, Tata Motor is below than the average of sample companies.

The average of Financial Charges coverage ratio for the sample companies is 29.31 percent, while looking at the individual companies Maruti Suzuki and Mahindra & Mahindra is the above than the average of the sample companies. While Tata Motors and Hindustan Motor is below the industry average.

(XXVI) ANALYSIS OF RETURN ON LONG TERM FUND RATIO & CURRENT RATIO.

Table 5.26 Indicates the relation between R.O.L.F. & Current ratio of car industry under study.

TABLE 5.26
A COMPARATIVE ANALYSIS OF R.O.L.F. & CURRENT RATIO
(2005-06 TO 2009-10)

Company Name	Average of ROLF (in %)	Average of Current Ratio (In Times)
Maruti Suzuki	27.568	1.354
Tata Motor	20.766	0.966
Hindustan Motor	-30.676	0.928
M & M	22.228	1.176
Yearly Average	8.47	1.110

Table no. 5.26 comparative analysis for average of return on long term fund and average for current ratio.

This table shows how much long term return in other word capital return is obtained from the labourers employed by the company which is measured with the current ratio of liquidity.

On the basis in the Maruti Suzuki its return on long term fund is 27.56 percent where as it's current ratio is 1.35 times. In the Tata Motors its yearly average of return on long term fund ratio is 20.76 percent. Where as its average current ratio is 0.96 times. In the Hindustan Motors return on long term fund ratio is in minus against it current ratio is 0.92 times. In the M & M its return on long term ratio is 22.22 percent, against its current ratio is 1.17 times. In short, the maximum return on long term fund is in Maruti Suzuki company.

(XXVII) ANALYSIS OF RETURN ON LONG TERM FUND RATIO & QUICK RATIO.

Table 5.27 Indicates the relation between R.O.L.F. & Quick ratio of car industry under study.

TABLE 5.27
A COMPARATIVE ANALYSIS OF R.O.L.F. & QUICK RATIO
(2005-06 TO 2009-10)

Company Name	Average of ROLF (in %)	Average of Quick Ratio (In Times)
Maruti Suzuki	27.568	1.006
Tata Motor	20.766	0.708
Hindustan Motor	-30.676	0.508
M & M	22.228	0.854
Yearly Average	8.47	0.77

The above table no. 5.27 shows comparative analysis of return on long term fund ratio and average of quick ratio.

The average of return on long term fund ratio for the sample companies is 8.47 percent while looking at the average of Maruti Suzuki, Tata Motors and M & M companies is above the average of the companies. While Hindustan Motors average is in minus.

The average of quick ratio for the sample companies is 0.77 times. While looking at the individual companies Maruti Suzuki and Mahindra & Mahindra is the above the average of the sample Companies. Tata Motors and Hindustan Motors is below the Industry average.

(XXVIII) ANALYSIS OF RETURN ON LONG TERM FUND RATIO & INVENTORY TURNOVER RATIO.

Table 5.28 Indicates the relation between ROLF & Inventory turnover ratio of car industry under study.

**TABLE 5.28
A COMPARATIVE ANALYSIS OF ROLF & INVENTORY TURNOVER RATIO (2005-06 TO 2009-10)**

Company Name	Average of ROLF (in %)	Average of Int. Turnover Ratio (In Times)
Maruti Suzuki	27.568	26.28
Tata Motor	20.766	13.46
Hindustan Motor	-30.676	9.382
M & M	22.228	13.9
Yearly Average	8.47	15.76

Table no. 5.28 shows comparative analysis for return on long term fund and average inventory turnover ratio.

The average Return on long term fund ratio of Maruti Suzuki company is 27.56 percent where as its average Inventory turnover ratio is 26.28 times.

In the Tata Motors the average return on long term fund ratio is 20.76 percent as against its inventory turnover ratio is 13.46 times.

In the Hindustan Motors Ltd. the ratio of return on long term fund is in minus where as its average inventory turnover ratio is 9.38 times.

In the M & M the average ratio of return on long term fund is 22.22 percent against is, its average inventory turnover ratio is 13.9 times.

**(XXIX) ANALYSIS OF RETURN ON LONG TERM FUND RATIO &
FIXED ASSETS TURNOVER RATIO.**

Table 5.29 Indicates the relation between ROLF & FATR of Car industry under study.

**TABLE 5.29
A COMPARATIVE ANALYSIS OF ROLF & FATR
(2005-06 TO 2009-10)**

Company Name	Average of ROLF (in %)	Average of FATR (In Times)
Maruti Suzuki	27.568	2.51
Tata Motor	20.766	2.43
Hindustan Motor	-30.676	1.27
M & M	22.228	3.18
Yearly Average	8.47	2.35

The above table no. 5.29 shows comparative analysis of return on long term fund ratio and fixed assets turnover ratio.

The average return on long term fund ratio for the sample company is 8.47 percent. While looking at the average of Maruti Suzuki, Tata Motors and Mahindra & Mahindra is above the average of the companies while Hindustan Motors average is in minus.

The average of Fixed assets Turnover ratio for the sample companies is 2.35 times. While looking at the individual companies Maruti Suzuki, Tata Motors and Mahindra & Mahindra is the above the average of the companies while Hindustan Motors in below the Industry average.

(XXX) ANALYSIS OF RETURN ON LONG TERM FUND RATIO & FINANCIAL CHARGES COVERAGE RATIO.

Table 5.30 Indicates the relation between ROLF & FCCR of car Industry under study.

**TABLE 5.30
A COMPARATIVE ANALYSIS OF ROLF & FCCR
(2005-06 TO 2009-10)**

Company Name	Average of ROLF (in %)	Average of FCCR (In %)
Maruti Suzuki	27.568	80.276
Tata Motor	20.766	6.018
Hindustan Motor	-30.676	-2.662
M & M	22.228	33.588
Yearly Average	8.47	29.31

Above table no. 5.30 shows the relationship between return on long term fund ratio and the average of financial charges coverage ratio.

The average Return on long term fund ratio of Maruti Suzuzki is 27.56 percent, as against its average financial charges coverage ratio is 80.27 percent.

In the Tata Motors Ltd the average return on long term fund ratio is 20.76 percent where as the average financial charges coverage ratio is 6.08 percent.

In the Hindustan motors the average return on long term fund ratio is in minus and average FCCR is also in minus.

In the M & M companies the average return on long term fund ratio is 22.22 percent, as against it FCCR is 33.58 percent.

5.3 CONCLUSION

In selected parameters, overall performance of Maruti Suzuki Ltd. Is the best among selected four units. In case of profitability in relations to sales and in relations to investment also the performance of Maruti Suzuki is the best among selected car units. In liquidity point of view the Maruti Suzuki is betterment of other selected units of strongly liquidity position behave in current period of study. If we have enough liquid resources we may be able to get benefit and consequently that will be result in increasing profits.

Mahindra & Mahindra company has also a second best of the selected car units during the study period. M & M has high profitability but not so strong liquidity position. So, it needs to improve working capital management. On an average the Tata Motors performance is also good.

The Hindustan Motors Ltd. is unsuccessful and failure units, during the study period among the selected car units. Company cannot survive in this position, both profitability and liquidity position is low. One of the possible reason for Hindustan Motor company for sickness is the poor management of liquidity.

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CHAPTER – 6

SUMMARY, FINDINGS

& SUGGESTIONS

CHAPTER 6 SUMMARY, FINDINGS AND SUGGESTIONS

CHAPTER - 1 :

OVERVIEW OF THE AUTOMOBILE INDUSTRIES.

A Catholic Priest named father Ferdinand Verbiest is credited to have built a steam – powered car for the Chinese emperor Chien Lung in about 1678. There is no information about the automobile, only the event. Since James Watt didn't invent the steam engine until 1705, we can guess that this was possibly a model automobile powered by a mechanism.

Although by the mid – 15th Century the idea of a self – propelled automobile had been put into practice with the development of experimental car is powered by means of springs, clockworks, and the wind, In the year 1769, a French engineer by the name of Nicolas – Joseph Cugnot invented the first automobile to run on roads. Designed by Cugnot and Constructed by M. Brezin. This automobile, in fact, was a self – powered, three – wheeled military tractor that made the use of a steam engine. The range of the automobile however, was very brief and at the most, it could only run at a stretch for fifteen minutes. In addition, these automobiles were not fit for the roads as the steam engines made them very heavy and large, and required ample starting time. It had a top speed of a little more than 3.2 km/h and had to stop every 20 minutes to build up a fresh head of steam.

Carl Benz and Gottlieb Daimler, both Germans, share the credit of changing the transport habits of the world, for their efforts laid the foundation of the great motor industry as we know it today. First, Carl Benz invented the petrol engine in 1885 and a year later Daimler made a car driven by motor of his own design and the rest is history.

In ten years from the invention of the petrol engine, the motor car had evolved itself into amazing designs and shapes. By 1898, there were 50 automobile manufacturing companies in the United States. In that year, Henry Ford revolutionized the manufacture of automobiles with his assembly – line style of production and brought out the Model T, a car that was inexpensive, versatile, and easy to maintain. This led to the development of the industry and it first began in the assembly lines of his car factory. The several methods adapted by Ford made the new invention (that is the car) popular amongst the rich as well as the masses.

Automobile industry plays a very vital role in the Indian economy. Its connections with various other sectors of the economy make it an important component of the economy. Infrastructural development of a nation comprises of urban development, rural development and industrial development, but the hidden requirement of infrastructure is the connectivity between various regions, which is fulfilled by the automobile industry. The auto industry plays a significant role in shaping a country's economy and development. The manufacture of heavy commercial vehicles had given rise to a new era in the Indian history. Slowly many firms started setting up various small manufacturing units in India. As a result the first few passenger vehicles such as the Fiat, Premiere Padmini, Lohr scooters, etc came into production in India.

The Indian Automobile industry includes two - wheelers, trucks, cars, buses and three - wheelers which play a crucial role in growth of the Indian economy. India has emerged as Asia's fourth largest exporter of automobiles, behind Japan, South Korea and Thailand. The Country is expected to top the world in car volumes with approximately 611 million vehicles on the nation's roads by 2050. The Economic progress of this industry is indicated by the amount of goods and services produced which give the capacity for transportation and boost the sale of vehicles. There is a huge increase in automobile production with a catalyst effect by indirectly increasing the demand for a number of war materials like steel, rubber, plastics, glass, paint, electronics and services. The revenue generated due to these sectors also contributes to the enhancement of the national economy.

CHAPTER - 2

RESEARCH METHODOLOGY

The title of the problem of the subject of this study is " A comparative analysis of liquidity vis-à-vis profitability of Indian car industry".

The Automobile industry plays a very vital role in the Indian Economic. Its connections with various other sectors of the economy make it an important component of the economy. Infrastructural development of a nation comprises of urban development, rural development and industrial development, but the hidden requirement of infrastructure is the connectivity between various regions, which is fulfilled by the automobile industry. The Auto industry plays a significant role in shaping a county's economy and development. The manufactures of heavy commercial vehicle had given rise to a new era in the Indian history. Slowly many firms started setting up various small manufacturing units in India.

Therefore, it is assumed that in the factor which are obstruction the liquidly vis-à-vis profitability position of car units could manage properly then units would come out with a better working result.

This study based on the secondary data derived from annual published reports of selected car companies or computer data. Various researchers have been conducted under Accompany commerce, Management, Economics etc. Faculty of Saurashtra University. However no research has been conducted "A Comparative Analysis of liquidity vis-à-vis profitability of Indian car Industry". Thus, this study would be an original contribution to the problem of the study in unique every respect.

PROBLEM IDENTIFICATION

Automobile is one of the most important industries in Indian economy. It has played a vital role in the development of country. The first car rolled out on the streets of Mumbai (than Bombay) in 1897-98. However, during the last three or four decades the Industry has achieved substantial progress. Indian has the fourth largest car market in Asia. Financial soundness of business enterprise largely depending upon the profitability can be achieved after control over the cost of production like cost of raw material consumed. Excise duty power and fuel cost, interest burden, administrative expense, selling and distribution expense etc. That have been increased heavily on the other hand price of the car is decreased in this circumstance to keep the progress of business enterprise. It is very essential for management. In present environment to achieve the profit trends to introduce various cost control techniques over expenditures and maximum output.

Another problem of industry is short supply of raw material and shortage of electricity supply and heavy electric charges. It is also making effect on cost of production and financial position. Other problem is Tax and duty structure and differential taxation system. The sales tax structure is not standardized across the country also a limited road network with poor road surface did not help matters much. These problem also effect directly or indirectly on cost of production. The objectives of final analyst are as (1) external (2) Internal. An external analyst has to depend upon the published information of financial statement, which are not on lightening themselves while internal analyst know everything regarding the information provided in financial statements.

Study of financial statement analysis is always made objectively. Generally, external analysts use information as per their requirements. Financier would like to know profitability. Management would be interested in the operational efficiency and profitability. Position of the management profitability vis-à-vis liquidity also balances in the portfolio. But if the management likes profitability, liquidity is less and the liquidity is like the profitability is less. The various stockholders of business enterprise like management, investors, bankers, financial institutions, creditors, employs, government economist, prospective investors etc, look at sound financial position of the business enterprise.

THE RESEARCH METHODOLOGY.

(1) The title of the study is a comparative analysis of liquidity and profitability of Indian car industry.

(2) OBJECTIVES OF THE STUDY

- (i) To examine the liquidity position and analysis of Liquidity
- (ii) To analysis of the profitability
- (iii) To analysis liquidity vis-à-vis profitability
- (iv) To make suggestions of profitability and liquidity for financial soundness.

(3) HYPOTHESIS

- (1) There is no significant difference in liquidity trends of car industry.
- (2) There is no significant difference in profitability trends of car industry.

(4) DATA COLLECTION

The main source of data used for the study was secondary, drawn from the annual profit and loss account and balance sheet Figures as found in annual reports of the selected units. The other data sources and opinions expressed in commercial Journals, Magazines, News Papers, Accounting literature, various Journals of car. Automobile industry annual review etc. have been also used in this study

(5) PERIOD OF THE STUDY

The liquidity and profitability study is made for a period of 5 years from 2005-2006 to 2009-2010.

(6) UNIVERSE OF THE STUDY

The universe of the study consists of all the limited companies working in India. And listed in stock exchanges of India.

(7) SAMPLING DESIGN

For the purpose of the study the following four major player in the Automobile Industry.

Name of the companies:

- (1) MARUTI SUZUKI LTD.**
- (2) TATA MOTOR**
- (3) HINDUSTAN MOTORS**
- (4) MAHINDRA & MAHINDRA**

(8) TOOLS AND TECHNIQUES FOR ANALYSIS OF FINANCIAL STATEMENTS

- (i)** Ratio Analysis Income
- (ii)** Common size Statement Analysis
- (iii)** Trend analysis
- (iv)** Anova Test
- (v)** Value added analysis
- (vi)** Other techniques

✚ LIMITATIONS OF THE STUDY

- (i)** The study is limited to 4 units of the auto sector.
- (ii)** This study based on secondary data taken from published annual reports and accounts of selected companies and as such its finding depends entirely on such data.
- (iii)** There are different methods to measure the liquidity and profitability of an industry in this connection views of experts differ from one another.
- (iv)** Profitability is affected by many factors, internal as well as external factors but the researcher has taken into consideration only some factors which are relevant to study.
- (v)** The major limitation of the study is non – availability of the information as required by the research forms.
- (vi)** It may be personal view differ from others.

 CHAPTER PLAN

CHAPTER - 1 :- OVERVIEW OF THE AUTOMOBILE
INDUSTRY

CHAPTER - 2 :- RESEARCH METHODOLOGY

CHAPTER - 3 :- ANALYSIS OF LIQUIDITY

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CHAPTER - 5 :- COMPARATIVE ANALYSIS OF LIQUIDITY
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CHAPTER - 3

ANALYSIS OF LIQUIDITY

By the term 'liquidity' is meant the debt-repaying capacity of an undertaking. It refers to the firm's ability to meet the claims of suppliers of goods, services and capital. According to Archer and D'Ambrosio, liquidity means cash and cash availability, and it is from current operations and previous accumulations that cash is available, to take care of the claims of both the short-term suppliers of capital and the long-term ones. It has two dimensions; the short-term and the long-term liquidity.

Short-term liquidity implies the capacity of the undertaking to repay the short-term debt which means the same as the ability of the firm in meeting the currently maturing obligations from out of the current assets. The purpose of the short-term analysis is to derive a picture of the capacity of the firm to meet its short-term obligations out of its short-term resources, that is, to estimate the risk of supplying short-term capital to the firm.

Analysis of the firm's long-term position has for its rationale the delineation of the ability of a firm to meet its long-term financial obligations such as interest and dividend payment and repayment of principal. Long-term liquidity refers to the ability of the firm to retire long-term debt and interest and other long-run obligations. When relationships are established along these lines it is assumed that in the long-run assets could be liquidated to meet the financial claims of the firm. Quite often the expression 'liquidity' is used to mean short-term liquidity of the companies.

In the present study, liquidity is taken to mean the short-term liquidity which refers to the ability of the undertakings to pay off current liabilities. This is chosen because the study relates to the management of short-term assets and liabilities. In other words, the long-run success of an undertaking lies in its ability to survive in the immediate future. Further, a company may have tremendous potential for profitability in the long-run but may languish due to inadequate liquidity. It is, therefore, short-term liquidity that has been considered crucial to the very existence of an enterprise.

3.2 MEASUREMENT OF LIQUIDITY

Liquidity of an enterprise can be studied in two ways, namely, (i) Technical liquidity, and (ii) Operational liquidity. The difference between the two methods liquidity measurement depends upon whether one assumes the 'liquidation concept' business as in case of the technical liquidity or the 'going concern concept' of business as in the case of the operational liquidity.

The first method of computation of liquidity is based on the assumption that the firm might become insolvent at any time and whether, in such an event, the current assets held by the undertakings would be sufficient to pay-off the current liabilities. On the other hand, the computation of 'operational liquidity' attempts the measurement of the firm's potential to meet the current obligations on the basis of net cash flows originating from out of its own operations with the view that a manufacturing enterprise cannot pay off current liabilities from its current assets when it is in the run. It is assumed under this approach that firms are going firms and hence the liabilities are met through the net cash flows arising out of their operations.

✚ TECHNICAL LIQUIDITY

Technical liquidity is normally evaluated on the basis of the following ratios in a business enterprise.

✚ CURRENT RATIO

Current ratio expresses the precise relation between current assets and current liabilities. It is calculated by dividing current assets with current liabilities.

$$\text{Current Ratio} = \text{Current assets} / \text{Current liabilities}$$

It indicates the availability of current assets in rupees for every one rupee of current liabilities. A high ratio means that the firm has more investment in current assets. While a low ratio indicates that the firm in question is unable to retire its current liabilities. In fact, a satisfactory current ratio for any given firm is difficult to judge. For most manufacturing undertakings, a ratio of 2:1 is traditionally considered a bench-mark of adequate liquidity. However, to some of the undertakings like public utilities and service firms this standard ratio is not particularly useful in as much as they carry on inventories for sale.

Current ratio is equally useful to both the outsiders and management. To an outsider, it is a measure of the firm's ability to meet its short-term claims. So far as the management concerned, the ratio discloses the magnitude of the current assets that the firm carries in relation to its current liabilities. As regards the outsider, the larger the ratio, the more liquid is the firm. But, from the management point of view, a larger ratio indicates excess investment in less profit-generating assets. On the contrary, a low current ratio or downward trend in the ratio indicated the inefficient management of working capital.

Nevertheless, the current ratio is a crude and quick measures of the firm's liquidity as it is only a test of the quantity and not the quality. The limitation of this ratio as an indicator of liquidity lies in the size of the inventory of the enterprise. If inventory forms a high proportion of current assets, the 2:1 ratio might not be adequate, as a meaningful measure of liquidity.

QUICK OR ACID-TEST RATIO

Recognizing that inventory might not be very liquid or slow-moving, this ratio takes the quickly realizable assets and measures them against current liabilities. This is a more refined if somewhat conservative estimate of the firm's liquidity, since it establishes a relation between quick or liquid assets and current liabilities. To be precise of quick assets is one that can be converted into cash immediately or reasonably soon without loss of value. For instance, cash is the most liquid of all assets. The other assets which are considered to be relatively liquid and include in the quick category are accounts and bills receivable and marketable securities. Inventory and period expenses are considered to be less liquid. Inventories normally require some time for realizing into cash. The quick ratio is, then, expressed as a relation between quick assets and current liabilities, as:

$$\begin{aligned} \text{Quick Ratio} &= \text{Quick assets} / \text{Current liabilities} \\ &= \text{Current assets} - \text{Inventories} / \text{Current liabilities.} \end{aligned}$$

Conventionally, a quick ratio of 1:1 is considered to be a more satisfactory measure of liquidity position of an enterprise. In fact, this ratio does not entirely supplant the current ratio; rather, it partially supplements current ratio and when used in conjunction with it, tends to give a better picture of the firm's ability to meet its claims out of short-term assets.

✚ EFFECTS OF LIQUIDITY

Liquidity of a business is one of the key factors determining its propensity to succeed or fail. Both excess and shortage of liquidity affect the interest of the firm. By excess liquidity in a business enterprise, it is meant that it is carrying higher current assets than are warranted by the requirements of production. Hence, it indicates the blocking up of funds in current assets without any return. Besides, the firm has to incur costs to carry them overtime. Further, the value of such assets would depreciate in times of inflation, if they are left idle. Owing to the cornering of capital, the firm may have resort to additional borrowing even at a fancy price.

On the other hand, the impact of inadequate liquidity more severe. The losses due to insufficient liquidity would be many. Production may have to be curtailed or stopped from the lack of necessary funds. As the firm will not be in a position to pay off the debts, the credit worthiness of the firm is badly affected. In general, the smaller the amount of default, the higher would be the damage done to the image of the unit. IN addition, the firm will not be able to secure funds from outside sources, and the existing creditors may even force the firm into bankruptcy. Further, insufficient funds will now allow the concern to launch any profitable project or earn attractive rates of return on the existing investment.

Between the excess and inadequate liquidity, the latter is considered to be more detrimental, since the lack of liquidity may endanger the very existence of the business enterprise. Besides, both the excess and inadequate liquidity adversely affect the profitability, but liquidity itself is influenced by the low profitability. If the firm is earning very low rates of return or incurring losses, there would be no funds generated by the operations of the company which are essential

to retire the debts. In fact, there is a tangle between liquidity and profitability, which eventually determines the optimum level of investment in current assets. Of the liquidity and profitability the former assumes further importance since profits could be earned with ease in subsequent periods, once the image of the unit is maintained. But, if the firm loses its face in the market for want of liquidity, it requires Herculean efforts to restore its position. Instances are not lacking of great industrial giants, with comfortable book profits coming to grief for want of liquidity.

ABSOLUTE LIQUIDITY RATIO

Absolute liquidity ratio is the refinement of the concept of eliminating inventory as liquid assets in the acid-test ratio, because of their uncertain value at the time of liquidation. Although receivables are generally much more liquid in nature than inventories, some doubt may exist concerning their liquidity as well. So, by eliminating receivables and inventories from the current assets, another measure of liquidity is derived by relating the sum of cash and marketable securities to the current liabilities. Generally, an absolute liquidity ratio of 05:1 is considered appropriate in evaluating liquidity.

✚ OPERATIONAL LIQUIDITY

Operational liquidity which is based on the going concern concept of business, is determined by expressing cash flows as a percentage of current liabilities. It is verified here whether the companies included in the study would be able to discharge its current liabilities from the cash flows generated from the operations.

ANALYSIS OF LIQUIDITY

(1) CURRENT RATIO:-

Current ratio is an index of the firm's financial stability i.e., and index of technical solvency and an index of the strength of working capital, which means excess of current assets over current liabilities. In the Maruti Suzuki Ltd., the average current ratio is 1.35 times. The average of Tata Motors Ltd in current ratio is 0.96 times. Average of Hindustan Motors Ltd in current ratio is 0.92 times. While the average of Mahindra & Mahindra Ltd is 1.17 times.

(2) QUICK RATIO

Liquidity ratio is the measurement of the instant debt paying ability of the business enterprise, hence it is also called quick ratio. Liquidity ratio is an indication of a firm's ability to meet unexpected demand for working capital. In the Maruti Suzuki Ltd the average of quick ratio is 1.006 times. In the Tata motors Ltd, the average of quick ratio is 0.708 times. In the Hindustan Motors Ltd, the average of liquid ratio is 0.50 times while the average liquid of Mahindra & Mahindra Ltd is 0.85 times.

(3) INVENTORY TURNOVER RATIO

Inventory turnover ratio is a ratio that establishes the relationship between cost of sales and Average Inventory. This ratio indicates whether the investment in inventory is within proper limit or not. In the Maruti Suzuki Ltd, the average Inventory Turnover ratio is 26.28 times, the average inventory turnover ratio of Tata Motors Ltd is 13.46 times. In the Hindustan Motors Ltd, the average Inventory turnover ratio is 9.38 times. In the Mahindra & Mahindra Ltd the average ratio is inventory is 13.9 times.

(4) FIXED ASSETS TURNOVER RATIO

Fixed Assets turnover ratio reflects the efficiency with which the company is utilizing its investments in Fixed Assets. It indicates the efficiency of the organization, how profitability and adequately it uses its investments in fixed assets. The average fixed assets turnover ratio of Maruti Suzuki Ltd is 2.51 times, In the Tata Motors Ltd, the average Fixed Assets Turnover ratio is 2.43 times. The average fixed assets turnover ratio is 3.85 times which the above than the average of selected companies.

(5) FINANCIAL CHARGES COVERAGE RATIO

Coverage ratio are designed to relate the financial charges of a firm to its ability to service or cover them. One of the most traditional of the coverage ratios is the interest coverage ratio. In the Maruti Suzuki Ltd the average of Financial charges coverage ratio is 80.27 percent. The average FCCR of Tata Motors Ltd is, 6.018 percent, In the Hindustan Motors Ltd ratio is in minus 2.66 percent. In the Mahindra & Mahindra Ltd, the average of FCCR is 33.58 percent.

Chapter – 4

ANALYSIS OF PROFITABILITY

Profit is the legitimate object of our society and prima facie object of every business. It is barometer of the success of business. Profit is the pivot around which revolve the various activities of business. In the opinion of R.E.V. Duck and F.R.J. Jervis, "Perhaps the most important reason for keeping accounts as far as management of the business is concerned that the information contained in them provides the means of measuring the progress of a

business, of testing it's pulse and at indicating when and where remedial action, if necessary, shall be taken".

The survival of any business depends upon it's earning capacity. Thus, if an enterprise fails to make profit, capital invested is eroded and if this situation prolongs, the enterprise ultimately ceases to exist. In fact, profit is the soul of business without which it is lifeless. Indeed, the efficiency of a business concern is measured by the amount of profits earned. The larger the profits the more efficient and profitable the business is demanded to be. According to R. R. Gilchrist, the profit is the ultimate measure of effectiveness. A profitable company is likely to offer not only security of employment but also promotion prospects, job opportunities and the intense personnel motivation that comes from being associated with success.

Profitability means the profit earning ability of the enterprise and the capacity of management to generate surplus in the process of business operations. It is overall measure of efficiency.

Profitability is distinguished from "profits". Profits refer to the absolute quantum of profits. Whereas the profitability refers to the ability to earn profits.

W. M. Harper remarks that profitability is a relative measure, it indicates the most profitability alternative. Profit, on the other hand, is an absolute measure – it indicates the overall amount of profit earned by a transaction very high profit does not always indicate a sound – organizational efficiency and low profitability is not always a sign of organizational sickness.

In many a situation, it so happens that when a concern is implementing expansion plans, it may run into short term losses, therefore it can be said that profit is not the prime variable on which the operational efficiency and financial efficiency of an organization can be compared.

Profitability is required to judge the degree of operational efficiency of management, controlling operations and performance. It is also used to study "relative efficiency" with other firms.

An analysis of profitability reveals how the profit position stands as a result of total translations made during the year, Such analysis is particularly interesting to the suppliers of funds who can evaluate their investment and take decision accordingly. On the other hand, profit ratios are equally helpful to the management because these ratios reflect the efficiency of the enterprise as a whole. B.B.Howod and M.Upton observed that the word "profitability" may be defined as the ability of a investment to earn to return on its use. Thus profitability is the ability of an organization to earn profits. In other words, profitability is a composite concept relating the efficiency of an organization to earn profits.

4.2 PRODUCTIVITY AND PROFITABILITY

The performance of business firm can be evaluated or measured from a number of perspectives, and there are various quantitative as well as qualitative criteria that can be employed for this purpose. Productivity and profitability are the two separate device for the measurement of overall efficiency of a business firm.

Productivity is defined as the ratio outputs to inputs, output in the form of products or services and input are the resources which are put in to convert into outputs. It is the quality or state of being productive. It is a concept that guides the management of production

system and measures its success. It is the quality that indicates how efficiency the material, the labour, the capital and the energy can be utilized measurement and analysis of productivity can help to indentify area for corrective actions towards planning of business firm.

Capital and labour happen to be the two most important factor of production and the profitability of the business forms depends greatly on how efficiency and effectively it utilizes these two factors of Production. The productivity of capital can be measured by the ratio of output to capital employed. The higher the ratio greater would be the productivity of capital. If productivity of business firm increases the profitability will also increase. Thus profitability of the business firm largely depends on the productivity. Though both are different concepts of measuring the performance of business, their calculation is same base on the ratio. The calculation formulas are as under.

Profitability = Operating Income / Operating Assets

Productivity = Output / Input

Where operating income means, income from utilization of capital employed in the business firm and operating assets means capital employed. Chen and Mc Garrach painted out that “with due allowance for temporary currency value fluctuations or changes in commodity or product price, there is strong positive co-relation among time series data measuring productivity, profitability and efficiency. Profit may be high or law due to change in selling price of commodities and services, inflationary effects, Governmental policy etc.

4.6 IMPORTANCE OF PROFITABILITY

Profit is a very good indicator of business performance, but the real standard of performance of a business firm cannot be judged by the absolute size of its periodic profit. For that profitability is a good

device, which represent the earning of a business firm. Modern management is engaged in the task of maximizing the profit and wealth. The efficiency of management is measure by the profitability of the business; the greater is the profitability of the business, the more will be efficiency.

“An analysis of the profitability reveals as to haw the position of profit stands as a result of total transactions made during the year. It need not be stressed that profitability is analyzed through the computation of profit ratios. Profitability of a business firm is very much helpful to the management, creditors and share holders of business firm. The management of business firm has to take some crucial managerial decision like further expansion, raising of additional finance and problem of bonus and dividend payment etc. and for this purpose the management greatly rely-upon the profitability of the business firm. Moreover, management cans evaluate the operational efficiency of the business firm. The creditors of a business firm. Are also interested in the profitability of business firm. On the basis of profitability they decide their policy regarding the business firm. The share holders are equally interested in the profitability of the company. The share holders of a business form cannot be judged by absolute size of its periodic profit. For that profitability is a good device which represent the earning capacity of a business firm. Modern management is engaged in the task of maximizing the profits and wealth. The efficiency of management is measured by profitability of the business; the greater is the profitability reveals as to how position of profit stands as a result of total transaction mode during the year. It need not be stressed that profitability is analyzed through the computation of profit ratios. Profitability of a business firm is very much helpful to the management, creditors and share-holders of business firm. The management of a business firm has to take same crucial managerial decision like further expansion, raising of a additional finance and

problem of bonus and dividend payments etc. and for this purpose the management greatly rely-upon the profitability of the business firm. Moreover management can evaluate the operational efficiency of the business firm. The creditors of a business firm are also interested in the profitability of business firm. On the basis of profitability they decide their policy regarding the business firm. The share-holders are equally interested in the profitability of the company. The share-holders can take the decision whether to hold their equity share in the company or not, on the basis of profitability. Thus the management, creditors and owners of the company are equally interested in the profitability of the company.

PROFITABILITY ANALYSIS OF CAR INDUSTRY

(1) EARNING PER SHARE:

Earning per share (in Rupees) of Car Industry under the study 2005-06 to 2009-10 a look at the earning per share of the Companies under the study. The Maruti Suzuki Ltd EPS is increased over the year. The average EPS of Maruti Suzuki is 55.89 Rs. is the highest of the selected companies. Tata Motors average EPS is Rs. 33.22. The EPS Ratio of Hindustan Motors was minus 3.64 Rs. In Mahindra & Mahindra company the average EPS is Rs. 34.98.

Looking in accordance with the yearly the average EPS of the selected company in 2005-06 is 27.39 Rs., in 2006-07 is 33.47Rs., in 2007-08 is 32.80 Rs., in 2008-09 is 22.58 Rs., and in 2009-10 is 34.32 Rs. and the earning per share of the selected company according to year is 30.11 Rs.

(2) DIVIDEND PER SHARE :

Dividend per share (in Rupees) of car Industry under the study 2005-06 to 2009-10 a look at the dividend per share of the companies under the study. The Maruti Suzuki Ltd dividend per share increase regularly in the study period except in 2008-09. The average DPS of the Maruti Suzuki is Rs. 4.5. The Tata Motors average DPS is Rs 12.8 while Hindustan Motors company was not able to pay dividend to the share holders due to loss. Mahindra & Mahindra the average DPS is Rs. 10.5. Looking at accordance with the year, the average DPS of the selected company in 2005-06 is 6.63 Rs, in 2006-07 is 7.75 Rs, in 2007-08 is 7.88 Rs, in 2008-09 is Rs. 4.88, and in 2009-10 is Rs. 7.63 and the Dividend per share of the selected company according to years is Rs. 6.95.

(3) OPERATING MARGIN RATIO:

This ratio indicates the relationship between operating profit and net sales in the form of percentage. The average operating margin ratio of Maruti Suzuki Ltd is 13.24%. In the Tata Motors average operating margin ratio is 9.804% and in Mahindra & Mahindra Ltd average operating ratio is 11.698% which was the above than the selected companies. While the average operating margin ratio of Hindustan Motors Ltd was in minus 5.922. which not good sign for the management.

(4) NET PROFIT MARGIN RATIO:

The ratio is valuable for the purpose of ascertaining the overall profitability of business and shows the efficiency of operating the business. The Maruti Suzuki Ltd the average net profit margin ratio is 8.64%, average net profit margin ratio of Tata Motors Ltd is 6.25% and average net profit margin ratio of Mahindra & Mahindra company is 9.48% which is the above than the average of selected industries while Hindustan Motors Ltd was suffers the net loss of 3.53%.

(5) RETURN ON NET WORTH RATIO:

The ratio of return on owner's equity is a valuable measure for funding the profitability of an organization. If we take the return on net worth of Maruti Suzuki companies the average R. O. N. worth from 2005-06 to 2009-10 is 19.72% . In the Tata Motors Ltd the average Return on net worth is 17.54%. In the Mahindra & Mahindra the average return on net worth is 22.68% while the Hindustan Motors Ltd the average of return on net worth is in minus 139.31 percent.

(6) RETURN ON LONG TERM FUND RATIO:

The prime objective of making investments in any business is to obtain satisfactory return on capital invested. Hence, the return on capital employed is used as a measure of success of a business in realizing this objective. It is an overall profitability ratio. In the Maruti Suzuki Ltd the average return on long term fund from 2005-06 to 2009-10 is 27.56 percent. The average long term fund ratio of Tata Motors Ltd is 20.76 percent and in Mahindra & Mahindra Ltd the average return on long term fund ratio is 22.22 percent while in Hindustan Motors Ltd ratio is in minus 36.67 percent which shows unsatisfactory return on long – term fund.

In case of profitability in relation to sales and in relation to investment also. The average performance of Maruti Suzuki Ltd. is the best among selected four companies. Mahindra & Mahindra and Tata Motors has also a better performance while the Hindustan Motors Ltd has suffers the net loss during the study period. May be due to leak of control over expenses resulting in low profit.

CHAPTER 5

LIQUIDITY VIS-À-VIS PROFITABILITY

If a firm desires to take a greater risk for bigger gains or losses. It reduced the size of its liquid capital in relation to its sales. If it is interested in improving its liquidity, it increases the level of its liquid capital. However, this policy is likely to result in a reduction of sales volume and therefore, of profitability. A firm, therefore should choose between liquidity and profitability and decide about its liquid capital need accordingly.

A comparative analysis of earning for share and current ratio. It can be said that the yearly average of EPS seen as Rs. 30.11 as compare with the average current ratio is 1.11 times. The Maruti – Suzuki Ltd. average EPS is highest among the selected companies.

The yearly average of EPS is Rs. 30.11 as against it average quick ratio is 0.77 times as against its inventory turnover ratio is 15.76 times, as against it yearly average fixed assets turnover ratio is 2.35 times and as against it is average financial charges coverage ratio is 29.31 percent.

It shows that the analysis for dividend per share and current ratio. It can be seen that the average DPS is 6.95 Rs. as against the average current ratio is 1.11 times. As compare the DPS ratio Rs. 6.95 with the other liquidity ratio the average quick ratio is 0.77 times. The average Inventory turnover ratio is 15.76 times. The average fixed assets turnover ratio is 2.35 times and average financial charges ratio is 29.31%.

A comparative analysis of average operating margin ratio (in percent) and average current ratio (in times). The average operating margin ratio is 7.21 percent, while the average current ratio is 1.11 times. The average operating margin is 7.21 percent as against it's the average quick ratio is 0.77 times while discussing the profitability vis-à-vis, it can be said that there is direct relation between operating margined and quick ratio. It means if the operating profit is high, the quick ratio is also high and if operating profit is low the quick ratio is proportionately low compare to other liquidity ratio with operating margin. The average inventory turnover ratio is 15.76 times, the average fixed assets turnover ratio is 2.35 time and the average financial charges coverage ratio is 29.31 percent.

A comparative analysis for net profit margin and average current ratio. The average net profit margin is 5.21 percent where as its average current ratio is 1.11 times. The average net profit margin 5.21 percent compare with the other ratio, the average quick ratio is 0.77 times, where as the average inventory turnover ratio 15.76 times, where as average fixed assets turnover ratio is 2.35 times and the average financial charges coverage ratio is 29.31 percent.

It shows that a comparative analysis for return on net worth and average current ratio. The average return on net worth is 19.98 percent as against its average current ratio is 1.11 times. The average return on net worth ratio compare with other ratio, the average quick ratio is 0.77 times, the average inventory turnover ratio is 15.76 times, the average Fixed assets turnover ratio is 2.35 times and average financial charges coverage ratio is 29.31 percent.

It is find that a comparative analysis for long term fund ratio and current ratio the average return on long – term fund ratio of selected companies is 8.47% as against its average current ratio is 1.11 times. All the selected companies average above than the average of industry except Hindustan Motor Ltd. the average return on long term fund of Hindustan motor Ltd is in minus. Due to negative earnings. It also indicates unfavorable business conditions and over investment in the fixed assets. The average return on long – term fund ratio compare with other liquidity ratio, the average quick ratio is 0.77 times. The average inventory turnover ratio is 15.76 times, the average fixed assets turnover ratio is 2.35 times and average financial charges coverage ratio is 29.31 percent.

SUGGESTIONS :

As a research based on analysis has found the following suggestions for the betterment of the selected Car group of companies.

- [1] In order to increase the profitability of the companies, it is suggested to control operating expenses in selected companies.
- [2] The company should try to increase the production so as to get economies of large-scale production. It will assist in raising the rate of return of capital employed.
- [3] The quantum of sales generated should be improved impressively in order better to enjoy better per of the assets and capital employed.
- [4] The selected Car Group of Companies is the capital intensive in nature but the policy of purchase of fixed assets should be carefully planned and reviewed so that the funds may be properly utilized.
- [5] The selected Car units should try to match the amount of working with the sales trends. Where there is a deficit of working capital, they should try to build on adequate amount of working capita. Where, there is an excessive working capital, it should be invested either in trade securities or should be used to repay borrowings.
- [6] The management should try to utilize their production capacity fully in order to reduce factory overheads and to utilize their fixed assets properly.

- [7] The burden of interest has produced a deteriorating effect and reduced the percentage of net profit. It is suggested that the companies should try to reduce the interest burden gradually by increasing the owner's fund.
- [8] The selected companies, which did not follow a definite policy of financing fixed assets, should follow such policy.
- [9] To strengthen the financial efficiency, long-term funds have to be used to finance core current assets and a part of temporary current assets. It is better if the companies can reduce the over sided short-term loans and advances eliminates the risk arranging finance regularly.
- [10] The policy of borrowed financing in selected Car group of companies under study was not proper. So the companies should used widely the borrowed funds and should try to reduce the fixed charges burden gradually by decreasing borrowed funds and by enhancing the owner's fund. For this purpose companies should enlarge their equity share capital by issuing new equity shares.
- [11] For regular supply of raw materials and the final product infrastructure facilities are required further improvement.
- [12] The public sector enterprises set up in backwards areas were not guided by commercial considerations. They were set up to fulfill the aim of balanced regional development.
- [13] There has been too much of government interference in policy and day-to-day working and decisions. This leads to delays in decision-making. This should be abolished.

- [14] There is no incentive to the employees to perform better. Also there is no accountability because no one is held responsible for a future in achieving targets for this kind of problem responsibility centre should be create.
- [15] Improper planning and delays in implementation of projects lead to rise in their cost. So properly planning should be made.
- [16] Public sector enterprises have long enjoyed a monopolistic position. Private sector was not allowed entry. This, in the absence of any competition, means that any performance was good performance. Due to absence of competitor there was no incentive to cut down costs of improve the quality of the product.
- [17] There is overstaffing in public enterprises. The number of persons employed in more than what is required to run the public enterprises efficiently. This increases the cost and reduces profitability of these enterprises.
- [18] The selected Car companies should reduce power and fuel consumption by using low as content Car (imported coal), lignite, agro waste product especially ground not husk, and beggars should be used as coal substitute.
- [19] To regularize and optimize the use of cash balance proper techniques may be adopted for planning and control of cash. The investments in inventories should be reduced and need to introduce a system of prompt collection of debts.

- [20] Selected Car companies should try to use properly their operating assets and should try to minimize their non-operating expenses.
- [21] Company should also try to introduce a small car which can be affordable to a common man as a result everyone can enjoy the benefits of Selected Car Industry
- [22] Company should try to improve production. So waiting period is less in comparison of demanded for selected car models.
- [23] Company should a increase the range of product to fulfill different need of different customer at different level in market.
- [24] The category of Indian car industry is "RED" category. Which represents the highly polluting industries. Which means it is responsible for the global warming. It should try to come under orange category.
- [25] Government has to take a proactive role to reduce the pollution level in the country and should provide tax benefits to electric vehicles like Reva as they don't pollute the environment.
- [26] India hasn't suitable road facility for the smooth running of premier and luxury car moreover they are very costly. So, they are not affordable for our user.

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