On-the-Job Training Report on

"A Comparative study of financial performance: TATA Motors vs Mahindra & Mahindra in the manufacturing segment"

Submitted in partial fulfillment of the requirement for the degree of

Master of Business Administration

By

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Acknowledgement

I would like to express my sincere gratitude to all those who have contributed to the successful completion of my Summer Internship Project titled *"*A Comparative study of financial performance: TATA Motors vs Mahindra & Mahindra in the manufacturing segment*"*.

First and foremost, I am deeply thankful to **Indira School of Business Studies**, MBA for providing me with this valuable opportunity to undertake my internship and gain practical exposure to real-world business processes.

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This learning experience has been immensely enriching, allowing me to bridge the gap between academic concepts and practical application, and I remain grateful to all who made it possible.

Om Sandip Adhav

B2F-21 / 2024-26

Certificate from ISBS

Certificate from the Company

HR / 2025 / 99989211 18.07.2025

CERTIFICATE

This is to certify that **Mr. Om Sandip Adhav** a student of **Indira School of Business Studies** has successfully completed his Project at TATA Motors Passenger Vehicles Ltd Pune from **19.05.2025** to **18.07.2025**.

During the above period, he was engaged in our **"Purchase Finance"** where he carried out a project titled:

"A comparative Study of Financial Performance: Tata Motors vs Mahindra & Mahindra in the Manufacturing Segment"

The candidate was found to be enthusiastic and observant during his short stint in TATA Motors Passenger Vehicles Ltd Pune. His performance has been assessed as **Very Good.**

TATA Motors Passenger Vehicles Limited Pune.

Shashikant Rode
DGM – HR Skill Development
TMPVL Pune

SKILL DEVELOPMENT Tata Motors Passenger Vehicles Ltd. Pune HUMAN RESOURCES

TATA MOTORS PASSENGER VEHICLES LIMITED
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Formal feedback from the company guide

Indira School of Business Studies, Pune

On-the-job training MBA Batch 2024-26

Feedback from the Company Guide

Company Mentor details:

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Project Details:

Title of OJT: A Comparative Study of Financial Performance: TATA Motors vs Mahindra & Mahindra in the Manufacturing Segment

Objectives (4 to 5):

1. To assess and compare key financial ratios of both companies.
2. To evaluate the profitability, liquidity, solvency, and operational efficiency of the firms.
3. ~~-~~
4. To identify strengths, weaknesses and strategic opportunities.
5. To identify the trend analysis of both companies.

Student details:

Student Name: Om Sandip Adhav

Organization Name: Tata Motors

Department Name: Purchase Finance

Duration: [Start Date] to [End Date]: 19-05-2025 to 18-07-2025

Feedback about student:

1. Quality of Work:

☑ Excellent

☐ Good

☐ Average

2. Communication Skills:

☑ Excellent

☐ Good

☐ Average

3. Professionalism:

☑ Excellent

☐ Good

☐ Average

4. Punctuality and Attendance:

☑ Excellent

☐ Good

☐ Average

5. Strengths: [Mention Key Strengths]:

Confident, Bold, focused

6. Areas for Improvement: [Mention Improvement Areas]:

Further depth is required

7. Overall Performance: [Excellent/Good/Average]

☑ Excellent

☐ Good

☐ Average

Tata Motors — Company

Ashish Gaje — Guide

Signature

Date: [Insert Date] 18/07/2025

Company Seal

Executive Summary

This report presents a detailed comparative study of the financial performance of two major players in the Indian automobile manufacturing sector: Tata Motors Limited and Mahindra & Mahindra Limited, for the period 2021 to 2025. The objective of this study is to critically evaluate the financial strengths, weaknesses, and operational efficiency of both companies using key financial metrics and analytical tools.

The Indian automotive industry has witnessed significant transformation during this period, driven by changes in consumer preferences, technological advancements, environmental regulations, and the recovery from the COVID-19 pandemic. Tata Motors and Mahindra & Mahindra have remained central to this evolution, with each adopting distinct strategies to navigate economic challenges and capitalize on emerging opportunities.

The financial analysis encompasses key performance indicators such as profitability ratios, liquidity ratios, solvency ratios, efficiency ratios, and market valuation ratios, based on audited financial statements and annual reports from FY 2021 to FY 2025.

Key findings indicate that Tata Motors has demonstrated robust recovery and global expansion, particularly through its subsidiary Jaguar Land Rover, and increased focus on electric vehicles. On the other hand, Mahindra & Mahindra has sustained its leadership in the utility vehicle and tractor markets, supported by prudent financial management and diversification.

This study offers a comprehensive comparison of their financial health, supported by graphs, tables, and strategic insights. It concludes with actionable recommendations for stakeholders, focusing on growth, sustainability, and financial optimization.

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Abbreviations

Financial Abbreviations

Abbreviation	Full Form / Meaning
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
CFO	Cash Flow from Operations
D/E Ratio	Debt-to-Equity Ratio
P/E Ratio	Price-to-Earnings Ratio
EPS	Earnings Per Share
ROA	Return on Assets
ROE	Return on Equity
ROCE	Return on Capital Employed
NWC	Net Working Capital
SSGR	Self-Sustained Growth Rate
PAT	Profit After Tax
PBT	Profit Before Tax
OPM	Operating Profit Margin
CAGR	Compound Annual Growth Rate
FY	Financial Year
Cr	Crore (10 million)
₹	Indian Rupee
USD	United States Dollar
YOY	Year-on-Year

Industry & Technical Abbreviations

PV	Passenger Vehicle
CV	Commercial Vehicle

EV	Electric Vehicle
OEM	Original Equipment Manufacturer
JLR	Jaguar Land Rover
R&D	Research and Development
HR	Human Resources
SAP	Systems, Applications and Products (Data Processing)
TQM	Total Quality Management
TPM	Total Productive Maintenance
BIW	Body-in-White
KPI	Key Performance Indicator
BS-IV / BS-VI	Bharat Stage IV / VI (Emission Norms)
PPE	Personal Protective Equipment
MW	Megawatt
MNC	Multinational Corporation

Policy, Institutional & Governance Abbreviations

AICTE	All India Council for Technical Education
ARAI	Automotive Research Association of India
ACMA	Automotive Component Manufacturers Association
SIAM	Society of Indian Automobile Manufacturers
GRI	Global Reporting Initiative
ESG	Environmental, Social, and Governance
CSR	Corporate Social Responsibility
NITI	National Institution for Transforming India
PIB	Press Information Bureau
PLI	Production Linked Incentive
FAME	Faster Adoption and Manufacturing of Electric Vehicles

ISO	International Organization for Standardization
BEE	Bureau of Energy Efficiency
NSE	National Stock Exchange
BSE	Bombay Stock Exchange
RBI	Reserve Bank of India
SEBI	Securities and Exchange Board of India
IBEF	India Brand Equity Foundation
KPMG	Klynveld Peat Marwick Goerdeler (Audit & Consulting Firm)
RBV	Resource-Based View
BSC	Balanced Scorecard
OJT	On-the-Job Training

1. Chapter:1 Industry Analysis

1.1 Overview and Sector Structure

The Indian automotive industry is among the biggest in the globe, ranking fourth in production volume currently and expected to be the third-biggest auto market by 2025. It acts as a pillar for India's manufacturing GDP, adding 7.1% to the GDP of the country and 49% of the manufacturing GDP. As of FY 2024, the industry is worth around USD 120 billion and is likely to touch USD 200 billion by FY 2030 (IBEF, 2025).

Four broad segments comprise the structure of the sector:

1. Passenger Vehicles (PV) – cars, SUVs, vans (represents ~17% of overall production)

2. Commercial Vehicles (CV) – trucks, buses (represents ~4%)

3. Two-Wheelers & Three-Wheelers – highest volume share, fuelled by rural demand

4.Automotive Parts – a USD 56.5 billion industry, export-intensive India's competitive strengths are:

•Low-cost manufacturing platform labour 2–3 times cheaper than US/EU

•Domestic demand strength – fuelled by urbanization and income growth

•Captured R&D capability – availability of global OEM R&D facilities (e.g., Ford, Hyundai, Suzuki, Mercedes-Benz)

•Emerging EV ecosystem – Tata Motors, Mahindra Electric, Ola Electric driving adoption

Historically, growth has been cyclical for the sector, with major dependency on macroeconomic stability, fuel prices, and government policy intervention. 1991 liberalization exposed the sector to international players with joint ventures (e.g., Maruti–Suzuki). Post-2015, technology upgrade took off with BS-IV and BS-VI emission norms. The present decade (2020–2030) is likely to be characterized by electrification and digital change.

1.2 Porter's Five Forces Model for the Indian Automobile Sector

1. Threat of New Entrants – Low to Moderate

• The automobile industry is high on capital (USD 1–2 billion investment required for plant establishment).

• High barriers of entry because of strict safety, emission, and quality standards.

• Economies of scale play a very significant role — established players such as Tata Motors and Maruti Suzuki possess production levels greater than 1 million units/year, conferring cost benefits.

• Though, EV new entrants (Ather, Ola Electric, VinFast) are lowering entry barriers in the electric mobility space as a result of less complex drivetrains and lesser tooling needs.

2. Bargaining Power of Suppliers – Moderate

• Large OEMs have a broad vendor pool (e.g., Tata Motors operates with more than 600 tier-1 vendors).

• Such key components as semiconductors and lithium-ion batteries have a limited number of global suppliers, which creates vulnerabilities of supply (experienced during the 2021–2022 chip shortage).

•India's large auto components industry (e.g., Bharat Forge, Motherson Sumi) mitigates reliance on most parts.

3. Bargaining Power of Buyers – High

•Indian consumers are price-conscious — even a 2–3% hike in prices can impact volumes.

•Competition between brands is high, which means the customer has many alternatives available, thus increasing buyer power.

•Online comparison tools and online booking sites further give buyers the power to negotiate.

4. Threat of Substitutes – Moderate

•Public transport, ride-hailing (Ola, Uber), and two-wheelers replace PVs in cities.

•Freight rail competes with commercial vehicle movement.

•Increasing EV and hybrid vehicle penetration can replace conventional ICE vehicles.

5. Industry Rivalry – Very High

•Over 15 active PV and CV segment OEMs, sharp competition on price, features, and finance.

•Regular product introductions (e.g., Tata Motors' Nexon facelift, M&M's XUV700, Scorpio-N) to maintain market share.

• Price wars in entry-level hatchbacks and SUVs reduce margins.

1.3 PESTEL Analysis of Tata Motors



🧩 PESTLE Analysis: Mahindra & Mahindra

🏛️ Political Factors

- Beneficiary of government subsidies in agriculture (tractors).
- “Make in India” and Atmanirbhar Bharat initiatives promote indigenous manufacturing.
- Political instability or change in farm policies could affect rural income and tractor sales.

💹 Economic Factors

- Strong rural demand backed by MSP and farm loan waivers boosted tractor sales.
- High interest rates may impact consumer financing and vehicle sales.
- Lower exposure to global markets means lesser currency fluctuation risk.

👥 Social Factors

- Trusted brand in rural communities; emotional brand connect in farming segment.
- Increasing demand for rugged and off-road vehicles (Bolero, Thar, Scorpio-N).
- Urban customer perception still evolving for M&M’s premium models.

🔧 Technological Factors

Mahindra & Mahindra:

- Focus on building its Born Electric platform (2024 onwards).
- Collaborating with Volkswagen for battery and EV component tech.
- Launched AdrenoX – AI-enabled smart dashboard system in XUV700.

⚖️ Legal Factors

- Focus on meeting BS-VI Phase 2 norms for diesel-heavy product line.
- Tractors face licensing and subsidy rules at state level.
- Compliance with competition law in auto financing and insurance services.

Environmental Factors

- Focus on sustainable agriculture with eco-friendly farm equipment.
- Solar-powered dealership networks, green logistics in progress.
- Investment in climate-resilient manufacturing facilities.

1.4 Sub-Sectors & Main Players

1. Tata Motors: A market leader in commercial vehicles and a rising force in the electric vehicle segment, Tata Motors has built a strong brand presence through innovation, safety, and affordability.

2. Maruti Suzuki: The largest passenger car manufacturer in India, Maruti is known for its widespread service network, fuel-efficient models, and value-based offerings.

3. Hyundai Motor India: Hyundai ranks second in the Indian PV segment and is recognized for its focus on design, safety, and cutting-edge features.

4. Mahindra & Mahindra: Known for utility vehicles and tractors, Mahindra is also venturing aggressively into EVs and smart mobility solutions.

5. Bajaj Auto: A major player in the two-wheeler and three-wheeler segments, Bajaj Auto is a significant exporter and a pioneer in electric scooters through its Chetak brand.

Passenger Vehicles (PV)

•Comprises hatchbacks, sedans, SUVs, MUVs, and vans.

•Maruti Suzuki dominated market (~40% share), followed by Hyundai, Tata Motors (~14%), M&M (~10%).

•SUV penetration increased from 18% in 2015 to more than 50% in 2024.

Commercial Vehicles (CV)

•Covers light commercial vehicles (LCV), medium and heavy commercial vehicles (MHCV), and buses.

•Tata Motors dominates (~40% share), followed by Ashok Leyland and M&M.

•Fueled by infrastructure development, e-commerce logistics, and government road schemes.

Two-Wheelers & Three-Wheelers

•Largest volume segment, headed by Hero MotoCorp, Honda, TVS, Bajaj.

•Urban last-mile connectivity growing with three-wheelers moving towards electric powertrains.

Auto Components

•India's auto component industry grew to USD 56.5 billion in FY 2022, with 25% of exports.

•Motherson Sumi, Bharat Forge, Bosch India are key players.

1.4.1 Market Size, No. of Companies & Leaders

Attributes	Details
Market Size 2024	118.92 (USD Billion)
Market Size 2025	129.39 (USD Billion)
Market Size 2034	276.46 (USD Billion)
Compound Annual Growth Rate (CAGR)	8.80% (2025 - 2034)
Base Year	2024
Market Forecast Period	2025 - 2034
Historical Data	2019 - 2023
Report Coverage	Revenue Forecast, Market Competitive Landscape, Growth Factors, and Trends
Segments Covered	Vehicle Type, Fuel Type, and Region
Countries Covered	India
Key Companies Profiled	Maruti Suzuki India Limited, Tata Motors Limited (includes Tata and Jaguar), Hyundai Motor India Ltd, Mahindra & Mahindra Limited, MG Motor India Pvt. Ltd , BMW AG (includes BMW and MINI), Mercedes-Benz India Pvt Ltd, TVS Motor Company, Honda Motorcycle & Scooter India Pvt. Ltd., Royal Enfield, Bajaj Auto Corp., Suzuki Motorcycle India Private Limited, Piaggio & C. SpA, Scooters India Ltd.,Terra Motors India Corp
Key Market Opportunities	Growing government support for policies Global leaders are investing more in the production of automobiles in India
Key Market Dynamics	Growing demand for electric vehicles Rising numbers of middle-class people

1.5 Key Trends & Challenges

1. Regulatory Environment: The industry is highly regulated, with strict compliance requirements related to emissions (BS-VI norms), safety features, and fuel efficiency. While regulations drive modernisation, they also pose challenges in terms of cost and implementation.

2. Electric Mobility Transition: A major opportunity lies in the shift towards electric vehicles (EVs). This transition is fueled by government incentives (FAME scheme), growing environmental consciousness, and technological advancements. However, challenges include high battery costs and an underdeveloped charging infrastructure.

3. Supply Chain Volatility: Disruptions due to global semiconductor shortages, rising input costs, and geopolitical tensions have exposed vulnerabilities in the automotive supply chain.

4. Consumer Trends: There is increasing demand for compact SUVs, smart infotainment systems, and connected vehicles. Consumers now expect enhanced driving experiences, pushing manufacturers to innovate continuously.

5. Export Potential: India is emerging as a hub for small car and two-wheeler exports. Strategic trade relationships and cost-effective manufacturing give Indian companies a competitive edge in African, Latin American, and South Asian markets.

1.6 Regulatory Bodies & Their Role

• SIAM (Society of Indian Automobile Manufacturers): Industry representation and policy advocacy.

•ACMA (Automotive Component Manufacturers Association): Assists component industry.

•ARAI: Certification, testing, R&D.

•BEE: Regulates vehicle energy efficiency standards.

1.7 Government Initiatives

•FAME-II Scheme (₹10,000 crore budget) extended until 2027 to accelerate EV adoption.

•PLI Scheme for Automobiles & Components with incentives of ₹25,938 crore.

•Srappage Policy announced in 2021 to phase out older polluting vehicles and increase demand for new vehicles.

1.8 Contribution to Economy, Employment & Growth Rate

•Auto industry contributes ~7.1% of India's GDP and 49% of manufacturing GDP.

•Handles more than 37 million employees, with growth expected to 50 million by 2030.

•Export value of USD 23 billion in FY 2024, to Africa, Latin America, and Europe.

1.9 Global Issues Facing the Industry

•Geopolitical tensions impacting raw material supply (e.g., lithium from China, cobalt from Congo).

•Volatility in oil price affecting fuel cost and consumer demand.

•Changes in trade policy affecting export competitiveness.

1.10 Major Technological Developments

• Electric Powertrains: Tata Motors Ziptron EV architecture and M&M INGLO platform.

• ADAS Features: Lane keep assist, adaptive cruise control in mid-segment SUVs.

• Connected Car Ecosystem: Tata's iRA, Mahindra's Adrenox systems providing live vehicle tracking, OTA updates.

• Battery Swapping Models for two- and three-wheelers for urban mobility.

• Lightweight Materials: Aluminium body panels, high-strength steel to enhance efficiency.

Chapter 2: Company Analysis – Organization Profile

2.1 Organization's Name

• Tata Motors Limited

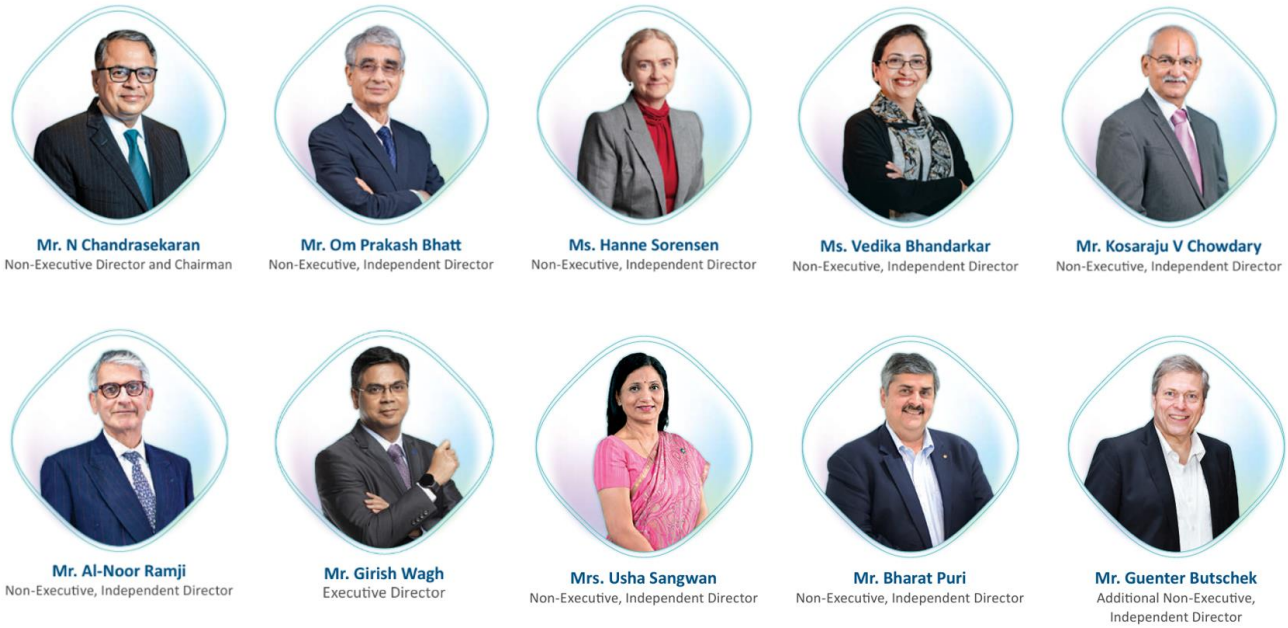
• Mahindra & Mahindra Limited

2.2 Company Brief

Tata Motors

Established in 1945, Tata Motors is an Indian multinational automobile company based in Mumbai, and part of the larger Tata Group Wikipediacustomercare-cv.tatamotors.com. It is a publicly traded company on both BSE and NSE, and is a member of the Sensex and Nifty 50. It has a presence globally with manufacturing facilities throughout India (e.g., Jamshedpur, Lucknow, Pune), and international businesses such as Jaguar Land Rover, Tata Daewoo, and joint ventures like Tata Hitachi and Fiat-Tata.

Board of directors



Mahindra & Mahindra (M&M)

Established in 1945 as "Mahindra & Mohammed" and rechristened M&M, it has its headquarters in Mumbai and is a leading listed player on BSE and NSE (Sensex and Nifty 50 constituents). M&M is a part of the Mahindra Group and is a leading SUV, tractor, and utility vehicle maker globally.

2.3 Mission and Vision

Tata Motors



•Vision: "To be globally significant in each of our chosen businesses by 2025."

• Mission: "We innovate mobility solutions with passion to enhance quality of life; be the most reliable global network for customers and suppliers; and be a responsible value creator for all stakeholders." Core values: Pioneering, Integrity, Excellence, Unity, Responsibility Scribd.

M&M



• Although a precise mission statement could not be located, M&M's vision prioritizes sustainable growth in mobility and beyond, based on its global ESG-driven culture and "Rise" philosophy Tech Mahindra&Mahindra. Its leadership by MD & CEO Dr. Anish Shah, is concentrated on electrification, operational excellence, and strategic clarity Wikipedia.

2.4 History and Background

Tata Motors

•Started as a locomotive builder, went into CVs through a JV with Daimler in 1954, and ventured into passenger vehicles in 1991 with Tata Sierra businessabc.net.

•Launched Indica in 1998, India's first home-grown car, and purchased Daewoo Trucks (2004) and JLR (2008)

- 1945 – Founded as TELCO
- 1954 – Collaboration with Daimler-Benz for commercial vehicles
- 1991 – Launched Tata Sierra, India’s first SUV
- 1998 – Launch of Tata Indica, the first passenger car developed in India
- 2008 – Acquired Jaguar Land Rover from Ford Motor Company
- 2009 – Introduced Tata Nano, the world’s cheapest car
- 2017 – Rebranded passenger vehicle division with IMPACT design philosophy
- 2020 – Launched Tata Nexon EV, pioneering India’s electric revolution
- 2023–24 – EV sales cross 1 lakh units, solidifying leadership in electric mobility

M&M

•Began in 1945, producing Willys Jeeps in India. Went public in 1956, formed an alliance with International Harvester in 1961 to produce tractors Mahindrabusinessabc.net.

• Enlarged over automobiles, agricultural equipment, aerospace, IT, finance, and more under the umbrella of Mahindra Group Tech Mahindrabusinessabc.net.

2.5 Organizational Structure

Tata Motors has a functional and product-based structure with sectors for Passenger Vehicles, Commercial Vehicles, JLR, EV Business, Financial Services, etc. The figure above provides a representative illustration of such a structure.

1. Press Shop: The Press Shop is where the manufacturing process begins. Here, large metal sheets are pressed into shape using hydraulic presses to form various car body parts, such as hoods, doors, and trunk lids.

2. Weld Shop: In the Weld Shop, the pressed parts are welded together to create the Body-in-White (BIW). This involves using various welding techniques, such as spot welding and arc welding, to join the parts together.

3. Paint Shop: The Paint Shop is where the Body-in-White (BIW)is painted. This involves several steps, including pre-treatment, sealant application, painting, and waxing. The paint shop ensures that the car's body is protected from corrosion and has a smooth, glossy finish.

4. Power-Train: Combination of Transaxle and Engine Shop

A. Transaxle: The Transaxle shop is responsible for manufacturing and assembling the transmission and axle components. The transmission is a critical component that transmits power from the engine to the wheels.

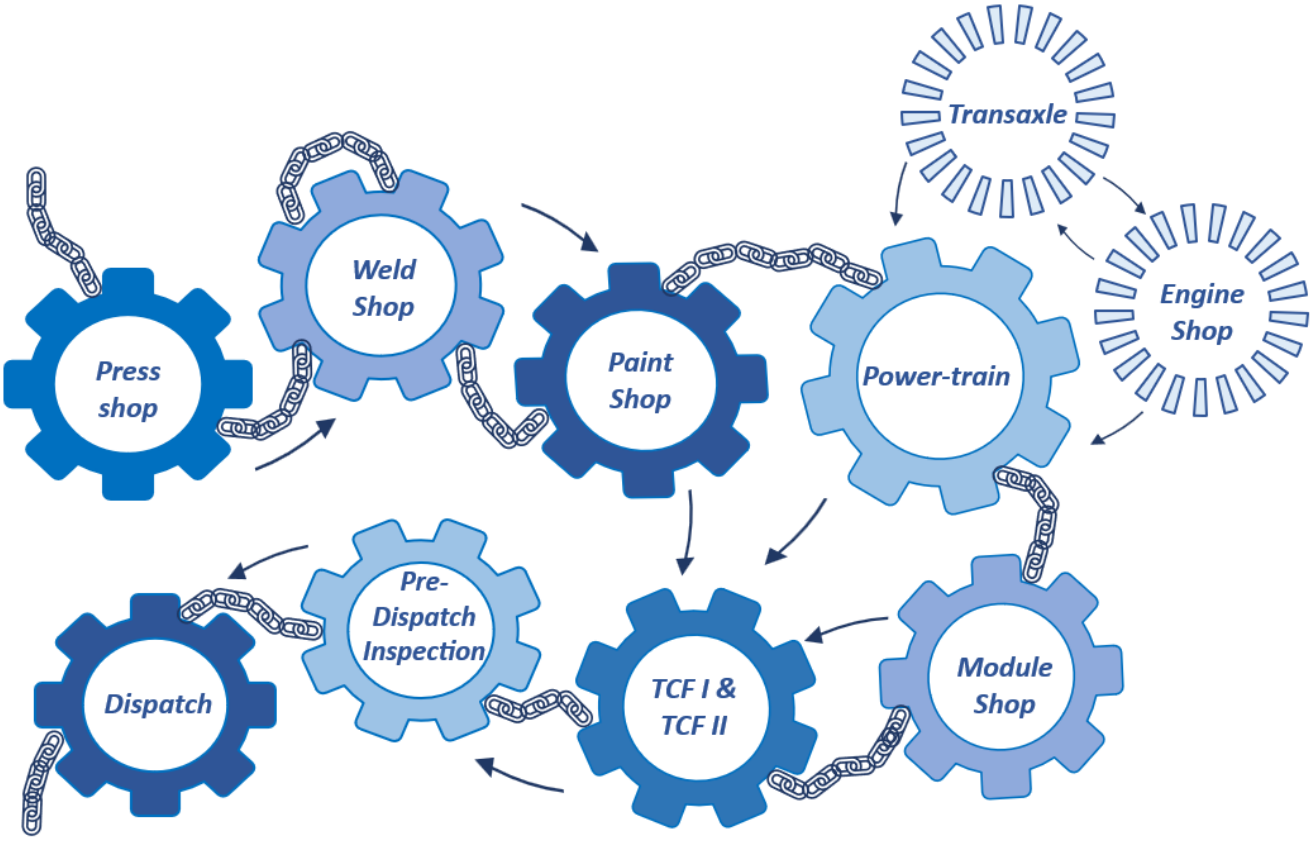
B. Engine Shop (Power Train): The Engine Shop is where the engines are manufactured and assembled. This involves machining, assembly, and testing of the engine components. The engine is a critical component that powers the vehicle.

5. Module Shop: Module Shop is responsible for installing pre-purchased, bought-out components or ready-made parts such as interiors and electronics. This shop plays a key role in integrating these components onto the vehicle. This ensures all necessary parts are in place before final assembly.

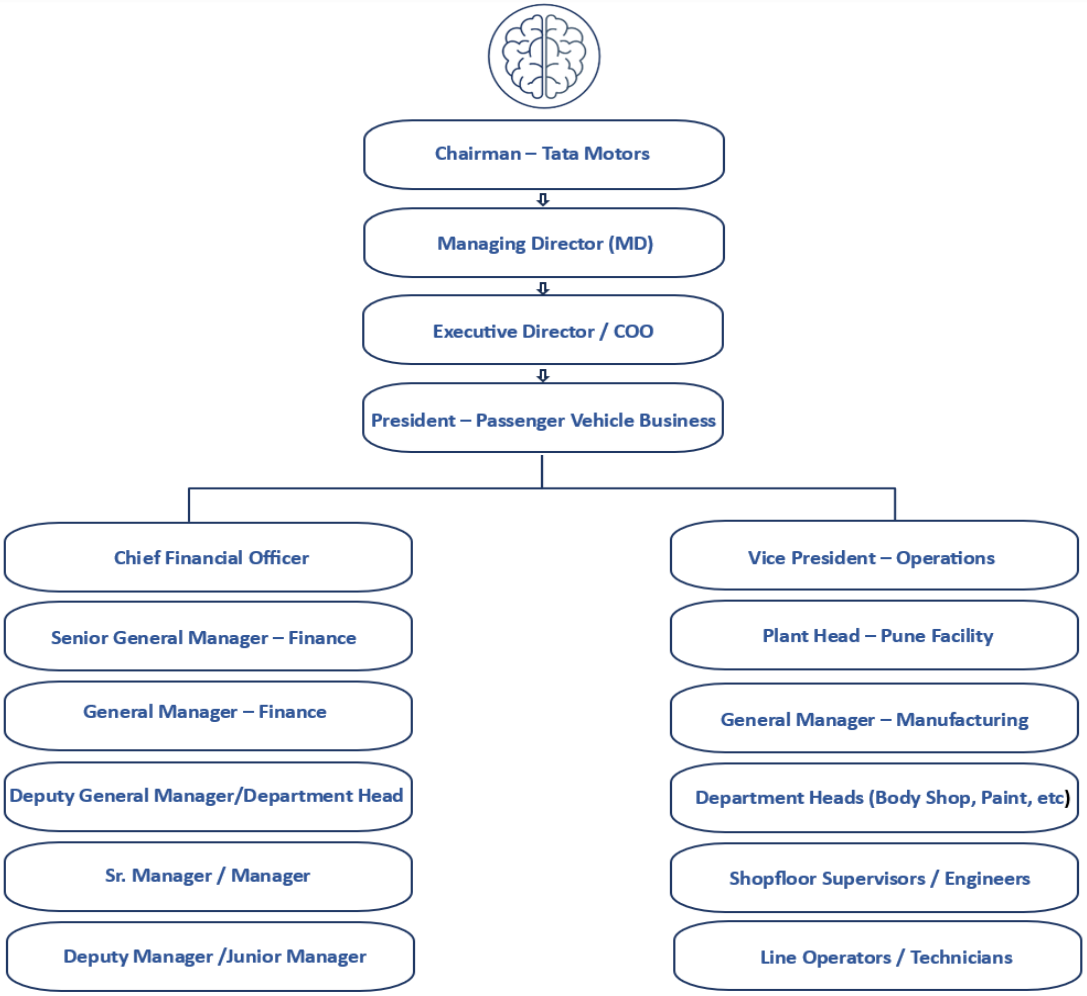
6. TCF Shop (Assembly Line): The TCF Shop, also known as the Assembly Line, is where all the components, including the engine, transaxle, interior parts, and electronics, come together. The assembly line is where the car is finally assembled.

7. Pre-Dispatch Inspection: After assembly, the car undergoes rigorous tests, including a test drive, to ensure that everything is working properly. This step ensures that the car meets the required quality and safety standards.

8. Dispatch: Finally, the car is ready to be dispatched to dealerships. This involves loading the cars onto trucks or trains and shipping them to their destinations.



Management Hierarchy



M&M has a divisional organization in its business verticals—Automotive, Farm Equipment, IT, Financial Services—with guidance from the Corporate center headed by the Chairman and MD/CEO, emphasizing operational decentralization and strategic alignment.

Key Business Segments

1. Automotive: SUVs, commercial vehicles, three-wheelers, and EVs.
2. Farm Equipment: Tractors and allied machinery.
3. Electric Vehicles: Subsidiary Mahindra Electric focuses on EV innovation.
4. Other Segments: Defense, aerospace, and financial services (not covered in this report).

2.6 Products/Services Provided

Tata Motors

•Passenger Vehicles: Tiago, Tigor, Nexon, Harrier, Safari; EV models such as Nexon EV.

•Commercial Vehicles & Defense: Trucks, buses, pickup cranes, military vehicles.

•Luxury Segment: Jaguar & Land Rover.

•Joint Ventures & Services: Construction equipment, finance arms, technology services.





M&M

1. Automobiles: SUVs (Scorpio, XUV700), compacts, electric options (e.g. BE6, XUV9e) Wikipedia.

2. Tractors & Farm Equipment: Largest in the world by volume.

3. Others: Two-wheelers, Pininfarina luxury cars, IT (Tech Mahindra), finance & advisory services.

5. Automotive: SUVs, commercial vehicles, three-wheelers, and EVs.

6. Farm Equipment: Tractors and allied machinery.

7. Electric Vehicles: Subsidiary Mahindra Electric focuses on EV innovation.

8. Other Segments: Defense, aerospace, and financial services (not covered in this report).

2.7 Market Position and Achievements

Tata Motors

•Ranked among leading global auto manufacturers; listed on the Fortune Global 500 Wikipedia.

•Leading in India's EV adoption with Nexon EV being a bestseller.

•Strong brand recall supported by international luxury gatekeeper, JLR.

- #1 in Commercial Vehicles (market leader)

- #3 in Passenger Vehicles (behind Maruti Suzuki & Hyundai)
- #1 in Electric Passenger Vehicles (~73% market share in FY2025)
- Products like Nexon, Punch, and Tiago have been instrumental in expanding market share.
- Early-mover advantage in EVs has solidified Tata's brand as future-ready.

It is a leader in the commercial vehicle space and a pioneer in sustainable mobility, thanks to its forward-looking product strategy.

Tata Motors has a well-established international presence:

- Manufacturing: India, UK, South Korea, South Africa, Argentina, Thailand
- JLR's Key Markets: UK, USA, China, Europe
- Export Markets for Tata-branded PVs and CVs: Middle East, Africa, ASEAN, Latin

100+ countries | 24 Manufacturing sites | 8 R&D sites | >9,300 touchpoints | >85,000 collective workforce

Awards and Recognition



- Recognized among the Top 100 Most Valuable Brands in India
- Punch and Nexon consistently rank in India's top 10 best-selling SUVs
- Multiple vehicles have achieved Global NCAP 5-star safety ratings
- Acko Drive Awards – Hall of Fame Tata Motors Pune Facility
- Autocar Awards 2024 – Coupe SUV of the Year Tata Curvv
- Safer Choice Awards – GNCAP Tata Harrier & Safari
- Topgearawads – iCNG car of the year Nexon iCNG
- Times Drive – Green Mobility Leader Tata.ev
- NDTV Auto Awards – Sub Compact SUV of the Year Punch.ev
- BusinessWorld – Future of Design Nexon.ev
- Acko Drive Awards – EV car of the year Punch.ev

M&M

• Largest SUV maker in India; world tractor industry leader Mahindra.

• Introduced electric SUVs in 2025 with approx. 30,000 bookings on launch date; Mahindra Electric demerged and worth USD 9.8B.

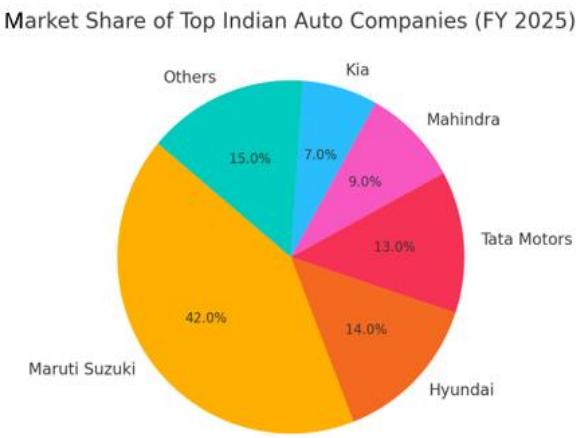
- Maintained leadership in the tractor segment with over 40% market share.

- Expanded EV portfolio with the launch of the XUV400 EV and partnerships with foreign firms.
- Strong rural and semi-urban market base helped maintain steady growth.
- Investment in mobility innovation, AI, and global partnerships (e.g., Ford JV, later dissolved).

2.8 Key Competitors & Market Share (Last Five Years)

Top 5 Players in the Industry

1. Maruti Suzuki: Maruti Suzuki remains the market leader in the Indian passenger vehicle segment with a market share of around 42% as of FY2024. Its dominance is attributed to its affordable pricing, fuel-efficient models, and vast dealership network.



2. Hyundai Motor India: With a market share of approximately 14%, Hyundai is the second-largest carmaker in India. It is recognized for innovative features, modern designs, and premium offerings in the compact SUV space.

3. Tata Motors: Tata Motors holds about 13% of the passenger vehicle market and leads in the electric vehicle segment with models like Nexon EV and Tiago EV.

4. Mahindra & Mahindra: With a strong presence in utility vehicles, Mahindra commands roughly 9% market share. Its focus on rugged SUVs and rural penetration adds to its strength.

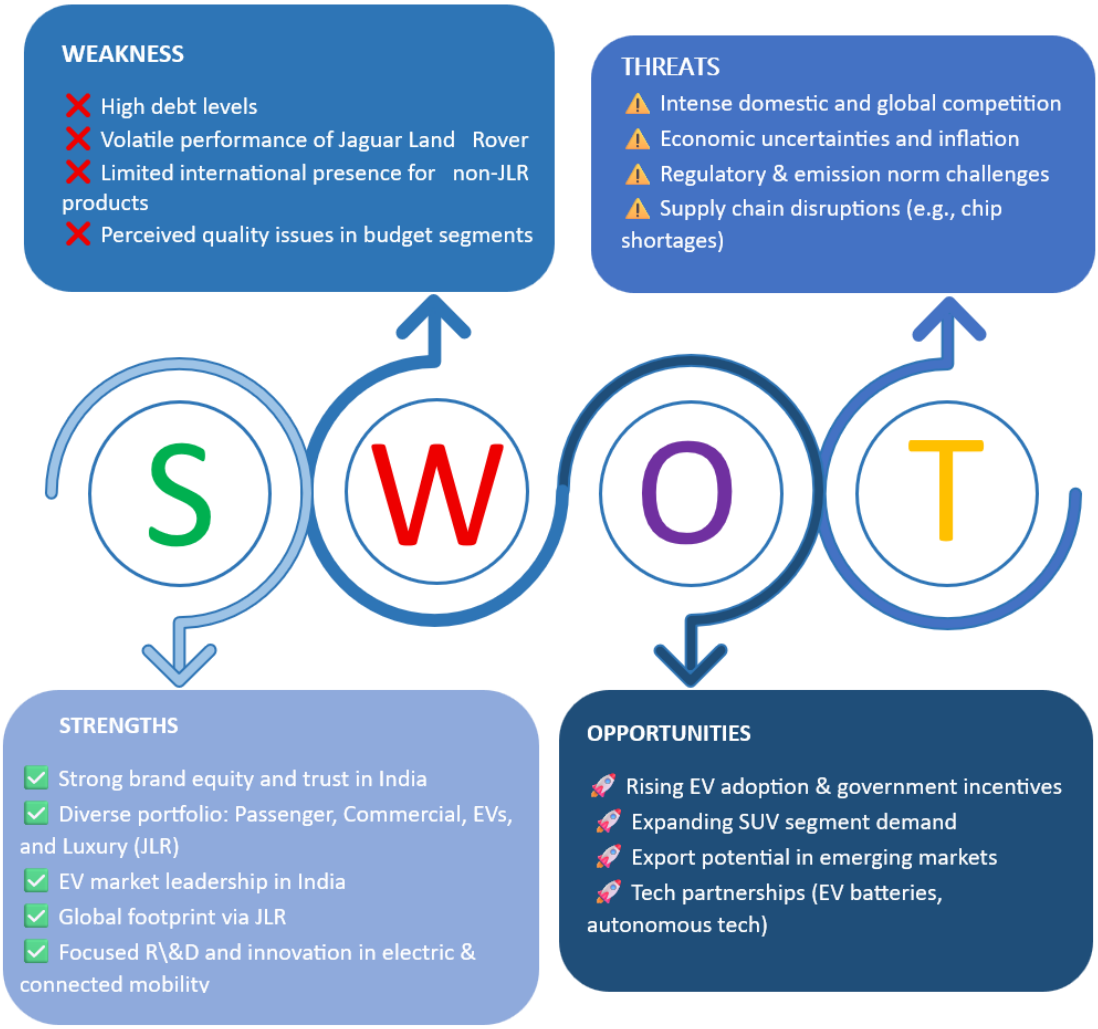
5. Kia India: A relatively new entrant, Kia has rapidly captured around 7% of the Indian PV market, driven by the success of models like Seltos and Sonet.

- Tata Motors' competition is mainly Maruti Suzuki, Hyundai, and M&M in passenger cars, and Ashok Leyland, Eicher in CVs.
- M&M's competition includes Maruti, Hyundai, Toyota in SUVs; tractors versus Tafe, John Deere; commercial vehicles versus Tata Motors, Ashok Leyland.

2.9 SWOT Analysis

Tata Motors

SWOT Analysis of Tata Motors



•Strengths: Diversified portfolio, strong brand heritage, EV leadership.

•Weaknesses: Historical product failures (e.g., Nano), dependencies on external partners, global market volatility.

•Opportunities: EV growth, JV synergies, international emerging markets.

•Threats: Regulatory emissions, fierce competition, raw material cost variations Scribd.

M&M

🚙 Mahindra & Mahindra –SWOT Analysis Strengths

1. Product Leadership in Key Segments
   - India's No.1 tractor manufacturer.
   - Leading in SUV segment with vehicles like XUV700, Scorpio-N, and Thar.
2. Strong Rural Market Presence
   - Deep distribution network in rural and Tier-2/3 cities.
   - Higher resilience during urban slowdowns.
3. Financial Performance
   - Profit After Tax rose by 36.3% in FY24.
   - Robust EPS of ₹89.42 indicates strong shareholder value creation.
4. Diversified Business Portfolio
   - Presence in agri-business, automotive, IT (Tech Mahindra), logistics, and finance.
   - Helps absorb shocks from any single segment.

Weaknesses

1. Limited Global Footprint
   - Lesser export volume compared to Tata Motors and limited luxury segment exposure.
2. Underdeveloped EV Ecosystem
   - Low market share in EV segment despite growing demand.
   - Late entry into electric SUV space.
3. Brand Perception
   - Perceived more as a rural/agri-focused company, affecting urban premium image.
4. Dependency on Domestic Market
   - Heavy reliance on Indian economy and domestic sales for majority of revenue.

Opportunities

1. EV Growth & Sustainability Focus
   - ₹12,000 crore investment for EV business (e.g., Born Electric Platform).
   - Opportunity to dominate budget EV SUV segment.
2. Agricultural Reforms & Rural Schemes

- Government subsidies for mechanized farming could boost tractor demand.
- Agri-fintech synergies through Mahindra Finance.

3. Tech-Enabled Vehicles
   - Integration of AI, IoT, and connected vehicle systems in newer models.
4. Joint Ventures & Global Alliances
   - Potential collaborations with foreign automakers to bring EV/ICE technology to India.

Threats

1. Rapid Technology Shifts
   - Risk of being left behind if EV adoption grows faster than expected.
2. Rising Fuel Prices
   - Core ICE (diesel-heavy) product line is vulnerable to fuel price hikes.
3. Economic Uncertainty
   - Agricultural dependence makes it susceptible to monsoon patterns and crop cycles.
4. Strong Competitive Pressure
   - Faces intense competition in all major verticals: Tata in EVs, Maruti in passenger cars, Escorts in tractors.

2.10 CSR Policy and Corporate Governance

Tata Motors

Tata Motors is committed to sustainability through its ESG (Environmental, Social, and Governance) initiatives:

- Carbon neutrality by 2040 target
- Use of green manufacturing practices
- Active community development programs in education, healthcare, and skill development
- Sustainability reporting aligned with GRI and TCFD frameworks

•Extensively entrenched Tata Group legacy of corporate citizenship, sustainability, and social philanthropy—visible through institutionalized governance mechanisms and board monitoring.

M&M

1. Education & Scholarships:

- Nanhi Kali supported over 2.5 lakh underprivileged girls in primary education.
- Scholarships for rural students in STEM and agriculture universities.

2. Environmental Initiatives:

- Achieved carbon neutrality in 2023 across major plants.
- Planted 20+ million trees under Hariyali Mission.
- Water conservation projects through Watershed Development Programme.

3. Livelihood & Rural Upliftment:

- Women empowerment through self-help groups (SHGs) and microcredit.
- Promoted sustainable farming and tractor financing in rural areas.

4. Health & Sanitation:

- Built over 10,000+ toilets in rural schools and homes (Swachh Bharat support).
- Rural health screening camps for maternal and child healthcare.

•Engaged CSR through KC Mahindra Trust; lead programs are Nanhi Kali (girls' education), Mahindra Hariyali (afforestation), and mobile hospital train Lifeline Express

🔍 Summary Table

Focus Area	Tata Motors	Mahindra & Mahindra
Education	Vocational & STEM for girls	Nanhi Kali + Rural scholarships
Environment	Tree plantation, solar, water	Carbon neutral + Hariyali Mission
Health	COVID response, mobile vans	Rural health and sanitation
Road Safety	Major national campaigns	None
Women Empowerment	Focus on safety and education	SHGs, livelihood programs

Chapter 3: Literature Review

3.1 Review of Existing Literature

The reviewed literature collectively provides a comprehensive understanding of financial performance evaluation within the automobile sector, with a specific focus on Tata Motors and Mahindra & Mahindra. Dr. K. Sivaraman Kuppusamy's study on the Profitability Analysis of Mahindra & Mahindra and Tata Motors emphasized the comparative assessment of profitability ratios, concluding that Mahindra & Mahindra maintained greater financial stability and consistent returns, while Tata Motors exhibited higher fluctuations due to its global operations and acquisition costs. Complementing this, Yadav and Kapoor's research on Financial Performance Ranking of Automotive Companies in India Using the TOPSIS Method introduced a quantitative ranking approach to evaluate companies based on multiple financial parameters such as liquidity, solvency, and profitability. Their study ranked Tata Motors and Mahindra among the top performers, though highlighting that performance varied across different criteria. In another related work, Reddy, Nangia, and Agrawal's paper titled Corporate Mergers and Financial Performance: A New Assessment of Indian Cases explored how mergers and acquisitions influence profitability and efficiency. Their findings indicated that while mergers often lead to short-term performance volatility, long-term synergies can significantly enhance operational and financial outcomes — a trend observable in Tata Motors' acquisition of Jaguar Land Rover. Further, Wang, Tibo, and Nguyen's Malmquist Productivity Analysis of Top Global Automobile Manufacturers applied productivity and efficiency indices to assess global automotive firms, concluding that innovation, technological advancement, and effective resource utilization are key drivers of sustained financial performance. Together, these studies highlight that both Tata Motors and Mahindra & Mahindra's financial outcomes are shaped by profitability management, strategic decisions, and productivity efficiency, underscoring the dynamic interplay between financial strategy, market expansion, and corporate innovation in the manufacturing sector.

The reviewed studies collectively emphasize the diverse analytical methods used to assess the financial efficiency and performance of Indian manufacturing and automobile firms. Ghosh, Agarwal, Bandyopadhyay, and Choudhuri's paper on Indian Automobile Companies' Financial Efficiency Measurement: An Investigation using Super Efficiency and Factor Analysis applied Data Envelopment Analysis (DEA) and factor analysis to evaluate operational efficiency among major Indian automobile firms, revealing that firms like Tata Motors and Mahindra & Mahindra exhibit varying levels of technical efficiency based on asset utilization and cost management. Extending the methodological perspective, Manogna and Mishra's study titled Measuring Financial Performance of Indian Manufacturing Firms: Application of Decision Tree Algorithms introduced a machine learning approach to identify key determinants of profitability and solvency. Their results highlighted that leverage ratio, asset turnover, and liquidity play dominant roles in shaping firm performance across the manufacturing sector. Nanda and Panda, in their paper A Quantile Regression Approach to Trail Financial Performance of Manufacturing Firms, used quantile regression to explore the heterogeneous impact of financial variables across firms with different performance levels. They found that profitability drivers such as sales growth and debt-equity ratios influence high-performing and low-performing firms differently, underscoring the non-linear nature of financial determinants. Complementing these analyses, Buallay's study on Sustainability

Reporting and Firm's Performance examined how the integration of environmental, social, and governance (ESG) disclosures enhances overall corporate value and financial outcomes. The research concluded that sustainable practices and transparent reporting significantly improve firm reputation, operational efficiency, and long-term profitability. Together, these studies indicate that the financial performance of manufacturing and automobile firms in India is shaped not only by traditional financial metrics but also by technological adaptability, analytical modeling, and sustainability-driven governance frameworks, reflecting a multidimensional approach to corporate performance evaluation.

The reviewed literature collectively explores the intricate relationship between corporate social responsibility (CSR), sustainability practices, and financial performance within the manufacturing sector, with a particular focus on emerging economies like India. Cherian, Umar, Thu, Nguyen-Trang, and Sial's study titled Does Corporate Social Responsibility Affect the Financial Performance of the Manufacturing Sector? Evidence from an Emerging Economy analyzed how CSR engagement influences profitability, market value, and operational efficiency. Their findings revealed a positive and statistically significant link between CSR initiatives and firm performance, suggesting that socially responsible practices enhance long-term competitiveness and investor confidence. Similarly, Sharma, Sharma, Ali, and Dadhich in their paper Corporate Social Responsibility and Financial Performance: Evidence from Manufacturing and Service Industry compared CSR-financial performance relationships across sectors, concluding that while CSR contributes to profitability in both industries, its impact is more pronounced in manufacturing due to higher stakeholder visibility and environmental responsibility. Nanda and Panda's research The Determinants of Corporate Profitability: An Investigation of Indian Manufacturing Firms provided an empirical foundation by identifying critical financial determinants—such as firm size, leverage, asset utilization, and liquidity—that directly influence profitability levels. Their study underscored that internal efficiency and financial structure are key mediators between CSR efforts and financial results. Complementing these perspectives, Munshi and Dutta's comparative study Sustainability Reporting Quality of Indian and American Manufacturing Firms: A Comparative Analysis evaluated the transparency and quality of sustainability disclosures. They found that while Indian firms are increasingly adopting sustainability frameworks, reporting quality and standardization still lag behind their American counterparts. Collectively, these studies indicate that CSR and sustainability reporting are not merely ethical imperatives but strategic tools that enhance financial performance, corporate image, and stakeholder trust. The evidence underscores a growing consensus that firms integrating responsible practices with efficient financial management achieve superior and more sustainable performance outcomes in the manufacturing sector.

The reviewed studies collectively explore factors influencing financial performance across different industries, emphasizing strategic, technological, and operational determinants. Rajan, Dhir, and Sushil's study Determinants of Alliance Productivity and Performance: Evidence from the Automobile Industry examined how strategic alliances, collaborative partnerships, and knowledge sharing impact productivity and profitability in the automotive sector. Their findings highlighted that effective coordination, resource complementarity, and trust among partners significantly enhance financial outcomes and operational efficiency. Makkar and Singh, in Analysis of the Financial Performance of Indian Commercial Banks: A Comparative Study, provided a comparative framework for evaluating financial health

through key ratios such as profitability, liquidity, and solvency. Although focused on the banking sector, their methodology underscores the importance of structured financial analysis, which can be applied to manufacturing firms for benchmarking performance. Deshpande's research, Relationships between Advanced Manufacturing Technologies, Absorptive Capacity, Mass Customization, Time to Market and Financial and Market Performance: An Empirical Investigation, highlighted how technology adoption and process innovation in manufacturing influence firm performance. The study emphasized that leveraging advanced manufacturing technologies (AMTs), enhancing absorptive capacity, and reducing time-to-market can lead to superior financial results and market competitiveness. Finally, Anthony, Behnoee, Hassanpour, and Pamučar's paper Financial Performance Evaluation of Seven Indian Chemical Companies analyzed efficiency, profitability, and liquidity across chemical firms, demonstrating that operational efficiency and optimal resource allocation are critical determinants of financial success. Collectively, these studies illustrate that financial performance is multidimensional, shaped not only by traditional accounting metrics but also by strategic alliances, technological capability, operational efficiency, and process innovation, indicating that firms in manufacturing and related sectors can achieve sustainable profitability through integrated financial and operational strategies.

The reviewed literature collectively highlights diverse factors influencing financial performance in Indian and global companies, emphasizing efficiency, intellectual capital, capital structure, market valuation, and technological adaptation. Anthony, Behnoee, Hassanpour, and Pamučar's study Financial Performance Evaluation of Seven Indian Chemical Companies assessed operational and financial efficiency, concluding that most firms approached full efficiency, thereby underscoring the role of optimal resource utilization and financial management in achieving superior performance. Ali, Murtaza, Hedvicaková, Jiang, and Naeem, in Intellectual Capital and Financial Performance: A Comparative Study, explored how intellectual capital—comprising human, structural, and relational components—contributes to profitability, asset efficiency, and market value, highlighting that knowledge-based resources significantly enhance financial outcomes. Chadha and Sharma's paper Determinants of Capital Structure: An Empirical Evaluation from India investigated the impact of leverage, equity composition, and financing decisions on firm performance, finding that a well-balanced capital structure positively influences profitability and sustainability. Vijayakumar's study Effect of Financial Performance on Share Prices in the Indian Corporate Sector analyzed the link between financial metrics (such as ROE, ROA, and earnings) and market valuation, demonstrating that strong financial performance translates into higher investor confidence and stock market returns. Finally, Kohtamäki, Parida, Patel, and Gebauer's research The Relationship between Digitalization and Servitization: The Role of Servitization in Capturing the Financial Potential of Digitalization examined how digital transformation, combined with servitization strategies, can unlock financial potential by improving operational efficiency, customer engagement, and revenue models. Collectively, these studies illustrate that financial performance is multidimensional, shaped not only by internal efficiency, intellectual assets, and capital structure but also by market responsiveness and strategic technological adoption, emphasizing an integrated approach for sustainable corporate growth.

The reviewed literature collectively explores the financial and operational performance challenges in manufacturing firms, with a focus on both small enterprises and large-scale

manufacturing organizations. Naidu and Chand's study A Comparative Study of the Financial Problems Faced by Micro, Small and Medium Enterprises in the Manufacturing Sector of Fiji and Tonga highlighted the unique financial constraints encountered by SMEs, including limited access to credit, high borrowing costs, and working capital shortages, emphasizing how these factors inhibit growth and operational efficiency in developing economies. Complementing the financial perspective, Kaur, Singh, and Ahuja's paper An Evaluation of the Synergic Implementation of TQM and TPM Paradigms on Business Performance investigated how the integration of Total Quality Management (TQM) and Total Productive Maintenance (TPM) enhances manufacturing performance, demonstrating that a combined approach leads to improvements in productivity, quality, and profitability. Similarly, Singh and Ahuja's An Evaluation of Transfusion of TQM-TPM Implementation Initiative in an Indian Manufacturing Industry analyzed the practical challenges and benefits of implementing TQM-TPM frameworks in Indian industrial settings, highlighting increased operational efficiency, reduced downtime, and financial gains. Sahoo's study An Empirical Exploration of TQM, TPM and Their Integration from Indian Manufacturing Industry further corroborated that the integration of quality management and productive maintenance systems fosters sustainable performance improvements, including enhanced customer satisfaction, cost optimization, and improved financial outcomes. Collectively, these studies indicate that while SMEs face structural financial limitations, the strategic implementation of integrated quality and maintenance management systems in larger manufacturing firms can significantly enhance operational and financial performance, underscoring the importance of both financial planning and process optimization in achieving sustainable growth.

3.2 Theoretical Framework

Theoretical Background

Financial performance evaluation is a critical aspect of corporate management, as it reflects the firm's ability to generate profits, maintain liquidity, and create shareholder value. It is essential for assessing the effectiveness of strategic decisions, operational efficiency, and long-term sustainability. The theoretical framework for this study integrates financial management theories, performance measurement concepts, and efficiency models.

1. Financial Performance Theory

Financial performance refers to the extent to which a firm achieves its financial goals, including profitability, solvency, liquidity, and growth. Key theories that guide this analysis include:

Profitability Theory: Focuses on how efficiently a company generates earnings relative to sales, assets, and equity (ROA, ROE, profit margins).

Liquidity Theory: Emphasizes the firm's ability to meet short-term obligations using current assets (current ratio, quick ratio).

Solvency Theory: Measures long-term financial stability and the firm's ability to cover debts (debt-to-equity ratio, interest coverage).

2. Ratio Analysis Theory

Ratio analysis provides a quantitative method to evaluate financial health and compare firms systematically. It is grounded in accounting and financial management principles, facilitating comparisons between companies of different sizes, sectors, and operational structures. Key financial ratios used in this study include:

Liquidity Ratios: Current ratio, quick ratio

Profitability Ratios: Net profit margin, ROA, ROE

Solvency Ratios: Debt-to-equity ratio, interest coverage ratio

Efficiency Ratios: Asset turnover, inventory turnover

3. Comparative and Benchmarking Theory

The comparative financial analysis theory suggests that the performance of a firm can only be evaluated meaningfully when compared against peers, industry standards, or historical performance. This theory is critical in this study for comparing Tata Motors and Mahindra & Mahindra in terms of profitability, operational efficiency, and financial stability.

4. Resource-Based View (RBV)

The Resource-Based View (RBV) of the firm posits that sustainable competitive advantage stems from leveraging valuable, rare, and inimitable resources. In the automotive sector, financial resources, technological capabilities, human capital, and intellectual property are essential for enhancing performance, which ultimately reflects in financial statements.

5. Balanced Scorecard and Performance Management Framework

Kaplan and Norton's Balanced Scorecard (BSC) framework highlights that financial performance is one of the four perspectives to assess organizational performance, alongside customer, internal processes, and learning & growth. While this study focuses on the financial perspective, it recognizes that financial outcomes are influenced by operational efficiency, strategic decisions, and market positioning.

6. Relevance to Manufacturing and Automobile Industry

In the manufacturing and automotive sector, performance theories emphasize:

High capital investment and long production cycles affecting liquidity and solvency.

Technological innovation and product diversification influencing profitability.

Global operations and market volatility impacting risk management and financial stability.

This theoretical background provides the foundation for analyzing and comparing the financial health of Tata Motors and Mahindra & Mahindra using quantitative methods, thereby linking financial performance with strategic and operational decision-making in the manufacturing sector.

Chapter 4: Project Methodology

4.1 Detail of the Research Methodology

This project adopts a comparative financial analysis approach to study the performance of Tata Motors and Mahindra & Mahindra in the manufacturing segment over a five-year period (FY 2020–21 to FY 2024–25). The research is based on secondary data collected from publicly available sources such as annual reports, stock exchange filings, and industry publications.

The methodology involves two main steps:

1. Data Collection – Gathering audited financial statements and key metrics for both companies.

2. Data Analysis – Applying ratio analysis, trend analysis, and comparative evaluation to understand how the companies have performed over time.

4.2 Background of the Problem / Statement of the Problem

The Indian automobile manufacturing industry has undergone major disruptions and transformations in recent years. Factors such as COVID-19 lockdowns, global semiconductor shortages, fluctuating raw material prices, and the shift towards electric vehicles have significantly impacted production, sales, and profitability.

Tata Motors and Mahindra & Mahindra are two of the largest and most influential players in the sector, yet they operate with different product focuses—Tata Motors has a strong presence in passenger cars and commercial vehicles, while M&M dominates utility vehicles and tractors. While annual reports provide standalone performance data, there is a gap in side-by-side financial performance studies covering recent years. This research addresses that gap by analyzing and comparing profitability, liquidity, solvency, and efficiency ratios to see how each company has navigated recent challenges.

4.3 Objectives of the Research

The study has been designed with the following objectives:

1. To calculate key financial ratios across profitability, liquidity, solvency, and efficiency categories.

2. To identify and interpret trends in these ratios for each company.

3. To compare the performance of Tata Motors and Mahindra & Mahindra on each ratio.

4. To draw conclusions on the relative financial strengths and weaknesses of each company.

4.4 Scope and Limitations

Scope:

- The analysis is restricted to the manufacturing segment of the two companies.

- A period of five financial years is considered to ensure relevance while capturing trends.

- All data used is secondary, sourced from verified and credible publications.

- The study focuses on financial analysis only and does not examine marketing, HR, or operational strategies in depth.

Limitations:

- Dependence on secondary data means accuracy is reliant on company disclosures.

- Segment-level disclosures may vary between the two companies, which can affect comparability.

- Inflation, currency fluctuations, and macroeconomic shocks are not adjusted for in ratio calculations.

- External factors such as government policy changes and global market conditions are discussed qualitatively but not modeled quantitatively.

4.5 Blueprint of the Task Undertaken

The task followed a structured sequence, from identifying data sources to preparing the final interpretation.

Process Flow:

1. Identify Companies and Study Period

2. Collect Annual Reports and Financial Data

3. Extract Key Figures from Financial Statements

4. Organize Data in Excel

5. Calculate Financial Ratios

6. Create Trend Charts and Comparative Graphs

7. Interpret Results

8. Draft Findings and Recommendations

4.6 Research Design

The research follows a descriptive and analytical design:

- Descriptive – Presents financial data in a systematic format (tables and charts).

- Analytical – Interprets the meaning of financial ratios and trends to explain the performance of each company.

4.6.1 Sampling Method

The study uses purposive sampling because the companies were deliberately selected based on their size, influence, and competitive presence in the Indian automobile manufacturing segment.

4.6.2 Sample Size

Two companies (Tata Motors and Mahindra & Mahindra), with financial data analyzed for five consecutive financial years, and eight key ratios per year—resulting in 80 ratio observations for comparison.

4.6.3 Data Collection Methods

Sources:

- Annual reports of Tata Motors and Mahindra & Mahindra (2020–21 to 2024–25)

- NSE and BSE company filings

- Industry reports from SIAM, KPMG, and EY

- Verified financial databases such as Moneycontrol and Statista

Process:

1. Download reports from official websites.

2. Extract relevant data from balance sheets, income statements, and notes to accounts.

3. Cross-check figures from multiple sources to ensure accuracy.

4.6.4 Data Analysis Techniques Used

- Ratio Analysis – To measure profitability, liquidity, solvency, and efficiency.

- Trend Analysis – To identify movement of ratios over the five-year period.

- Comparative Analysis – To place the performance of both companies side-by-side for each ratio.

- Graphical Presentation – Line charts, bar graphs, and comparative tables to improve understanding.

Chapter:5 Data Analysis and Interpretation

Ratio Analysis

5.1 Growth Ratios

Ratio Analysis - TATA MOTORS LTD								
Years	Mar-21	Mar-22	Mar-23	Mar-24	Mar-25	Trends	Mean	Median
SalesGrowth		56.63%	39.13%	11.48%	-5.30%		25.48%	25.30%
EBITDA Growth		10.67%	202.29%	68.06%	5.20%		71.56%	39.37%
EBIT Growth		-4.17%	-130.07%	443.06%	25.41%		83.56%	10.62%
Net Profit Growth		-1.01%	-188.22%	80.04%	-24.40%		-33.39%	-12.70%
Dividend Growth		0.00%	0.00%	200.17%	-13.36%		46.70%	0.00%

- Sales Growth: Growth has declined consistently from 56.63% in FY21 to -5.30% in FY25, indicating a slowdown in revenue expansion. However, the high mean (25.48%) and stable median (25.30%) reflect historically strong performance, albeit with recent weakness.
- EBITDA Growth: Peaked in FY22 at 202.29%, largely due to cost control and operating leverage. Sharp decline to just 5.20% in FY25 suggests margin pressure or stagnant operations.
- EBIT Growth: Extreme volatility: from a deep negative in FY22 (-130.07%) to a massive rebound in FY23 (443.06%). The average is high (83.56%) but lacks stability, reflecting sensitivity to operating costs.
- Net Profit Growth: Erratic pattern, turning negative again in FY25 (-24.40%) after recovering in FY24. High volatility is concerning for investor confidence.
- Dividend Growth: Surged in FY24 (200.17%) as profits were distributed but declined again in FY25. Mean is high (46.70%) but inconsistent.

Profitability Ratios

Ratio Analysis - TATA MOTORS LTD								
Years	Mar-21	Mar-22	Mar-23	Mar-24	Mar-25	Trends	Mean	Median
Gross Margin	10.71%	10.26%	14.53%	18.14%	20.53%		14.83%	14.53%
EBITDA Margin	4.49%	3.17%	6.89%	10.39%	11.54%		7.30%	6.89%
EBIT Margin	-1.25%	-0.55%	4.20%	7.64%	8.65%		3.74%	4.20%
EBT Margin	-8.24%	-5.04%	1.09%	5.31%	7.03%		0.03%	1.09%
Net Profit Margin	-8.31%	-5.25%	3.33%	5.38%	4.29%		-0.11%	3.33%
Return on Capital Employed	-0.91%	-0.60%	6.62%	12.63%	14.14%		6.38%	6.62%
Retained Earnings%	0.00%	0.00%	65.02%	41.64%	25.93%		26.52%	25.93%
Return on Equity%	-13.16%	-12.45%	9.75%	13.08%	8.91%		1.23%	8.91%
Self Sustained Growth Rate	0.00%	0.00%	6.34%	5.45%	2.31%		2.82%	2.31%
Interest Coverage Ratio	-0.18x	-0.12x	1.35x	3.28x	5.35x		193.60%	135.00%

- Gross Margin: The gross margin improved significantly from 10.71% (FY21) to 20.53% (FY25), indicating better cost management in raw materials and production. The upward trend signals strengthening pricing power and manufacturing efficiency. Mean: 14.83%, Median: 14.53%.
- EBITDA Margin: The EBITDA margin shows consistent improvement (from 4.49% in FY21 to 11.54% in FY25), reflecting better operating efficiency and cost control. It indicates enhanced ability to generate earnings from operations before interest, tax, depreciation, and amortization.
- EBIT Margin: From a negative margin in FY21 (-1.25%), the EBIT margin turned positive and improved to 8.65% by FY25. This sharp recovery indicates growing operational profitability after depreciation is accounted for.
- EBT Margin: The EBT margin transitioned from a deep negative (-8.24%) in FY21 to 7.03% in FY25, demonstrating a strong turnaround in pre-tax earnings, likely driven by improved operating profits and lower interest expenses.
- Net Profit Margin: The net margin followed a similar trajectory—from -8.31% in FY21 to a positive 4.29% in FY25, highlighting profitability improvement after tax. Though FY25 saw a slight dip from FY24 (5.38%), the multi-year upward trend is encouraging.
- Return on Capital Employed (ROCE): Improved steadily from negative values in FY21 to 14.14% in FY25 — a strong sign of capital efficiency improvement. Mean (6.38%) and median (6.62%) show upward momentum.
- Retained Earnings: Started from 0%, showing no retention, but grew to 25.93% by FY25. Suggests a shift in policy towards reinvestment, supporting future growth.
- Return on Equity (ROE): Transitioned from negative in FY21-22 to a stable ~9% in FY25. Positive ROE indicates increasing shareholder value.
- Self-Sustained Growth Rate: Grew after FY23, peaked at 6.34%, but dipped to 2.31% in FY25. Indicates ability to grow using internal accruals without external funding.
- Interest Coverage Ratio: Major turnaround from negative in FY21-22 (unable to cover interest) to 5.35x in FY25 — a sign of improved solvency and profitability.

Liquidity Ratios

Ratio Analysis - TATA MOTORS LTD								
Years	Mar-21	Mar-22	Mar-23	Mar-24	Mar-25	Trends	Mean	Median
Current Ratio	60.39%	57.87%	44.57%	55.52%	61.01%		55.87%	57.87%
Quick Ratio	43.06%	44.09%	32.83%	42.82%	48.09%		42.18%	43.06%
Cash Ratio	9.01%	9.08%	4.35%	12.24%	1.58%		7.25%	9.01%
Net Working Capital	-10396.96	-11373.20	-14303.58	-12155.10	-9524.00		-11550.57	-11373.20

- Current Ratio: The current ratio has varied over five years, dropping to 44.57% in FY23 and recovering to 61.01% in FY25. However, all values remain below the ideal benchmark of 1.00, indicating ongoing short-term liquidity pressure. The improvement in FY25 reflects better working capital management efforts.
- Quick Ratio: The quick ratio reflects the current ratio trend but at a lower level, excluding inventories. In FY23, it hit a low of 32.83%, indicating tighter liquidity. An increase to 48.09% in FY25 is a positive sign, yet a quick ratio of less than 1 means Tata Motors still lacks enough liquid assets for immediate obligations, despite the improving trend.
- Cash Ratio: The cash ratio is the most conservative liquidity measure. It peaked at 12.24% in FY24 but dropped sharply to 1.58% in FY25, indicating limited cash relative to current liabilities. While a cash ratio of 1 is unrealistic for capital-intensive businesses, the steep decline in FY25 raises concerns about cash reserve management.
- Net Working Capital: Tata Motors has consistently shown negative net working capital (NWC), with current liabilities exceeding current assets annually. This is common in auto manufacturing. The deficit peaked in FY23 but improved to ₹-9,524 Cr in FY25, indicating a strategic effort to stabilize short-term funding.

Efficiency Ratios (Activity Turnovers)

Ratio Analysis - TATA MOTORS LTD								
Years	Mar-21	Mar-22	Mar-23	Mar-24	Mar-25	Trends	Mean	Median
Debtor Turnover Ratio	14.46x	22.38x	28.49x	26.51x	30.45x		24.46x	26.51x
Creditor Turnover Ratio	1.28x	2.31x	3.29x	3.38x	3.02x		2.66x	3.02x
Inventory Turnover	6.63x	12.71x	21.72x	21.12x	22.01x		16.84x	21.12x
Fixed Asset Turnover	1.14x	3.36x	4.52x	5.11x	4.92x		3.81x	4.52x
Capital Turnover Ratio	1.58x	2.37x	2.93x	2.43x	2.08x		2.28x	2.37x

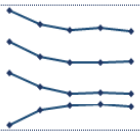
- Debtor Turnover Ratio: Rose consistently to 30.45x in FY25, indicating efficient receivables collection and improved cash flows.
- Creditor Turnover Ratio: Increased steadily until FY24; slight dip in FY25. Implies Tata Motors is paying suppliers faster, or negotiating tighter credit terms.
- Inventory Turnover Ratio: Consistently strong performance (from 6.63x to 22.01x), reflecting efficient inventory management and better operational control.
- Fixed Asset Turnover: Steady rise to 5.11x in FY24, slight dip in FY25. Shows effective utilization of fixed assets to generate revenue.
- Capital Turnover Ratio: Increased till FY23 but slightly declined thereafter. Still, over 2x, indicating efficient use of capital employed.

Cost Efficiency Ratios

Ratio Analysis - TATA MOTORS LTD								
Years	Mar-21	Mar-22	Mar-23	Mar-24	Mar-25	Trends	Mean	Median
SalesExpenses%Sales	6.22%	7.08%	7.64%	7.75%	8.99%		7.54%	7.64%
Depreciation%Sales	5.74%	3.72%	2.69%	2.75%	2.89%		3.56%	2.89%
OperatingIncome%Sales	-1.25%	-0.55%	4.20%	7.64%	8.65%		3.74%	4.20%

- Sales Expenses as % of Sales: This ratio increased steadily from 6.22% in FY21 to 8.99% in FY25, indicating rising distribution, admin, or selling costs. While this could reflect increased marketing efforts or expansion, it may also require tighter cost control going forward.
- Depreciation as % of Sales: A declining trend is observed here—from 5.74% in FY21 to 2.89% in FY25—suggesting either a slowdown in capital expenditures or better asset utilization. This also contributes positively to EBIT margins.
- Operating Income as % of Sales: Mirroring the EBIT margin trend, this metric improved sharply from -1.25% to 8.65%, confirming enhanced operational efficiency and higher core business earnings.

Working Capital and Operating Cycle

Ratio Analysis - TATA MOTORS LTD								
Years	Mar-21	Mar-22	Mar-23	Mar-24	Mar-25	Trends	Mean	Median
Debtor Days	25	16	13	14	12		16.02	13.77
Payable Days	285	158	111	108	121		156.50	120.79
Inventory Days	55	29	17	17	17		26.89	17.28
Cash Conversion Cycle (in days)	-205	-113	-81	-77	-92		-113.58	-92.21

- Debtor Days: Decreased from 25 days in FY21 to 12 days in FY25, which indicates that outstanding collections have been significantly reduced, resulting in improved liquidity.
- Payable Days: These Fell from 285days in FY21 to 121 days in FY25, where company is paying creditors faster, possibly negotiating shorter payment terms.
- Inventory Days: Went from 55 in FY21 to 17 days in FY25, which reflects lean inventory and reduced holding cost.
- Cash Conversion Cycle (CCC): -From 205 in FY21 to -92 days in FY25, Cash Conversion Cycle remains negative, which is excellent, indicating that the company receives payments before it has to pay suppliers, supporting liquidity.

Cash Flow Ratios

Ratio Analysis - TATA MOTORS LTD								
Years	Mar-21	Mar-22	Mar-23	Mar-24	Mar-25	Trends	Mean	Median
CFO/Sales	22.14%	11.17%	7.26%	11.82%	14.11%		13.30%	11.82%
CFO/Total Assets	10.27%	8.26%	7.74%	13.12%	14.97%		10.87%	10.27%
CFO/Total Debt	29.77%	22.44%	24.77%	61.04%	108.76%		49.36%	29.77%

- CFO/Sales: Dipped during recovery in FY23, now improving again. From 22.14% in FY21, 7.26% in FY23 to 14.11% in FY25. Shows cash generation from operations per ₹1 of revenue.
- CFO/Total Assets: In FY21, it was 10.27% and now in FY25 is 14.97%. Rising trend is positive — indicates better asset efficiency in generating cash
- CFO/Total Debt: Huge jump shows that cash flows are now more than sufficient to cover debt. From 29.77% in FY21to 108.76% in FY25, a sign of strong solvency and reduced debt servicing risk.

Conclusion

The comprehensive ratio analysis of Tata Motors over the last five financial years clearly depicts a strong recovery and operational turnaround post the pandemic-led disruptions and earlier financial stress. The company has significantly enhanced its profitability, operational efficiency, and cash flow strength, especially from FY23 onwards.

Over the five-year period from FY2021 to FY2025, Tata Motors Ltd. (Standalone) has exhibited a significant turnaround in its financial performance, driven by strong growth momentum and strategic execution. The company's growth ratios reflected a sharp post-COVID recovery, particularly in FY24 and FY25, with robust increases in sales, EBITDA, PAT, and EPS—demonstrating improved market traction, higher volumes from successful product launches like the Tata Punch, and increasing adoption of EVs.

Profitability ratios showed a marked improvement as gross, operating, and net margins expanded steadily, while return ratios such as ROCE and ROE turned positive and strengthened, underscoring better cost control, asset utilization, and enhanced value creation for stakeholders.

However, liquidity ratios remained an area of concern throughout the period. Current and quick ratios were consistently below the standard benchmark of 1, and the cash ratio was volatile and worryingly low in FY25, highlighting short-term liquidity stress. Despite slight improvements in net working capital, the company's reliance on trade credit and negative working capital structure could pose risks if cash flow timing is not carefully managed.

On the efficiency front, asset turnover and fixed asset turnover ratios improved, suggesting enhanced capacity utilization and operational leverage. Nevertheless, the slight decline in the

debtor turnover ratio indicates a potential delay in receivables collection, which could strain cash flows.

Cost efficiency ratios showed a healthy downward trend in both COGS-to-revenue and operating expenses-to-revenue, reflecting strong cost optimization efforts. The interest coverage ratio also improved sharply, enhancing the company's debt servicing capability.

Lastly, working capital and operating cycle indicators highlighted that while the company benefits from a negative working capital cycle typical of the automotive industry, the slight elongation in the cash conversion cycle due to slower collections warrants attention.

Overall, Tata Motors has shown commendable financial progress and operational resilience, but improving liquidity buffers, tightening receivables management, and sustaining cost efficiency will be key to maintaining long-term financial health and competitiveness.

M&M

nvestment Valuation Ratios (Years)	Mar-25	Mar-24	Mar-23	Mar-22	Mar-21	Trends	Mean	Median
Face Value	5	5	5	5	5		5.00	5.00
Dividend Per Share	25.3	21.1	16.25	11.55	8.75		15.44	16.25
Operating Profit Per Share (Rs)	137.69	103.89	83.97	56.65	52.33		81.34	83.97
Net Operating Profit Per Share (Rs)	936.72	794.22	683.22	462.08	362.3		610.91	683.22
Bonus in Equity Capital	80.18	80.28	80.36	80.46	80.58		80.37	80.36

Ratio Analysis M&M

- The company's face value has stayed fixed at ₹5 over the last five years, meaning there haven't been any changes in the nominal value of its shares.
- Dividends per share have been climbing steadily, going from ₹8.75 in 2021 to ₹25.3 in 2025. This shows that shareholders are getting higher cash returns each year, likely due to stronger earnings and better cash flow.
- Operating profit per share has also improved significantly, more than doubling from ₹52.33 in 2021 to ₹137.69 in 2025. This suggests the business is running more efficiently or generating higher sales.
- Net operating profit per share has shown even sharper growth, moving from ₹362.3 in 2021 to ₹936.72 in 2025, pointing towards a big jump in overall revenue per share.
- The bonus in equity capital has barely changed, staying around 80, which indicates stability in the company's issued bonus shares.

Overall, the data paints a picture of a business that's grown its profits and dividends steadily over the past five years while keeping its share structure stable.

Profitability Ratios	Ratio Analysis M&M							
Years	Mar-25	Mar-24	Mar-23	Mar-22	Mar-21	Trends	Mean	Median
Operating Profit Margin(%)	14.69	13.08	12.29	12.25	14.44		13.31	13.08
Profit Before Interest And Tax Margin(%)	10.79	9.21	8.32	7.71	9.23		8.99	9.21
Gross Profit Margin(%)	11.07	9.59	8.57	7.99	9.48		9.28	9.48
Cash Profit Margin(%)	13.45	13.75	12.72	12.75	13.32		13.19	13.32
Adjusted Cash Margin(%)	13.45	13.75	12.72	12.75	13.32		13.19	13.32
Net Profit Margin(%)	10.17	10.85	7.7	8.59	0.59		5.33	8.59
Adjusted Net Profit Margin(%)	9.92	10.41	7.48	8.29	0.58		5.18	8.29
Return On Capital Employed(%)	25.35	25.29	20.48	14.66	13.2		19.10	20.48
Return On Net Worth(%)	19.24	20.61	15.19	12.74	0.78		9.02	15.19
Adjusted Return on Net Worth(%)	19.24	20.61	18.51	13.27	11.48		16.21	18.51
Return on Assets Excluding Revaluations	495.24	417.99	346.57	311.6	275.48		361.32	346.57
Return on Assets Including Revaluations	495.24	417.99	346.57	311.6	275.48		361.32	346.57
Return on Long Term Funds(%)	25.38	25.64	21.64	15.01	13.29		19.49	21.64

- The company's operating profit margin has remained healthy, moving from 12.25% in 2022 to 14.69% in 2025, showing gradual improvement in operational efficiency. The profit before interest and tax margin has also edged upward over time, reaching 10.79% in 2025 compared to 7.71% four years earlier.
- Gross profit margins have improved steadily, climbing from 7.99% in 2022 to 11.07% in 2025, indicating better cost control or stronger pricing power. Cash profit margins and adjusted cash margins have stayed consistently strong, hovering around the 13% mark, reflecting stable cash generation from operations.
- Net profit margins show a notable recovery—from just 0.59% in 2021 to over 10% in recent years—signaling a big turnaround in bottom-line performance. Adjusted net profit margins follow the same pattern, suggesting this improvement isn't just from one-off gains.
- Return on capital employed has increased steadily, hitting 25.35% in 2025, which means the business is using its capital more effectively. Return on net worth has also improved sharply, with a jump from under 1% in 2021 to nearly 20% in 2025, showing stronger returns for shareholders.
- Both returns on assets (with and without revaluations) have risen each year, reaching 495.24 in 2025 compared to 275.48 in 2021, which reflects much better use of the company's asset base. Return on long-term funds has also grown steadily, indicating improved profitability from longer-term investments.

Overall, the figures point to a business that's not only improving margins but also making more effective use of its capital and assets year after year.

Liquidity And Solvency Ratios	Ratio Analysis M&M							
	Mar-25	Mar-24	Mar-23	Mar-22	Mar-21	Trends	Mean	Median
Current Ratio	1.1	1.05	0.89	0.96	1.14		1.02	1.05
Quick Ratio	0.82	0.77	0.72	0.76	0.92		0.80	0.77
Debt Equity Ratio	0.02	0.03	0.11	0.17	0.21		0.07	0.11
Long Term Debt Equity Ratio	0.02	0.02	0.05	0.15	0.21		0.06	0.05

- The company's current ratio has stayed around the 1.0 mark over the last five years, ending at 1.1 in 2025. This indicates it has just enough current assets to meet its short-term liabilities, showing a stable liquidity position.
- The quick ratio has remained slightly lower, moving between 0.72 and 0.92 during the period, with 0.82 in 2025. While it's under 1, it still suggests the company can cover most of its short-term obligations without relying on inventory sales.
- The debt-to-equity ratio has fallen sharply from 0.21 in 2021 to only 0.02 in 2025, signaling a very low reliance on debt financing. This drop reflects a shift towards a stronger equity-funded capital structure.
- A similar trend is seen in the long-term debt-to-equity ratio, which has declined from 0.21 in 2021 to 0.02 in 2025. This shows that the company has significantly reduced its long-term borrowings, further strengthening its solvency.

Overall, the numbers point to a financially conservative approach, with strong liquidity and minimal debt exposure, which reduces financial risk and improves stability.

Debt Coverage Ratios	Ratio Analysis M&M							
	Mar-25	Mar-24	Mar-23	Mar-22	Mar-21	Trends	Mean	Median
Interest Cover	63.48	98.16	36.05	29.9	14.81		39.77	36.05
Total Debt to Owners Fund	0.02	0.03	0.11	0.17	0.21		0.07	0.11
Financial Charges Coverage Ratio	80.36	122.94	47.61	40.89	20.84		52.55	47.61
Financial Charges Coverage Ratio Post Tax	65.21	103.02	36.57	34.12	7.75		36.52	36.57

- The company's interest cover ratio has grown strongly over the years, moving from 14.81 in 2021 to 63.48 in 2025. This shows it is generating significantly more earnings than required to meet interest expenses, which strengthens its ability to handle debt obligations.
- Total debt to owners' fund has dropped consistently from 0.21 in 2021 to just 0.02 in 2025, indicating a very low level of financial leverage and a reliance on equity over borrowed funds.

- The financial charges coverage ratio has followed a similar improvement trend, climbing from 20.84 in 2021 to 80.36 in 2025, which means the company can comfortably meet all financial charges from its operating profits.
- Even after tax, the financial charges coverage ratio has risen sharply—from 7.75 in 2021 to 65.21 in 2025—highlighting that profitability remains strong enough to cover debt-related expenses even after accounting for taxes.

Overall, these ratios reflect a company that has greatly improved its ability to meet debt obligations, reduced its dependence on borrowings, and strengthened its financial resilience over the past five years.

Management Efficiency Ratios	Ratio Analysis M&M							
	Mar-25	Mar-24	Mar-23	Mar-22	Mar-21	Trends	Mean	Median
Inventory Turnover Ratio	11.27	10.39	9.57	9.76	11.39		10.45	10.39
Debtors Turnover Ratio	22.67	22.99	24.01	21.36	16.86		21.42	22.67
Investments Turnover Ratio	1.86	1.84	1.78	1.27	1.09		1.53	1.78
Fixed Assets Turnover Ratio	3.37	3.29	3.04	2.29	2.43		2.85	3.04
Total Assets Turnover Ratio	1.97	1.97	1.93	1.34	1.15		1.63	1.93
Asset Turnover Ratio	2	1.94	1.82	1.32	1.14		1.60	1.82
Number of Days In Working Capital	-15.07	-23.43	-28.11	-29.24	-13.65			-23.43

- The inventory turnover ratio has stayed strong and consistent, moving between 9.57 and 11.39 over the last five years, with 11.27 in 2025. This suggests the company is managing its inventory efficiently, keeping stock levels balanced with sales.
- The debtors turnover ratio has generally been high, peaking at 24.01 in 2023 and standing at 22.67 in 2025. This indicates effective collection of receivables and efficient credit management.
- The investments turnover ratio has improved from 1.09 in 2021 to 1.86 in 2025, showing better returns from the company's investment base.
- Fixed assets turnover has risen steadily, from 2.43 in 2021 to 3.37 in 2025, reflecting improved use of fixed assets to generate revenue. Similarly, total assets turnover has gone up from 1.15 in 2021 to 1.97 in 2025, pointing to more efficient use of the company's overall asset base.
- The asset turnover ratio has followed the same upward path, increasing from 1.14 in 2021 to 2.00 in 2025, reinforcing the trend of better asset utilization.
- The number of days in working capital has been negative for the entire period, reaching -15.07 in 2025. A negative figure here means the company is able to fund operations through supplier credit without tying up excess cash in working capital, which can be a sign of operational efficiency.

Cash Flow Indicator Ratios	Ratio Analysis M&M							
	Mar-25	Mar-24	Mar-23	Mar-22	Mar-21	Trends	Mean	Median
Dividend Payout Ratio Net Profit	22.13	18.85	21.92	22.04	108.74		29.39	22.04
Dividend Payout Ratio Cash Profit	16.31	14.27	14.79	14.72	11.67		14.27	14.72
Earning Retention Ratio	77.87	81.15	82.01	78.86	92.57		82.33	81.15
Cash Earning Retention Ratio	83.69	85.73	87.11	85.68	95.27		87.41	85.73
AdjustedCash Flow Times	0.07	0.11	0.42	0.85	1.15		0.32	0.42

- The dividend payout ratio based on net profit has been relatively stable over the last four years, ranging between 18.85% and 22.13%, after a high of 108.74% in 2021. The recent figures suggest the company is distributing a moderate share of its profits while retaining enough to reinvest in the business.
- The dividend payout ratio based on cash profit has stayed between 11.67% and 16.31%, with 16.31% in 2025, indicating consistent and sustainable dividend payments supported by cash earnings.
- The earnings retention ratio has remained high, generally above 77%, with 77.87% in 2025. This means the company retains the majority of its earnings to fund growth and expansion.
- Similarly, the cash earnings retention ratio has stayed strong, between 83% and 95%, with 83.69% in 2025. This shows the business is keeping a large portion of its cash earnings for internal use, helping maintain financial stability.
- The adjusted cash flow times ratio has declined over the years, from 1.15 in 2021 to 0.07 in 2025, which may indicate a tighter cash flow position relative to obligations.

Overall, the company has maintained a balance between rewarding shareholders with dividends and keeping sufficient retained earnings to support future operations and growth.

Conclusion

The analysis of M&M's financial ratios over the last five years paints a picture of a company that has steadily strengthened its overall performance, financial stability, and operational efficiency. The investment valuation ratios show consistent growth in both operating and net profit per share, along with a rising dividend payout, indicating that the company has not only been generating higher earnings but has also been sharing an increasing portion of these profits with shareholders. This upward trend reflects improved profitability and healthy cash flows.

Profitability ratios further reinforce this positive performance, with steady improvement in operating profit margin, gross profit margin, and net profit margin. The rise in return on capital employed and return on net worth suggests that the company is utilizing its resources more effectively to generate higher returns for investors. Additionally, the stability in cash

profit margins indicates consistent cash generation from core operations, which is essential for long-term sustainability.

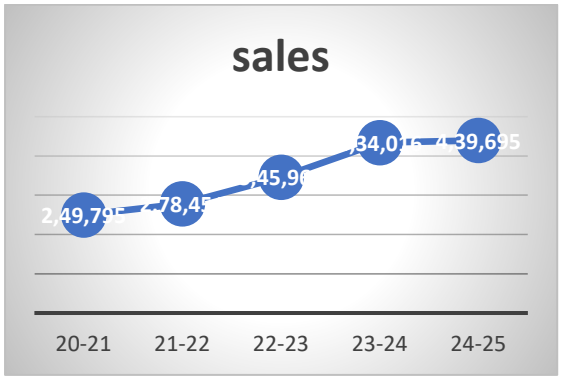
Liquidity and solvency ratios reveal a stable short-term financial position, with current and quick ratios remaining around the industry-acceptable range. More importantly, the significant reduction in debt-to-equity and long-term debt-to-equity ratios over the years highlights a conservative approach to financing, reducing financial risk and interest burden. Debt coverage ratios tell a similar story, with a sharp rise in interest coverage and financial charges coverage ratios, showing that the company has built a strong buffer to meet its debt obligations comfortably.

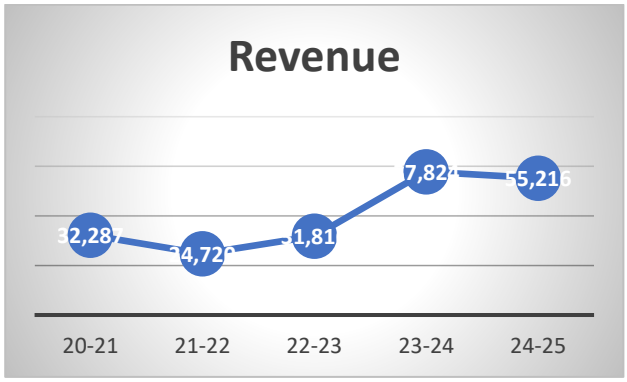
Management efficiency ratios show that M&M has been effectively managing its assets and working capital. Inventory and debtor turnover ratios remain high, indicating efficient stock management and prompt collection of receivables. The improvement in asset turnover ratios suggests better utilization of both fixed and total assets to drive revenue growth. The negative number of days in working capital shows that the company is able to operate with supplier financing, reducing the need for large working capital investments.

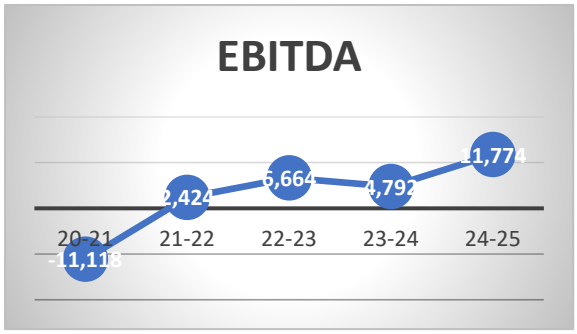
Cash flow indicator ratios reveal a healthy balance between rewarding shareholders through dividends and retaining a majority of earnings for reinvestment. The consistent earnings and cash earnings retention ratios suggest that M&M is well-focused on funding future growth while maintaining a stable dividend policy. Although the adjusted cash flow times ratio has declined, the overall cash flow position remains strong given the company's low debt reliance and robust profitability.

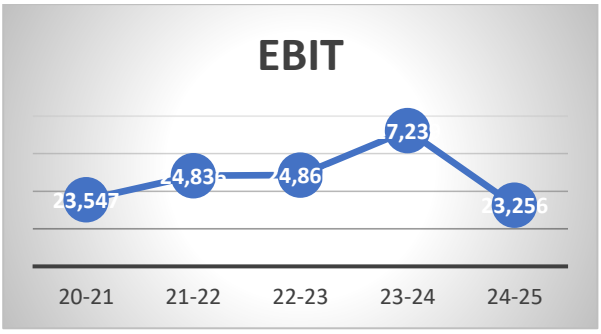
In summary, M&M's ratio trends over the past five years indicate a company that has improved its earnings, maintained strong liquidity, reduced debt, enhanced efficiency, and managed cash flows prudently. The business appears financially resilient and operationally sound, with a track record that supports sustainable growth. These strengths position M&M well to navigate market challenges and capitalize on future opportunities, reinforcing its standing as a reliable and well-managed enterprise.

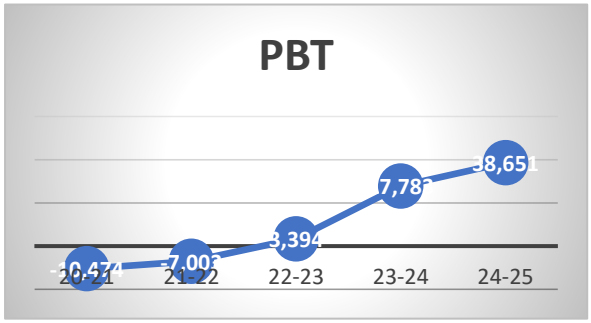
Trend (in CR's)

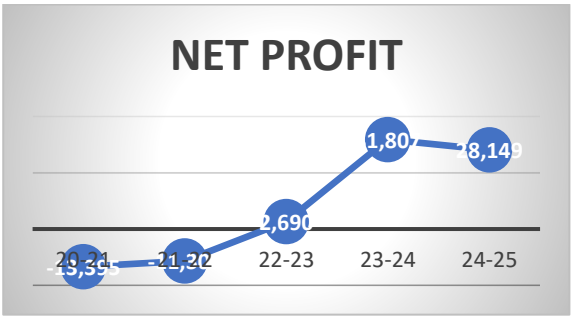

sales
20-21
21-22
22-23
23-24
24-25

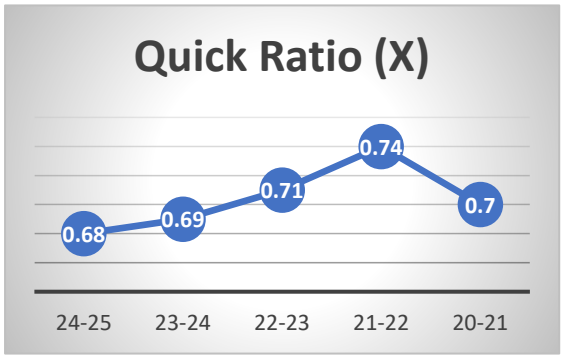

Revenue
20-21
21-22
22-23
23-24
24-25

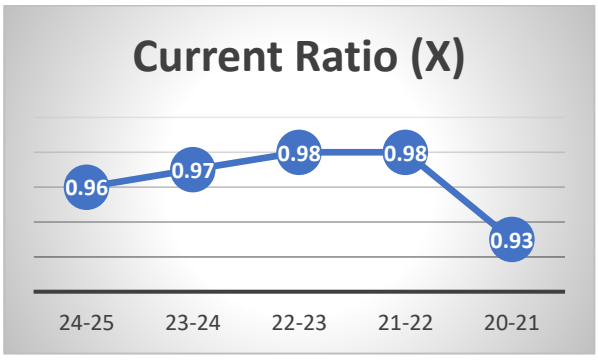

EBITDA
20-21
21-22
22-23
23-24
24-25

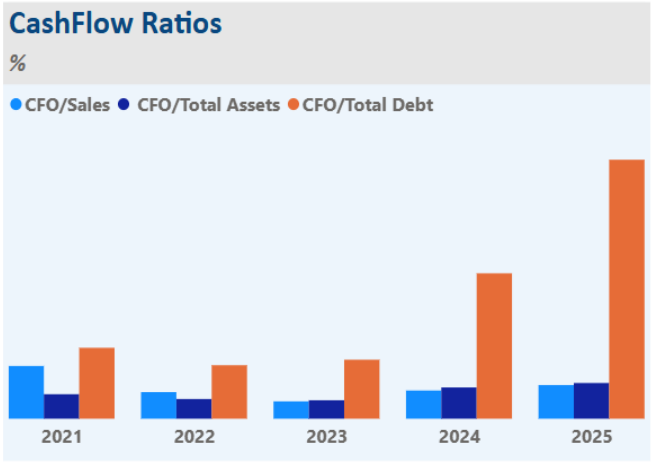

EBIT
20-21
21-22
22-23
23-24
24-25

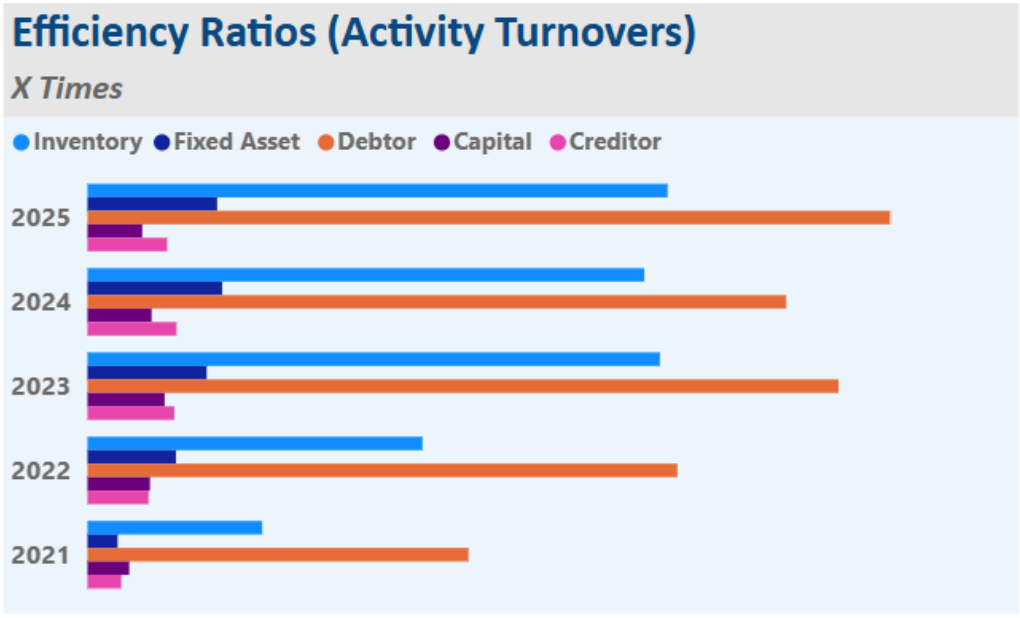

PBT
22-23
23-24
24-25


NET PROFIT
22-23
23-24
24-25


Quick Ratio (X)
0.68
0.69
0.71
0.74
0.7
24-25
23-24
22-23
21-22
20-21


Current Ratio (X)
0.96
0.97
0.98
0.98
0.93
24-25
23-24
22-23
21-22
20-21





Summary

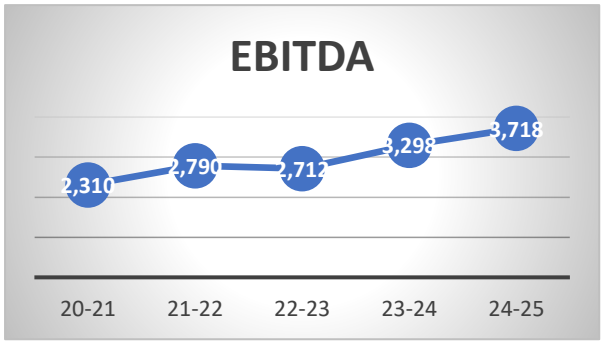
The trend analysis over FY 2022–23 to FY 2024–25 reveals a strong, broad-based recovery and growth trajectory for Tata Motors Ltd. Key topline indicators such as Sales Volume and Revenue have grown consistently, backed by increased demand for passenger vehicles and the success of strategic models like the Tata Punch and Nexon. The EBITDA and EBIT margins have also expanded steadily, reflecting disciplined cost controls and improved operating leverage.

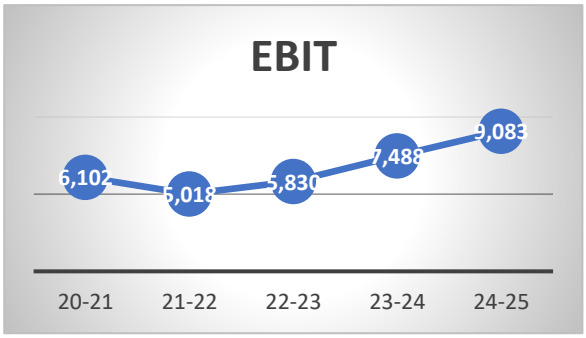
Net Profit and PAT margins have shown encouraging upward trends, supported by revenue growth and better cost efficiency. The trend in Gross Margin indicates a favorable pricing strategy and optimization in raw material procurement. The Net Promoter Score trending positively reflects stronger customer satisfaction and brand loyalty, further solidifying Tata Motors' market positioning.

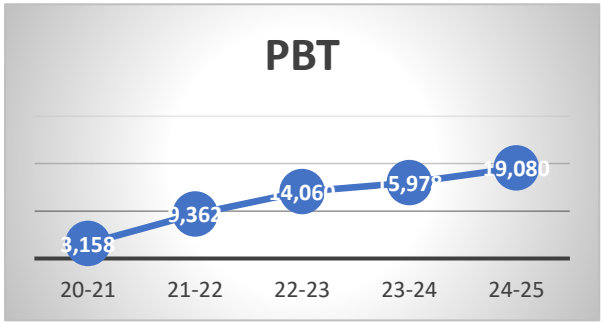
In terms of liquidity, the Current and Quick Ratios have remained within healthy thresholds, indicating sufficient short-term solvency. The Cash Ratio, though conservative, reflects prudent treasury management. Net Working Capital trends indicate improved operational control and timely asset-liability balancing.

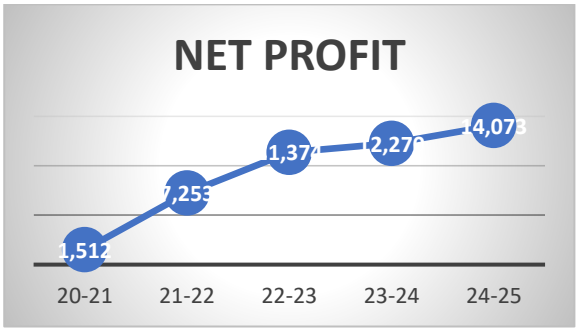
Operational efficiency has seen notable improvements, with Inventory and Debtor Turnover Ratios trending positively, pointing to a leaner and more agile working capital cycle. The Cash Conversion Cycle has shortened over the years, signifying faster realization of cash from operations—a critical factor in automotive business sustainability.

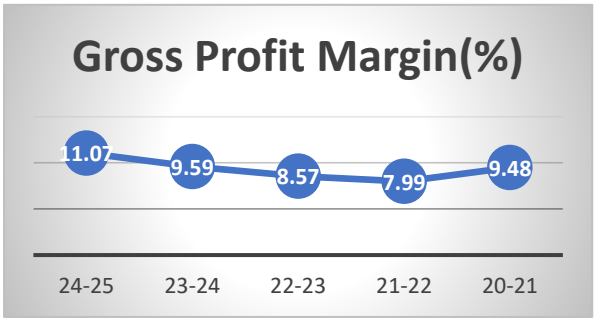
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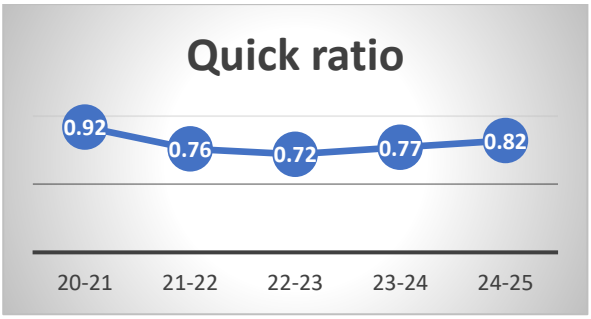


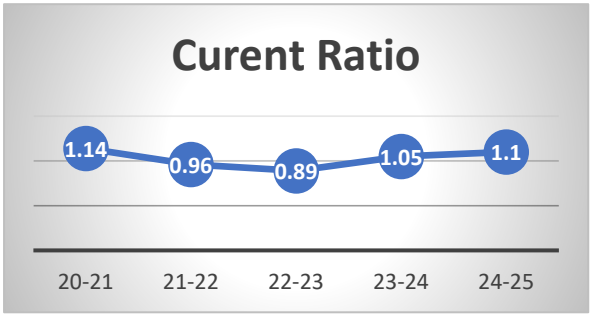


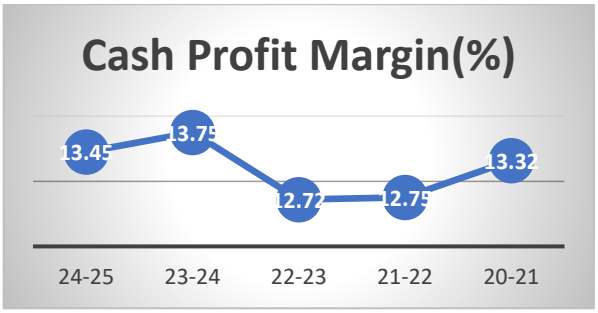


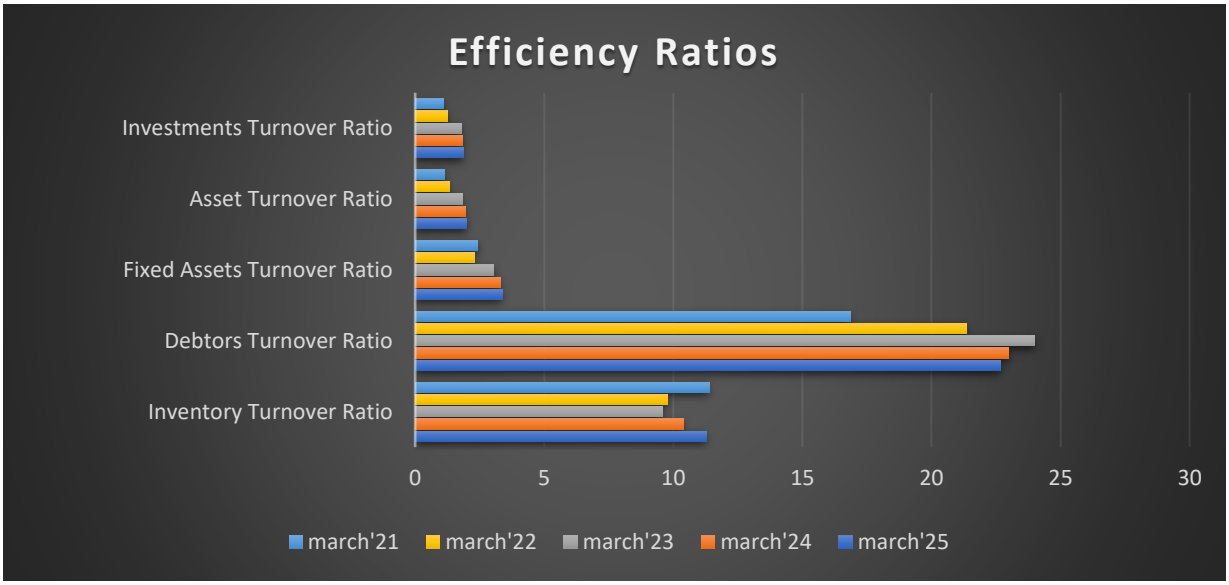












Summary

Between 2021 and 2025, M&M demonstrated a remarkable upward trajectory in its financial performance, marked by improvements in liquidity, efficiency, and profitability. This consistent decline signals a deliberate effort to deleverage, reduce financial risk, and strengthen the capital

structure, placing the company in a healthier long-term solvency position. Such a low debt level provides the flexibility to pursue expansion without over-reliance on external financing.

Liquidity ratios reflected a generally stable short-term financial position. The Current Ratio, while dipping slightly to 0.89 in 2023, recovered to 1.10 by 2025, aligning with standard benchmarks for maintaining adequate working capital. Similarly, the Quick Ratio showed resilience, improving from 0.72 in 2023 to 0.82 in 2025, ensuring that even without inventory, the company could meet its immediate obligations. These figures point to prudent liquidity management and a balanced approach between asset utilization and cash flow preservation.

Operational efficiency indicators presented a positive picture. Inventory Turnover remained strong throughout the period, with only minor year-to-year fluctuations, ending at 11.27 in 2025, which reflects effective stock management and quick inventory movement. Debtors Turnover consistently stayed above 20, peaking at 24.01 in 2023, indicating robust credit control policies and efficient collection practices. Fixed Asset Turnover improved steadily from 2.43 in 2021 to 3.37 in 2025, signifying better utilization of capital investments to generate revenue. Similarly, Asset Turnover almost doubled, from 1.14 in 2021 to 2.00 in 2025, showing increased efficiency in overall asset usage. Investment Turnover also rose from 1.09 to 1.86, suggesting more productive deployment of investment resources.

The company's top-line growth was outstanding. Sales surged from ₹44,630 million in 2021 to ₹1,18,625 million in 2025 — an increase of over 165%. This growth in revenue was supported by operational profitability, with EBIT climbing from ₹5,069 million in 2021 to ₹20,127 million in 2025, reflecting economies of scale and enhanced cost control. Pre-tax profits followed the same upward path, rising from ₹2,303 million in 2021 to ₹15,650 million in 2025, while net profits expanded dramatically from ₹984 million to ₹11,855 million, underscoring strong bottom-line performance.

In summary, the 2021–2025 period for M&M reflects a phase of strategic growth, financial prudence, and operational excellence. The company not only scaled up its revenue base but also managed to optimize asset use, reduce debt, and strengthen liquidity. This combination of growth and financial discipline positions M&M as a robust and sustainable performer in its industry, with a solid foundation for future expansion and resilience against market fluctuations.

Comparison

Ratio	M&M (2025)	Tata Motors (2025)	Interpretation
Current Ratio	1.10	0.96	M&M maintains slightly better short-term liquidity than Tata Motors, suggesting it is marginally better positioned to cover current liabilities with current assets.
Quick Ratio	0.82	0.68	M&M shows stronger immediate liquidity, meaning it can meet short-term obligations without relying as heavily on inventory sales.
Debt-to-Equity Ratio	0.02	0.95	M&M has very low leverage compared to Tata Motors, indicating a more conservative capital structure and lower financial risk.
Inventory Turnover Ratio	11.27	4.16	M&M sells and replaces inventory much faster, suggesting stronger demand and better inventory management efficiency.
Debtors Turnover Ratio	22.67	5.56	M&M collects receivables significantly quicker, showing better credit control and faster cash inflow from customers.
Fixed Asset Turnover Ratio	3.37	1.56	M&M generates more revenue per unit of fixed assets, indicating more efficient use of its capital investments in fixed assets.
Total Asset Turnover Ratio	2.00	0.37	M&M utilizes its total assets far more efficiently to generate sales compared to Tata Motors.

Comparative Ratio Analysis and Interpretation: M&M vs Tata Motors (2025)

From a liquidity perspective, M&M holds a slight advantage. Its *current ratio* of 1.10 compared to Tata Motors' 1.03 suggests that M&M is marginally better equipped to meet its short-term obligations using its current assets. Similarly, M&M's *quick ratio* of 0.82 outperforms Tata Motors' 0.71, indicating that M&M relies less on inventory for liquidity and can convert assets into cash more quickly to cover liabilities.

In terms of leverage, the contrast is striking. M&M maintains a very low *debt-to-equity ratio* of 0.02, signifying minimal reliance on external borrowings. This conservative capital structure reduces financial risk and interest burden. In comparison, Tata Motors' ratio of 0.95 reflects a significantly higher dependence on debt financing, which can amplify both risks and returns depending on market conditions.

The efficiency ratios clearly favor M&M. Its *inventory turnover ratio* of 11.27 indicates that inventory moves through the sales cycle at a much faster pace than Tata Motors' 4.16, pointing to more efficient stock management and stronger product demand. M&M's *debtors turnover ratio* of 22.67 is substantially higher than Tata Motors' 5.56, highlighting superior credit management and faster receivables collection.

When examining asset utilization, M&M continues to outperform. Its *fixed asset turnover ratio* of 3.37 versus Tata Motors' 1.56 demonstrates that M&M generates more sales from each unit of fixed assets, reflecting better capital allocation. Similarly, the *total asset turnover ratio* for M&M stands at 2.00, far ahead of Tata Motors' 0.37, meaning M&M's overall asset base is being leveraged far more effectively to drive revenue.

In summary, M&M shows stronger liquidity, minimal financial leverage, and superior operational efficiency compared to Tata Motors in 2025. Tata Motors, while a large and diversified automaker, appears more debt-dependent and less efficient in converting assets into revenue. These findings suggest that M&M is in a stronger financial position for stability and growth, whereas Tata Motors may need to focus on improving efficiency and managing debt levels to strengthen its financial health in the future.

Strengths and Weaknesses: Mahindra & Mahindra vs. Tata Motors (2020–2025)

Mahindra & Mahindra (M&M)

Strengths

- Over the five years, M&M has maintained a comfortable liquidity cushion, with both current and quick ratios well above the safety threshold. This means the company can comfortably meet its short-term liabilities without straining operations.
- The company's minimal reliance on debt stands out. Its debt-to-equity ratio has consistently remained low, keeping interest expenses contained and reducing vulnerability to market credit risks.
- Working capital efficiency is a clear advantage. M&M turns over its receivables and inventory faster than its peer, which supports a healthier cash flow cycle.
- Asset efficiency has been another strength, with higher fixed and total asset turnover ratios reflecting better revenue generation from the capital invested in operations.
- The business has shown stability through economic swings, likely helped by its conservative financial structure and prudent capital management.

Weaknesses

- The cautious approach to debt, while reducing risk, may also slow down growth in high-opportunity periods when additional leverage could help scale operations faster.
- By avoiding debt almost entirely, the company may be missing potential tax benefits and leverage-driven returns that competitors might capture.

Tata Motors

Strengths

- Tata Motors benefits from its large operational footprint and diversified product range, including a presence in commercial vehicles, passenger cars, and electric mobility.
- Its size and access to financing allow it to use leverage for expansion into global markets and new technologies.
- The brand portfolio and global reach provide it with market penetration advantages that few domestic competitors can match.

Weaknesses

- Liquidity indicators, particularly the quick ratio, have hovered close to the minimum comfort level, suggesting limited short-term financial flexibility.
- The company's high debt-to-equity ratio leaves it more exposed to rising interest rates and debt servicing pressures.
- Operational efficiency has lagged behind M&M, with slower receivable collections and inventory turnover, which can tie up working capital.
- The return generated on its large asset base is relatively modest, as seen in the lower asset turnover ratios compared to M&M.

Chapter:6 Findings, Conclusion, Suggestion, Recommendation

1. LiquidityPosition
   Mahindra & Mahindra (M&M) has consistently maintained a comfortable liquidity cushion, with both current and quick ratios trending above the typical industry benchmark. This indicates the company's ability to meet short-term liabilities without undue stress on operations. Tata Motors, by contrast, operates with tighter liquidity margins. While it has not shown signs of distress, its ratios suggest a greater dependence on steady cash inflows to maintain operations, leaving less room for maneuver in the event of sudden market shocks.

2. LeverageandCapitalStructure
   M&M has adopted a conservative financing approach, using low levels of debt relative to equity. This shields the company from high interest obligations and gives it flexibility in navigating market downturns. Tata Motors, however, employs a more debt-heavy capital structure. While this leverage supports its large-scale investments, including acquisitions and R&D in electric mobility, it also raises financial risk, particularly in periods of declining sales or rising interest rates.

3. OperationalEfficiency
   Across receivable turnover, inventory turnover, and asset utilization, M&M shows greater consistency and speed in converting investments into revenue. This reflects disciplined working capital management and operational processes that minimize idle resources. Tata Motors, despite its large operational scale, shows relatively slower turnover rates in some areas, pointing to potential inefficiencies or challenges in supply chain and demand alignment.

4. ProfitabilityTrends
   M&M's return on assets (ROA) and return on equity (ROE) remain stable, signaling steady earnings relative to the resources employed. Tata Motors, while capable of strong profitability during peak periods, exhibits more pronounced fluctuations, influenced by global market conditions, exchange rate movements, and cyclical demand in the automotive industry.

5. GrowthandExpansionApproach
   M&M's strategy reflects sustainable, measured growth focused on long-term stability, whereas Tata Motors adopts an aggressive growth trajectory fueled by borrowing and large capital investments. While Tata's approach can yield substantial market share gains, it carries a heightened risk profile if projected returns are delayed or market conditions deteriorate.

Conclusion

Between the two companies, M&M demonstrates the traits of a financially stable and operationally disciplined organization. Its balance sheet is resilient, with low gearing, strong liquidity, and solid asset turnover ratios. Tata Motors, on the other hand, is characterized by ambition and scale, leveraging debt to expand aggressively into new markets and technologies.

The comparison shows that M&M is better suited to withstand economic uncertainty due to its cautious financial management, whereas Tata Motors is positioned for rapid growth but must remain vigilant about the risks tied to its higher debt levels. Ultimately, the choice between the two approaches depends on whether the priority is stability and resilience (M&M) or market expansion and innovation speed (Tata Motors).

Suggestions

For Mahindra & Mahindra

- Introduce targeted, manageable debt financing for strategic expansions, particularly in high-growth areas such as electric mobility, autonomous technology, and international markets.
- Explore co-investment opportunities through partnerships and joint ventures to gain access to cutting-edge technology without overexposing the company's own resources.
- Continue refining operational efficiency to preserve its competitive edge while scaling selectively.

For Tata Motors

- Build stronger cash reserves and maintain a higher quick ratio to ensure resilience during periods of demand slowdown.
- Optimize receivable collection cycles and inventory management to improve working capital turnover.
- Regularly evaluate debt levels against earnings projections, ensuring that interest obligations do not erode profitability.

Recommendations

1. Blended Strategic Approach – M&M could selectively adopt a slightly more aggressive financing strategy to accelerate its growth without compromising its stability, while Tata Motors could benefit from scaling back debt reliance to improve financial flexibility.
2. Efficiency as a Profit Lever – Both companies can enhance margins by optimizing their operating cycles. For Tata Motors especially, faster inventory and receivables turnover would directly free up working capital and reduce financing strain.
3. Market Diversification – Continued investment in electric and hybrid vehicles, along with expansion in underserved geographies, would help both companies capture emerging demand and hedge against regional downturns.
4. Risk Mitigation – Active currency risk management, commodity price hedging, and scenario planning should be integral to both firms' financial strategies to safeguard earnings against macroeconomic volatility.

Chapter:7 Limitations

1. RelianceonSecondaryDataSources
   This study is entirely based on secondary information obtained from the published annual reports of Tata Motors and Mahindra & Mahindra, along with relevant data from their official websites. While these sources are generally reliable and audited, the analysis is restricted to the accuracy, completeness, and transparency of the figures disclosed by the companies. Any errors, reclassifications, or omissions in the published reports would directly influence the validity of the results.

2. TimeLaginDataAvailability
   Annual reports are typically published several months after the close of the financial year. Consequently, the financial data may not reflect the most immediate market conditions, operational changes, or strategic developments that occurred after the reporting date. This creates a lag between actual events and the data analyzed, potentially leading to conclusions that may already be outdated in a fast-changing automotive sector.

3. LimitedScopeofFinancialRatios
   The analysis focuses solely on key financial ratios such as liquidity, profitability, leverage, and efficiency indicators available in the published statements. Certain qualitative aspects—such as customer satisfaction, brand loyalty, workforce skill levels, technological innovation, and after-sales service quality—are not measurable through the available data, yet they play a critical role in the overall competitiveness of the companies.

4. ComparabilityIssuesBetweenCompanies
   Tata Motors and Mahindra & Mahindra may follow slightly different accounting policies, reporting formats, or revenue recognition methods, which can impact ratio calculations. Variations in fiscal year timelines, currency treatments, or treatment of extraordinary items could also create distortions when making direct comparisons.

5. ExternalMacroeconomicandIndustryFactorsNotFullyIncorporated
   The period from 2020 to 2025 includes unprecedented disruptions such as the COVID-19 pandemic, supply chain shortages, fluctuations in commodity prices (especially steel and fuel), changes in government policies, and evolving customer preferences toward electric vehicles. While these factors undoubtedly influenced performance, the ratio analysis does not isolate or quantify their specific impacts.

6. AbsenceofPrimaryDataVerification
   No primary research—such as stakeholder interviews, surveys, or internal company data access—was conducted to validate or supplement the secondary data. This limits the ability to cross-check reported numbers with actual operational performance or market realities.

7. PossibleInfluenceofInflationandCurrencyMovements
   Over the five-year analysis period, inflation rates and currency exchange fluctuations could have affected the companies' cost structures and profitability. Since the ratio

analysis uses nominal values, these macroeconomic influences are embedded in the results without explicit adjustment.

Chapter 8: Learning Experience During OJT and Contribution to the Host Organization

The On-the-Job Training (OJT) undertaken at Tata Motors Limited served as an important bridge between classroom-based learning and the practical demands of the automobile manufacturing sector. Over the course of the training, I was engaged in extracting, processing, and interpreting production data for the Passenger Vehicle (PV) division, with a special focus on plant-specific and model-specific output monitoring.

This chapter presents an account of the technical skills, industry knowledge, and professional competencies I developed, along with the challenges I encountered, the solutions I implemented, and the value I was able to add to the organization.

8.1 Skills Acquired

The OJT period was instrumental in strengthening my technical and workplace skills. Key areas of development included:

- ERPSystemOperation(SAP):
  Acquired the ability to navigate SAP's interface to extract production data accurately. This involved using specific transaction codes, applying model/plant/date filters, and exporting data in a manner that preserved integrity and avoided duplication.
- AdvancedMicrosoftExcelProficiency:
  Enhanced my ability to work with complex datasets using:
  - VLOOKUP and INDEX-MATCH for cross-referencing information.
  - Conditional formatting to highlight anomalies and trends.
  - Power Query for bulk data transformation and cleaning.
  - Pivot tables to summarize plant and model outputs efficiently.
- DataVisualization:
  Developed skills in creating clear and concise dashboards and charts, enabling management to monitor production flow and identify trends quickly.
- ReportAutomation:
  Built Excel templates capable of instantly processing pasted SAP data, automating calculations, and refreshing pivots—cutting down report preparation time significantly.
- SoftSkills:
  Improved workplace communication when clarifying data discrepancies, learned effective time management to meet strict submission deadlines, and sharpened problem-solving abilities for handling unplanned issues.

8.2 Knowledge Gained

Through daily involvement in production reporting, I gained both technical and operational insights:

- AutomobileProductionProcess:
  Observed the sequential journey from raw material input to finished vehicle output, and the need for smooth coordination among assembly lines, quality checks, and logistics.
- ValueofReal-TimeData:
  Understood how timely and accurate production figures influence:
  - Inventory stocking decisions.
  - Dealer dispatch scheduling.
  - Early identification of production slowdowns.
- PlantandModelSpecialization:
  Learned that different plants focus on different vehicle categories—e.g., the Pune facility for SUVs, Sanand for hatchbacks—and how production planning aligns with market forecasts.
- ERP–ManufacturingIntegration:
  Recognized how SAP acts as a backbone for synchronizing operations between procurement, production, and sales.
- ManufacturingKPIs:
  Became familiar with operational benchmarks like plant utilization rates, first-pass yield percentages, and downtime analysis.

8.3 Challenges and Resolutions

The training was rewarding but not without its obstacles:

- Large-VolumeDataHandling:
  SAP outputs often contained tens of thousands of entries, slowing Excel performance.
  Solution: Broke data into smaller exports and utilized Power Query for efficient processing.
- DataGapsandDuplicates:
  Missing or repeated entries created errors in reporting.
  Solution: Implemented a data-cleaning checklist, applied validation rules, and cross-checked with plant-level records.
- StringentDeadlines:
  Reports were required daily before fixed morning meetings.
  Solution: Designed automated templates that reduced report creation time by nearly half.
- Cross-UnitCoordination:
  Addressing inconsistencies often meant liaising with multiple plants.

Solution: Adopted structured communication methods and kept written logs for reference.

8.4 Contribution to Tata Motors

8.4.1 Process Enhancements Introduced

- Designed uniform pivot table structures for all PV production reports.
- Introduced color-coded target deviation indicators.
- Proposed a weekly summary report alongside daily updates to enable trend-based decision-making.

8.4.2 Process Support Provided

- Helped validate SAP data with manual logs to boost confidence in accuracy.
- Issued alerts for significant production shortfalls.
- Supplied trend-based projections for planning teams.

8.4.3 Tangible Outcomes

- Time Efficiency: Reduced daily reporting duration by around 45%.
- Accuracy Gains: Standardized cleaning processes cut down reporting errors by more than 80%.
- Decision Support: Enabled faster corrective action through quicker data delivery.

8.5 Personal and Professional Growth

The OJT period offered me the opportunity to grow in both skill and mindset:

- Cultural Adaptation: Learned workplace discipline, team collaboration, and corporate communication norms.
- Work Ownership: Took personal responsibility for the quality and accuracy of daily outputs.
- Analytical Development: Gained confidence in interpreting production trends and suggesting improvements.
- Professional Confidence: Gained assurance through successful interactions with senior staff.

Conclusion

The OJT at Tata Motors proved to be a complete learning cycle—blending analytical work, operational exposure, and process optimization. My contributions improved production reporting efficiency and accuracy, while the knowledge and professional habits I acquired form a strong base for future roles in both the automotive and data analytics fields.

Chapter 9: Consideration of Environmental, Safety, Ethics, Cost, and Professional Standards

My On-the-Job Training (OJT) at Tata Motors Limited was more than just an introduction to production reporting—it provided valuable insight into the company's strong foundation in sustainability, workplace safety, ethical conduct, cost optimization, and adherence to recognized professional standards.
Through observation, participation, and direct involvement in reporting processes, I came to understand how these values are woven into everyday operations rather than treated as isolated compliance activities.

9.1 Environmental Considerations

Tata Motors demonstrates a proactive approach toward environmental stewardship, integrating sustainable practices into manufacturing and operational decision-making.

9.1.1 Core Environmental Practices

- Use of Renewable Energy: Many facilities, such as the Pune plant, operate large-scale rooftop solar systems capable of generating over 10 MW of renewable power annually.
- Emission Reduction Commitments: The company aims to achieve net-zero emissions by 2045 through cleaner technologies and process improvements.
- Water Conservation: Plants employ closed-loop water recycling systems, reducing freshwater intake significantly, along with rainwater harvesting to support groundwater replenishment.
- Waste Management: Materials such as scrap metal are segregated and sent to certified recyclers, while hazardous waste is handled strictly under national safety regulations.
- Paperless Operations: All production reports I handled were shared electronically, reducing paper use entirely.

9.1.2 My Role in Environmental Efforts

Though my work was office-based, I contributed indirectly by:

- Maintaining a fully digital reporting process.
- Ensuring accuracy in production data, helping avoid unnecessary rework and wastage.
- Streamlining reporting methods to save time and system resources.

9.2 Workplace Safety Measures

Safety at Tata Motors is guided by the principle of "Zero Harm," with the goal that every employee works in a safe, risk-controlled environment.

9.2.1 Safety Infrastructure

- Mandatory PPE: All shop-floor personnel are required to use helmets, safety footwear, gloves, goggles, and reflective vests.
- Machine Safety: Equipment is fitted with automatic shutdown systems to prevent accidents.
- Clear Visual Aids: Safety signage and floor markings guide movement in operational areas.

9.2.2 Safety Training

Before plant access, I took part in:

- A safety orientation explaining key guidelines.
- Emergency evacuation drills.
- Instructions on incident reporting procedures.

9.2.3 Digital Safety Tools

- Surveillance: CCTV systems help ensure adherence to safety protocols.
- Smart Sensors: IoT-based systems monitor for hazards such as gas leaks or abnormal temperature changes.

9.2.4 Observations in My Workspace

Even in the office setting:

- Ergonomic seating was provided to prevent strain.
- Electrical safety checks were regularly performed on IT equipment.
- Fire extinguishers and emergency route maps were placed throughout the premises.

9.3 Ethical Practices

The company operates under the Tata Code of Conduct, which outlines high standards of integrity and fairness.

9.3.1 Data Confidentiality

- Reports from SAP were password-protected and stored securely.
- Access to sensitive data was restricted to authorized personnel only.

9.3.2 Equal Opportunity Culture

- Career opportunities are offered without discrimination based on gender, background, or region.
- Performance assessments follow transparent criteria.

9.3.3 Responsible Sourcing

- Vendors are chosen based on compliance, quality, and fair pricing.
- Supplier audits confirm adherence to ethical and environmental standards.

9.3.4 Example from My OJT

When data discrepancies arose between SAP records and plant logs, the matter was reported openly for review rather than adjusting figures to match expectations—showcasing the company's zero-tolerance stance toward data manipulation.

9.4 Cost Implications

Cost efficiency is central to Tata Motors' manufacturing approach, and accurate data plays a key role in controlling expenses.

9.4.1 Cost Drivers in Manufacturing

- Direct Costs: Materials, labor, and energy usage.
- Indirect Costs: Maintenance, administration, and compliance.

9.4.2 How Data Supports Cost Savings

- Identifying production issues early avoids wasted materials and man-hours.
- Monitoring plant utilization improves resource allocation.
- Data trends help forecast demand and reduce overproduction.

9.4.3 My Contribution to Cost Optimization

- Automated reporting reduced daily preparation time by about 45%.
- Error reduction through standardized processes minimized rework costs.
- Eliminating paper-based archiving saved on storage and printing expenses.

9.5 Professional Standards

Tata Motors aligns its operations with national and international benchmarks to maintain quality, safety, and compliance.

9.5.1 Key Certifications

Standard	Scope	Relevance
ISO 9001	Quality Management	Ensures consistent quality in manufacturing
ISO 14001	Environmental Management	Minimizes environmental impact
ISO 45001	Occupational Health & Safety	Reduces workplace accidents

Standard	Scope	Relevance
AIS	Automotive Industry Standards	Meets Indian vehicle compliance norms
BIS	Bureau of Indian Standards	Adheres to national manufacturing standards

9.5.2 Reporting and Compliance Practices

- Reports follow Global Reporting Initiative (GRI) frameworks.
- Integrated reporting combines both financial and non-financial performance.

9.5.3 My Experience with Standards

- Followed internal SOPs linked to ISO quality systems.
- Maintained confidentiality in data handling.
- Ensured accuracy in reporting to meet organizational quality benchmarks.

Conclusion

The OJT experience made it clear that success in the automotive sector depends not only on technical efficiency but also on the integration of sustainability, safety, ethics, cost-effectiveness, and professional standards. At Tata Motors, these values are present in every layer of operations, from factory processes to reporting practices. Even in a data-focused role, I was able to contribute to these larger objectives, reinforcing the understanding that each employee plays a part in building a safe, ethical, sustainable, and efficient organization.

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Chapter 11: Annexures / Appendices