

ANALYSIS OF MARKET DATA AND FUTURE TREND PROJECTIONS FOR THE FOUNDRY DIVISION

AISHWARYA DATEY

STUDENT, PGDM, BALAJI INSTITUTION OF MODERN MANAGEMENT, PUNE-
411033

ABSTRACT

The purpose of research paper is to focus on implementations of marketing strategies in foundry division of Walchandnagar Industries Ltd. The main objective was to determine the strength and weaknesses of WIL foundry. To unearth the sector/customer/product – wise trends through comprehensive analysis of sales data for the past 3 years. Through such data analysis to understand the strengths/weaknesses of the Foundry division in addressing various sector-product mix. To analyze which of the market sectors currently being served by the Foundry look attractive in terms of medium to long term potential (from a consistent order booking point of view). To further analyze the market dynamics that will fuel the growth of such sectors and thereby support the growth hypothesis. To recommend to the Foundry division how to re-configure its production and marketing capabilities to serve the most lucrative sectors both in terms of revenue and profitability.

CONTEXTUAL BACKGROUND:

Industry Scenario: Foundry produces castings from ferrous or non-ferrous alloys. Metals are turned into products or the parts by melting the metal into a liquid, and pouring the liquid metal in a mould, removing the mould material or casting. The most common metal alloys used are aluminium and cast iron. However, other metals, such as steel, magnesium, copper, tin, and zinc, are also used for manufacturing. Different types of foundry available:

Captive Foundry :- It is an integral part of the manufacturing company, where all the castings made are consumed mainly in the products being manufactured by the company.

Jobbing Foundry :- Produces small number of castings of a given type for different customers. They have facilities for mass production.

Production Foundry :- It is highly mechanized and can produce castings economically on mass production.

Semi-Production Foundry :- Combination of jobbing and a production foundry

TYPOLOGY OF PRODUCTS

- ❖ Oil engines/automotive engine/diesel engines
- ❖ Valves/fans/pumps
- ❖ Electric motors
- ❖ Machine Tools/ machine parts
- ❖ Tractor parts/agricultural implements/chaff cutters
- ❖ Food processing industry/sugar industry machinery
- ❖ Textile Machinery
- ❖ Others

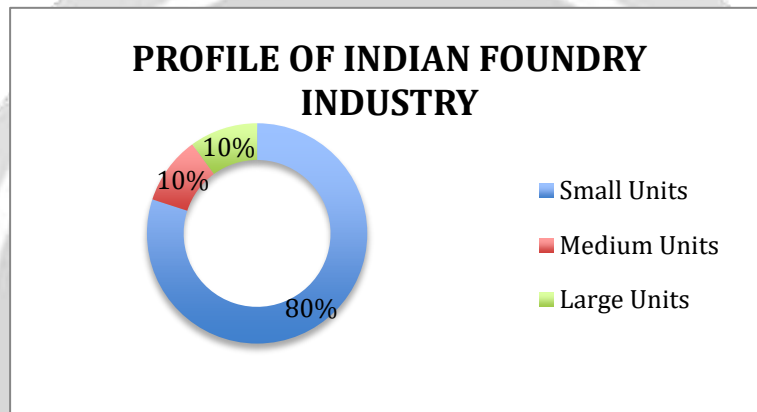
MARKET SCENARIO:

Profile Of Indian Foundry Industry

The Indian Metal casting is well established. India Ranks as 2nd largest casting producer producing estimated 7.44 Million MT of various grades of Castings as per International standards .

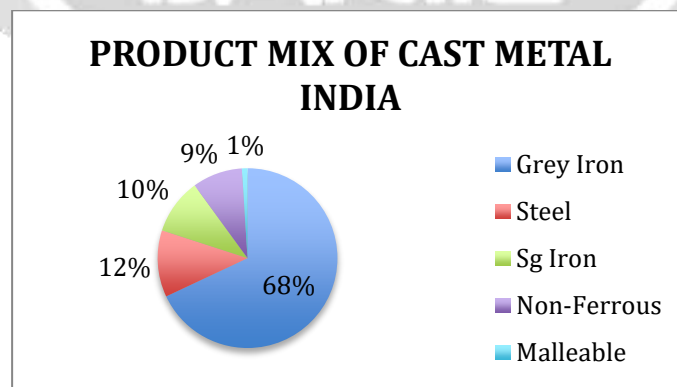
Various types of castings which are produced are ferrous, non ferrous, Aluminium Alloy, graded cast iron, ductile iron, Steel etc for application in Automobiles, Railways, Pumps Compressors & Valves, Diesel Engines, Cement/Electrical/Textile Machinery, Aero & Sanitary pipes & Fittings etc & Castings for special applications. However, Grey iron castings is the major share approx 70% of total castings produced.

Approx 4500 units out of which 80% can be classified as Small Scale units & 10% each as Medium & Large Scale units. Approx 500 units are having International Quality Accreditation. The large foundries are modern & globally competitive & are working at nearly full capacity. Most foundries use cupolas using LAM Coke.



PRODUCT MIX

Grey iron is the major component of production followed by steel, ductile iron & non ferrous as shown below

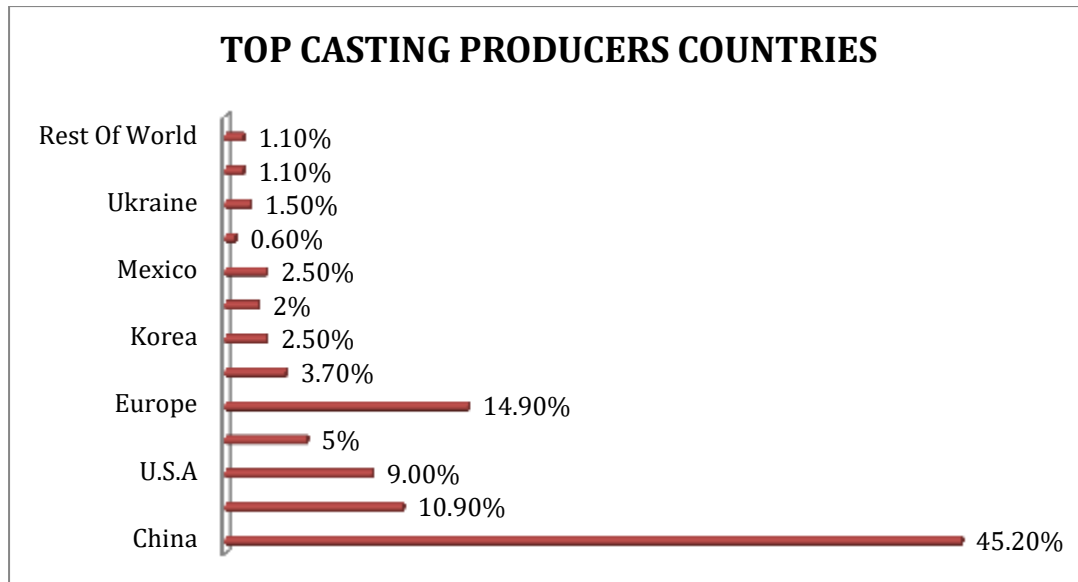


GLOBAL SCENERIO

As per 51th World casting Census published by Modern Castings USA in December 2017, Global Casting Production Stagnant. Worldwide casting production grew by less than half a percent for second year in a row in 2016. In 2016, world casting production reached 104.4 million metric tons, a shade

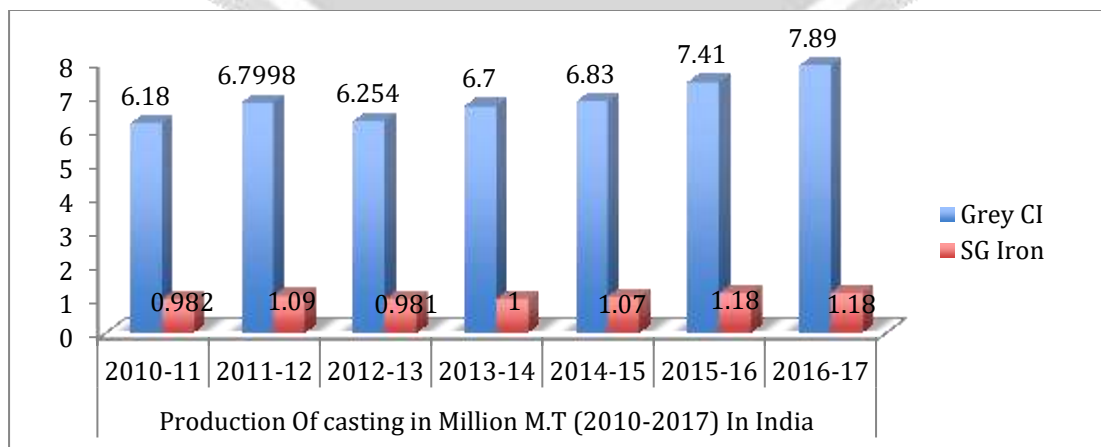
over the 104.1 million metric tons produced in 2015. The World's top 10 casting producing nations produced 91.6 million metric tons of the total 104.4 million metric tons.

China reported a 5.4% increase since 2015 putting its total production, India the second largest casting producers in the World reported 5.4% increase in production and the remaining 2016 top 10 casting nations are USA, Japan, Russia, Korea, Brazil, Mexico, Canada, Ukraine, Taiwan.

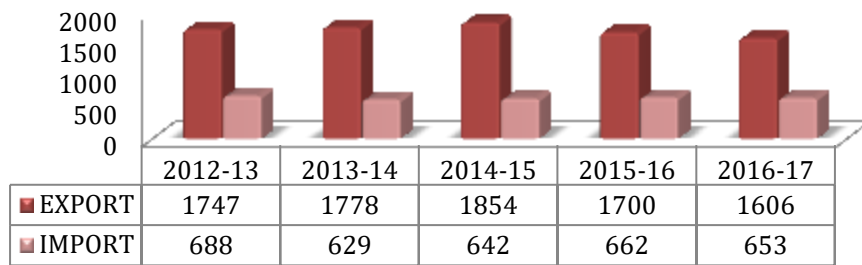


ROLE IN MANUFACTURING SECTOR :

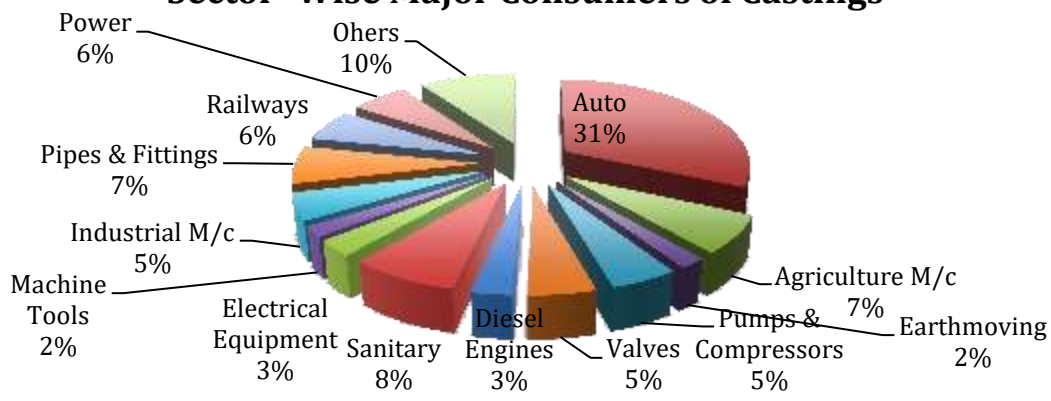
The new manufacturing policy envisages the increase in the share of manufacturing in the GDP to 25% from current 15% & to create 100 Million additional jobs in next 10 years. Since all engineering & other sectors use metal castings in their manufacturing, the role of foundry industry to support manufacturing is very vital. It is not possible to achieve the above goal without the sustainable corresponding growth of the foundry sector.



EXPORT/IMPORT DATA OF MAJOR CASTINGS VALUE IN INR (crores)



Sector- Wise Major Consumers of Castings



COMPANY PROFILE:

Walchandnagar Industries Limited (WIL) operates a **Grey and Ductile iron Foundry** with capability to handle highly intricate castings for specialized applications. Key business focus is on wind mill, industrial machinery, automotive, oil & gas sectors, etc. It currently has a large list of satisfied customers, namely, Kirloskar Brothers, Tata Motors, Suzlon, Caparo, Mather & Platt, etc. It is accredited with ISO: 2001: 2008 certification issued by QS Zurich AG. It is also accredited with ISO 9001: 2000 certificate issued by Orion Registrar Inc., USA. The foundry is strategically located at Satara Road in Maharashtra, India & easily accessible to industries in Western & Southern India. The Foundry technology was received award from Meehanite Metal Company limited, UK.

It has excellent product related infrastructure, Pattern shop, a State-of-Art Machine Shop, Sophisticated Metallurgical Lab and Quality Assurance facilities. It can manufacture all grades of Cast Iron and S.G.Iron (Ductile Iron of several Grade Alloyed Casting). Castings can be supplied in either rough or fully machined condition. It has the ability to handle single piece weight of 13 tonnes of grey cast iron and 8 tonnes of ductile iron.

Capability to adapt to emerging trends and absorb new technology, competent engineering skills and expertise, a strong metallurgy base, uncompromising quality consciousness have all contributed to create a sound and solid base for WIL Foundry in the Industry. WIL foundry has a vibrant workforce comprising highly qualified professionals and highly skilled and experienced workmen with an average experience of over 2 decades in the foundry industry. WIL foundry also maintains housing colony for its employees.

Current Production Capacity: 7500 MT/PA

Slated to be augmented to 9000 MT/PA

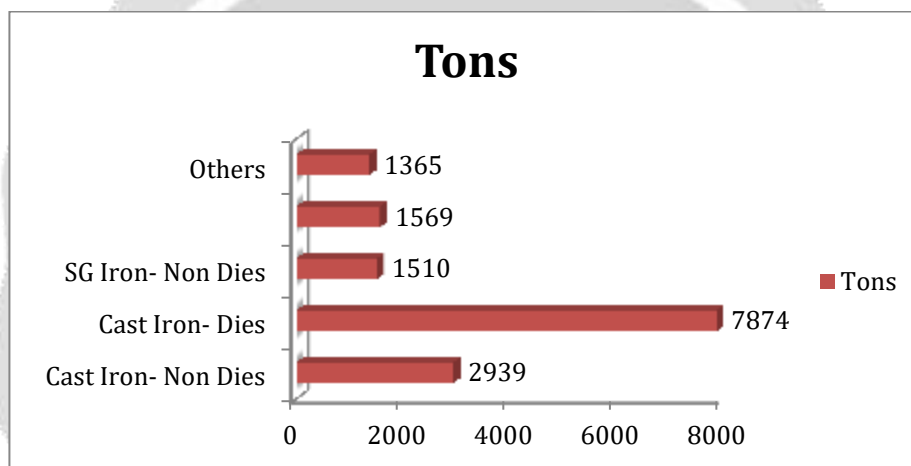
- ❖ Non-die Casting (Conventional Moulding share is 50%)

- ❖ Die Casting (Full Mould share is 50%)

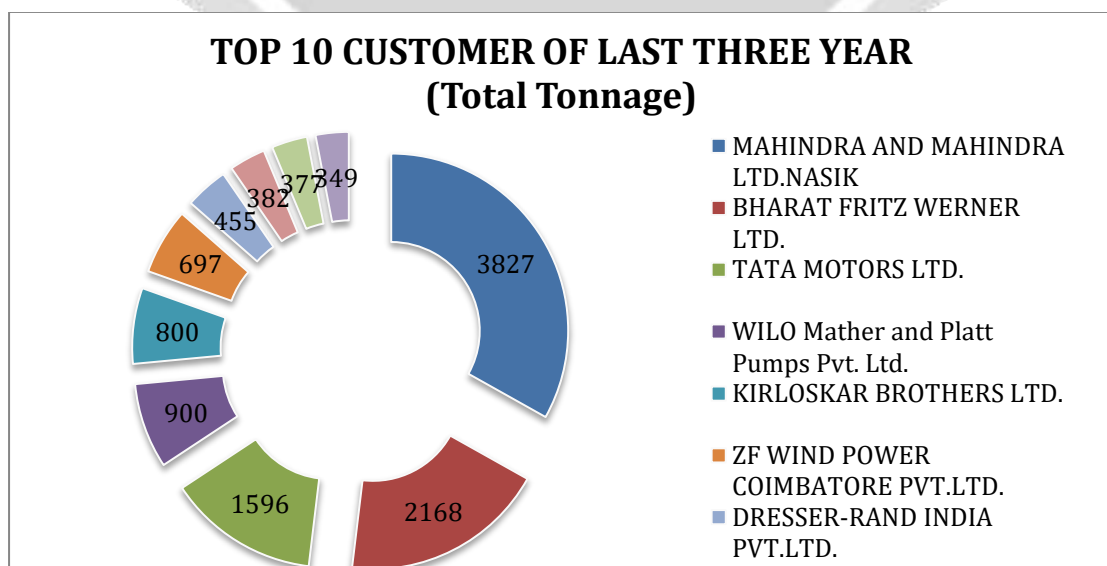
OBJECTIVES:

1. To unearth the sector/customer / product – wise trends through comprehensive analysis of sales data for the past 3 years.
2. Through such data analysis to understand the strengths/weaknesses of the Foundry division in addressing various sector-product mix.
3. To further analyze the market dynamics that will fuel the growth of such sectors and thereby support the growth hypothesis.
4. To recommend to the Foundry division how to re-configure its production and marketing capabilities to serve the most lucrative sectors both in terms of revenue and profitability.

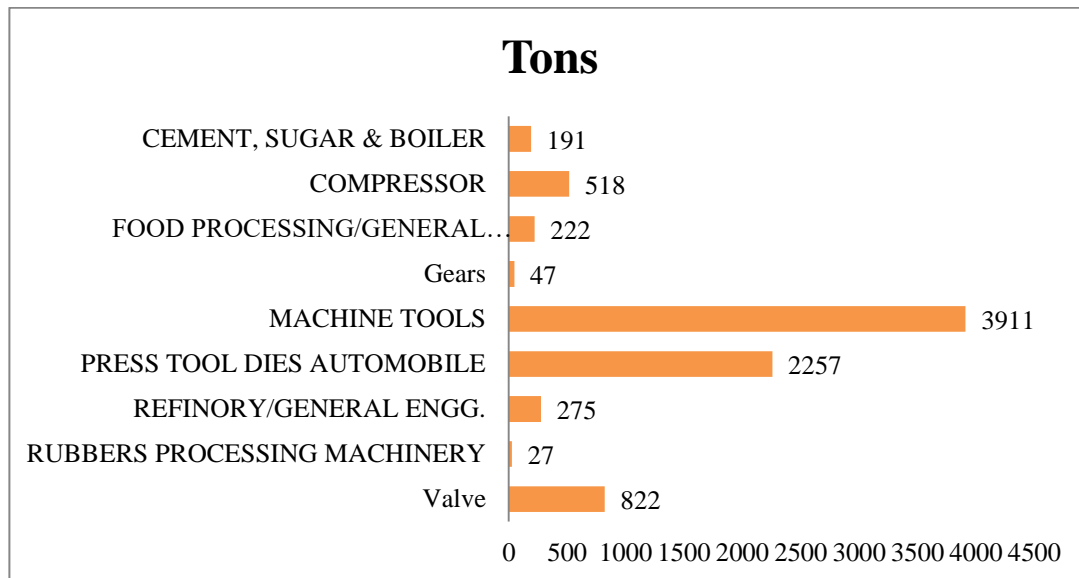
ANALYSIS: From the past three year data of FY2015-18, find out the total tonnage across the different product groups of the foundry division.



ANALYSIS: Top 10-customers identification on basis of tonnage, to find out from where we are getting higher sales value.



ANALYSIS: To find out the which kind of sector gives the most optimal tonnage on per casting basis. (Sample of 50-customers dealing with various sectors have been taken)



INFERENCES:- From the above graph the conclusion can be drawn that foundry division of WIL has served nine different sectors. From this different sectors WIL has highest order from customer dealing with machine tools i.e. 3911 Tons. Then we have press tool dies automobile sector with 2257 Tons and Valve with 822 Tons. This means there is higher demand for the machine tool sector.

MACHINE TOOL INDUSTRY OF INDIA

The machine tool market in India is increasing exponentially day by day. As a result of the growing demand, the country is set to become a key player in terms of global machine tools industry and is likely to see substantial high-end machine tool manufacturing. It is largely expected that the platforms like 'Make in India' coupled with the growth in manufacturing are said to be the results of the growing demand in the machine tools sector. Here are a few trends that are impacting the machine tool market in India.

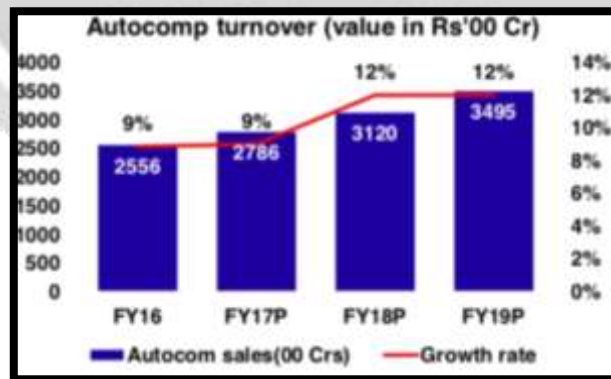
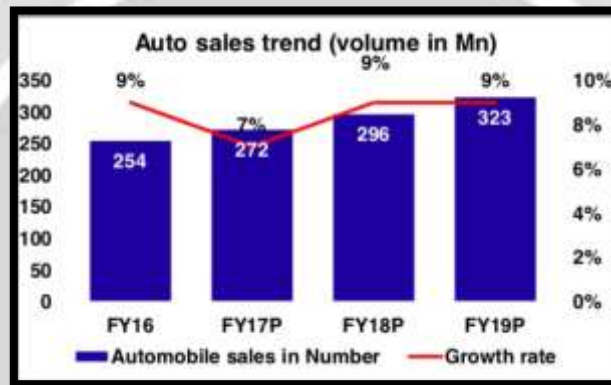
Metal Cutting machine tools plays a major role in the production of diverse products starting with automobile industry to high precision components for the instrumentation and electronics industries, and everywhere in-between.

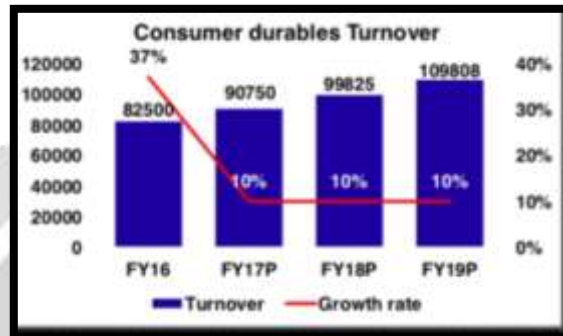
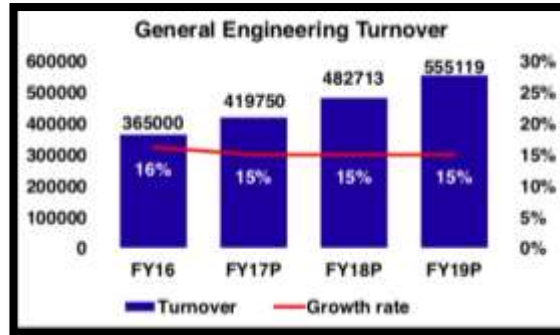
The metal cutting machine tool industry in India has been serving the need for manufacturing through the manufacture of a variety of metal cutting machines,. However, the industry has yet to meet the demand for higher technology machines. As a result the market share for Indian machines is low, and imports meet a large part of the demand for metal cutting machine tools.

This study report brings the demand trends in metal cutting machine tools industry in India. Imports of various machines and source of imports is analyzed which can be used as reference guide which can help manufacturers of metal cutting machines in India to develop strategies and plans to meet the potentially large requirement for such machines.

Indian Machine Tool Industry 2015-16 & 2016-17			
(INR Crores)			
	2015-16	2016-17	Growth Rate
Production	4727	5803	23%
Exports	296	360	22%
Imports	5945	6173	4%
Consumption	10376	11616	12%

PROJECTED GROWTH IN MACHINE TOOL USER SEGMENTS (FY16-19)

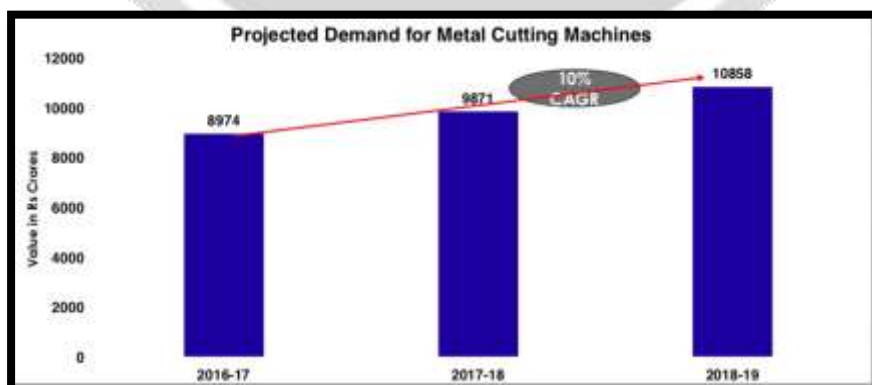




INFERENCE:

- ❖ Fastest growing major economy of the world.
- ❖ Auto Sector major user of machine tools to grow 3.5 to 4 times from current size of INR 50745.5 crores to reach about INR 205725 crores by 2026.
- ❖ General Engineering and consumers durables are likely to grow 15% during next two years.
- ❖ Major metal cutting users industries are likely to register healthy growth during next 3 years.
- ❖ New emerging sectors like Defence and aerospace, consumer durable, green investment in auto sectors are likely to enhance demand for metal cutting machines.

METAL CUTTING MACHINES DEMAND PROJECTION



INFERENCE:

- ❖ During first half of FY17 Sales and orders of metal cutting machine tools shown a promising growth of over 15 percent.
- ❖ Auto Sector major user of machine tools to grow 3.5 to 4 times from current size of INR 50745.5 crores to reach about INR 205725 crores by 2026.

- ❖ The Indian auto-components industry is expected to register a turnover of INR 68895 lakhs by 2020.
- ❖ Considering growth in all user industries metal cutting machine tool industry is likely to grow at CAGR of about 10 percent during next three years.

REFERENCES:

FOUNDRY INDUSTRY - FUTURE AHEAD- BY S.P. OUDHIA METALLURGIST & FOUNDRY TECHNOLOGIST

FOUNDRY INDUSTRY^[1]_[SEP]- CURRENT STATE AND FUTURE DEVELOPMENT- By M. HOLTZER, R. DAŃKO, S. ŻYMANKOWSKA-KUMON

INDIAN FOUNDRY INDUSTRY: OVERVIEW- BY SUBODH PANCHAL MANAGING DIRECTOR KASTWAL FOUNDRIES

TRENDS IN THE PRODUCTION OF CASTINGS IN THE WORLD- BY M.S. SOINSKI AND P. KORDAS

