A PROJECT REPORT

ON

MARKET RESEARCH OF THE KEY MARKETS OF VALUE ADDED BUSINESS (VAB)

BY

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2038

AT

Vedanta Limited - Sesa Goa Iron Ore
(VAB)

A Report submitted in partial fulfillment of the requirements of MBA Programme of Goa Business School - Goa University

AUTHORIZATION

This is to certify that the report of **Market Research of key markets of VAB** is an original work of Mr. Neeraj Sureshkumar for the completion of study at Vedanta Limited under the guidance of Mr. Rajesh G. (CMO - Ferrous South, Vedanta Limited). This report is submitted in partial fulfillment of the requirement of the MBA programme (2020-2022) of Goa Business School - Goa University

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ABSTRACT

The summer internship is being done at Vedanta Limited under the VAB unit for a time period of 2 months. The area of the internship is the marketing division of VAB. The main focus of the internship and the project is on the Industry and Company analysis and for the Market Research it is towards the pig iron division. The market research is conducted for 4 key markets of the VAB unit i.e. Ahmedabad, Belgaum, Coimbatore and Kolhapur.Data will be collected on market size, products, competitors and end consumers of these markets which will be further analyzed to find the market share of VAB. The report also includes the market forces for the markets mentioned above.

INDUSTRY ANALYSIS

INTRODUCTION TO MINING INDUTRY

The Mining industry in India is a major economic activity which contributes significantly to the economy of India. The GDP contribution of the mining industry varies from 2.2% to 2.5% only but going by the GDP of the total industrial sector it contributes around 10% to 11%. Even mining done on small scale contributes 6% to the entire cost of mineral production. Indian mining industry provides job opportunities to around 700,000 individuals.

As of 2012, India is the largest producer of sheet mica, the third largest producer of iron ore and the fifth largest producer of bauxite in the world. India's metal and mining industry was estimated to be $106.4bn in 2010. However, the mining in India is also infamous for human rights violations and environmental pollution. The industry has been hit by several high-profile mining scandals in recent times.

Mining plays an important role in Indian industry, which contributes about 3% of the GDP in 1990s, and about 2% of the GDP now. Goa, a state of India, has 1000 million tonnes of iron ore reserves and thereby has a strong mining industry. It exports about 30 million tonnes of iron ore annually. In the early 21 century, the demand of iron ore from China increased in a dramatic speed, accordingly, the export of iron ore from Goa increased. Meanwhile, Indian government loosened the regulation on iron ore trading. These aspects, along with other factors like spot contract, resulted in the doubled export of iron ore between 2005 and 2010.

In order to maintain the sustainability of mining, Indian government set up a series of regulations included in Act of Parliament in 1987. According to Act of Parliament, mining companies had to obtain the lease for 20 years in maximum from the Indian Government, otherwise, their mining behaviors were not allowed.

Mining is the extraction of valuable minerals or other geological materials from the earth. There are various type of Ores recovered by mining include metals, coal , limestone Mining is required to obtain any material that cannot be grown through agricultural processes, or created artificially in a laboratory or factory. Mining in a wider sense includes extraction of any non-renewable resource such as petroleum, natural gas, or even water.

India is well endowed in terms of most minerals. The country produces as many as 87 minerals, including 4 fuel minerals, 10 metallic minerals, 47 non-metallic minerals, 3 atomic minerals and 23 minor minerals (including building and other materials). The Mineral Development and mining sector is a significant contributor to the India’s GDP growth; as there is a strong correlation between growth in same and the manufacturing sector; making it a catalyst for the growth of basic industries such as power, steel, cement etc. In the last twenty years the mining industry experienced dramatic changes. In the fossil fuel and metallic ores sector the big

state-owned mining companies collapsed and/or transformed into private companies, many mines were closed, especially the sub- economic underground coal mines, tens of thousands of mine workers lost their job, left to early retirement or got training into other professions.

Mining is sustainable when it is carried out in a manner which balances Economics Conservation Environmental Safety and Social Aspects Mining operations must be conducted in a way that is protective of human health as well as the environment which include the air, water, land, hydrology and the biodiversity

HISTORICAL OUTLINE

The fist record of any mining activity in india dates back to 1774 when an english company was allowed by east india company to mine coal in Ranjganj. Then, after that in the year 1880, M/S John Taylor & Sons Ltd. started mining gold in the kolar field.

Mining is well have been the second of humankind's earliest endeavors granted that agriculture was the first. The two industries ranked together as the primary or basic industries of early civilization. Little has changed in the importance of these industries since the beginning of civilization. If we consider fishing and lumbering as part of agriculture and oil and gas production as part of mining, then agriculture and mining continue to supply all the basic resources used by modern civilization. The history of mining is fascinating. It parallels the history of civilization, with many important cultural eras associated with and identified by various minerals or their derivatives: the Stone Age (prior to 4000 B.C.E), the Bronze Age (4000 to 5000 B.C.E), the Iron Age (1500 B.C.E to 1780 C.E), the Steel Age (1780 to 1945), and the Nuclear Age (1945 to the present). Mining for metals began when human entered the Bronze/Copper Age. Mining activity is more than 2500 years old in India. During 326BC there were provisions to pay mining royalty to the kings (Chanakya's Arthasastra). The modern mineral industry in India was organized during British Rule (1700 AD-1800 AD).

PREDICTED SCENARIO

The future has a lot in store even after all that the industry has gone through. As soon as new allotments get over, new companies with new mines will pop up. This will showcase a sudden boom not only for companies but for the aspiring mining engineers too as the demand will increase exponentially. The metal mines are also looking forward to negotiation with the government and many other are looking for expansion. Hopefully all these happens within an year and the complete scenario changes upside down

The major challenges before Indian mining Industry are lack of adequate investments, inadequate database on mineral concessions, poor taxation regime, resistance from communities, poor infrastructure, under investment by states in geosciences, lack of awareness over economic and social impact of mining on society etc. Adding to the woes, Govt. is also not in a position to take a clear cut to exploit the country's potential in minerals it is important that appropriate mining

technologies are utilized to ensure scientific extraction and economic utilization. In this context, it is necessary to promote research and development in minerals and to simultaneously establish appropriate educational and training facilities to develop the manpower requirements of the mineral industry. The mining fraternity in our country - industry, government, business, academics or research should be ready to take up the challenge and manage such changes responsibly to make the mining sector a secure work place as well as a powerful driver of the growth of the Indian economy.

PESTEL ANALYSIS

Political & Legal:

Difficulty in obtaining clearances and leases from the state governments. There are various clearances which need to be obtained from different ministries stated below which is a cumbersome and time consuming process: Department of Mines, Indian Bureau of Mines ,Goa State Pollution Control Board , Geological Survey of India , Ministry of environmental and forests, Central Board of Excise and Customs, Ministry of labor.

Minerals are seen as a nation's wealth, the mining industry has to operate under a lot of political and legal pressure. It involves a large and complicated process for licensing because they are mainly state owned or nationalized. The industry is very much regulated by governmental law that mainly focuses on labour and environmental factors. The government has been pressurizing the mining policies due to the increasing concern of environmental issues and the media focus is still more an added pressure for the mining industry.

Economic:

The fluctuations in the exchange rates impact the performance of the mining Industry. Indian iron ore industry thrives on exports. Goa exports 96% of its iron ore production and 84% of revenues is accounted for by exports to China.

The key driver of the global iron ore industry is China as it is the highest buyer of iron ore.

Its economic scenario impacts the entire industry. A very high capital investment is required in the mining industry. Thus, interest rates make a major impact. Mining generally involves import and export of products as not all the countries are rich in deposits of minerals.The exchange rates fluctuations are a dominant concern. The import taxes and international trade cycle are also important economic factors for the mining industry.

Social:

Support of the local community is most needed and underlying factors for mining because the industry impacts the surrounding environment in area of its operation. Mining, though, a resource based industry, cannot be carried out in areas of high population because of the concerns that it may affect the public health. Various activist groups are keeping an eye on mining over the recent years and the industry has also ben attracting continous media attention.

Technology:
There are no exploration programs undertaken for locating new additional deposits of iron ore in India. Many technological improvements have helped the mining industry in cost controls, emission controls, and mineral conservation and in bringing down the alumina content of the ore. The process involved in the mining industry right from the raw material transportation till export involves risky process. The laws prevent the use of human resources in this conditions that make the mining industry heavily dependent on technology. Recently the mines are using computerized machines that operates according to its program and automated conveyor belts to reach its specified destination i.e. harbor or warehouse. Human resource are being relied upon for underground mining due to its complicated nature. Industries have been doing it by using highly advanced technology for manufacturing and designing which helps in production costs reduction and thereby gaining advantage to compete in the market. An example would be of SESA Goa's team who did a detailed experimentation which involved studies on the temperature profile of the oven and redesigning the refractories. It developed 'energy recovery coke making', an environment-friendly technology, followed by the system plant trials, which is an environment-friendly technology that is characterized low capital and operating cost, high energy recovery and capable of producing high quality metallurgical coke.

Environmental:
Almost all countries demand an investigation of its impact on the environment before any activity can start as any mining activity has to go through a number of clearances and regulations concerning the environment due to the fact that after the process is done, mining affects and makes a negative impact on the environment.

<u>Government Policies</u>
The first National Mineral Policy (NMP) was enunciated by the Government in 1993 for liberalization of the mining sector.The National Mineral Policy, 1993 aimed at encouraging the flow of private investment and introduction of state-of-the-art technology in exploration and mining. Although the liberalization of the mineral sector is now over a decade old, the results have not been encouraging.
In the Mid-Term Appraisal of the Tenth Five-Year Plan, it was observed that the main factors responsible for this were procedural delays in the processing of applications for mineral concessions and the absence of adequate infrastructure in the mining areas. To go into the whole gamut of issues relating to the development of the mineral sector and suggest measures for improving the investment climate the Mid-Term Appraisal had proposed the establishment of a High Level Committee. Accordingly, the Government of India, Planning Commission, constituted a Committee on 14 September 2005. Under the Chairmanship of Shri Anwarul Hoda, Member, Planning Commission.
The Committee made detailed recommendations on all of its terms of Reference in December 2006 .Based on the recommendations of the High Level Committee, in

consultation with State Governments, the Government replaced the National Mineral Policy, 1993 with a new one.
National Mineral Policy on 13 March 2008. The National Mineral Policy 2008 provides for a change in the role of the Central Government and the State Governments to incentivize private sector investment in exploration and mining and for ensuring level playing field and transparency in the grant of concessions and promotion of scientific mining within a sustainable development framework so as to protect the interest of local population in mining areas. This has necessitated harmonization of legislation with the new National Mineral Policy.

PORTER'S FIVE FORCES ANALYSIS

Threat of New Entrants:
The threat of new entrants to this industry is very low as a very high capital investments is required. It is very difficult for new entrants to venture in this industry because of the limited resources in mining and the costs of exploration, the various government laws, the equipment required, additional costs incurred in rehabilition of people living at the mining sites etc.

Threat of Substitutes:
The threat of substitutes also is low. This is mainly because metals are required basically for all types of manufacturing industries as an input. Even if substitution is considered, it has limited scope. Also the price/performance ratios of iron, aluminium etc is low, making the threat of substitutes even less.

Bargaining Power of Suppliers:
The suppliers include the suppliers of raw materials required, that of equipment etc. The bargaining power is very high because there are very few suppliers. Also the cost of switching suppliers is high making it difficult to do so. Companies has entered into long term contracts with their suppliers, thus reducing the costs. It also ensures that companies get supply of goods without being affected by market fluctuations.

Bargaining Power of Buyers:
This is low as the demand of the metals and metal products is very high. Also switching costs are high as the costumers normally have contracts with the company.

Competitive Rivalry:
Some of the competitors of Vedanta Group are Hind Zinc, Hind Copper, Gravita India, Bharat Wire Rop, Madhav Copper, Rio-Tinto, BHP Billiton Ltd, Grupo-Mexico, Hindalco etc. The competition is intense as every player is trying for their market share as the resources are becoming restricted and limited.

Analysis
Comparison of Sesa Sterlite Vedanta -Goa Ltd. with its closest peer in the mining industry conveys that competition in the market is high. There are many major

players who are giving tough competition to Sesa Vedanta goa, thus, Interest rate makes a major impact. Not all countries are rich in deposits of minerals; hence mining generally involves impact and export of product. The exchange rates fluctuation are a dominant concern the import taxes and international trade cycle are also important economic factors for the mining industry.

COMPANY ANALYSIS

INTRODUCTION TO SESA

Vedanta Limited, formerly known as Sesa Sterlite/Sesa Goa Limited, a Vedanta Group company is one of the world's largest global diversified natural resource majors, with operations across zinc-lead-silver, oil & gas, iron ore, copper, aluminum and commercial power.

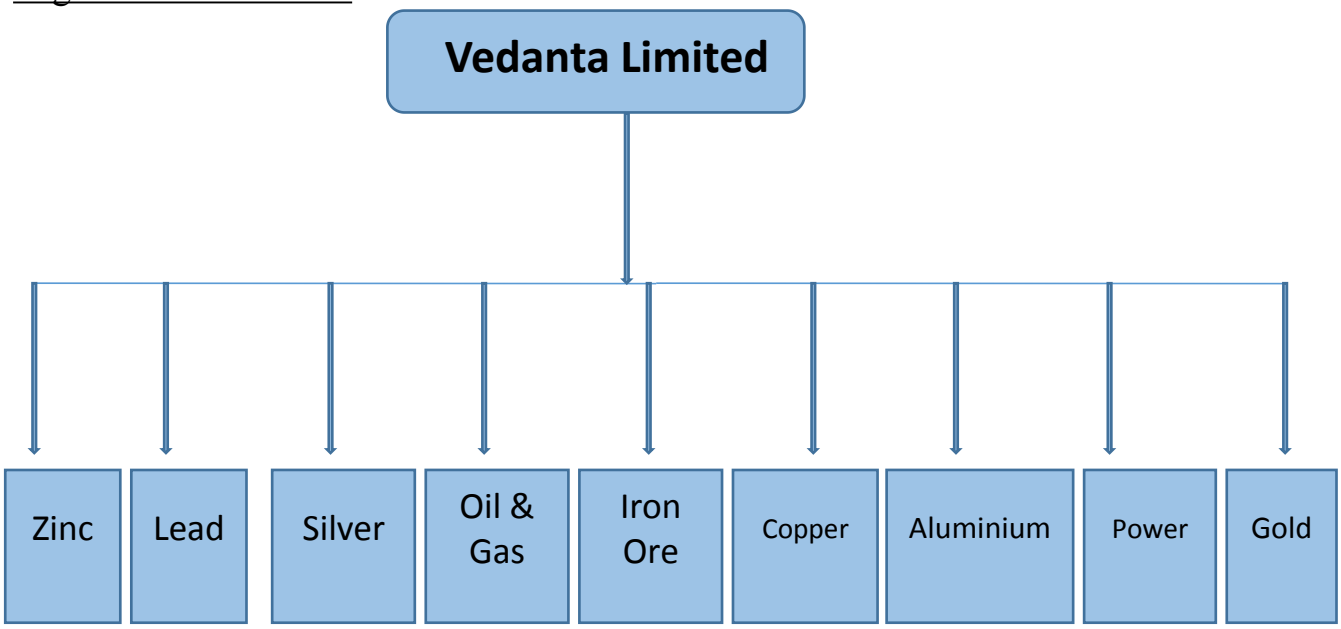
In 2007, it became a majority-owned subsidiary of Vedanta Resources Plc, listed on the London Stock Exchange, when Vedanta acquired 51% controlling stake from Mitsui & Co., Ltd. In June 2009, Sesa Goa Limited acquired VS Dempo & Co. Private Limited (now Sesa Resources Limited) along with its fully owned subsidiary Dempo Mining Corporation (now Vedanta Limited) and 50% equity in Goa Maritime Private Limited. In 2010, Vedanta acquired the zinc assets of British miner Anglo American plc.

In 2011 Vedanta Resources bought 58.5% controlling stake in Cairn India, India's largest private sector oil & Gas Company. In 2015, Sterlite Industries and Sesa Goa announced their merger and finally merged into a single entity in August, 2015. In 2015, Sesa Sterlite changed its name to Vedanta Limited. On April 11, 2017, Cairn India merged with Vedanta Limited to consolidate its position as one of the largest diversified natural resources companies in the world.

Vedanta Limited’s operations are based predominantly in Goa, Odisha, Rajasthan, Chhattisgarh, Tamil Nadu, Karnataka, Punjab Gujarat and Andhra Pradesh, while offices are based across various locations in India.

The company was founded in Bombay (now Mumbai) in 1976 by Anil Agarwal, who is also its Executive Chairman. Agarwal founded Sterlite Industries, a business operating in the industrial sector in 1976 and then in 1986 established Vedanta Resources bringing together a variety of businesses owned by the Agarwal family. It was first listed on the London Stock Exchange in 2003 when it raised $876 million through an Initial Public Offering. Meanwhile, in 2006 it acquired Sterlite Gold, a gold mining business. It raised an additional $2bn through an ADR issue in 2007.In 2008 it bought certain of the assets of Asarco, a copper mining business, out of Chapter 11for $2.6bn. In December 2011 it announced the US$8.67 billion acquisition of Cairn India, a subsidiary of Cairn Energy, heralding its foray in the oil sector. An Initial Public Offering. Meanwhile, in 2006 it acquired Sterlite Gold, a gold mining business. It raised an additional $2bn through an ADR issue in 2007. In 2008 it bought certain of the assets of Asarco, a copper mining business, for $2.6bn. In December 2011 it announced the US$8.67 billion acquisition of Cairn India, a subsidiary of Cairn Energy, heralding its foray in the oil sector.

Organisation Structure



STRATEGIES

To deliver Growth, long term value and sustainable development through our diversified portfolio of large, long-life low-cost assets.

Company's strategies are based on some pillars :

Growth

We continue to deliver growth and generate significant value for our shareholders on a sustainable basis. Moreover, our organic growth pipeline is strong as we seek to continue to deliver significant growth for shareholders in the future. We have pursued growth across all our businesses and into new areas; always on the basis that value must be delivered.

Excellence

Achieving excellence in all that we do is our way of life. We strive to consistently deliver projects ahead of time at industry leading costs of construction and within budget. We are constantly focused on achieving a top decile cost of production in each of our businesses. To achieve this, we follow a culture of best practice benchmarking.

Long-term Value

Reduce rearing from increasing free cash flow. We aim to optimize our cost and operational performance through a culture of continuous improvement to achieve and maintain a low cost position in all our businesses.

Focus Areas

Maintain positive FCF despite current market volatility, Renew efforts to reduce net gearing in the medium term from current higher levels post impairments. Efficiency refinance upcoming maturities.

Sustainability

We practice sustainability within the framework of well-defined governance structures and policies and with the demonstrated commitment of our management and employees. We aim not only to minimize damage to the environment from our project but to make a net positive impact on the environment where we work.

RESOURCE STRENGTH

Core competence

The core competence of their business strategy is developing low cost, with inexpensive skilled and educated labour. (Business Standard, 2008) In the mining industry, the high costs are to do with the investment in acquiring a mining site and costs need for production. However, Vedanta has reduced its cost of production owing to their location, which is rich in natural resources. The current production for the Aluminum is 1.4 mtpa which is planned to be increased by 6,00,000 mtpa to reach is total production of 2 mtpa. The company aims at investing $ 9.8 Billion by which they will be the fifth mining company for Aluminum metal.

ANALYSIS OF VISION, MISSION AND OBJECTIVES

MISSION

To continue to maintain our pre-eminent position in safety, environment and quality control management in the respective industry sectors.
To maximize stakeholder wealth by exploiting core skills of iron ore mining, coke and iron making.
To constantly seek high levels of productivity and technical efficiency; to maintain technological superiority over competitors.
To be an organization with best-in-class people and a performance driven culture by attracting and retaining quality manpower.

VISION

“To be the highest value creator in the iron ore industry contributing to the growth of the nation.”

Black Mountain Mine strives to be world class, driven by a professional team that is trustworthy and passionate about sustainable mining for the benefit of all stakeholders.

OBJECTIVES

- Improving Governance in terms of security services, Biometrics, Sustainability, Financial systems etc.
- Cost leadership and international benchmarking in cost of production. (COP)
- Increase machine utilization towards higher productivity.

PRODUCTS OF VEDANTA

At Amona Vedanta ltd formerly known (Sesa Sterlite/Sesa Goa) plant they mainly produce two products which are Pig iron and Met coke.

Pig Iron

Pig iron is produced from the blast furnace. The purpose of using a blast furnace is to chemically reduce and physically convert iron oxides into liquid iron called "hot metal". The blast furnace is a huge, steel stack lined with refractory brick, where iron ore, limestone and coke are dumped into the top, and preheated air is blown into the bottom.

Pig iron is an intermediate product and first product of Iron making reduced from Iron ore. Pig iron has a high carbon content (3.5–4.5%) along with silica, Manganese, Sulphur, Phosphorus, Titanium and other trace elements.

Pig Iron comprises three main types: basic pig iron, used in electric arc steelmaking, foundry pig iron used in the manufacture of grey iron castings in cupola furnaces, and nodular pig iron (SG GRADE) used in the manufacture of ductile iron castings. Pig iron is used for steel making, Foundries, Alloy making, in automotive castings and other iron-based castings.

Production Capacity

The pig iron plant is located at Amona, on the banks of river Mandovi which is at a distance of about 40 kilometres from Marmagao port which provides with the dual advantage of transporting Pig Iron by road in trucks & containers as well as by riverine barges in bulk. Sesa Goa Iron ore has two Blast Furnaces having a working volume of 173m3 each. The third Blast Furnace of 450m3 capacity was successfully commissioned on 17th August 2012 at Navelim. The annual capacity of total Plant is 0.832 MTPA.

Types of Pig Iron

Pig Iron is classified into grades based on its chemical composition. The 3 main Grades are

- Basic (Steel Grade):- 3.5-4.5% carbon, <1.5% silicon, 0.5-1.0% manganese, <0.05% sulphur, <0.12% phosphorus
- Hematite (Foundry Pig iron):- 3.5-4.5% carbon, 1.5-3.5% silicon, 0.5-1.0% manganese, <0.05% sulphur, <0.12% phosphorus
- Nodular (SG grade):- 3.5-4.5% carbon, <0.05% manganese, <0.02% sulphur, <0.04% phosphorus 8

Metallurgical (Met) Coke

Coke is made by destructive distillation of a blend of selected Bituminous coals (called Coking coal or Metallurgical coal) in special high temperature ovens in the absence of oxygen until a greater part of the volatile matter is driven off. The resulting product Coke consists principally of Carbon. Approximately 65% of total production is consumed by Sesa group, for its pig iron production. The remainder is sold to customers located in India. Sesa Goa has patented a technology that provides high quality output and produces power. It is a patented and follows a two-product process with metallurgical coke as the main product and the sensible heat of the exhaust flue gas as a co-product. This heat can be used for producing clean electricity. The company uses non-polluting, non-recovery Australian Technology. At the plant in Amona, negative pressure in the ovens ensures no polluting leakages

Iron ore

Sesa Sterlite is largest private sector exporter of iron ore in India and is developing large iron ore deposits in Liberia. Iron ore mining operations are carried out in the Indian States of Goa and Karnataka. We also manufacture pig iron and metallurgical coke. During FY 2013, our Indian iron ore operations were affected by a suspension of iron ore mining activities across the states of Goa and Karnataka. The Honorable Supreme Court allowed resumption of Karnataka mine in April, 13 subject to statutory clearances. Subsequent to receiving all the approvals they have started mining in Karnataka from 28 December, 13. In 2011, Sesa Goa limited had acquired iron ore assets in Liberia, with around 1 billion in reserves and resources across three deposits - Bomi Hills, Bea Mountain and Mano River, located at a distance of 70-140 kilometers from the port at Monrovia.

Other Products of Vedanta

Zinc Lead Silver

Zinc India business is owned and operated by Hindustan Zinc Limited (HZL). HZL owns and operates a fully integrated zinc-lead business. HZL is one of the world's largest integrated zinc-lead producers by volume. Sesa Sterlite owns 64.9% of the share capital of HZL, while the Government of India remains an equity partner and holds a 29.5% stake.

Copper

World copper consumption is estimated to have totaled 22.6 mt in 2014, 8% higher than 2013, despite slowing economic growth in key emerging economies. China remained the main driver of world copper consumption in 2014 accounting for 46% of the world’s refined copper consumption. The availability of copper concentrates increased during the year following the resumption of Indonesian exports and new mines, such as Caserones and Sierra Gorda starting production and TC/RCs improved considerably over the year. World refined production is forecast to increase by 4.8% to 23.5 mt in 2015, with moderating growth rates in China thereafter leading to growth in demand softening to 3.9%. Vedanta is one of the major exporters to China and also holds the highest market share in India where demand is expected to grow at 6-8%. With its LME registered copper, Vedanta is

well positioned to meet increasing demand for refined copper in India's critical electrical sector.

Aluminum

Due to Aluminum's light weight and low cost, the metal is increasingly used in residences, buildings, automobiles and appliances. Aluminum demand is increasing in India boosted by increased investment in infrastructure, power and transportation. In addition to aluminum ingots, Vedanta also produces a wide range of value added products and aluminum alloys with huge potential in aerospace and Defence industries.

Power

Sesa Sterlite is one of India's leading power producers with a capacity of 3,900 MW in commercial power. They have commercial power generation business which currently operates 2,400 MW Jharsuguda Power Plant in Odisha, 270 MW BALCO power plant in Chhattisgarh, 100 MW MALCO power plant in Tamil Nadu and 274 MW HZL wind power plants at various locations in India. They are also setting up a 1,980 MW Talwandi Sabo power plant in the state of Punjab. Talwandi Sabo Power Limited, a 100% subsidiary of Sesa Sterlite is setting up a 1,980 MW thermal power project in Punjab, with the first unit starting operations by Q3 FY2014. Hindustan Zinc has 274 MW of wind power generational capacity, making it one of the largest producers of wind power in India. MALCO operates a 100 MW plant The availability of power in India is increasing, but demand outstrips supply leading to a substantial power shortage. Around 280 million people in India do not have electricity connections and the Government aims to supply power to all homes by 2019. Vedanta is one of India's largest private sector power generators.

Oil & Gas:

Sesa Sterlite's Oil & Gas operations comprise the assets of Cairn India in India, Sri Lanka and South Africa. Cairn India is India's largest private-sector crude oil producer, contributing to over 25% of India's crude oil production. Sesa Sterlite owns 58.9% of Cairn India, which is also the fastest-growing Asian E&P Company and one of the top 20 independent E&P companies worldwide. Sesa Sterlite's Oil & Gas operations comprise the assets of Cairn India in India, Sri Lanka and South Africa. Cairn India is India's largest private sector crude oil producer, contributing to over 25% of India's crude oil production.Oil and Gas contribute to approximately 37% of India's primary energy consumption and the demand continues to rise, with 77% of requirement being imported. Vedanta operated 27% of India's domestic crude oil production in FY 2014-15 and is well-positioned to reduce the Country's energy import burden.

SWOT ANALYSIS

Strengths

- Highly diversified business.
- Captive power generation units.
- Popular with the end consumers - very high brand recall.
- Strong assets - owns mines and manufacturing units in India and abroad.
- Strong financial position.
- Strong Annual EPS Growth
- Promoters increasing shareholding QoQ

Weaknesses

- Name involved in alleged illegal mining practices.
- Government intervention causes operational efficiency.
- Decline in Net Profit with falling Profit Margin (QoQ)

Opportunities

- Development of nearby region to improve brand image among people.
- Worldwide expansion through london headquarters
- Highest Recovery from 52 Week Low

Threats

- Regulatory threats.
- Dwindling natural resources.
- Better brand image of competitors.
- Firms linked to ongoing regulatory investigations/ legal cases

VRIO ANALYSIS

Resources/ Capabilities	Valuable	Rare	Imitable	Organisation	Competitive Advantage
Positive Market Reputation	Yes	Yes	Yes	Yes	Long Term Competitive Advantage
Leadership Team	Yes	Yes	No	Yes	Strong Competitive Advantage
Awareness of Brand	Yes	Yes	No	Yes	Sustainable Advantage
High Customer Rating	Yes	Yes	Yes	Yes	Sustainable Competitive Advantage

MARKETS

China, Japan, Korea, Europe are the key customer group market segments of Vedanta. Vedanta is positioned well with a diversified spread across many commodity classes, enabling it to adjust to economic cycles and off set market downturns. The Government of India's vision of higher domestic production to reduce India's dependence on imports and the 'Make in India' programme are expected to accelerate demand in the Indian metal market, creating a positive environment for Vedanta in its domestic market in the near term and globally in the medium term.

OVERVIEW OF DEPARTMENTS

DEPARTMENTS

- Human Resources Deparment
- Finance Department
- Marketing Department
- Mining Departments
- Land Transport Department
- Logistic Department
- Store Department
- Safety Department
- Quality Department
- Production

Human Resource Department

Human Resource Management includes conducting job analyses, planning personnel needs, recruiting the right people for the job, orienting and training, managing wages and salaries, providing benefits and incentives, evaluating performance, resolving disputes, and communicating with all employees at all levels. Examples of core qualities of HR management are extensive knowledge of the industry, leadership, and effective negotiation skills formerly called Personnel Management. It not only maintains human safety in the organization but also holds the responsibilities of the organization.

Objective

- ❖ Maintain good working environment
- ❖ Human safety and safe work man ship in the organization
- ❖ Ensure proper salary distribution to the employees and workers function
- ❖ Performance Appraisal
- ❖ Performance problem
- ❖ Salary Determination
- ❖ Hazard risks and analysis control

Finance Department

The business functions of a finance department typically include planning, organizing, auditing, accounting for and controlling its company's finances. The

finance department also usually produces the company's financial statements. This department plays a very important role in companies. As it has the responsibility of all the financial transaction and the record to be maintained. All this records are maintained in order to get the final result outcome in the balance sheet, it also help the organization better identify all the profit that the company makes in that financial year.

Objectives

- Presenting fair balance sheet and profit and loss account every year. Maintaining records of all the expenditure
- Proper fund management
- Getting in good profit to the organization functions
- To prepare budget
- Financial Management
- Management of Investment of Company
- Management of Taxes
- Management of Financial risks
- Merge or Acquisition decisions

Marketing Department

The department analyzes sales of existing items and identifies gaps in the range where there may be opportunities for the company. Marketing employees provide teams with information on customer needs and preferences to help them identify the features or improvements to incorporate what the customer needs. Marketing department plan campaigns and develop communications material to promote products and services to customers and prospects. They plan advertising campaigns, develop e-mail marketing programs, create promotional content for the company website, write press releases or product publications, such as product leaflets, company brochures, product data sheets or customer newsletters and handle social media accounts of the company.

Objectives

- Increase sales
- Build brand awareness
- Grow market share
- Target new customers
- Enter new markets
- Improve stakeholder relations
- Enhance customer relationships
- Improve internal communications
- Increase profit

Mining Department

As mining is the main activity of any mining company Mining Department is responsible for all mining activities. Mining department takes care of extraction of ore, Undertaking surveys and exploration of ore at plant.

Land Transport Department

Transportation is also is of due importance at mining area so the above department looks after all the vehicles of the company i.e. whether they are in proper condition and ensures that the vehicles are available whenever they are needed. They provide vehicles to the employees for office use. It is also a responsibility of the Land Transport Department to look after Trucks which takes ore from mine to vendor.

Logistic Department

It acts as a link between organization, vendors and carriers for tracking down the geographical location of the goods. It is responsible for storage, distribution, warehousing, movement of goods from one place to another, tracking and delivery of goods. It ensures that goods will be delivered in time with safety.

Stores department

Stores department ensures that the correct item of the correct quantities are available, whenever required. It is the duty of the stores department to have adequate stock of items, which is required by the company.

Safety Department

Safety Department provide a safety at work place that free from any occupational hazards and illnesses. It compliance with statuary requirements, the health of all employees is checked annually across the group. In house facilities for occupational health monitoring are available at the mines. Dust, noise and lighting levels are regularly monitored to ensure workplace hygiene

Quality Department

Quality department role is to manage the in process quality of the product as well as the finish process quality of the product, So the quality department look after the quality of the product based on customer requirement they define what is the internal quality requirement and in process requirement and what is finished quality requirement so based on that they monitor the quality of the product.

Production (PID, MCD, PP)

In Sesa Amona plant there are three main production departments are there. PID (Pig Iron Division). It started operating in 1992, it was the first to introduce low phosphorous foundry-grade pig iron in india. The PID has three blast furnaces (2x175 m3 & 1x 450m3 capacity of 0.8mtpa). The main role of these department is to manufacture pig iron while manufacturing pig iron they have to go through list of activities like blast furnace operation.

MCD (Met Coke Division)

MCD is primarily a backward integration initiative to support the pig iron operation with capacity of 0.56mtpa. met coke is basically a fuel which is used for manufacturing pig iron.

PP (Power Plant)
Two power plants of 30mw each utilize the waste gases/heat from PID and MCD to generate electricity for captive consumption as well as supply to the grid.

MINING PROCESS

1. Exploration and prospecting
Company enlist geologists and others to understand the characteristics of the land and prospect remote areas in search of mineral deposits. Methods such as geological surface mapping and sampling, geophysical measurements and geochemical analysis is often applied at an early stage to pin out potential deposits.
Water, oil and soil is tested and firms start to consider the socio-economic effects that a new mine would have on the area. This is then followed by prospecting which includes more detailed surveys including airbone or ground geophysical surveys that read the Earth's magnetic field, radiation and electrical conductivity underground. These surveys help identify possible targets and allow a company to start drilling to find out more about what lies underneath. The drilling and sampling work usually provides the first glimpse of the type of ore being mined and the grade it could yield; this allows miners to draw up a very preliminary outline of the potential size of the deposits found using 2D or 3D models of the geological ore.

2. Mine-site design and planning
Once mapping and mineral resource data is collected, and the miners are confident that there is an opportunity, the project can move forward to the design and planning stage. This typically consists of companies evaluating various options with multiple plans that could be used in order to identify the best available one.

3. Construction
Once the miner has addressed all the regulatory, funding and technical aspects of the project it can finally start construction; this process can be different depending on the mineral being mined and the size of the project, and will often take longer than exploratory and design stages. Construction of mining sites invovles building roads, processing facilities, environmental management systems, employee housing and other facilities.

4. Production
Eventually the project is constructed and ready to begin producing. The two most common methods of mining are surface and underground mining. The method is determined mainly by the characteristics of the mineral deposit and the limits imposed by safety, technology, environmental and economical concerns.

- The first step in the production stage is recovering the minerals; this is the process of extracting the ore from rock using a variety of tools and machinery.
- The second step is processing; the recovered minerals are processed through huge crushers or mills to separate commercially valuable minerals from their ores.
- Once processed, the ore is then transported to smelting facilities.
- The final step in production is smelting; this process involves melting the concentrate in a furnance to extract the metal from its ore. The ore is then poured into moulds, producing bars of bullion, which are then ready for sale.

5. Closure and reclamation

The fifth and final stage in mining operations is closure and reclamation. Many mines may be capable of producing economically for decades, but mining is still a temporary activity. The vast majority of companies now have to formulate their plan on how to close their operation before they event build it, as governments require assurances that operators have a plan and the funds needed to close the mine before they are willing to issue permits.

The detailed environmental studies that are conducted during the process form a major part of the plan on how the mine site will be closed and rehabilitated.

A comprehensive mine rehabilitation program has many clearly stated objectives which may include:

- ensuring public health and safety
- minimizing environmental effects
- removing waste and hazardous material
- preserving water quality
- stabilizing land to protect against erosion
- establishing new landforms and vegetation

Mine closure plans can aim to renovate the site to varying degrees:

1. Remediation. Cleaning up the contaminated area, including water.
2. Reclamation**.** Stabilising the terrain, landscaping and topsoil replacement to make the land useful once again.
3. Restoration. Rebuilding any part of the ecosystem that was disturbed as a result of the mine such as flora and fauna.
4. Rehabilitation. Rehabilitating the site to a stable and self-rejuvenating state, either as it was before the mine was built or as a new equivalent ecosystem.

Some of the major steps that are common for companies to follow when shutting a mine are as follows:

1. Mine shutdown. Production is halted, equipment is taken offline and the workforce is scaled back.
2. Decommissioning. The operation and equipment is taken apart, waste is disposed of, buildings are demolished or repurposed and the site is cleaned.

3. Remediation or reclamation. Returning the land, trees, topsoil, water and wider ecosystem to a satisfactory state while removing contaminants or hazardous materials.
4. Post-closure. Monitoring programmes initiated to ensure shut down is effective and highlight any further work that needs to be completed.

OBJECTIVES

This market research is based on 4 key markets i.e. Ahmedabad, Belgaum, Coimbatore and Kolhapur.

- To study the market size of pig iron sold by Vedanta in the above markets.
- To study about the competitors.
- To study about the different grades offered.
- To study about the end consumers.
- To conduct a market share analysis

METHODOLOGY

To study and learn about this project, data of the company were referred along with the websites of the company. The data was confidential and useful and secrecy was maintained.

The data was also provided by the officials of the organisations, mainly the Regional Managers of the particular region, for which the data was collected. Four markets were covered in this project namely, Ahmedabad, Belgaum, Coimbatore and Kolhapur.

AHMEDABAD

The following data is collected for Pig Iron being sold in Ahmedabad.

Major Players
1.Vedanta Limited
2.Tata Metallics
3.Kirloskar Ferrous

Market size
The market size for pig iron in Ahmedabad is 8000 MT.
Vedanta has the highest share in the market which constitutes to around 70% of the total market size, whereby they sell 4500 MT of pig iron.
Tata Metallics sells around 2000 MT which constitutes to around 25% of the total market.
Kirloskar Ferrous sells around 1500 MTof the total market size.

Grades
The grades offered by all the three players are the same.
Vedanta Ltd- Foundry grade, Basic grade.
Kirloskar Ferrous – Foundry grade, Basic grade.
Tata Metallics – Foundry grade, Basic grade.

Kirloskar and Vedanta produce an additional grade called the NG61 grade which is required by just 1 customer called AIA Girnar. The 2 companies are always competing for this customer every month through a price bid and the company with suitable price offer wins the bid with an order of around 200-300 MT per month. This product is provided to the foundries which further make the casting and then further sell it to the end customers.

End Consumers
1. Submersible industry- pumps – Foundry Grade
2. Auto industry- Gear box– Foundry Grade
3. Textile industries- textile machines – Basic Grade
4. Auto industry- piston heads – Foundry Grade
5. There are a few small customers such as grill manufacturers as well.

AHMEDABAD			
	Vedanta Limited	**Tata Metallics**	**Kirloskar Ferrous**
Market size (8000 MT)	4500 MT (approx.) (60 %)	2000 MT (approx.)	1500 MT (approx.)
Customers	Advance	B & C grade (on credit)	B & C grade (on credit)
Grades offered	FG25, BG05, NG61	FG25, BG05	FG25, BG05, NG61

Market share analysis

The revenue generated by pig iron = 4000*40000= Rs 160000000/-
Here 4000 is the market share in tonnes and 40000 is the price of pig iron per 1 ton.
The Overall percentage share of pig iron in Ahmedabad = 160000000/-

Grades and composition

Ahmedabad market sells 3 grades of pig iron; foundry grade, basic grade and nodular grade, with foundry grade being the most sold grade in the market. Nodular grade is not sold every month and it depends on the customer's demand. The reigning grades therefore are Foundry grade and Basic grade.

Composition of each grade is given below.

Foundry grade= 85.71%

Semi foundry grade= 14.29%

Sales

The first quarter, Q1 witnesses less sales due to the hot summer season in the country wherein the foundries cannot operate due to the extreme heat. Non-availability of the labourers is another issue in this quarter as most of the labourers return back to their hometown due to agriculture activities. Post this period, the sales increases.
Pricing module is fixed for all the sellers of pig iron with the competitors offering pig iron at the same price.

Vedanta Ltd doesn't sell pig iron through traders and therefore a little loss is incurred due to the non-open credit payment policy of the company, wherein buyers who cannot pay the entire amount prefer to buy the product through traders who provide them the commodity on open credit.

Businesses comprise of seller's market and the buyer's market. Pig iron business falls under the seller's market and in the seller's market, the demand for the commodity is higher and the supply is less. So in such a case there is no bargaining power of the buyers.

Market Forces

Drivers

Scrapping Policy announced by the government, which will scrap all the vehicles bought 15- 20 years ago.
Demand for pumps increase in Punjab due to agriculture which will in turn increase the demand for castings for pumps.
Environmental factors are also a major driver.

Constraints

Due to increase in the prices of pig iron, foundries will switch to other substitute products such as scrap, DI pipes which cost lesser than pig iron, which will eventually decrease the consumption by a large amount of pig iron.

Value chain

Vedanta provides with a customer or customized pig iron with the required constituents.

Opportunities

Electric vehicles will be a major boost to the business as they will require castings which are different than the normal automobile casting.

Suppliers/ Traders Market Share

The suppliers/ traders market Share is zero for Ahmedabad market as there are no traders in between, the commodity is sold directly from the seller to the buyer. Ahmedabad foundry consumes the highest amount of pig iron (nearly 500 tonnes) focusing majorly on the grade FG-25 which can be used for a variety of castings.

Covid 19 -Analysis

Covid 19 surely has led to the decrease in sales initially with the sales coming to normal now.

The reasons being:

- A night curfew was imposed between 8 pm- 6 am in the morning which caused a roadblock to the trucks operating during this time.
- Labourers were affected due to the pandemic which led them return back to their hometowns which in turn affected the foundries due to shortage of labourers.
- The revenue generated by Vedanta Ltd is 4500*40000 = Rs. 180000000/-
- The grade having the highest share is Foundry grade (66.66%), followed by Basic grade (22.22%) and then Nodular grade (11.11%)
- Nodular grade is not required every month.

This kind of business is a seller's market, where there is more demand and less of supply hence there is no bargaining power of buyers.

BELGAUM

The following data is collected for Pig Iron being sold in Belgaum.

Major Players

1) Vedanta Limited
2) Kirloskar Ferrous
3) Others (LSR, Sona Alloys and Kudremukh)

Market size

The market size for pig iron in Belgaum is 2500-2800MT with Vedanta making about 70%- 80% of the total market share by providing 1800-2000 MT.
Kirloskar Ferrous sells around 200 - 500 MT (10%-15%).

Grades

The grades offered by the 2 players are the same, that is semi foundry (1-1.5% silicon), foundry grade (2-3% silicon) and SG grade (below 1%) which makes up for the niche market. SG grade is used for small castings such as that of a windmill. Foundries are further divided into regular foundries and high silicon foundries, based on amount of silicon present in them.
Vedanta offers around 40-50 different grades such as FG20, FG25, which differ from each other in terms of elements.
There are around 150 standard foundries and every year either 1 or 2 foundries add up or are shut down. Vedanta visits around 20- 30 major foundries.
Vedanta supplies to around 20-30 major foundries which buy around 80% of the pig iron from Vedanta, whereas remaining 20% is supplied by other small players.

Ashok iron is the biggest foundry in Belgaum which supplies to big players like Mahindra.

This product is provided to the foundries which further make the casting and then further sell it to the end customers.

End Consumers

1) Submersible industry- pumps (10%)
2) Motor bodies (10%)
3) Auto industry – (Tractor and Non-Tractor division) (30-40%)
4) General Engineering (20-30%)
5) Construction machinery (10%)
6) Market items such as dumbbells. (Nearly 2%)

BELGAUM			
	Vedanta Limited	**Kirloskar Ferrous**	**Others**
Market size (2500-2800 MT)	1800-2000 MT (approx.) (70 %)	200-500 MT (15% approx.)	100-200 MT
Grades offered	FG, SFG, SG	FG, SFG, SG	FG, SFG, SG
Volume supplied	80% (20 major industries)	20%	

Market share analysis
The revenue generated by pig iron = 2000*40000= Rs 80000000/-
Here 2000 is the market share in tonnes and 40000 is the price of pig iron per 1 ton.
The Overall percentage share of pig iron in Belgaum =80000000/-

Grades and composition
Belgaum market sells 3 grades of pig iron; foundry grade, semi foundry grade and spheroidal grade, with foundry grade being the most sold grade in the market.
Composition of each grade is given below.
Foundry grade= 50%
Semi foundry grade= 45% SG = 5%

Sales
There are competitors who provide with scrap which a direct substitute for pig iron.
During the first and second quarter there is less sales due to the heat and then it starts booming and continues up to the month of March.
Since China is sidelined, there is more demand for the steel by the national manufacturers, which leads to an increase in the sales.

Businesses comprise of seller's market and the buyer's market. Pig iron business falls under the seller's market and in the seller's market, the demand for the commodity is higher and the supply is less. So in such a case there is no bargaining power of the buyers.

Intensity of Competition
The South Indian market has a very low competition in terms of pig iron business due to only 2 competitors. The major competitor was Tata Metallics which has been shut down now.
Other small competitors such as Sona Alloys and SLR and VISL have also been closed.

Thus concluded that the intensity of competition for pig iron in Belgaum market is nearly 0.
Kirloskar and Vedanta always discuss the price and then they set the price, so there is no much of a price difference.

Market Forces

Drivers

The major driver in this business is the Government policy such as scrapping policies where vehicles which are about 15-20 years will be scrapped. This will result in buying of new vehicles by the customers, thus increasing the demand for castings by the automobile industries.

Challenges

The major challenge for pig iron business is pricing. Pricing is very sensitive here and if the major competitor is disturbed, then the entire market is disturbed.
In Belgaum If JSW is disturbed, the entire pig iron market is disturbed.

Value chain

Vedanta provides with a customer or customized pig iron with the required constituents.

Opportunities

The opportunities include:

Replacement with scrap business including manufacturing construction bars andsteel sheets.
Vedanta Ltd has started entering the scrap market. It has increased to about 20% (10,000 approx).

Suppliers/ Traders Market Share

The suppliers / traders market share is below 10% for Belgaum market. The remaining 90% is the company's share due to direct selling to the customers.

Covid -19 Analysis

Covid-19 came up with a lot of challenges in the Belgaum market.

The pandemic decreased the sales for about a month and a half, reducing the market size by 50%

Logistics also caused a loss due to the transportation.

Due to the lockdown the foundries were closed temporarily which led to the loss.

- The revenue generated by Vedanta Ltd is 2000*40000 = Rs. 80000000/-
- The grade having the highest share is Foundry grade (50%), followed by Semi Foundry grade (45%) and then Nodular grade (5%).
- Q1 and Q2 has less sales and then it starts booming up till March.
- This kind of business is a seller's market, where there is more demand and less of supply hence there is no bargaining power of buyers.
- Intensity of competition is low.

COIMBATORE

The following data is collected for Pig Iron being sold in Coimbatore.

Major Players

1) Vedanta Limited
2) Kirloskar Ferrous

Coimbatore is a home market for Kirloskar Ferrous.

The market size for pig iron in Coimbatore is 7500 MT with Vedanta makingabout 45-50% of the total market share by providing 3500-4000 MT.

Kirloskar Ferrous sells around 3500 MT.

Grades

The grades offered by all the two players are the same, both the players produce Foundry grade and Nodular grade.
Foundry grade comprises of 60% and the nodular grade comprises of 15% due to a niche market for nodular grade pig iron. Nodular grade (SG) pig iron is used for the windmills and other small castings.
Coimbatore market is a credit driven market, so the product is given on credit, but Vedanta has some payment policies whereby no open credit is given but gives a credit through securitization. Kirloskar, on the other hand provides the products on open credit.
The greatest players in terms of credit given customers.
LMW - credit is given against bank guarantee.
PRI pumps - credit is given against an LC.
This product is provided to the foundries which further make the casting and then further sell it to the end customers.

End Consumers

1) Submersible industry- pumps (60%)
2) Auto industry- Gear box (40%)

- The major automobile companies are,

1) Ashok Leyland
   Ashok Leyland has a foundry division and produce 75% of their partsthemselves whereas, remaining 25% is produced by others.
2) Maruti Suzuki

- The major pump companies are,

1) PRI pumps

2) Tesmo
3) Aquasub

COIMBATORE		
	Vedanta Limited	**Kirloskar Ferrous**
Market size (7500 MT)	3500 MT (approx.) (50%)	3500 MT (approx.)
Customers	Payment policy- credit given against BG and LC (securitization)	Open credit
Grades offered	FG (65%), NG (15%)	FG, NG

Market share analysis
The revenue generated by pig iron = 3500*40000= Rs 140000000/-
Here is the market share is 3500 tonnes and 40000 is the price of pig iron per 1 ton.
The Overall percentage share of pig iron in Coimbatore = 60%

Grades and composition
Coimbatore market sells 2 grades of pig iron; foundry grade spheroidal grade, with foundry grade being the most sold grade in the market.
Composition of each grade is given below.
Foundry grade = 85.71% (FGHA)
SG = 14.29%

Sales
The market is contracting right now due to the Covid- 19 pandemic.
An induction furnace can control the inputs if there is scrap availability which eventually decreases the cost.
During the first and second quarter there is less sales due to the heat and then it starts booming and continues up to the month of March.
Bargaining power of the buyers will depend on scrap availability wherein the availability of scrap is variable. If the scrap availability is high, bargaining power will be more.
Due to the fluctuations in pig iron prices, the bargaining power also fluctuates.

Intensity of Competition

Coimbatore has 2 major players in the pig iron segment namely, Vedanta and Kirloskar, where the prices fixed by both the players are the same. An added advantage to Vedanta Ltd is that Coimbatore is a home market for Vedanta where they have a lot of customers. So the intensity of competition is quiet less for Vedanta.

Market Forces

Drivers

Pig iron industry goes hand in hand with the steel industry due to manufacture of castings. Due to infrastructural development in Coimbatore, pig iron market is at a boost.

Government scrapping policy of vehicles also drives the pig iron market.

Agricultural equipments are also at a high demand which boosts the growth of pig iron market.

Constraints

Consumption of pig iron has lessened due to the increasing prices. Induction furnaces uses lower amount of pig iron.

There has been no control over coal prices due to ever changing weather in Australia as coal is imported from Australia for the manufacture of pig iron.

Challenges

Government policy of scrapping vehicles.

This will lead to more availability of scrap which will lead to decline in the demand for pig iron as scrap is a direct substitute for pig iron and is available at a cost lower than that of pig iron.

Opportunities

Different sectors can be explored for consumption of pig iron Channel partners can boost the sales.

Covid-19 Analysis

Non availability of labourers as they returned to their hometowns amidst the pandemic.

- The foundries were closed due to the lockdown. Transportation also caused a loss.
- The revenue generated by Vedanta Ltd is 4000*40000 = Rs. 160000000/-
- The grade having the highest share is Foundry grade, followed by Semi Foundry grade and then Nodular grade.
- The market size is contracting right now due to Covid-19.
- The market size also depends on the availability of scrap, if scrap available is more, demand for pig iron will decrease.
- This kind of business is a seller's market, where there is more demand and less of supply and it also depends on scrap availability, if there is limited availability of scrap, demand for pig iron will increase and hence there is no bargaining power of buyers.

Intensity of competition is low as the customers are trained for the prices.

KOLHAPUR

The following data is collected for Pig Iron being sold in Kolhapur.

Major Players

1) Vedanta Limited

2) Kirloskar Ferrous

3) JSW
4) Tata

Market Size

The market size for pig iron in Kolhapur is 14000 MT. (varies)
Vedanta makes about 80-85% of the total market share by providing 11900 MT (incase of 100000 MT produced).
Kirloskar Ferrous sells around 1400 MT (10%). JSW and Tata comprises of 5%.
The melting capacity varies according to the supply and demand. The castings contain major constituents such as pig iron and scrap. In the case of availability of scrap, scrap is used mainly in larger proportion.
The charge mix consists of Pig iron, scrap, boring and alloys.

Grades

Vedanta – Basic grade, Foundry grade, Semi foundry grade, Nodular Grade.
JSW- Basic grade.
Tata- Foundry grade.
Kirloskar- Basic grade, Foundry grade, Semi foundry grade.
This product is provided to the foundries which further make the casting and then further sell it to the end customers.

End Consumers

1) Automobile commercial (15%) – Sound casting
2) Automobile passenger (22%) - Mahabal metal
3) Heavy earth moving machinery (4%)
4) Tractors (28%) – Gharge Patil
5) Pumps and valves (5%) - Kirloskar
6) Agricultural equipments (5%)
7) Diesel Engines (5%)
8) Railway (2%)
9) Industrial machinery (3%)
10) Windmill (3%)
11) Auto two-wheeler (5%)
12) Sugar Industry (3%)

All the above industries use Foundry Grade and Semi Foundry grade. Basic Grade is used by Super Craft for small castings.

KOLHAPUR				
	Vedanta Limited	**Kirloskar Ferrous**	**Tata**	**JSW**
Market size (14000)	11900 MT (approx.) (80-85 %)	1400MT (10% approx.)	700(5%) Approx.	700(5%) Approx.
Grades offered	BG, FG, SFG, SG	BG, FG, SFG	FG	BG

Market share analysis
The revenue generated by pig iron = 11900*40000= Rs 476000000/-
Here 11900 is the market share in tonnes and 40000 is the price of pig iron per 1 ton.
The Overall percentage share of pig iron in Coimbatore =85%

Grades and composition
Belgaum market sells 3 grades of pig iron; foundry grade, semi foundry grade and spheroidal grade and basic grade, with foundry grade being the most sold grade in the market.
Composition of each grade is given below. Foundry grade= 58%
Semi foundry grade= 28% Basic grade = 4%
SG = 10%
The, first and second quarter, Q1 and Q2 respectively has less sales due to the heat, which starts booming and continues up to the month of March.
Businesses comprise of seller's market and the buyer's market. Pig iron business falls under the seller's market and in the seller's market, the demand for the commodity is higher and the supply is less. So in such a case there is no bargaining power of the buyers.

Intensity of Competition

Competition in Kolhapur market is very less, which prevails only due to non-channel financing policies due to which small customers are reluctant to purchase from Vedanta.

<u>Market Forces</u>
Drivers
Introduction of Scrapping policies.
Pune and Ahmednagar, close to Kolhapur are automobile industry hubs which get their parts shipped from Kolhapur. Therefore the demand for pig iron for castings increase.

Challenges
Vedanta does not provide the commodity on open credit, which causes them to lose a few customers.

Opportunities
Channel financing through banks will allow Vedanta to capture the entire market.

Suppliers/ Traders Market Share
The suppliers/ traders market share is 0 due to no traders in between the business.

Covid-19 Analysis

The foundries were operating in a single shift for 12 hours in Kolhapur for only12 hours which led to the decrease in sales.

The labourers leaving for their hometown amidst the pandemic and lockdown was also a roadblock to the sales.

- The revenue generated by Vedanta Ltd is 11900*40000 = Rs. 476000000/-.
- The grade having the highest share is Foundry grade (58%), followed by Semi Foundry grade (28%), Basic Grade (4%) and then Nodular grade (10%).
- The market size also depends on the availability of scrap, if scrap available is more, demand for pig iron will decrease.
- This kind of business is a seller's market, where there is more demand and less of supply and it also depends on scrap availability, if there is limited availability of scrap, demand for pig iron will increase and hence there is no bargaining power of buyers.

Intensity of competition is low as the customers are trained for the prices.

OBSERVATIONS

- Vedanta Ltd constitutes highest market share in all the 4 markets by having a market size of 50% or more.
- The grade which has the highest share is foundry grade comprising of 2- 3% of silicon.
- The demand for pig iron depends on the availability of scrap whereby more scrap availability reduces the demand for pig iron.
- Q1 normally faces a loss due to the summer season and the non-availability of workers to work in the foundries.
- If channel financing is introduced, Vedanta Ltd will capture the entire market.

CONCLUSION

After the completion of the report and the interaction with the officials, it is being known that Vedanta Ltd is a reigning leader with a market share of nearly 70-75 % in terms of pig iron. Pig iron is a commodity which is required for a variety of industries and due to this project, the share of pig iron required by each industry was known to me. The report covered 4 major markets of the business namely, Ahmedabad, Belgaum, Coimbatore and Kolhapur.

This business does not have any advertising or promotional activities to sell the product and it was a whole new experience to get to learn about this industry.

The Market research helped me to know the market size, market share, the different grades offered and the end consumers of this industry. It also introduced me to the production of this commodity. It was seen that the pricing for this commodity was fixed by all the players and they followed a single pricing module.

Furthermore, no channel financing policy also was one of the reasons for Vedanta not capturing the entire market. In terms of substitutes, scrap and DI pipes were the major substitutes for pig iron which would lead to decrease in the consumption of pig iron in the future due to scrap being readily available at a lower price. The composition of pig iron and scrap also depended on availability.Vedanta should be exploring more in the scrap business also.

If channel financing through banks is provided and open credit is given, Vedanta will be able to tap the smaller customers as well thereby capturing the entire market.

Due to the pandemic and the ongoing lockdown, the ecommerce survey with the customers couldn't be conducted which would answer the questions related to readiness of customers to buy such a commodity as pig iron online.

Due to the depots being outside the state, a visit to these major markets was not possible.

LEARNINGS

In this Internship at Vedanta Limited, I learned a lot of things and I'm glad that a company like Vedanta gave me this opportunity. I got better at communication as I had to interview the regional managers and in that process I also understood the right way to conduct the survey by choosing the right set of questions which were relevant. I had to research a lot on the industry and the company and I learned many new things which I was unaware of regarding the companies in the state and also internationally, the government policies and the regulations. The market research helped me to know the market size, market share, the different grades offered and the end consumers of this industry. It also introduced me to the production of this commodity. Learning how a company like Vedanta functions is a huge experience and the research conducted was a huge boost to my knowledge and skills which will be a great addition for my future.

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