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9B19M059

GRACE CASTINGS LTD.: CONTEMPLATING BACKWARD INTEGRATION?

Chitra Singla wrote this case solely to provide material for class discussion. The author does not intend to illustrate either effective or ineffective handling of a managerial situation. The author may have disguised certain names and other identifying information to protect confidentiality.

In August 2018, Mohit Mardia, the managing director of Grace Castings Ltd. (GCL), was preparing for an upcoming board meeting. At the meeting, which was expected to take place in GCL's head office in Ahmedabad, India, Mohit planned to present the strategic plan for GCL's future expansion and chart the future path for the company. GCL was a small mill that manufactured steel products, including structural bars, thermomechanically treated (TMT) bars, angles, and channels. In fiscal year 2017–18, the fully family-owned business had a financial turnover of US$33.85 million.[1] With the recent growth in India's steel industry, Mohit was considering various options for GCL's expansion. The first option was backward integration, which meant increasing the capacity of billet manufacturing by adding a 30-metric-ton induction furnace. The second option was to expand the business by adding a new power plant. Mohit had to decide whether to recommend one or both of these options or simply maintain the status quo and grow the company at a slow pace. Preliminary estimates indicated that the capacity expansion of the induction furnace to produce castings and billets would cost $6.5 million, whereas setting up a new power plant would cost $7.7 million. The board meeting was the following week; by that time, Mohit would have to be sure which path to recommend in order to ensure GCL would be well prepared to compete in India's steel market over the next decade.

THE INDIAN MARKET FOR STEEL

India was the third-largest steel producer in the world in 2018, after China and Japan, up from eighth-largest in 2003. In 2018–19, India was expected to produce 104.98 million metric tons (MMT) of finished steel.[2] India had seen an increasing trend in steel demand and production in recent years (see Exhibit 1). Part of this growth was due to the availability of raw materials (e.g., coke and iron ore) and cheap labour, as well as growth in the country's real estate, automotive, and infrastructure sectors. Crude steel consumption in India had grown at a compound annual growth rate of 5.49 per cent between 2011 and 2017 to reach a consumption level of 97.4 MMT, whereas finished steel production had grown at a rate of 8.39 per cent between 2011 and 2018.[3]

[1] All currency amounts are in US$ unless otherwise specified.
[2] "Iron & Steel Industry in India," India Brand Equity Foundation, India Brand Equity Foundation, September 2018, accessed October 15, 2018, www.ibef.org/industry/steel.aspx.
[3] Ibid.

The *National Steel Policy 2017* envisioned 300 MMT of steelmaking capacity for India by 2030.[4] To facilitate this goal, the Indian government had allowed up to 100 per cent foreign direct investment in the country's steel industry. The government had also allocated steel development funds to promote research and development in the country's steel sector. To boost domestic production, the Government of India had increased the minimum import price on many steel goods, which resulted in a lower rate of imports over the previous two years.[5] Specifically, imports from China, Japan, and Russia were down to 7.4 MMT in 2016–17 compared to 2015–16, for a drop of 36.6 per cent.[6] Over the same period, exports of finished steel increased from 4.1 MMT to 8.2 MMT.[7]

The steel industry comprised many products that had different shapes, specifications, and uses including sheets, ingots, structural bars, billets, rods, pipes, and angles. At a broader level, the products could be divided into two categories: (1) flat steel products, such as flat sheets and hot- and cold-rolled products, which were at the higher end of the quality scale, and (2) non-flat long steel products, such as structural bars, channels, angles, and TMT bars, which were at the lower end of the quality scale.[8] Customers came from a variety of industries including real estate (construction), automotive, appliances, and sugar production. Many customers were price sensitive; others gave more importance to delivery time and quality. Based on the production process and the product, the Indian steel industry could be roughly divided into two segments: (1) integrated steel plants (ISP), or primary steelmakers, and (2) mini-mills, or secondary steelmakers.[9]

Integrated Steel Plants

ISPs were vertically integrated steel companies that added key activities across the value chain. They had large capacities and a minimum efficiency scale (approximately 1 million metric tons). These mills used a blast furnace to convert raw materials (e.g., coke and iron) into pig iron. They then used a basic oxygen furnace to convert pig or sponge iron and ferrous or steel scrap into molten steel. Most of these ISPs used modern technology such as continuous casting to convert molten steel into billets or other steel products. Older plants that had been upgraded for better efficiency levels across the steelmaking process had state-of-the-art technology (see Exhibit 2a).

Private companies such as Tata Steel Ltd., Jindal Steel & Power Ltd., and JSW Steel Ltd.,[10] as well as public sector units such as the Steel Authority of India Limited and Vizag Steel, fell under this category.[11] According to Mohit, many of these companies owned raw material (e.g., coke and iron ore) mines and had their own power plants. These companies provided a wide range of steel products to their customers, such as automotive companies, and produced mainly high-quality steel products, such as hot- and cold-rolled steel products; TMT rebars; wire rods; and bare and pre-painted galvanized, Galvalume, and special steel, which fell under the category of flat steel products. Their customers were spread across various sectors including agriculture, automotive, energy and power, construction, engineering, and government institutions. These customers placed orders in bulk and were particular about product quality, durability, and timely delivery. ISPs employed unionized workers with high labour costs. The sheer size of the ISPs

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[4] Ibid.
[5] "Steel Sector Analysis Report," Equity Master, March 26, 2018, accessed July 25, 2018, www.equitymaster.com/research-it/sector-info/steel/Steel-Sector-Analysis-Report.asp.
[6] Ibid.
[7] Ibid.
[8] "JPC Report on the Steel Sector, 2017—Snapshot," Alpha Invesco, December 21, 2017, accessed March 8, 2019, www.alphainvesco.com/blog/jpc-report-steel-sector-2016-17/.
[9] Joint Plant Committee, *Classification/Re-classification of Steel Industry,* accessed July 25, 2018, http://jpcindiansteel.nic.in/writereaddata/files/LIST%20OF%20ISP.pdf.
[10] Ibid.
[11] "Steel Manufacturing Companies in India," India Brand Equity Foundation, accessed July 25, 2018, www.ibef.org/industry/steel/showcase.