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Tata Steel (A): Sustainability through Circularity

"There is no such thing as 'away.' When we throw anything away it must go somewhere."[1]
—Annie Leonard, sustainability activist

Established over 118 years ago, Tata Steel was one of the oldest integrated steel manufacturers in the world. While productive as one of the pillars of India's economic growth and development, the steel industry was responsible for significant carbon emissions. Steel production in India used the traditional blast furnace method, which was highly carbon-intensive and known for a detrimental effect on environmental sustainability. Tata Steel aimed to decarbonize its operations, and so the company embarked on a positive yet arduous journey to embrace sustainability and circularity.

In 2022, the Tata Group put forth a sustainability framework—Project Aalingana—with the goal of achieving net zero by 2045.[2] In 2017, T.V. Narendran, CEO and managing director of Tata Steel, tasked the team with studying the Indian and global scrap market and exploring the electric arc furnace (EAF) process that used steel scrap as a major component to make new steel. While possibly not particularly profitable, the process held promise, as it was based on circularity principles and energy efficiency.

Although the EAF technology was not new, it was novel in an emerging country such as India where scrap had not been considered for recycling purposes. Using scrap in any organized industrial process as an input was a foreign concept. Furthermore, sourcing high quantities of scrap looked to be difficult. For Tata Steel to stay on schedule toward its 2045 target would require a new approach to procure scrap and use it in steel making.

The case discusses Tata's journey of pioneering a new industry, achieving many "firsts," including:

- Tata Steel would have to become one of India's first organized systems to process steel scrap for steel making.

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 This case was developed by Steve McKenzie, Maria VanDieren, and Mrunal Phatak under the supervision of M.S. Krishnan, Accenture Professor of Computer Information Systems at the University of Michigan's Ross School of Business, and Radha Ganesh Ram, Program Director, Tata Management Training Centre in Pune, India. The case was prepared as the basis for class discussion rather than to illustrate either the effective or ineffective handling of a situation. The case should not be considered criticism or endorsement and should not be used as a source of primary data. We acknowledge the support of Mr. T.V. Narendran, CEO and Managing Director, Tata Steel, Mr. Ashish Anupam, Vice President Long Products, Tata Steel, and Mr. Rahul Gupta, Chief Steel Recycling Business, Tata Steel, who provided all the necessary information in developing the case study.