

## In-Depth Integrative Case 3.1

# Tata “Nano”: The People’s Car

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Nano, India’s first “People’s car,” may soon earn a place in history alongside Ford’s Model T, Volkswagen’s Beetle, and the British Motor Corp.’s Mini, all of which made automotive travel within reach of millions of customers who had previously been locked out of the car market. In January 2008 during India’s main auto show in New Delhi, Tata Motors introduced to the Indian public its ultra-cheap car “Nano” that was expected to retail for as little as the equivalent of \$2,500, or about the price of the optional DVD player on the Lexus LX 470 sport utility vehicle.<sup>1</sup> This event had driven unprecedented public attention, since Tata’s new vehicle was projected to revolutionize the auto industry.<sup>2</sup>

The emergence of Tata Motors on the global auto scene marks the advent of India as a global center for small-car production and represents a victory for those who advocate making cheap goods for potential customers at the “bottom of the pyramid” in emerging markets. Most of all, the car could give millions of people now relegated to lesser means of transportation the chance to drive cars.<sup>3</sup> In India, there were fewer than 10 cars for every thousand people in 2007, compared with 40 per thousand in China, and 450 in the U.S. Far more middle-class Indians bought and transported their entire families on scooters.<sup>4</sup>

According to some analysts, Tata Motor’s Chairman Ratan Tata hopes to use the Nano to become the Henry Ford of emerging India, in part, by offering a car at a fraction of the price of rival products. The company is gambling that its tiny price tag will make it appealing to Indians who now drive motorcycles and scooters.

While India’s population is more than 1 billion people, only around 1 million passenger cars were sold in the country in 2007, one-tenth as many as in China. By contrast, more than 7 million motorcycles and scooters were sold. Mr. Tata said the tiny car is aimed at keeping the families of India’s growing middle class from having to travel with as many as four people on a scooter.<sup>5</sup>

Speaking at the unveiling ceremony at the 9th Auto Expo in New Delhi, Ratan Tata said, “I observed families riding on two-wheelers—the father driving the scooter, his young kid standing in front of him, his wife seated behind him holding a little baby. It led me to wonder whether one could conceive of a safe, affordable, all-weather form of transport for such a family. Tata Motors’ engineers and designers gave their all for about four years to realize this goal. Today, we indeed have a People’s Car,

which is affordable and yet built to meet safety requirements and emission norms, to be fuel efficient and low on emissions. We are happy to present the People’s Car to India and we hope it brings the joy, pride and utility of owning a car to many families who need personal mobility.”<sup>6</sup>

Middle-class household incomes in India start at roughly \$6,000 a year, so a \$3,000 car is the kind of innovation that could create millions of new drivers. Eight million Indians currently own cars, according to the Mumbai-based credit-rating agency Crisil. Another 18 million have the means to buy one. However, the Nano could increase that pool of potential auto owners by as much as 65 percent, to 30 million. “This goes beyond economics and class,” says Ravi Kant, managing director of Tata Motors. “This crosses the urban-rural divide. Now a car is within the reach of people who never imagined they would own a car. It’s a triumph for our company. And for India.”<sup>7</sup>

### **Designed with a Family in Mind**

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Though Nano’s design triggered different comments from the public—some people called it handsome;<sup>8</sup> others called it egg shaped<sup>9</sup>—overall Tata Motors was very proud of the design, which was developed with a family in mind.<sup>10</sup> From Tata’s perspective the new Nano addresses several key characteristics that Indian families would prize in a car: low price, adequate comfort, fuel-efficiency, and safety.

According to Tata, Nano has a roomy passenger compartment with generous leg space and head room, and it can comfortably seat four persons. Four doors with high seating position make ingress and egress easy. With a snub nose and a sloping roof, the world’s cheapest car can hold five people—if they squeeze.<sup>11</sup> Nano’s dimensions are as follows: length of 3.1 meters, width of 1.5 meters, and height of 1.6 meters. Tata suggests these compact dimensions should allow the car to effortlessly maneuver on busy roads in cities as well as in rural areas. Its monovolume design, with wheels at the corners and the power train at the rear, enables it to combine both space and maneuverability.<sup>12</sup> At 10 feet long, the Nano is about 2 feet shorter than a Mini Cooper.<sup>13</sup>

The car is available in both standard and deluxe versions. According to the company, both versions offer a wide range of body colors and other accessories so that

the car can be customized to an individual's preferences.<sup>14</sup> But reviewers called the basic version spare: There's no radio, no air bags, no passenger-side mirror, and only one windshield wiper. If you want air conditioning to cope with India's brutal summers, you need to get the deluxe version.

According to the company, Nano has a fuel-efficient engine powered by the lean design strategy that has helped minimize weight, maximize performance per unit of energy consumed, and deliver higher fuel efficiency.<sup>15</sup> The final design stands at 1,322 pounds, 528 pounds lighter than the flyweight Honda Insight. To power it, the engineers settled on a 33-horsepower, 623-cc, two-cylinder engine housed in the rear; to service it, the mechanic must remove a set of bolts in the 5.4-cubic-foot trunk. The payoff: an uncommonly efficient 47 miles per gallon running at top speed (65 mph). But that doesn't mean Nano owners won't spend a lot of time pumping gas—the minuscule tank holds just 3.9 gallons.<sup>16</sup>

According to the company, the People's Car's safety performance exceeds current Indian regulatory requirements. With an all-sheet-metal body, it has a strong passenger compartment, with safety features such as crumple zones, intrusion-resistant doors, seat belts, strong seats and anchorages, and the rear tailgate glass bonded to the body. Tubeless tires further enhance safety. Tata also placed emphasis on environmental friendliness. According to a corporate press release the People's Car's tailpipe emission performance exceeds regulatory requirements. In terms of overall pollutants, it has a lower pollution level than two-wheelers being manufactured in India today.<sup>17</sup>

### About Tata Motors

Tata Motors is a part of the Tata Group. The Tata Group is considered the General Electric of India, a sprawling conglomerate with a commanding presence in media, telecom, outsourcing, retailing, and real estate. Started in 1868 as a textile wholesaler, the company branched out into luxury hotels after, as legend has it, founder Jamsetji Tata was turned away from a posh establishment because of his skin color. In 1945, a few years before the British left India, Tata created Tata Motors and started producing locomotives and, eventually, autos. In 1998, Tata Motors introduced the country's first indigenously designed car. The homegrown Indica, which now sells for around \$6,000, became ubiquitous as a taxi.<sup>18</sup>

Meanwhile, the Tata Group has been expanding globally. It bought the tea company Tetley in 2000 and acquired Anglo-Dutch steel giant Corus in 2007. It maintains Tata Consultancy Services offices in 54 countries and owns hotels in Boston, New York, and San Francisco. In March 2008, Tata Motors bought Jaguar and Land Rover from the financially strangled Ford Motors.<sup>19</sup>

Tata Motors listed on the New York Stock Exchange in 2004. After thousands of changes, in the quarter ending

December 2006 Tata earned \$116 million on revenue of \$1.55 billion. Annual revenue grew to \$5.2 billion for the fiscal year ending in March 2006.<sup>20</sup> Now Tata Motors Limited is India's largest automobile company, with consolidated revenues of Rs.70,938.85 crores (US\$14 billion) in 2008–2009. It is the leader in commercial vehicles in each segment, and among the top three in passenger vehicles with winning products in the compact, midsize car, and utility vehicle segments. The company is the world's fourth largest truck manufacturer, and the world's second largest bus manufacturer. The company's 24,000 employees are guided by the vision to be “best in the manner in which we operate, best in the products we deliver, and best in our value system and ethics.”<sup>21</sup>

Established in 1945, Tata Motors' presence cuts across the length and breadth of India. Over 4 million Tata vehicles ply on Indian roads, since they first rolled out in 1954. The company's manufacturing base in India is spread across Jamshedpur (Jharkhand), Pune (Maharashtra), Lucknow (Uttar Pradesh), Pantnagar (Uttarakhand), and Dharwad (Karnataka). Following a strategic alliance with Fiat in 2005, it has set up an industrial joint venture with Fiat Group Automobiles at Ranjangaon (Maharashtra) to produce both Fiat and Tata cars and Fiat powertrains. The company is establishing a new plant at Sanand (Gujarat). The company's dealership, sales, services, and spare parts network comprises over 3,500 touch points; Tata Motors also distributes and markets Fiat branded cars in India.<sup>22</sup>

Tata Motors has also emerged as an international automobile company. Through subsidiaries and associate companies, Tata Motors has operations in the U.K., South Korea, Thailand, and Spain. Among them is Jaguar Land Rover, a business comprising the two iconic British brands that was acquired in 2008. In 2004, it acquired the Daewoo Commercial Vehicles Company, South Korea's second largest truck maker. The rechristened Tata Daewoo Commercial Vehicles Company has launched several new products in the Korean market, while also exporting these products to several international markets. Today two-thirds of heavy commercial vehicle exports out of South Korea are from Tata Daewoo.<sup>23</sup>

In 2005, Tata Motors acquired a 21 percent stake in Hispano Carrocera, a well regarded Spanish bus and coach manufacturer, and subsequently the remaining stake in 2009. Hispano's presence is being expanded in other markets. In 2006, Tata Motors formed a joint venture with the Brazil-based Marcopolo, a global leader in body building for buses and coaches, to manufacture fully built buses and coaches for India and select international markets. In 2006, Tata Motors entered into joint venture with Thonburi Automotive Assembly Plant Company of Thailand to manufacture and market the company's pickup vehicles in Thailand. The new plant of Tata Motors (Thailand) has begun production of the Xenon pickup truck, with the Xenon having been launched in Thailand in 2008.<sup>24</sup>

Tata Motors is also expanding its international footprint, established through exports since 1961. The company's commercial and passenger vehicles are already being marketed in several countries in Europe, Africa, the Middle East, South East Asia, South Asia, and South America. It has franchisee/joint venture assembly operations in Kenya, Bangladesh, Ukraine, Russia, Senegal, and South Africa. Through its subsidiaries, the company is engaged in engineering and automotive solutions, construction equipment manufacturing, automotive vehicle components manufacturing and supply chain activities, machine tools and factory automation solutions, high-precision tooling and plastic and electronic components for automotive and computer applications, and automotive retailing and service operations.<sup>25</sup>

The foundation of the company's growth over the last 50 years is a deep understanding of economic stimuli and customer needs, and the ability to translate them into customer-desired offerings through leading-edge R&D. With over 3,000 engineers and scientists, the company's Engineering Research Centre, established in 1966, has enabled pioneering technologies and products. The company today has R&D centers in Pune, Jamshedpur, Lucknow, Dharwad in India, and in South Korea, Spain, and the U.K. It was Tata Motors which developed the first indigenously developed Light Commercial Vehicle, India's first Sports Utility Vehicle, and, in 1998, the Tata Indica, India's first fully indigenous passenger car. Within two years of launch, Tata Indica became India's largest selling car in its segment. In 2005, Tata Motors created a new segment by launching the Tata Ace, India's first indigenously developed mini-truck. In January 2008, Tata Motors unveiled its People's Car, the Tata Nano, which was launched in India in March 2009.<sup>26</sup>

Tata Motors is equally focused on environment-friendly technologies in emissions and alternative fuels. It has developed electric and hybrid vehicles both for personal and public transportation. It has also been implementing several environment-friendly technologies in manufacturing processes, significantly enhancing resource conservation.<sup>27</sup>

Tata Motors is committed to improving the quality of life of communities by working on four thrust areas: employability, education, health, and environment. The firm's activities touch the lives of more than a million citizens. Its support for education and employability is focused on youth and women, ranging from schools to technical education institutes, to actual facilitation of income generation. In health, Tata's intervention is in both preventive and curative health care. The goal of environment protection is achieved through tree plantations, conserving water and creating new water bodies, and, last but not least, introducing appropriate technologies in Tata vehicles and operations for constantly enhancing environment care.<sup>28</sup>

## Tata Motors Milestones

It has been a long and accelerating journey for Tata Motors until it became India's leading automobile manufacturer. Here are some significant milestones in the company's journey toward excellence and leadership:<sup>29</sup>

- 1945** • Tata Engineering and Locomotive Co. Ltd. was established to manufacture locomotives and other engineering products.
- 1948** • Steam road roller introduced in collaboration with Marshall Sons (U.K.).
- 1954** • Collaboration with Daimler Benz AG, West Germany, for manufacture of medium commercial vehicles. The first vehicle rolled out within 6 months of the contract.
- 1959** • Research and Development Centre set up at Jamshedpur.
- 1961** • Exports begin with the first truck being shipped to Ceylon, now Sri Lanka.
- 1966** • Setting up of the Engineering Research Centre at Pune to provide impetus to automobile Research and Development.
- 1971** • Introduction of DI engines.
- 1977** • First commercial vehicle manufactured in Pune.
- 1983** • Manufacture of Heavy Commercial Vehicle commences.
- 1985** • First hydraulic excavator produced with Hitachi collaboration.
- 1986** • Production of first light commercial vehicle, Tata 407, indigenously designed, followed by Tata 608.
- 1989** • Introduction of the Tatamobile 206—3rd LCV model.
- 1991** • Launch of the 1st indigenous passenger car Tata Sierra.  
• TAC 20 crane produced.  
• One millionth vehicle rolled out.
- 1992** • Launch of the Tata Estate.
- 1993** • Joint venture agreement signed with Cummins Engine Co. Inc. for the manufacture of high horsepower and emission friendly diesel engines.
- 1994** • Launch of Tata Sumo—the multi utility vehicle.  
• Launch of LPT 709—a full forward control, light commercial vehicle.  
• Joint venture agreement signed with M/s Daimler-Benz/Mercedes-Benz for manufacture of Mercedes Benz passenger cars in India.  
• Joint venture agreement signed with Tata Holset Ltd., U.K., for manufacturing turbochargers to be used on Cummins engines.
- 1995** • Mercedes Benz car E220 launched.
- 1996** • Tata Sumo deluxe launched.
- 1997** • Tata Sierra Turbo launched.  
• 100,000th Tata Sumo rolled out.
- 1998** • Tata Safari—India's first sports utility vehicle launched.  
• 2 millionth vehicle rolled out.  
• Indica, India's first fully indigenous passenger car, launched.
- 1999** • 115,000 bookings for Indica registered against full payment within a week.  
• Commercial production of Indica commences in full swing.
- 2000** • First consignment of 160 Indicas shipped to Malta.  
• Indica with Bharat Stage 2 (Euro II) compliant diesel engine launched.

- Utility vehicles with Bharat 2 (Euro II) compliant engine launched.
  - Indica 2000 (Euro II) with multi point fuel injection petrol engine launched.
  - Launch of CNG buses.
  - Launch of 1109 vehicle—an Intermediate commercial vehicle.
- 2001**
- Indica V2 launched—2nd generation Indica.
  - 100,000th Indica wheeled out.
  - Launch of CNG Indica.
  - Launch of the Tata Safari EX.
  - Indica V2 becomes India's number one car in its segment.
  - Exits joint venture with Daimler Chrysler.
- 2002**
- Unveiling of the Tata Sedan at Auto Expo 2002.
  - Petrol version of Indica V2 launched.
  - Launch of the EX series in commercial vehicles.
  - Launch of the Tata 207 DI.
  - 200,000th Indica rolled out.
  - 500,000th passenger vehicle rolled out.
  - Launch of the Tata Sumo '+ ' Series.
  - Launch of the Tata Indigo.
  - Tata Engineering signed a product agreement with MG Rover of the U.K.
- 2003**
- Launch of the Tata Safari Limited Edition.
  - The Tata Indigo Station Wagon unveiled at the Geneva Motor Show.
  - On 29th July, J. R. D. Tata's birth anniversary, Tata Engineering becomes Tata Motors Limited.
  - 3 millionth vehicle produced.
  - First CityRover rolled out.
  - 135 PS Tata Safari EXi Petrol launched.
  - Tata SFC 407 EX Turbo launched.
- 2004**
- Tata Motors unveils new product range at Auto Expo '04.
  - New Tata Indica V2 launched.
  - Tata Motors and Daewoo Commercial Vehicle Co. Ltd. sign investment agreement.
  - Indigo Advent unveiled at Geneva Motor Show.
  - Tata Motors completes acquisition of Daewoo Commercial Vehicle Company.
  - Tata LPT 909 EX launched.
  - Tata Daewoo Commercial Vehicle Co. Ltd. (TDCV) launches the heavy duty truck NOVUS, in Korea.
  - Sumo Victa launched.
  - Indigo Marina launched.
  - Tata Motors lists on the NYSE.
- 2005**
- Tata Motors rolls out the 500,000th passenger car from its Car Plant Facility in Pune.
  - The Tata Xover unveiled at the 75th Geneva Motor Show.
  - Branded buses and coaches—Starbus and Globus—launched.
  - Tata Motors acquires 21% stake in Hispano Carrocera SA, Spanish bus manufacturing company.
  - Tata Ace, India's first mini truck launched.
  - Tata Motors wins JRD QV award for business excellence.
  - The power packed Safari Dicor is launched.
  - Introduction of Indigo SX series, luxury variant of Tata Indigo.
- Tata Motors launches Indica V2 Turbo Diesel.
  - One millionth passenger car produced and sold.
  - Inauguration of new factory at Jamshedpur for Novus.
  - Tata TL 4X4, India's first Sports Utility Truck (SUT), is launched.
  - Launch of Tata Novus.
  - Launch of Novus range of medium trucks in Korea, by Tata Daewoo Commercial Vehicle Co. (TDCV).
- 2006**
- Tata Motors vehicle sales in India cross four million mark.
  - Tata Motors unveils new long wheel base premium Indigo & X-over concept at Auto Expo 2006.
  - Indica V2 Xeta launched.
  - Passenger vehicle sales in India cross one-million mark.
  - Tata Motors and Marcopolo, Brazil, announce joint venture to manufacture fully built buses and coaches for India and markets abroad.
  - Tata Motors first plant for small car to come up in West Bengal.
  - Tata Motors extends CNG options on its hatchback and estate range.
  - TDCV develops South Korea's first LNG-Powered Tractor-Trailer.
  - Tata Motors and Fiat Group announce three additional cooperation agreements.
  - Tata Motors introduces a new Indigo range.
- 2007**
- Construction of Small Car plant at Singur, West Bengal, begins on January 21.
  - New 2007 Indica V2 range is launched.
  - Tata Motors launches the longwheel base Indigo XL, India's first stretch limousine.
  - Common rail diesel (DICOR) engine extended to Indigo sedan and estate range.
  - Tata Motors and Thonburi Automotive Assembly Plant Co. (Thonburi) announce formation of a joint venture company in Thailand to manufacture, assemble, and market pickup trucks.
  - Rollout of 100,000th Ace.
  - Tata-Fiat plant at Ranjangaon inaugurated.
  - Launch of a new upgraded range of its entry level utility vehicle offering, the Tata Spacio.
  - CRM-DMS initiative crosses the 1,000th location milestone.
  - Launch of Magic, a comfortable, safe, four-wheeler public transportation mode, developed on the Ace platform.
  - Launch of Winger, India's only maxi-van.
  - Fiat Group and Tata Motors announce establishment of Joint Venture in India.
  - Launch of the Sumo Victa Turbo DI, the new upgraded range of its entry-level utility vehicle, the Sumo Spacio.
  - Tata Motors launches Indica V2 Turbo with dual airbags and ABS.
  - Launch of new Safari DICOR 2.2 VTT range, powered by a new 2.2 L Direct Injection Common Rail (DICOR) engine.
  - Rollout of the one millionth passenger car off the Indica platform.

- 2008**
- Ace plant at Pantnagar (Uttarakhand) begins production.
  - Indica Vista, the new generation Indica, is launched.
  - Tata Motors’ new plant for Nano to come up in Gujarat.
  - Latest common rail diesel offering, the Indica V2 DICOR, launched.
  - Indigo CS (Compact Sedan), world’s first sub four-metre sedan, launched.
  - Launch of the new Sumo—Sumo Grande, which combines the looks of an SUV with the comforts of a family car.
  - Tata Motors unveils its People’s Car, Nano, at the ninth Auto Expo.
  - Xenon, 1-ton pickup truck, launched in Thailand.
  - Tata Motors signs definitive agreement with Ford Motor Company to purchase Jaguar and Land Rover.
  - Tata Motors completes acquisition of Jaguar Land Rover.
  - Tata Motors introduces new Super Milo range of buses.
  - Tata Motors is Official Vehicle Provider to Youth Baton Relay for The III Commonwealth Youth Games, Pune 2008.
  - Indica Vista, the second generation Indica, is launched.
  - Tata Motors launches passenger cars and the new pickup in D.R. Congo.
- 2009**
- Tata Motors begins distribution of Prima World truck.
  - Tata Motors launches the next generation all-new Indigo MANZA.
  - FREELANDER 2 launched in India.
  - Tata Marcopolo Motors’ Dharwad plant begins production.
  - Tata Motors launches Nano—The People’s Car.
  - Introduction of new world standard truck range.
  - Launch of premium luxury vehicles Jaguar XF, XFR, and XKR and Land Rover Discovery 3, Range Rover Sport, and Range Rover from Jaguar and Land Rover in India.

### **Secrets behind the Low Price**

How could Tata Motors make a car so inexpensively? It started by looking at everything from scratch, applying what some analysts have described as “Gandhian engineering” principles—deep frugality with a willingness to challenge conventional wisdom. A lot of features that Western consumers take for granted—air conditioning, power brakes, radios, etc.—are missing from the entry-level model.<sup>30</sup>

In order to succeed with building a low-cost affordable car, Tata Motors began by studying and trying to understand the customer. What do the customers need? What do they really want? What can they afford? The customer was ever-present in the development of the Nano. Tata didn’t set the price of the Nano by calculating the cost of production and then adding a margin. Rather it set \$2,500 as the price that it thought customers could pay and then worked backward, with the help of partners willing to take on a challenge, to build a \$2,500 car that would reward all involved with a small profit.<sup>31</sup>

More fundamentally, the engineers worked to do more with less. Tata has been able to slash the price by asking his engineers and suppliers to redesign the many components to cut costs. The speedometer, for example, is in the center of the dashboard over the air vents, not behind the steering wheel, so the dashboard can be built with fewer parts.<sup>32</sup> To save \$10, Tata engineers redesigned the suspension to eliminate actuators in the headlights, the levelers that adjust the angle of the beam depending on how the car is loaded, according to Mr. Chaturvedi of Lumax. In lieu of the solid steel beam that typically connects steering wheels to axles, one supplier, Sona Koyo Steering Systems, used a hollow tube, said Kiran Deshmukh, the chief operating officer of the company, which is based in Delhi.<sup>33</sup>

Also, Nano is smaller in overall dimensions than the Suzuki Maruti, a similar but higher priced low-cost competitor assembled in India, but it offers about 20 percent more seating capacity as a result of design choices such as putting the wheels at the extreme edges of the car. The Nano is also much lighter than comparable models as a result of a reduction in the amount of steel in the car (including the use of an aluminum engine) and the use of lightweight steel where possible.<sup>34</sup>

However, Nano engineers and partners didn’t simply strip features out of an existing car to create a new low-cost model, which most other manufacturers have done when making affordable cars. Instead, they looked at their target customers’ lives for cost-cutting ideas. So, for instance, the Nano has a smaller engine than other cars because more horsepower would be wasted in India’s jam-packed cities, where the average speed is 10 to 20 miles per hour.<sup>35</sup> The car currently meets all Indian emission, pollution, and safety standards, although it only attains a maximum speed of about 65 mph. The fuel efficiency is also attractive to economy-driven consumers—nearly 50 miles to the gallon.<sup>36</sup>

Nano ultimately became a triumph of creativity and innovation. For example, Tata Motors has filed for 34 patents associated with the design of the Nano, although some suggest that measuring progress solely by patent creation misses a key dimension of innovation. Some of the most valuable innovations take existing, patented components and remix them in ways that more effectively serve the needs of large numbers of customers. The most innovative aspect of the Nano is its modular design. The Nano is constructed of components that can be built and shipped separately to be assembled in a variety of locations. In effect, the Nano is being sold in kits that are distributed, assembled, and serviced by local entrepreneurs.<sup>37</sup>

As Ratan Tata, chairman of the Tata group of companies, observed in an interview with *The Times* of London: “A bunch of entrepreneurs could establish an assembly operation and Tata Motors would train their people, would oversee their quality assurance and they would become satellite assembly operations for us. So we would create

entrepreneurs across the country that would produce the car. We would produce the mass items and ship it to them as kits. That is my idea of dispersing wealth. The service person would be like an insurance agent who would be trained, have a cell phone and scooter and would be assigned to a set of customers.”<sup>38</sup>

This is part of a broader pattern of innovation emerging in India in a variety of markets, ranging from diesel engines and agricultural products to financial services. In fact, Tata envisions going even further, providing the tools for local mechanics to assemble the car in existing auto shops or even in new garages created to cater to remote rural customers.<sup>39</sup>

### **Struggling with a Production Site**

In spite of Tata’s great commitment to meet the transportation needs of the poor Indian population and its pledge that the price of the car would not exceed \$2,500 equivalent, the company experienced a major challenge due to unexpected problems at Tata’s proposed manufacturing plant in Singur, in the eastern state of West Bengal, India, that could have stopped the whole Nano project right at the start.

In May 2006 Tata Motors announced that it would be manufacturing Nano in Singur, West Bengal, India.<sup>40</sup> Tata made plans to acquire the land and build the plant for the sole purpose of producing the Nano. The entire project, including the purchase of more than 600 acres of land, reportedly cost Tata Motors upwards of \$350 million.<sup>41</sup>

The problems began immediately following Tata’s purchase of the property from the West Bengal government.<sup>42</sup> Prior to the purchase, the government didn’t actually own the land, but acquired it from local farmers by imposing the force of eminent domain.<sup>43</sup> The Communist government of West Bengal was interested in bringing Tata Motors to its state since it saw the Nano project as key to rejuvenating industries in West Bengal, a poor region that was traditionally focused on farming. Trouble began after the government took over 1,000 acres (400 hectares) of farmland for the factory. The government offered compensation, but some farmers with smaller land holdings refused that compensation, demanding that land be given back to them. The disputed land measured about 400 acres.<sup>44</sup>

The protests hinged upon allegations that Tata forced farmers from their land and handed out payments that were a fraction of the land’s value. Mamata Banerjee, the fiery chief of the Trinamool Congress, the West Bengali political party staging the protest, demanded that Tata Motors return 400 acres of land surrounding the Nano factory to these farmers. Tata Motors stated that this land was necessary for 60 parts suppliers to the Nano. The company argued that keeping parts suppliers close to the plant was vital to maintaining the Nano’s extremely low cost.<sup>45</sup>

At the peak of the protests in September 2008, over 30,000 activists and farmers besieged Singur, in West

Bengal state, to rally against the plant, reiterating their claim that the land was forcibly taken from farmers and that compensation was inadequate. The highway leading to Singur was blockaded and Tata Motors was forced to evacuate employees from the plant site. In response, the company threatened to walk out of West Bengal if the agitation was not quickly quelled.<sup>46</sup>

According a statement released by Tata Motors in September 2008, work on the factory was close to completion. Up to 4,000 workers, including “several hundred young residents from around the [Singur] region” were said to have been employed by the factory during its construction. But continuing the work with the ongoing protests proved too risky. Employees failed to show up for work after threats from protestors. The protests also snarled traffic in the region. Trucks loaded with food were left on highways, their contents rotting in the sun.<sup>47</sup>

Ratan Tata, chairman of the Tata Group and Tata Motors, expressed concern that the factory in Singur was at serious risk. Commenting on the situation, a Tata Motors spokesperson said, “The situation around the Nano plant continues to be hostile and intimidating. There is no way this plant could operate efficiently unless the environment became congenial and supportive of the project. We came to West Bengal hoping we could add value, prosperity and create job opportunities in the communities in the state.”<sup>48</sup>

The dispute reflected a larger standoff between industry in India and farmers unwilling to part with land in a country where two-thirds of the billion-plus population depends on agriculture. Unable to get satisfactory resolution of the dispute, on September 2, 2008, Tata Motors announced that violent protests had forced it to suspend all work at the plant. Tata Motors also said it was putting together a detailed plan for the relocation of the plant and machinery, and was evaluating options for manufacturing the Nano at other company facilities.<sup>49</sup>

By October, the Singur protests had grown in size and intensity. Highways surrounding the factory were at a standstill, and workers were being threatened. Tata finally abandoned the Singur factory, in which it had invested \$350 million.<sup>50</sup> However, by that time the company had received an invitation from another state to relocate its Nano project. On October 7, 2008, the Gujarat government and Tata Motors signed a MoU (memorandum of understanding)<sup>51</sup> in Ahmedabad, bringing the ambitious Nano project to that state. Gujarat Chief Minister Narendra Modi announced allocation of 11,000 acres of land at Sanand near Ahmedabad to Tata Motors. The state government promised Tata various tax rebates and ready land along with connectivity to the national highway. In addition, the company was assured that no *bandh* (*bandh*, originally a Hindi word meaning “closed,” is a form of protest used by political activists in some countries in South Asia like India and Nepal)<sup>52</sup> or labor unrest would delay the project.<sup>53</sup>

Despite the Gujarat government's assurances regarding the safe and friendly business environment in its state, the relocation of the plant to a new state was not painless. In December 2008, several farmers filed a case against the local Indian government and Tata Motors, demanding better compensation for land sold to support the Gujarat factory, India.<sup>54</sup> Tata was pressured to find a quick solution. Ultimately, it decided that Nano production would begin at Tata's existing factory in Pantnagar in the northern state of Uttarakhand after receiving an additional allotment of land from the Uttarakhand government to expand the Pantnagar factory for Nano production. It became apparent that sales of the Nano in India, originally scheduled for October of 2008, would not begin until next spring of 2009.<sup>55</sup>

### **Nano's 2009 Launch**

Even though Tata was expected to solve the transportation problem for thousands of Indians, and Nano's launch was a highly awaited public event, sales of the Nano were delayed by at least six months after the land disputes.<sup>56</sup> However, when Tata eventually announced Nano's 2009 production plans, it quickly started generating the orders at volumes that far exceeded expectations. As of May 2009, according to *Bloomberg* analysts, Tata Motors had received 203,000 orders for its Nano, more than double the initial sales plan. The company accepted the bookings between April 9 and April 25, amounting to almost 25 billion rupees (\$501 million), according to Tata Motors release. Deliveries were planned to start in July of 2009 and were expected to be completed in the last quarter of 2010, according to the company.<sup>57</sup>

Surging demand from first-time buyers and motorcyclists in India contrasted with plunging automobile sales in the U.S. and Europe where job losses and economic recession were keeping consumers away from showrooms. "The Nano has the potential to become a game-changer for Tata in the long run," said Gaurav Lohia, an analyst at K.R. Choksey Shares & Securities Pvt. in Mumbai. "Once you generate the volumes, you are the king."<sup>58</sup>

According to the Society of Indian Automobile Manufacturers, the [Nano] bookings represented about 17 percent of the 1.22 million passenger cars sold in India, Asia's fourth-largest automobile market, in the fiscal year ended March. Maruti Suzuki India Ltd., maker of half the cars sold in the country, sold 636,707 units while Hyundai Motor Co. sold 244,030 and Tata Motors sold 160,446.<sup>59</sup>

Due to its manufacturing capacity constraints, Tata Motors would not be able to fill all the orders as quickly as expected. The first Nanos were to roll out of the Pantnagar plant which could produce only 60,000 units a year. Annual output was projected to increase by a further 350,000 units when the facility at Sanand in western India was completed at the end of 2009. Therefore, Tata Motors announced that it would choose the first 100,000 customers

for the \$2,500 Nano by a lottery, leaving the company with at least a year of production as backlog.<sup>60</sup>

### **Global Race for Low-Cost Cars**

The Nano is part of a global race to lower the prices of entry-level cars for millions of new developing world consumers. As growth slows in developed markets in the West, auto makers are looking to tap the rapid growth in countries like India, China, and Brazil, where the lowest priced cars are often the best sellers. Maruti Suzuki India Ltd., which is controlled by Japan's Suzuki Motor Corp., has dominated the Indian market for decades; its least expensive model today sells for around \$5,000.<sup>61</sup>

Now that Tata Motors has shown the way, competitors are scrambling to offer their own budget vehicles. For example, Ford Motor Co. announced plans to build a new small car in India that will have a sticker price as low as \$7,500. Nissan Motor Co. has plans for a \$7,000 and then a \$5,000 car in the next few years. German auto maker Volkswagen AG said it would also start to make small cars at a new plant in 2010.<sup>62</sup> Hyundai has announced a \$3,700 car. Renault-Nissan has teamed with Indian motorcycle maker Bajaj to put 400,000 of its own ultra-low-cost cars on the road by 2011. General Motors is rumored to be working on a Nano-killer with China's Wuling Automotive. By 2020, millions of ultra-low-cost vehicles will crowd narrow alleyways throughout the world. Thus, what happened in Bangalore would presage changes to come in Lagos, Rio de Janeiro, and Budapest.<sup>63</sup>

The global market for the Nano and similarly low-priced cars could be immense—the World Bank counts more than 800 million people who earn between \$3,600 and \$11,000 annually. In India, the new vehicle could change the taxi business overnight and energize a cadre of small-time entrepreneurs by providing new levels of mobility, carrying capacity, and social status.<sup>64</sup>

In spite of glamorous projections of high demand for low-cost cars, some analysts pose serious concerns of the overall profitability of budget car manufacturing. With the rising competition in the low-cost vehicle market, increasing cost pressure and small profit margins, will the new budget car models be able to recoup the R&D investment and generate any profits? For example, on the eve of the Nano launch, Mr. Tata said in an interview that developing the new model cost between \$380 million and \$435 million. He said without a better idea of future input costs and demand, he could not predict how soon the project would turn a profit or what the profit margin on the cars would be. Should steel prices continue to rise, prices may have to be adjusted.<sup>65</sup>

As long as the Nano runs as well as it looks and avoids major quality issues, Tata Motors should have no trouble selling it to hundreds of thousands of Indian families a year, analysts say. Still, at such a low price it could take a long time for Tata to recoup its investment in developing

the world's cheapest car. With profit margins as low as 5 percent, it could take more than five years for the project to be in the black, estimated Vaishali Jajoo, senior research analyst at Angel Broking in Mumbai. "It depends on how the margins will be," and at this price they are going to be very low, she said.<sup>66</sup>

However, although the competition in the low-cost vehicle market will remain fierce, Tata Motors now has a significant benefit relative to its competitors, which is called in business language "the first mover advantage." Anil K. Gupta and Haiyan Wang, two experts on India and China, said in a *BusinessWeek* article that Tata's Nano should be viewed as not just a product for an identified market need today but also as a platform for tomorrow. The key to leveraging any product or service as a platform for future growth is to treat it as a bundle of capabilities instead of becoming overly constrained by its current features, branding, distribution channels, or targeted customers. Underlying capabilities—either singly or in combination—can be leveraged across different markets far more easily than is the case with end products or services (look at corporate intranet searches powered by Google). They can also be upgraded and/or combined with new capabilities to create entirely new products and services (this is how the iPod led to the iPhone/iPod Touch).<sup>67</sup>

According to Gupta and Wang, many companies overlook this aspect of global production and marketing. Tata Motors, on the other hand, shows a grasp of this concept in establishing the Nano as a platform for further growth. While competitors are struggling to develop low-cost models for the Indian market, Tata has now broadened its plans and will bring its low budget car to other markets, including Europe and North America. As a start, it will begin selling its car in Nigeria in 2010. Tata is talking about launching upgraded models of the car at about \$8,000 in Europe by 2011 and in North America by 2012. (The Nano has already passed European crash-test safety standards.) The company is reportedly also working on hybrid and all-electric versions of the Nano.<sup>68</sup>

The entrance of Tata's Nano into European and U.S. markets may be potentially devastating to financially strangled automakers such as Ford and GM. As Gupta and Wang have pointed out, viewed from the lens of underlying capabilities, the Nano is not just a particular type of car designed for the peculiarities of the Indian market. It is also a bundle of proprietary technologies, supplier relationships, and a mindset that prizes frugal engineering. These capabilities, when applied to the needs of the rich European and North American markets, could easily result in an upgraded car that may sell for, say, \$8,000 and give a competitor whose product sells for \$12,000 a run for its money. As global auto companies look at the Nano, the question they should ask is not whether customers in the rich economies would care for such an inexpensive-but-simple car, but whether Tata Motors could show up in their backyards with a

competitive or better product that sells for 30–35 percent lower prices than their own in these markets.<sup>69</sup>

### **Tata Touching U.S. Ground**

Tata showcased its Nano in United States in January 2010 at the Detroit auto show and generated its first feedback from potential American customers. The comments ranged from highly skeptical to very optimistic. Some people said that Nano would have to go through many upgrades in order to win the American consumer and in order to meet the safety requirements. For example, in most American cars, safety features alone cost more than \$2,500, according to Adrian Lund, president of the Insurance Institute for Highway Safety in Arlington, VA.<sup>70</sup>

As far as American consumer preferences are concerned, a "U.S. Nano would also need to be nicer inside to be attractive to buyers," Tata representatives told *Autoblog Green*. Reps from the blog drove the car around Judson College in Alabama and concluded that Tata will need to significantly improve the comfort level in the car. Students all asked where the iPod connector was and why there weren't any cupholders. Those sorts of features would be a part of the program if the car actually gets the official green light. Thankfully, Tata Motors designers have time to iron out these details, because any potential U.S. launch is likely to be years away.<sup>71</sup>

Optimists suggest that there is a big segment of American consumers for whom Nano will be a "just good enough" car since they do not need any fancy features. For example, Volkswagen built millions of Beetles for people who wanted a car for a simple reason—to avoid walking—and this car became very successful on the market since it resonated with the needs of a large consumer segment that was looking for this type of car. As inexpensive as Nano would be when entering the U.S. market, it might challenge not only new car models, but also the used car markets, since the American consumer would have the ability to buy a new Nano model for the price of a used car. This purchase alternative may be another benefit attracting the economy-driven consumers in the U.S., especially in times of prolonged economic crisis and rising gasoline prices.<sup>72</sup>

After making a strong debut, in late 2010 Tata announced somewhat disappointing sales figures for the Nano. In November 2010, just 509 Nanos were sold, despite brisk sales for more expensive cars. Mercedes sells more than 500 cars a month in India. After selling nearly 10,000 cars a month through the summer and early fall of 2010, sales dropped off when stories circulated that some Nanos had caught fire and other tales were related of poor service and performance.<sup>73</sup> In an effort to counteract the disappointing sales, Tata announced it was launching distribution in six new provinces where the Nano had not yet been available. Tata also unveiled a new finance scheme with 26 local banks with interest rates





Source: © Anugraph Adams.

from between 8 percent and 20 percent.<sup>74</sup> It is yet too early to tell if these setbacks will halt the Nano's penetration in India and around the world, or whether they are simply the natural growing pains of a new approach to passenger vehicles that will continue to permeate global markets for decades to come.

### Questions for Review

1. What inspired Tata Motors to build the Nano? Why was there a need for an inexpensive car in India?
2. What innovative steps did Tata undertake to design the Nano in a way that would meet the \$2,500 price

tag? Do you think that the low price automatically means poor quality? How did Tata Motors address the quality issue while developing its budget car?

3. What caused delay in Nano's launch? What important features of the Indian economic environment were the key factors that caused the problem? What does this story teach about risks of doing business in India?
4. Would you agree that introduction of the Nano to the world auto market will be setting new trends in the auto industry, and possibly reshaping the industry? What did Tata Motors teach other automakers in terms of leadership and innovation?
5. Do you agree that there is a future for low budget cars like Nano in other markets besides India? Do you think Tata Motors is going in the right direction by trying to develop its low cost Nano models adapted to European and U.S. markets? How would you evaluate a likelihood of success of the Nano on the U.S. market? What should Tata Motors do to win American consumers?

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Source: This case was prepared by Tetyana Azarova of Villanova University under the supervision of Professor Jonathan Doh as the basis for class discussion. It is not intended to illustrate either effective or ineffective managerial capability or administrative responsibility.