

# **An Exploratory Study on the Reverse Innovation of Tata Nano Motors**

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## **Abstract**

*This article unpacks the concept of reverse innovation by exploring Tata motor's version of the Nano, dubbed world's cheapest car which was introduced in India. The paper explores the ideation process, product development and marketing strategies which were employed by the firm. The Nano was created with the Indian populace in mind thus it was a local production for local customers first before exporting to developed world, the product development of the Nano became known for its cost cutting features which influenced the promotion price at first but later increased due to the upgrading of the car. The car became famous for its cost cutting features such as three lug wheel nut, accessing the trunk from inside and one windscreen wiper among other features. The price was tagged at \$2000, which was equivalent to a motorcycle. Some notable aspects which impelled the successes of Tata Nano include hiring competent and knowledgeable human resource, creating synergies with chain supply for easy distribution. However the firm faced challenges which range from compromised safety standards, causing the car to catch fire, extended waiting period for the vehicle and lastly the marketing strategy which was not sustainable and ultimately led to the sales reduction.*

**Key words:** Reverse innovation, emerging economies, Tata Nano motor

## **1. Introduction**

Reverse innovation imply to a case whereby innovation is adopted first in poor or emerging economies before they 'trickle up' to rich countries (Govindarajan; 2011). Reverse innovation occurs in emerging economies targeting 'local customers' or the production of goods by emerging economies for 'up streaming', intended for rich countries. Instances of reverse innovation are on the rise in various fields such as General Electric, ultra cost sound scan, Grameen Bank (micro finance), Bharti's Airtell ultra cheap wireless telephony, BYD electric car and Tata Nano. Reverse innovation occurring in emerging economies bring novel products on the market which aim to solve pressing local issues and ensures the availability of cheap products on the market at the same time appealing to the growing middle income earners. The purpose aim of the study is to show the ideation, development and marketing process of Tata Nano. The dramatic cost and price reduction of the Nano created a product demand the cost cutting features on the

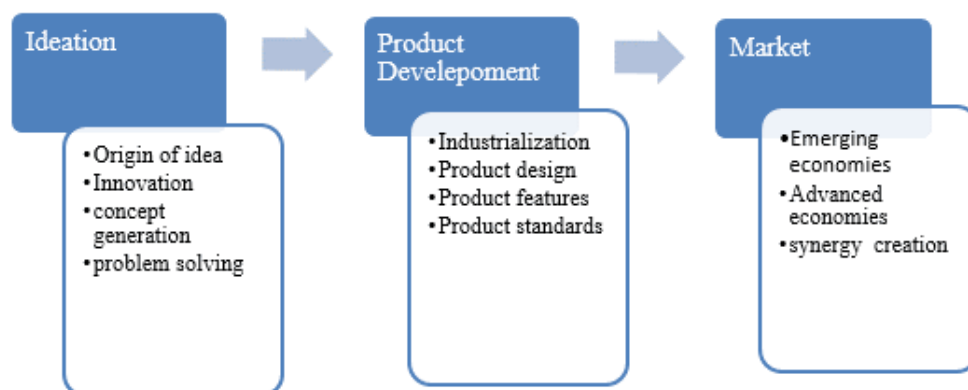
product motivated the drastic drop of the Nano. These factors in tandem with optimized marketing strategies, coupled with the hiring of experts ensured the success of reverse innovation. The study acknowledges that a combination of factors such as creating a viable and vibrant distribution team enabled the firm to have higher sales on the inception of the Nano vehicle. Additionally, synergy creation on chain supply ensured constant availability of the vehicle in the showrooms and various designated places where people frequented and more significantly partnering up with financial institutions that not only sold the vehicle but assisted farmers by availing loans to purchase the vehicle. However the firm faced some constraints such as extended waiting period for the car, safety concerns, stigma all these factors subsequently led to lower sales ultimately affecting the business and it led to the halting on production of the Nano model.

## **2. Unpacking the concept of reverse innovation**

Maximilian (2009) describe reverse innovation as the inauguration of new products, initially launched in emerging markets and sold in emerged countries. Scholars as Govindarajan and Ramamurti (2011) aptly define reverse innovation as ‘an innovation that is adopted first in a poor country before being adopted in a richer countries’. Reverse innovation imply to a scenario whereby an innovation is adopted first in poor or emerging countries before it ‘trickles up’ to richer countries. Immelt et al (2009) indicate that reverse innovation is the opposite of ‘glocalization’ a system whereby many industrialized goods are made in developed countries and sold in poor countries. Seely-Brown and Hagel gave an elaborative definition by coining the term ‘blowback innovation’ which refers to innovative solutions coming from emerging economies. Reverse innovation is evident in diverse fields such as the General Electric in the health sector, Huawei within the technological fraternity and Tata Motors in the auto mobile industry

### *2.1 The Development of Tata Nano Motors*

Fig 1; pictorial diagram depicting Tata Nano’s implementation of reverse innovation



*Source compiled by researcher 2020*

*2.2 Ideation and innovation;* Mr Ratum Tata the chairman of Tata motors one of the biggest automobile conglomerate was motivated to come up with the idea of the Tata Nano vehicle model after he saw a family of four crammed on a two wheeler scooter, a traditional mode of transport used by the poor and middle income Indians (Aggrawal;2014) . After witnessing the ordeal of that family he described the mode of transport which was used by the family as unsafe considering that the roads were poorly maintained. As a result he was motivated to come up with an idea of solving the problem he had seen, the solution was to design and come up with a small, affordable vehicle and cheaply produced vehicle which would be afforded by the poor folks and middle income earners. The Tata Nano, ‘worlds cheapest’ car was pegged at \$2,200 a figure which could buy a motorcycle which was popular among the poor and middle income earners.

*2.3 Concept generation;* the concept was generated and executed by a team which had been handpicked by the chairman of the company to produce a small and cheap car. This idea resonate with the tenet of reverse innovation which indicate that to ensure complete success in reverse innovation, strong technical and managerial competencies have to be considered (Von Zedtwitz et al 2015).

*2.4 Product development;* the engineers speedily turned the idea into a practical reverse innovation product in the form of a Nano car. The concept of reverse innovation is premised on the idea that products must be cheaply produced, at the same time meeting the required safety and product standards (Govindarajan and Trimble; 2014). Seemingly so the Nano vehicle was cheaply produced and the engineers introduced some cost cutting features. Singh and Joshi (2015) cite that the Tata Nano model was uniquely produced and designed so that it could appeal to the motorcyclist and scooter riders and the middle income earners generally. The idea behind the creation of Tata Nano model was to innovate, a product which was attractive and also being an affordable and cost-effective means of transportation for the deprived while considering the customer's expectations and meeting the regulatory requirements (Corsi et al 2014).

Tata motors embraced a new design of Nano to reduce the cost. In a bid to warrant spacious interior, lower weight and low costs, engine was strapped in the car's rear, with front wheel drive and the petrol tank to the front. This made the car more low-cost, efficient and compact. Material which included some fibre and plastics were opted for compared to steel to keep the weight of the car low. Singh and Joshi (2015) remind that the car did not have a radio, power windows, and air conditioning, anti-lock brakes, air bags, remote locks or power steering as a way of producing a low priced vehicle.

### *2.5 Product features*

*Table 1; indicate the cost cutting features of the Nano vehicle*

*Tata Nano's comparison with Maruti Alto 800, the closest competitor of the Nano*

<b>Tata Nano</b>	<b>Maruti Alto 800</b>
-One windscreen wiper instead of the usual two	-Two windscreen wipers
-Three lug nuts per wheel	-Four lug nuts per wheel
-No external fuel cap, fuel inlet accessed by opening the front hood	-External fuel cap
-Trunk was only accessible from inside the car, as the rear could not open. Eventually upgraded in the year 2015 to a hatchback	-One opening rear windscreen but also got a full hatchback
-No airbag on any model	-No airbag on any variant
-Radio or CD player was optional	-Radio or CD player was optional

Source: Govindarajan and Trimble (2014)

*2.6 Marketing and Distribution strategies of the Nano model*

The Nano vehicle was created first for the emerging economy of India with the intention that later it would trickle down to developed markets, hence India. Govindarajan and Trimble (2014), cite that the targeted people were those who belonged to the bottom of the pyramid who owned two wheelers, but who sought to own a four wheeler which was beyond their pocket. The product was first of its kind to be innovated, designed specifically for middle income earners and the poor class consisting mostly of farmers and transporters. Unique and novel marketing strategies were adopted which had never been used for marketing purposes by any firm. Tata motors managed to keep their communication campaign innovative and cost-effective, Tata motor advertised their new brand through the use of print medium and radio. Other innovative strategies were adopted to complement the afore mentioned forms of marketing and these included the use of online Nano games, Nano chat rooms, social media platforms of Nano conversations on facebook, orkut and blogs, Nano pop-ups on major websites launching Nano merchandise like baseball caps, key chains, and T-shirts etc. In addition, Westside, the Tata group-owned lifestyle retail chain, advertised Nano through text messages to customers (Richard, 2014). These forms of advertising ensured reaching a wider base of potential customers both in the city and periphery.

The distribution network of Tata Nano was unique as compared to other forms of distribution which have been used by other firms. The targeted clientele were poor and middle income earners, hence were frightened and hesitant to walk into large Tata Motors Ltd showrooms. To curb this and encourage people to buy the product a model was adopted of introducing some small retails and electronics megastore which did not frighten the customers (Westside and Chroma) outlets as well as auto dealerships (David; 2010) . The firm entered into agreements with some preferred banks / Non-Banking Financial institutions (NBFCs).Singh and Joshi (2015) indicate that new insurance schemes were co-designed with five partner insurance companies to enhance the sales and service network for better reach and service to the customers. The prospective customers had to book Nano with INR 3,500 with the banks. From the bookings a lottery system was adopted to select customers for delivery of cars. The method adopted by Tata motors was unique and it saved its purpose in ensuring that people got the vehicle through various platforms.

### **3. Success type of the Tata Nano model**

Hiring appropriate human resource propelled to the success of the Tata motors, in successfully launching the Nano model. For reverse innovation to be successful knowledgeable and skilled personnel are needed hence such people were hired by the firm. The policy aspect was prioritised, educational policies were put in place and cascaded covering issues of safety and further indicating the significance of reverse innovation in emerging economies Furthermore another key success area of Tata motors was the creation of synergies in supply chain with other companies. Notable examples of such synergies which were created are that of Tata motors establishing an alliance with the German brand of Mercedes Benz, and later on purchasing Land Rover and Jaguar (Aschmonet and Janevska 2013). Shouldering with such brands has enabled market power and ensured successive reverse innovation (Govindarajan et.al 2012). Additionally the Nano model managed to penetrate new markets with the new product, although the product was received with mixed emotions but what but the product essentially appealed to the middle income earners and the afforded an opportunity for people to buy a brand new car.

### **4. Challenges to the Tata Nano**

The Nano faced some challenges, which include facing some mixed reception from the Indian customers. The reasons forwarded were that the car was still expensive as compared to the motorcycle thereby forcing customers to continue buying the motorcycle. Constant improvements on the car by the manufacturer propelled the price of the car to rise beyond what the customers could fork out. Coupled with the above issues the customers had to deal with the extended waiting period, of delivery for the car. Although the car was the most affordable car, people opted to buy the second hand car which in terms of pricing was more expensive but gave them the social status compared to the affordable Nano. The Nano model did not get a good reception on the market as it had a tag of being the world's cheapest car thereby the vehicle was seen as a poor man' car any association with car stigmatised the buyer this was a challenge because many people opted not to buy the vehicle especially those who had more money than the middle income earners The concept of reverse innovation emphasise on good standard when it comes to products, while it is premised on cutting costs but the final product has to meet acceptable safety standards. Incidents of the car catching fires became rampant and it caused some serious concerns among the potential buyers and the customers who already owned the vehicle. Aggrawal (2014) reminds that Nano lacked the essentials which ensured the protection of product itself and the user of the product. The cost cutting features of the product, such as omitting the fuel cap on the fuel tank made the vehicle prone to catching fires and it meant risking the lives of the buyers, owners and passengers at risk. Kumar (2018) attest to the fact that quite a number of Nano model caught fire which prompted the general consumers to question the safety of people particularly the consumers. Adding to the woes of the firm, the marketing strategy for Nano did not work out as planned and this led to the massive reduced sales of the car compared to what had been projected.

### **5. Conclusion**

The findings of this study clearly shows that the reverse innovation of Tata Nano was first adopted in an

emerging economy, for the local Indian customers first before ‘trickling up’ to rich countries. Tata Nano was a cheap car which came as a result of reverse innovation which intended to provide a safe mode of transport compared to the motorcycle which the populace had been inured to. Additionally the factors which ensured success of the concept were the product cost cutting features, hiring experts and a vibrant team of engineers and the creation of synergy on chain supply and partnering up with financial institutions played a pivotal role in the success of reverse innovation. However the firm faced some challenges which range from safety concerns caused by fires catching the car, worsened by the delays caused extended waiting period and the stigma which became attached to the car as the poor man’s car. As the case shows, if reverse innovation is properly implemented it can achieve more in emerging economies.

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