

Indian motorcycle industry: A role model for Atmanirbhar Bharat?

The troika of Hero MotoCorp, Bajaj Auto and TVS Motor have built an unassailable position in India. What will it take to win other markets, especially Southeast Asia?

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The current tension with China has put the spotlight on Indian manufacturing industries. Many questions are being asked about why we can't produce the plethora of products for which we are currently dependent on that country.

Amidst this debate, an article titled [“How one industry beat China at manufacturing and created a global footprint”](#) by Srinivas Kantheti, a former President of Bajaj Auto, suggests an alternate possibility. His core claim is that, “Between three Indian companies—Hero MotoCorp, Bajaj Auto and TVS Motor—India today dominates the world motorcycle market.”

What is implied is that if only other Indian industries and companies had followed the example set by these Indian motorcycle companies, things would have been different.

Is the Indian motorcycle industry the ideal role model for the renaissance of Indian industry, particularly in manufacturing? The objective of this article is to subject Kantheti's thesis to closer scrutiny.

The contemporary Indian motorcycle industry can be traced back to the opening up of the Indian two-wheeler industry in the early 1980s as part of the first steps towards what became liberalisation in the early 1990s. Three experienced Indian business groups—Hero, Bajaj and TVS—sourced technology from three prominent Japanese players—Honda, Kawasaki and Suzuki respectively—and partnered with them to launch modern 100cc motorcycles in India. These three partnerships enabled the growth of sales of motorcycles in India from 759,000 units in 1983 to 4.1 million units in 2001. Technically, while Hero MotoCorp-Honda and TVS-Suzuki were joint ventures with equity participation, the Bajaj Auto-Kawasaki tie-up was based on licensing of technology. While the TVS-Suzuki alliance came apart in 2001, Hero and Honda parted ways about a decade later in 2010-11.

The government policy at that time required that the Indian partners in joint ventures had to provide a no objection certificate for dissolving the joint venture when the overseas partner wanted to enter the Indian market as a standalone entity. This was done with an intention to help Indian companies especially in a context where the overseas partner decides to abruptly stop transfer of technology or critical components. It appears that the Indian OEMs have done reasonably well post their split with their overseas partners. In an [article](#) one of us wrote in 2001, we asked presciently whether the split from Suzuki would be the trigger for TVS to become the model for Indian manufacturing companies!

Fast forward to the beginning of 2020. The Indian motorcycle market is the largest in the world, accounting for about 40% of global volume. While Honda as an independent entity has a 14% market share, Indian original equipment manufacturers (OEMs) account for 77% of the market. Hero MotoCorp is a significant player along with Bajaj Auto and TVS Motor. All these three Indian players have been successful at keeping foreign competitors, except Honda, at bay. They have been able to chart their own destinies without their erstwhile partners.

Honda has grown exponentially in the scooter segment of the Indian market post going solo. However, despite Honda's India operation being a fully owned subsidiary of Honda ever since the regulations changed to allow 100% FDI in the auto sector, it has not been able to dethrone Hero MotoCorp, which has remained the world's largest two-wheeler OEM. Till 2010-11, Hero MotoCorp and Honda were partners of a joint venture, Hero-Honda, that was dominating the Indian motorcycle market. Post the dissolution of the joint venture, Hero MotoCorp leads the motorcycle industry by a significant margin. In fact, it has about 65% market share in the sub 125cc sub-segment that forms close to 80% of the Indian motorcycle market.

Driving towards self-reliance

The creditable performance of the three Indian two-wheeler OEMs can be attributed to the internal capabilities they have developed in manufacturing, technology development, and a deep understanding of the Indian consumer psyche.

All the Indian two-wheeler OEMs are proficient in manufacturing and supply chain management. TVS Motor is outstanding in this regard. While TVS Motor won the Deming award, one of the highest awards on Total Quality Management (TQM), as far back as 2002, the company's chairman Venu Srinivasan became the first Indian industrialist to be awarded the Deming Prize in 2019. The focus of the Indian motorcycle OEMs on vendor development has resulted in a well-developed automotive vendor ecosystem in India. Hero MotoCorp has a track record of excellent vendor development based on the decades-long competence of the Hero MotoCorp Group in this area. Intensity of imports by OEMs is one indicator of self-reliance. In 2019 Hero MotoCorp's imports were just 5% of sales.

The dissolution of joint ventures meant the Indian OEMs could seek out the best and appropriate technology at competitive terms. One of the main reasons for Hero MotoCorp maintaining its lead, apart from its scale of operations, is a continued investment in R&D and product development. Post the split with Honda, Hero MotoCorp set up a new Centre of Innovation and Technology that attracted the best of talent from India and abroad to design and develop two-wheelers for Indian and global markets. The recently launched products by Hero MotoCorp are designed and developed indigenously.

An internal focus on R&D meant that Hero MotoCorp's royalty payments in 2013 decreased by 88% from what it was in 2010, while sales went up by about 50% in the same time period. However, the overhang of the joint venture resulted in a ballooned license fee that Hero MotoCorp had to pay Honda in 2014. Through a combination of outsourcing from independent technology sources like AVL and their own efforts, Indian two-wheeler OEMs have become self-sufficient in technology. For example, the DTSi engine in Bajaj Auto's Pulsar, developed in collaboration with Tokyo R&D, a Japanese company, is claimed to be the first in the world to incorporate twin-spark ignition into small bore engines of less than 600cc.

The domestic R&D ecosystem is another indicator of self-reliance. Among the Indian OEMs, TVS Motor has a track record for engaging with academic institutions for R&D. They were an enthusiastic supporter of the CAR programme, an industry academia consortium-based R&D programme in the Indian automotive sector initiated by the Principal Scientific Adviser to the Indian government in 2003. TVS Motor was an industry member in four of the ten CAR projects, the highest for any Indian automotive OEM. TVS Motor implemented a solution from a CAR project which tests the quality of single cylinder engines in the assembly line using acoustic and vibration inputs in their factory.

For the 20 years between 2000 and 2020 (till date), the Indian two-wheeler OEMs Hero MotoCorp, Bajaj Auto and TVS Motor have about 1,643 patent applications in the Indian Patent Office and about 478 granted patents. TVS Motor leads with 1,334 applications and 425 granted patents. It is interesting to note that Hero MotoCorp, that started its independent

R&D post their split in 2010-11 with Honda, has 159 applications while Bajaj Auto has 150 applications. While Bajaj Auto has 50 granted patents, Hero MotoCorp has 3.

But are the Indian OEMs global leaders yet?

Given that the Indian OEMs are dominating the world's largest motorcycle market and are self-reliant, how do we assess their ability to be globally leaders?

In an [article](#) in *Harvard Business Review* 20 years ago, Niraj Dawar and Tony Frost proposed a framework to describe the strategies of incumbent domestic firms in emerging markets that were thrown open to foreign competition. Indian motorcycle OEMs have all demonstrated that they can be effective defenders as per this framework—i.e. they have used the local advantages to successfully defend their turf against powerful foreign competitors. But a further check on the performance of the Indian motorcycle industry is with regard to how they have done in international markets.

Here the story is decidedly more mixed. Hero MotoCorp has a small footprint outside India. To some degree this is because Hero's erstwhile joint venture partner Honda did not allow exports to markets where they had an independent presence. Both Bajaj Auto and TVS Motor have a presence in several international markets, but leadership has been difficult to achieve. For example, Bajaj Auto has extended its domestic capabilities by expanding in two-wheeler markets that are slightly less sophisticated than India including Sri Lanka, Bangladesh and Nigeria, and garnering significant shares in these markets. In these markets, Indian OEMs have successfully positioned themselves as providing well-engineered value-for-money products. While Bajaj Auto has succeeded in Nigeria where it has successfully positioned itself as the bike of choice in the motorcycle taxi market, in Southeast Asia where at least in terms of engine capacity the market is similar to that of India, Indian companies have a small share of less than 3%.

Honda, a highly versatile company globally renowned as an engine specialist, continues to be the dominant player in Southeast Asia. The strategy of choosing appropriate engines from its central R&D and glocalising products puts Honda in a leadership position in the Southeast Asian two-wheeler markets. Honda is the market leader in two-wheelers in the large Southeast Asian markets of Indonesia, Vietnam and Thailand with close to 78% market share. Honda offers crossover (step-through) models that look like a muscular moped but with different country-specific styling features and with a common 110cc engine. Having factories in each of the three countries helps Honda to glocalise models. Honda is followed by Yamaha that has about 19% share in the Southeast Asian two-wheeler market. The Indian OEMs along with Chinese OEMs and Japanese OEMs like Suzuki and Kawasaki compete for the remaining 3% market share.

Moving from exports to local assembly has helped Indian companies in these countries, but Honda's dominance in terms of technology, product design, brand and distribution has been difficult to challenge. In our view, a market like Southeast Asia that is about 80% the size of the Indian market, has a broadly similar product preference to the Indian market in terms of

engine capacity, and has a higher per capita GDP than India, is a good test-bed for gauging global competitiveness.

In defence of the Indian OEMs, the addressable market in Southeast Asia is probably only the 10% of the entire two-wheeler market which comprises of motorcycles. The 90% that consists of the crossover market is currently not a focus for Indian OEMs.

Industry experts opine that there are two main reasons why the Southeast Asian market is no slam-dunk for Indian OEMs. First, the Japanese are historically entrenched in Southeast Asia for much longer and they understand the culture much better than Indians do. The top Japanese brands have an exalted status in Southeast Asia. They are revered there. Due to these path-dependent historical advantages, Japanese OEMs enjoy significant scale economies in these markets which constitute a formidable barrier to Indian OEMs. Second, though the popular engine capacity requirement is similar in India and Southeast Asia, there are huge differences in product preference. The Southeast Asian consumer is among the most sophisticated and evolved in their demand for superior styling and product aesthetics. Their preference for height, weight, manoeuvrability, and even engine sound is significantly different from that of Indian consumers. These challenges seem to suggest that the Indian OEMs may like to cement their position in the motorcycle segment, build a brand and understand the consumer psyche better before attempting to enter the larger crossover market in Southeast Asia. The question is will Indian OEMs be able to surmount these challenges and how long will they take. Or will Indian OEMs be content to just maintain the *status quo*?

Overall, Indian OEMs exported about 2.9 million two-wheelers in 2019, which was about 17.5% of the two-wheelers they sold overall. Bajaj Auto's share in the Indian OEMs' motorcycle exports was an impressive 59%. In 2019, Indian OEMs' import sales was about 271,000 motorcycles in Southeast Asia, the Chinese OEMs' import sales in Southeast Asia was about 1.46 million motorcycles (about 5.4 times sales of Indian OEMs in Southeast Asia) and Honda, the market leader, sold about 8.8 million units (about 33 times sales of Indian OEMs in Southeast Asia).

A recent [report](#) suggests that Bajaj Auto is keen to focus on the Southeast Asian market. It is setting up an R&D centre in Thailand to focus on glocalising and product aesthetics for the Southeast Asian market. Could this be a first-step to make a go at the large crossover segment in Southeast Asian markets? We will watch this development with interest!

Preparedness for future technology change could also be an issue for Indian OEMs. Though Indian motorcycle companies spend about 1.5% of sales on R&D, this is low by international standards. A peep into the future—two-wheelers are likely to be electric and at this stage of evolution the dominant form factor is a scooter and not a motorcycle. Indian two-wheeler OEMs have a modest presence in electric vehicles. They are following a dual strategy of developing their in-house models as well as picking up strategic stakes in electric two-wheeler startups. It will be interesting to see how Indian motorcycle OEMs work out their strategy for electric vehicles. The size of the electric two-wheeler market is less than 1% of India's overall market, but is doubling every year for the past two years.

Our conclusion is that the Indian motorcycle OEMs are *atmanirbhar* (self-reliant), and have done a stellar job in growing and defending the Indian market. But they still have some way to go before they can be called global leaders in terms of dominating the world's largest motorcycle markets outside India

The push for electric two-wheelers

Given the policy posture with the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME) I and FAME II, it is clear that the government is batting for electric two-wheelers in a big way. The rapid adoption via a policy is mellowed down by the Indian OEMs lobbying for more time to get their electric products ready. The Indian market for electric two-wheelers was about 130,000 units in 2019.

The form-factor of electric two-wheelers that is likely to dominate is of a scooter. First, scooters are mainly used for short commutes and this will fit well with the limited range provided by current battery technologies. Second, electric scooters provide a similar riding experience to gasoline gearless scooters. Indian OEMs are getting ready for the electric two-wheelers.

Hero Electric has launched scooters like Optima E5 and Flash E5. More interestingly, it has acquired a 30% plus stake in a promising electric scooter, Ather Energy. The Ather 450 scooter is also a connected scooter. Bajaj revived its Chetak brand to launch its electric scooter. They also started a separate Urbanite division to focus on electric vehicles and look into electric mobility-related business. TVS Motor launched its electric scooter called the iQube. It also has about 25% stake in an electric vehicle company, Ultraviolet Automotive. Ampere Motors, an electric scooter company owned by Crompton Greaves, sells its Zeal and Magnus models.

Honda, the current market leader in the Indian gasoline scooter market, has electric scooters in its portfolio but it is not sure when and how they plan to enter this segment. For example, Honda's PCX electric scooter sells as a lease only model in the Japanese market. There are a handful of other players as well, including the interesting Revolt Intellicorp (promoted by the founder of Micromax) that makes electric motorcycles the RV400 & RV300. These models are Chinese CKDs (complete knock downs) assembled in India just like the strategy Micromax followed in mobile phones.

Most of the electric scooter models launched in India have a range between 50 km and 75 km. Bajaj's electric Chetak has the highest range of 85 km to 95 km thanks a more powerful battery. It takes about 5 hours to fully charge the battery for the current models. Almost all the e scooters are connected vehicles via smartphones. They cost about Rs 100,000 and are almost twice as expensive as the basic model of Honda Activa which is India's largest selling gasoline scooter. It will be interesting to watch how the electric two-wheeler market evolves in the coming years.

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Rishiksha Krishnan is an author, columnist and professor of management who focuses on strategy, innovation, and education. He is listed in the Thinkers50 India list of most influential management thinkers from India.

Prof. Krishnan's book *8 Steps to Innovation: Going from Jugaad to Excellence* (co-authored with Vinay Dabholkar) won the Best Book Award for 2013-14 from the Indian Society for Training & Development. His earlier book *From Jugaad to Systematic Innovation: The Challenge for India* proposed a blueprint for how India can enhance its innovation output.

From 1996-2013, Prof. Krishnan worked at IIM Bangalore, where he held the Jamuna Raghavan Chair in Entrepreneurship from 2007 to 2010. After serving a five year stint from January 1, 2014 to December 31, 2018 as the Director of IIM Indore, he returned to IIM Bangalore and is currently Director of IIM Bangalore and Professor of Strategy there. He was educated at IIT Kanpur, Stanford University and IIM Ahmedabad.