

The Role of Innovation and Technology as Levers of Brand Equity in the Automobile Industry in India

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Abstract - Automobiles manufacturing is going to be one of the main drivers of 'make in India' initiative, as passenger vehicles market is expected to triple to 9.4 million units by 2026. From the customers perspective expectations of vehicle quality, reliability, safety, and utility are at an all-time high. at the same time, worldwide overcapacity has put pressure on the industry to maintain, and even reduce, vehicle price. In this context there is an increased focus on innovation and technology advancements to retain brand equity in this industry. The purpose of this article is to summarize the existing literature on innovation and technology in the Indian passenger car segment, the relationship between innovation and brand equity and the influence that brand equity has on the purchase decision.

Keywords - Innovation, Technological Advances, Brand Equity, Brand Loyalty, Indian Automobile Industry

I. INTRODUCTION

Brands have become very important parts of our economy and culture. A brand is a distinguishing symbol, mark, logo, name, word, sentence or a combination of these items that companies use to distinguish their product from others in the market. Legal protection given to a brand name is called a trademark. The concept of brand equity research has increased as brands are one of the most valuable assets of a firm. Innovation represents a primary determinant of brand equity (staake et al., 2009). Automakers spend more than \$100 billion globally each year on r&d, ranking the auto industry ahead of other technology driven industries.

II. LITERATURE REVIEW

Brands become effective signals of quality for the experience and credence attributes that further help in developing customer relationship with brand.

The model treats brand equity as a development process of brand relationship. The theory of brand resonance as proposed by Keller is based on four main influencing factors: behavioral loyalty, attitudinal attachment, a sense of community and active engagement. When a consumer is exhibiting all four brand resonance factors, they have the strongest relationship with the brand and provide even greater worth.

The importance of brand equity to a firm has been well documented by previous literature. Brands with high equity allow a firm to charge a premium price as well as garner a larger market share in relation to competitors.

The continuous technological innovation creates a competitive scenario where brand loyalty is nullified with the uninterrupted inflow of competitive product varieties and models and the brand resonance effect in terms of relationship that a consumer has with the product and the extent to which consumers feel that they are in sync with the brand gets alleviated.

Despite innovation, most new products do not find their place in the market.

At first, brand equity was conceived to be comprised of customers' identification of brand which contain brand awareness, image and knowledge. As mentioned previously, brand equity is considered as having of 2 elements - brand value and brand strength. The brand strength is our focus, which represents the brand identification held by the brand's consumers. In the 1990s, the subject of the brand equity came up as one of the most important fields of marketing management, according to Cathy et al (1995).

III. AN OVERVIEW OF CAR BRANDS AND INNOVATION IN THE INDIAN PASSENGER CAR SEGMENT.

A. Adaptive innovation -Two players- Hindustan Motors, and Premier Padmini.

The Indian passenger car segment was dominated by two adapted versions of old European designs, namely the Ambassador—a localized version of the Morris Oxford model manufactured by Hindustan Motors, and Premier Padmini. These two Indian companies hardly had any incentive to upgrade their technological strength from what they got under technological licensing. They only modified the imported models to local preference and Indian road conditions.

B. Indigenous manufacturing-monopoly power of Maruti Suzuki

The entry of Maruti Suzuki—a joint venture between Government of India and Japanese company Suzuki Motor Corporation in early 1980s did expand the local production base significantly. However, the monopolistic power of Maruti in the protected Indian automotive market was not conducive for comprehensive technological development in the sector. The Indian automotive sector under the pervasive regulation and protection (Katharina, 1996) mostly emerged as a virtual sellers market, with little incentive

for R&D and technology up gradation. Notwithstanding these negative impacts of restrictive policies, this pre 1990s phase saw Indian automobile companies being forced to go for local production rather than just assembling imported parts and this has created indigenous base in automotive sector, of course, with low technology and suboptimal scale of production.

C. Knowledge Transfer-international players

The period following the initiation of economic liberalization in 1991 represents the second phase in the growth of Indian automotive sector. The liberalization of policies like abolition of industrial licensing, automatic approval for inward foreign investment, technology imports and liberal approach to trade, put this sector on a dynamic process of technological learning at the firm level. AS a result of these liberal policies a number of international players like Hyundai, General Motors, Ford, Toyota, Daimler Chrysler, Mitsubishi, Daewoo, Mercedes Benz, entered the Indian automotive sector for manufacturing as well as for sourcing components for their overseas operations. Besides, expanding the size of the sector, entry of these new foreign firms had significant knowledge spillover on Indian automobile and component firms

For Indian owned automobile companies, since the mid-1990s the R&D efforts got a major push due to the imposition of stringent Euro norms requiring a quick up gradation of engine, and the intense market competition. The Indian vehicle producers have been able to design vehicles through international collaborations with design, development and engine firms, and are collaborating with Indian and foreign universities and R&D institutes.

Today Hyundai, Suzuki, BMW, Volkswagen, Audi, Mercedes Benz, Ford, Fiat, Honda, Chevrolet (of General Motors), Toyota, Lamborghini, Jaguar, and Skoda are the foreign automotive companies that manufacture and market their products in India.

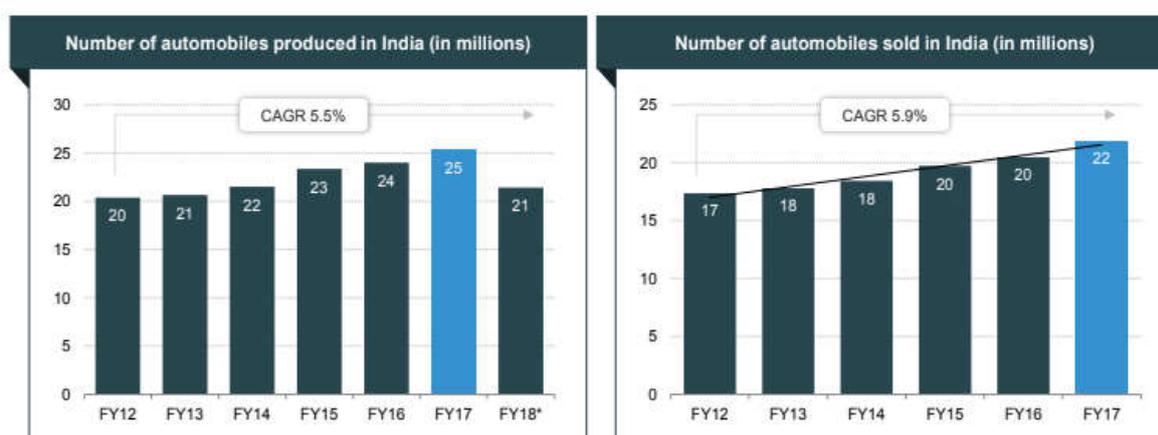


Fig.1.The graph brings out clearly the current market scenario of the automobile industry in India.

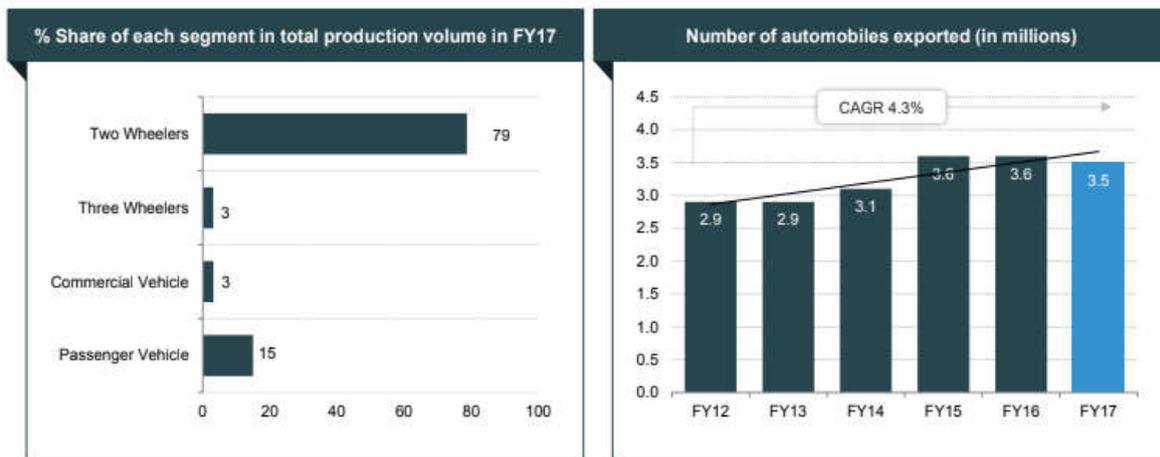


Fig.2.The graph shows the percentage share of each segment & ratio of automobiles exported.

The graph clearly indicates that passenger vehicles account only for 15% of the total market value thus showing the scope for greater expansion and penetration in the market. It would be interesting to look for data that would throw light on the urban and the rural divide for the 15% mentioned above. This would enable automakers to focus their attention on possible thrust areas to enhance market share.

IV. INNOVATION - FUTURE TRENDS IN INDIAN CAR MARKET

Electric car maker Tesla Inc. is likely to introduce its products in India sometime in the summer of 2017.

Several automobile manufacturers, from global majors such as Audi to Indian companies such as Maruti Suzuki and Mahindra & Mahindra, are exploring the possibilities of introducing driverless self-driven cars for India.

JustRide, a self-drive car rental firm, has raised US\$ 3 million in a bridge round of funding led by a group of global investors and a trio of Y Combinator partners, which will be utilized to amplify Just Ride's car sharing platform JustConnect and Yabber, an internet of things (IoT) device for cars that is based on the company's smart vehicle technology (SVT).

Ford Motor Co. plans to invest Rs 1,300 crores (US\$ 195 million) to build a global technology and business centre in Chennai, which will be designed as a hub for product development, mobility solutions and business services for India and other markets.

Cummins has plans to make India an export hub for the world, by investing in top components and technologies in India.

Ola Cabs may introduce a fleet of one million electric cars in partnership with an electric vehicle maker and the Government of India, which could help reduce pollution and thereby transform the electric mobility sector in the country.

The Government plans to promote eco-friendly cars in the country i.e. CNG based vehicle, hybrid vehicle, and electric vehicle and also made mandatory of 5 per cent ethanol blending in petrol.

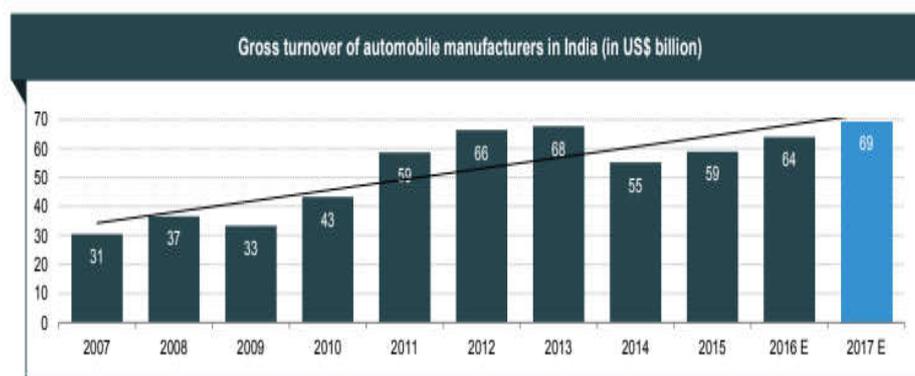
Mahindra & Mahindra targeting on implementing digital technology in the business

Tata Motors to launch MiniCAT, a car running on compressed air, thereby stepping into the next era where cars would not require any fossil fuel & emissions would be almost nil

By 2018, Hyundai is planning to enter the hybrid vehicles segment, to explore alternative fuel technology

Tata Motors - Disruptive innovation-Production of first indigenously designed CV, LCV Indica, India's 1st fully indigenous passenger car Launched Tata Nano Introduction of Megapixel, an electric vehicle

Maruti-Suzuki-Product portfolio comprising 16 passenger vehicle models to launch 6 new models by the end of this year. It is In the process of establishing Suzuki's largest R&D facility outside Japan.



Source: Society of Indian Automobile Manufacturers (SIAM), Aranca Research
Note: NEMMP - National Electric Mobility Mission Plan; E - estimate

Fig.3. The graph shows the gross turnover of automobile manufacturers in India.

The graph highlights the current trends in terms of turnover which has been on the path to study growth. Going by the trend one can visualize an accelerated rate of growth with higher economic growth and higher levels of income. The fact that the era of low interest rates are not far away means much brighter prospects for the passenger vehicle manufacturers.

V. INNOVATION AND BRAND EQUITY IN AUTOMOBILES BUYING

An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations (OECD/Eurostat, 2005).

A. Innovation Creates and Diffuses New Technologies.

There is a strong connection between innovation and brand equity. They are both significant dimensions that drive businesses today. Innovation represents a primary determinant of brand equity (Staake et al., 2009). When innovation lacks, consumers are likely to experience stress, irritation, annoyance, frustration, and sometimes even rage. These "symptoms" influence the way in which consumers evaluate the firm's innovations and have a negative effect on customer satisfaction. This leads to a loss of customers, a negative impact on the firm's brand equity, and damage to the firm's valuable brand assets (Liao and Cheng, 2014).

The brand THAT allows ownership of the innovation, adds credibility and legitimacy, enhances visibility, and supports communication. Concurrently, successful product/service innovations strengthen brand equity because they may reinforce and in some cases broaden brand meaning, help to revitalize brands and improve brand value and profitability. Positive brand equity triggered by state of the art innovations influences future cash flows (Srivastava and Shocker, 1991), merger and acquisitions decisions (Mahakam et al., 1994), and stock price movements (Simon and Sullivan, 1993). Furthermore, the advantages of strong brand equity include consumers' willingness to pay premium prices (Keller, 1993), maximizing shareholder value (Bick, 2009), and enhancing brand performance (OliveriaCastro et al., 2008). It has also been found to lead to more favorable customer reactions, such as increased satisfaction with recovery efforts (Hess et al., 2003). In contrast, when customers feel betrayed by a brand they are more likely to display unfavorable responses towards that brand and its innovation. The role of brand equity amplifies the effect of perceived betrayal, especially for the customers who have high brand equity. Thus, a crisis may generate stronger perceived betrayal in customers with high brand equity (Seo and Jang, 2013)

Brand Evaluation Of Car Brands Are Based On Their Direct And Indirect Experience With The Products That Constitute Those Brands. Consumers Evaluate Brands In Terms Of Product Excellence Relative To Their Total Ownership Cost More Than The Lifestyle Or Emotional Appeal Of Brand Image .Compared To Other Consumer Goods, In Which Equity Is Created Through Advertising And Promotional Efforts, Automotive Brand Perceptions Change Primarily Through Consistent And Sustained Changes In The Underlying Product Portfolio Which Makes Innovation A Must For Car Brands.

B. Quantifying Brand Equity

Valuation of intangibles is intrinsic to valuation of a firm in that sense it becomes a crucial factor at the time of negotiation during the process of merger or acquisition. Several attempts have been made to find a commonly acceptable method of quantifying these intangibles with special focus on brand equity. One school of thought proposed that incremental sales as a proportion of incremental asset value would form the basis for determination of brand equity but the other school proposed that brand equity could be the difference between the total market capitalization and net physical assets in a manufacturing organization or knowledge capital in case of service organization. Since innovation in product is likely to enhance top line and the bottom line , it is bound to impact the market capitalization of an entity. This in turn is likely to increase the value of brand equity for an organization. Hence the linkages between innovation, be it design or technology or ergonomics , for an automobile manufacturer is critical not only in terms of competitive positioning but also gives him a cutting edge cost advantage. The cause and effect dilemma as to whether brand equity determines market capitalization or market capitalization determines brand equity has been a matter of prolonged debate and has not been convincingly answered .It may be prudent to assume that while the former maybe the cause in the short term and the later may be the effect, one can reasonably assume that

they are the two blades of a pair of scissors. While one is active the other may be passive but both play an important role in determination of value.

VI. CONCLUSION

The Automobile Industry, Like Almost All Industries, Is Significantly Impacted By Technology. As Technologies Advance, So Do Their Applications In Automobile Design And Manufacturing. The Introduction Of New Technology In The Automobile Industry Therefore Offers Scope For Conducting Successful Market Research And For Achieving It Proper Application. Quality In Innovation And Technology In Automobiles Was Pioneered By America, Germany And Japan. The United States and More Recently South Korea. The Rapid Pace Of Technological Change In Today's High-tech Environment Has Enabled Many Developing Countries Like India To Emerge As A Potential Automobile Market Create Sizeable Market Segments Through Innovations Which Will Build Brand Equity And Be Competitive In The International Market.

REFERENCES

- [1] Larry J. Howell, *Innovation in the Automobile Industry: A New Era. Chemical Innovation, November 2000, P. 16-21.*
- [2] Davit Mkhitarian, *Determinants Of Brand Equity In Automobile Producing Companies In China, Wwww.Sciedu.Ca/Jbar Journal Of Business Administration Research Vol. 3, No. 1; 2014*
- [3] Evan Hirsh, Steve Hedlund, And Mark Schweizer, *Reality Is Perception: The Truth About Car Brands*
- [4] Jaya Prakash Pradhan And Neelam Singh, *Outward FDI And Knowledge Flows A Study Of The Indian Automotive Sector*
- [5] *Ibef- Indian Brand Equity Foundation Wwww.Ibef.Org*
- [6] Adrian Brunello, *Points Of View Customer-based Brand Equity – An Innovative Approach*
- [7] Amit K. Sinha, *Impact of Product Innovation in Building Brand Equity on Consumer's Choice with a Focus on Brand Resonance, International Journal of Innovation, Management and Technology, Vol. 8, No. 6, December 2017 pp 482-487*
- [8] Tanmay Chattopadhyay, Rudrendu Narayan Dutta, Shradha Sivani, *Media mix elements affecting brand equity: A study of the Indian passenger car market, IIMB Management Review, Volume 22, Issue 4, December 2010, pp 173-185*
- [9] Mr. Mukesh B. Ahirrao, Dr. D. S. Patil, *Customer Based Brand Equity in Relation to Automobile Brands: A Review of Literature, International Journal of Scientific Research and Review, Volume 7, Issue 2, 2018, pp 45-53*
- [10] Davit Mkhitarian, *Determinants of Brand Equity in Automobile Producing Companies in China, Journal of Business Administration Research, Vol. 3, No. 1; 2014 pp 38-44*
- [11] A. E. Pitcher, *"The role of branding in international advertising," International Journal of Advertising, vol. 4, pp. 241-246, 1985.*
- [12] T. Erdem, J. Swait, and A. Valenzuela, *"Brands as signals. A crosscountry validation study," Journal of Marketing, vol. 70, no. 1, pp. 34-49, 2006.*
- [13] K. L. Keller, *"Building strong brands in a modern marketing communications environment," Journal of Marketing Communications, vol. 15, no. 2/3, pp. 139-155, 2009.*

- [14] C. J. Simon and M. W. Sullivan, "The measurement and determination of brand equity: A financial approach," *Marketing Science*, vol. 12, no. 1, pp. 28-52, 1993.
- [15] K. L. Keller, *Strategic Brand Management*, 4th ed. Pearson Education, Inc., 2013, pp. 120.
- [16] S. Srinivasan, K. Pauwels, J. Silva-Risso, and D. M. Hanssens, "Product innovations, advertising, and stock returns," *Journal of Marketing*, vol. 73, no. 1, pp. 24-43, 2009.
- [17] Cathy J. Cobb-Walgren, Cynthia A. Ruble. (1995). *Brand Equity, Brand Preference, and Purchase Intention*. *Journal of Advertising*, Vol. 24, N 3, pp 25-40. <http://dx.doi.org/10.1080/00913367.1995.10673481>