CONSIDERATIONS IN PRODUCT DEVELOPMENT

Emissions and safety regulations played an important role in product-development decisions. For safety, all new vehicles were required to comply with offset-and-crash regulations starting in 2017.[5] Therefore, any new product (conceived in 2013, for example) had to be compliant with these mandates, which added to the vehicle cost. Automakers could either reduce cost in some other areas or pass the cost on to the customer. However, increased competition in the industry was putting a counter pressure on automakers to lower the price of cars. This difficult situation made the choice of product features and other issues of the product design even more critical.

Fuel prices had increased (and continued to increase) across the globe. India was dependent on oil imports and it faced additional pressure because of regular devaluation of its currency. Consequently, the price of petrol had increased from ₹40 per litre in January 2009, to ₹66 per litre in March 2013. In the same period, the price of diesel had risen from ₹30.8 per litre to ₹48 per litre.[6] As a result, for economic reasons, customer preference shifted towards diesel vehicles.

The Government of India had been experiencing a fiscal deficit and a considerable part of it was because of the oil subsidy. The government had tried to reduce the subsidy but faced political hurdles. It had deregulated petrol prices in 2012, and had shown increasing intent on reducing the subsidy on diesel. MSIL management expected the gap between petrol and diesel prices to remain in the future (considering the government's political compulsions); however, the extent of such subsidy and the consequent gap in prices was hard to predict.

Diesel engines were associated with higher levels of noise, vibration and harshness, high maintenance costs and higher emission levels. However, diesel technology had improved significantly since 1980. As a result, diesel engines in cars were much more refined, with lower noise, vibration and harshness, higher fuel efficiency and lower emissions, thereby improving acceptance and sales of diesel models versus petrol cars. In the MSIL product lineup, the share of diesel vehicles was around 80 per cent of MSIL product sales (including models like the Swift and the DZire). The MSIL team estimated that the number of diesel models in the industry had increased from around 30 in 2009, to more than 50 in 2013. Global auto majors such as Honda and Hyundai, which were primarily focused on petrol models, had started to shift their focus to diesel — especially for the Indian market. The MSIL team had information that Hyundai and Honda planned to launch diesel products in India in 2014.

Diesel cars cost slightly more than petrol models to produce and greater taxes were levied on them, making them around 20 to 25 per cent more expensive than comparable petrol versions; however, they were approximately 15 to 20 per cent more fuel efficient than petrol versions. Thus, only heavy users (i.e., customers who drove more than 30,000 kilometres per year) found it economical to use diesel vehicles, as the savings in fuel cost offset the other costs.

PRODUCT CHOICE DILEMMA

The entry-level hatch segment was a "consumer pull driven product," in 2003, but by 2013, it had evolved into a "channel push driven product." Consumers did not have a thorough understanding of the segment's technological complexity. With greater choices available in terms of models, features and brands, sales representatives had a significant role in influencing these choices. For this reason, manufacturers were wooing customers with promotional schemes (sometimes as high as 20 per cent of the car price) and compensating their trade channels with hefty sales-linked incentive schemes. This phenomenon was more prevalent in urban markets than in rural markets, which could be attributed to the higher intensity of competition in these regions. MSIL's team felt that targeting the right consumer segment and designing appropriate features and benefits were critical components for the success of any product.

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[5] *A crash test was a form of destructive testing, usually performed to ensure safe design standards in crashworthiness and crash compatibility. Frontal impact tests were conducted on a solid concrete wall at a specified speed, but could also be vehicle-vehicle tests.*

[6] *SoftUsvista, "New Delhi Petrol Price," www.mypetrolprice.com/2/Petrol-price-in-Delhi?FuelType=0&LocationId=2, accessed September 8, 2015.*

MSIL's product development team had developed the following qualitative descriptions of the A-segment target consumers:

Entry-level hatch consumers:

- Mostly first-time buyers.
- Very price sensitive; concerned with fuel efficiency.
- Annual household income of ₹300,000 to ₹500,000; aged 30 to 34 years with a family of one or two children.
- Used car perceived as a convenience; satisfying basic travel needs for family.
- Usually satisfied with basic car features and already owned a motorcycle, which would continue to be used in addition to the car.
- Had been initiated to the MSIL vehicle since childhood and aspired to own one when they grew up.

Mid-level hatch consumers:

- First-time as well as additional car buyers looking to upgrade to a more expensive product out of necessity.
- Annual income of ₹400,000 to ₹800,000; aged 25 to 30 years; typically unmarried or, if married, no children.
- Used vehicle for recreation and to project identity and communicate social status (hence, brand conscious, though not necessarily looking for a contemporary brand).
- Accepted MSIL as a very good brand and acceptable from the perspective of image association.

Premium-hatch consumers:

- Had already owned a car for at least three years; hence, additional car or replacement car buyer.
- Annual income of ₹400,000 to ₹1 million; aged between 30 to 45 years, had a nuclear family with husband, wife and one or two children.
- Very brand conscious; considered vehicle as a product to build social status.
- Mostly employed as managerial staff in urban areas or self-employed in rural/semi-urban areas.
- Looked for international brands to project a contemporary image.

Generally, the product lifecycle of a successful automobile model was approximately six years, with at least two changes in its external design and internal features during these years. Based on past trends, any new MSIL product needed to sell 100,000 to 250,000 units (depending on its price and associated margins) to recover the required investments and to be considered successful. By estimating market price and production costs, the product-planning team determined that the entry-hatch would require minimum sales of 300,000 vehicles per year to break even in two years, while the corresponding sales figures for the mid-level hatch and premium-hatch were 200,000 and 150,000, respectively.

Design-direction, platform-selection and product-making philosophies were dependent on the selection of features and benefits to be incorporated into the new product. It was not possible to design one product that could cater to the needs of customers belonging to different segments. Hence, trade-offs had to be made; for example, if more power was required, fuel efficiency had to be reduced. In this way, the product had to be designed and optimized for a particular sub-segment of the A-segment to ensure that it met the design specifications. Therefore, the target segment and product design brief needed to be absolutely clear before the design conceptualization stage.

MSIL enjoyed economies of scale across the value chain. Higher sales volumes reduced per-unit overheads, reduced raw material, procurement and logistics costs, and improved efficiency in production, distribution and marketing. For example, because of MSIL's high sales (the brand was very popular, and was considered to be sturdy and reliable), the company's per unit advertising costs were the lowest in the industry. Though it had Suzuki as a major stakeholder, it was perceived to be an Indian brand; however, it lacked the status and technology image enjoyed by many multinational brands. Similarly, the impact of word of mouth was also expected to be favourable for MSIL compared to its competitors — particularly in cities beyond the top 50 (in terms of total car sales).

The technology platforms for the petrol and diesel vehicles were entirely different. The product planning team had to decide whether the chosen design was for a diesel engine, a petrol engine or both. The team had access to some trends in the industry about the fuel preference of the market (see Exhibit 11). It also had to consider the specific positioning of the proposed product, and its impact on the other MSIL products. The team decided that the best way to visualize the product positioning would be to use the Boston Consulting Group (BCG) matrix of MSIL's existing product portfolio (see Exhibit 12).

A summary of the product alternatives was developed (see Exhibit 13). The choice before the team was basically in terms of product and market. Was MSIL better off battling the competition in the top 20 cities (where the maximum action was) or should it fortify its position in smaller markets? Or should the company try to develop entirely new markets? From a strategic point of view, would a premium-hatch add significantly to the brand image and channel motivation as compared to an entry-level hatch? Was there merit in projecting a mid-level hatch product, which could redefine consumer expectations and be positioned on higher space and fuel economy? Would the entry-level hatch segment have to be merged with the mid-level hatch segment because of the cost pressures of regulatory compliances? What was the probable profit potential of each category? The product planning team needed to work out the figures and make a recommendation.

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EXHIBIT 1: DETAILS OF THE SEGMENTS IN INDIAN CAR MARKET

Segment	Products	Price range in ₹	Consumer Requirement	Specific Attributes
Entry-hatch	MSIL Alto 800, MSIL Alto K10, Tata Nano, Hyundai Eon, Chevrolet Spark	200,000 – 300,000	Functional and basic	Price point driven and yet value for money; good fuel efficiency and affordable price
Mid-hatch	MSIL Wagon-R, MSIL Zen-Estilo, MSIL A-Star, Hyundai i10, Chevrolet Beat, Ford Figo, Tata Indica, Honda Brio	300,000 – 400,000	Value for money for more evolved consumers	Value for money over the entire lifecycle
Premium-hatch	MSIL Swift, MSIL Ritz, Hyundai i20, VW Polo, Nissan Micra, Toyota Liva, Tata Indica Vista	400,000 – 550,000	Stylish, convenient and efficient	Style, interior space and convenience
Sedan	Honda City, Hyundai Verna, MSIL Swift Dzire, MSIL SX4	Basic: 550,000 – 1.1 million Luxury: 2.5 million and upwards	Status and comfort	Brand image, technology and sophistication
SUV/MUV	SUV — Mahindra XUV500,Honda CRV, GM Captiva, Toyota Fortuner, MUV — GM Enjoy, Nissan Evalia, Toyota Innova, MSIL Ertiga	900,000 – over 2 million	Adventure, extended family and people carrier	Power, utility and versatility
Van	MSIL Ecco, Tata Ace Magic	250,000 – 400,000	People carrier	People carrier

Source: Company materials.

EXHIBIT 2: SALES OF PASSENGER CARS (IN '000 CARS)

	2008/09		2009/10		2010/11		2011/12		2012/13	
Segment	INDIA	MSIL	INDIA	MSIL	INDIA	MSIL	INDIA	MSIL	INDIA	MSIL
Entry-hatch	294.5	262.0	340.9	268.2	478.4	373.3	486.7	331.5	435.1	284.6
Mid-hatch	497.6	188.8	581.2	218.7	628.8	252.1	527.4	177.3	415.1	156.2
Premium-hatch	128.2	110.1	262.7	179.3	438.9	209.6	499.8	218.3	531.8	244.0
A-Segment (total)	920.2	560.8	1184.8	666.2	1546.0	835.0	1513.9	727.1	1382.0	684.9
Sedan	247.0	75.9	302.5	99.3	415.3	131.4	492.7	128.6	491.8	176.5
SUV/MUV	202.5	7.5	240.9	3.9	297.8	5.7	347.3	6.5	538.5	79.2
Van	106.6	77.9	150.3	101.3	213.5	160.6	227.8	144.1	230.8	110.5
Total Car Industry	1,551.2	722.1	1,949.2	870.8	2,520.4	1,132.7	2,629.8	1,006.3	2,686.4	1,051.0

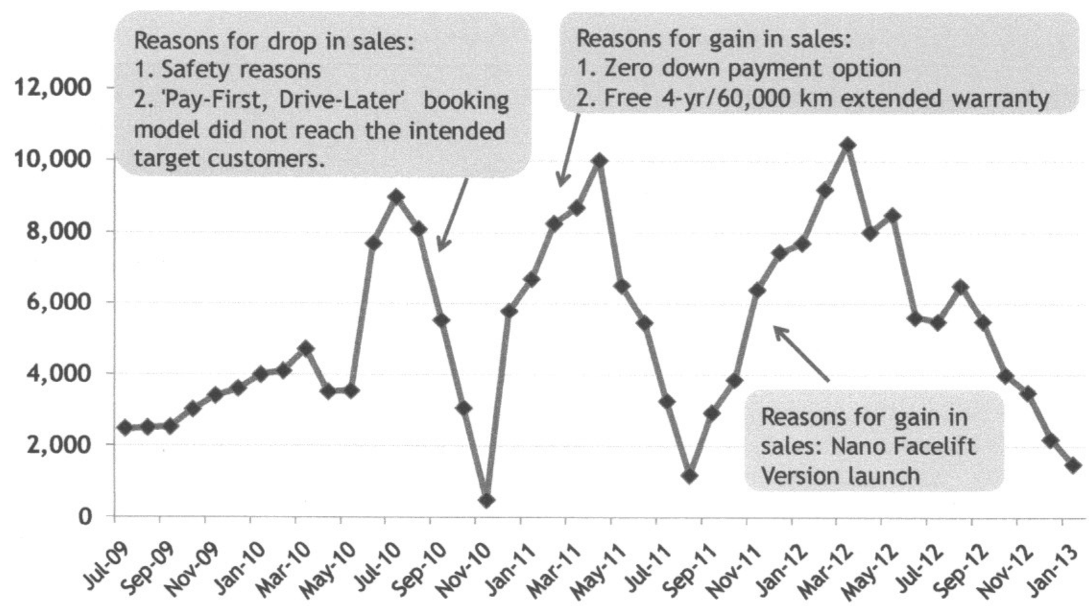
Source: Company materials.

EXHIBIT 3: YEAR-WISE MARKET SHARE PROJECTIONS OF MAJOR CAR MANUFACTURERS IN INDIA*

	Year				
Manufacturer's name	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**
MSIL	46.51	44.63	45.28	38.27	39.12
Hyundai Motor India Limited	15.72	16.14	14.37	14.78	14.28
Tata Motors Limited	14.86	14.65	13.96	14.12	11.71
Mahindra and Mahindra Ltd.	6.85	7.72	7.2	9.34	11.57
Toyota Kirloskar Motors Pvt. Ltd.	3.02	3.27	3.36	6.09	6.16
General Motors India Pvt. Ltd.	3.96	4.46	4.28	4.08	3.28
Ford India Pvt. Ltd.	1.8	1.89	3.94	3.52	2.87
Honda Cars India Ltd.	3.38	3.17	2.38	2.07	2.74
Volkswagen India Pvt. Ltd.	0	0.21	2.06	2.98	2.44
Renault India Pvt. Ltd.	0	0	0	0.14	1.95
Nissan Motor India Pvt. Ltd.	0.01	0.02	0.52	1.26	1.38
Skoda Auto India Pvt. Ltd.	0.89	0.9	0.92	1.3	1.08
Others	3	2.94	1.73	2.05	1.42

**All figures are in percentages.*
Source: Company materials.

EXHIBIT 4: TATA NANO SALES FIGURES AND SOME EXPLANATIONS



Source: Industry estimates compiled by case authors based on the research inputs made available by MSIL's research wing.