CASE STUDY

Product Warranty a Liability or a Competitive Differentiator : Mehta's Quandary

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"Consumer confidence in an industry can be a very fragile thing. It only takes a few builders who promise but do not deliver, who cheat rather than perform, who delay until the warranty expires rather than repair, to damage the reputation of an entire industry" – Author: Virginia Harrington Knauer, Former Attorney General of Pennsylvania, USA.

Abstract

Product warranty is one of the most important features that would have influence on the consumer buying decision. Majority of the business firms would invest lot of time and other resources in drafting and implementing a good warranty policy. The current case is aimed to provide a bird's eye version of product warranty related deliberations in a car manufacturing company. The major deliberations of Mr. Indrajit Mehta with other top executives in connection with revising the existing warranty policy of HPMILP is the crux of the case. Perspectives of different functional heads are presented in the case. The participants in the case discussion are likely to weigh pros and cons of the different ideas on product warranty. The deliberations on product warranty from different perspectives would be a beneficial exercise and would help the participants in framing future policies for their own firms.

Keywords: Product Warranty, Warranty Quality, Warranty Agreement and Consumer Buying Behaviour

INTRODUCTION

Background of HPMILP and Indrajit Mehta

Horsepower Motors India Limited (HPMILP) is

India's prominent mobility solution provider and is the Indian subsidiary of Horsepower Global Limited (HPGL).ⁱ Due to the global promoter's interest in the Indian project, HPMILP has a state-of-art-manufacturing plant in Chennai, Tamil Nadu.ⁱⁱ HPMILP caters to Indian customers and is also the

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export hub for HPGL. HPMILP currently caters for the market with eight car models across segments. HPMILP operates with the support of approx. Four hundred fifty dealers and nine hundred service points. Inspired by the global happening, HPMILP has invested huge capital in R&D and has an analytically powered Center of Excellence (CoE), which regularly comes out with path-breaking ideas, the latest being the new model of Electric Car.

As it is a usual practice in the automotive industry, even HPMILP has faced the issue of car recalls during 2018. Approx. three hundred thousand vehicles were recalled due to some engine fire issues. However, the company made sure that brand equity and customer loyalty were not impacted due to these recalls.ⁱⁱⁱ FY 2019 and 2020 have passed away without significant growth for every economic sector, which applies to HPMILP.^{iv} Due to a ray of hope in FY 2021, HPMILP started to think of growth strategies and actionable plans. In this direction, huge capital investment is being made alongside a need-based recruitment drive. In line with this expansion plan, few recruitments were made, and Mr. Indrajit Mehta is one of them.

Indrajit Mehta (from now on Mehta) is a 24-year-old PGDM graduate from IIMK, Kozhikode. Mehta specialized in accounting and finance and dreamed of becoming an entrepreneur. To gain corporate exposure, Mehta joined HPMILP as a junior accounts manager under the supervision of Mr Chary, who is the senior-most accounts professional in the corporate office. Chary is considered multi-talented and is generally is part of the strategic committees of HPMILP. Till-date Chary was instrumental in framing and monitoring the warranty programs at HPMILP. In addition, Chary and the team provide select warrant data to the internal and external users.^v Due to the recent product recall and its financial consequences on HPMILP, senior management has suggested that Chary and the team revisit the 'warranty policy' and propose any amendments (if required). The team to revise the warranty policy consisted of executives from various

functions such as legal and marketing. Against this backdrop, Chary has suggested that the HR team assign Mehta as his team member for revisiting and revising the warranty policy. Moving forward, Chary and his team (including Mehta) were required to review the existing warranty policy/agreements and revise it (to be further discussed by the Board) based on the present industry trends and HPMILP's vision to launch a new variant of cars.

The first task that Mehta has been assigned is studying the current warranty agreements and comparing the agreements with other top car manufacturers in India and abroad. To boost the process, Chary has shared with Mehta the website link of warranty terms comparative analysis offered by Indian car manufacturers.^{vi} Having the dream to move up the corporate hierarchy, Mehta took this assignment very seriously and wanted to comprehend the warranty policy framework methodically. Moreover, Mehta wanted to impress Chary with his systematic and productive work. This is the starting point for many of Mehta's doubts. Even though these doubts look trivial from an expert's standpoint, they could be complex for a recently passed out management graduate.

OBSERVATIONS OF MEHTA

To date, Mehta used to understand the business from the customer point of view. During his college days, Mehta has utilized the benefit/cover of both embedded warranty of the manufacturer and extended warranties on electronic gadgets and his car. However, Mehta never got into the shoes of the manufacturer/dealer/seller and understood how product warranty works.^{vii} While attending the accounting session at IIMK, he heard the concept of 'Warranty' while the professor discussed recording and reporting contingent liability.^{viii} Mehta also remembers that validated estimates have to be made for creating long-term provisions such as reserves for product warranty.^{ix} Further, his marketing professor also used to refer to 'Warranty' as a part of the marketing strategy for manufactured products.^x

Now being in HPMILP, he has to be a part of the review team to revise the warranty policy from the manufacturer's perspective.

Based on preliminary web research Mehta understood that product warranty has to be understood from many dimensions apart from repairing or replacing the malfunctioning components. Against this backdrop, Mehta now knows that warranties have implications for accounting, marketing engineering and even relationship with dealer networks. Mehta has come across the concepts that required some clarification from accounting and marketing experts in the process. To have a track of his work, Mehta has noted down the critical queries that required clarification from two functional experts: a) Mrs Seema (In-Charge of Marketing and Creative Function) and b) Mr Reddy (In-Charge of Accounting & Finance). After informing Chary, Mehta approached both the functional experts for an appointment and successfully got their time and valuable inputs during the discussion. Mehta has summarized the discussions with the two functional heads as follows:

INSIGHTS FROM MRS SEEMA

Mehta met Seema on a Friday afternoon, where she was relatively relaxed and was in a mood to have an informal discussion and share her experience. After understanding that the present product warranty is due for revision and Mehta wanted to get the marketing perspective of the product warranty, Seema started off to share her views.^{xi} The first and foremost point that Seema tried to reason out with Mehta is significant factors that influence purchase decisions concerning automobiles. Next, she deliberated on how product warranties would help consumers narrow down their purchasing options and stated that they would help reduce perceived risk.^{xii} According to Seema, the consumer looks for cues to justify the purchase and promotes satisfaction through dissonance reduction.^{xiii}

Seema also stated that for a long time, there was no specific study conducted for HPMILP regarding how product warranties operated in combination with other extrinsic and intrinsic product cues to impact consumer decision making and purchase behaviour. Therefore, Seema felt that there was a need to conduct a primary data survey on consumer perception of product warranties before revising the warranty agreements. She elaborated that along with understanding the conjunction (interaction effects) between the price of the product-product warranties-other extrinsic and intrinsic cues, a segment of the primary data survey instrument (questionnaire) should focus on 'Warranty Quality' (WQ) and HPMILP's reputation as warrantor.^{xiv}

Alongside the primary data collection and analysis, Seema suggested to Mehta to gain some insights from the research done by the marketing team concerning consumer grievances. In addition, Seema feels that clues regarding the reputation of HPMILP as a warrantor could be gained from this data.^{xv} Seema felt that alongside the customer grievances data, analyzing the data of supplier is also needed. Seema mentioned that the warranty claims recovery from component suppliers in few instances was not up to the mark. Seema also suggested to Mehta to have a full-length deliberation with Chary on the cost-benefit analysis of upgrading or replacing warranty management software that HPMILP is now using.^{xvi} To help Mehta, Seema assured that by coming Monday, she would mail the analysis of consumer grievances.

After listening to Seema's views on product warranties, Mehta had few queries regarding product warranties for upcoming innovative products of NPMILP such as hybrid and electronic cars. Seema did not have any conclusive response for this query but stated that product warranties do signal high product quality to the buyer. However, Seema noted that she did not have statistical data to back her view of product warranties on innovative products.

In continuation of her discussion, Seema agreed that the manufacturer's warranty does have a positive impact and is a major input for forming marketing and competitive strategies. To give currency to her opinion, Seema made a passing observation of how in 2007, Chrysler stimulated the industry by announcing a warranty for a lifetime and how Hyundai has stimulated the sales by altering the warranty policy from 5 yrs. / 60,000 miles to 10 yrs. / 100,000 miles.^{xvii} On the contrary, Volkswagen has revised the warranty terms by reducing 10 yrs. / 100,000 miles warranty to 5 yrs. / 60,000 miles and this change resulted in the loss of market share.^{xviii}

Seema mentions that over some time, manufacturers and dealers are offering more extended warranty periods, and a lifetime warranty could be a new norm in the automobile industry. However, Seema was unsure whether revising warranty terms alone would work in the Indian background and how much it would cost for HPMILP to announce and implement these initiatives. In this backdrop, Seema opined that a lifetime warranty option on all models of HPMILP would be favouring the revenues. After thanking for the time and hospitality provided by Seema, Mehta, while driving home, was thoughtful of Saturday's lunch-on session with Reddy. Mehta felt that Seema's marketing perspectives on product warranties clubbed with accounting viewpoints of Reddy would be the building blocks for the final meeting with Chary on coming Wednesday.

LUNCH-ON CONVERSATION WITH MR REDDY

Mehta has got to know that Reddy loves Chinese dishes, which is why Mehta has invited Reddy to Mainland China Restaurant for lunch. Reddy arrived on time, and during the initial discussion, Mehta shared the significant observations made by Seema regarding the product warranty. After listening to these observations, Reddy's immediate reaction was that the marketing team has a minor concern for the cost and accounting implications of providing a high-end warranty policy. Reddy says that a product

warranty is needed and agrees that customers prefer a well-designed product warranty while making the buying decision. However, Reddy stated that product warranties have consequences for both income statements and position statements.^{xix} Reddy mentions that sometimes the claims cost may exceed the provisions made for contingencies (such a product warranties) and how that situation would impact the profitability.^{xx}

Referring specifically to HPMILP, Reddy stated that in the recently conducted online dealer Conference in 2020, dealers expressed unhappiness over a noteworthy increase in the warranty failures and expenses. According to Reddy, one of the primary reasons for the increase in warranty failures is the improper selection of few component suppliers. Reddy has also mentioned that NPMILP's cars have a free warranty period ranging from 2 years to 6 years, and in the case of few models, the free warranty period is more than the warranty period of competitors in that segment.

On being requested to do so, Reddy has explained the accounting process adopted for recording and reporting warranty expense and liability. According to Reddy, when a product is sold with a warranty, the seller's liability begins, and by applying the matching principle of accounting for the warranty, the expense has to be estimated and recognized in the period when the sale has happened. In addition, Reddy mentioned that HPMILP recognizes warranty provisions at a specific balance sheet date by applying the discounting concept of the time value of money.^{xxi}

Warranty cost/expense/liability depends on estimates, and anyone involved in understanding product warranties is expected to comprehend few methodologies used in warranty management. Against this backdrop, to make Mehta understand the finer points for estimating warranty cost, Reddy has given a helicopter view of Failure Mode and Effects Analysis (FMEA) and Failure Mode, Effects & Criticality Analysis (FMECA) procedures.^{xxii} Reddy

has pointed to Mehta that Chary was an expert in product warranties; hence Mehta should further deliberate with Chary on allied topics like reliability and failure rates.^{xxiii} These concepts are technical, but understanding them would help Mehta understand the 360-degree view of warranty management.

One query from Mehta for which Reddy was not comfortable answering was the possibility of using estimation of warranty reserve for earnings management. To this query, Reddy has stated that the scope of the present discussion on the revision of product warranty agreements is not related to 'Earnings Management'.^{xxiv} However, Reddy agreed that equity analysts would track the warranty liability while conducting a fundamental company analysis. In addition, Reddy mentioned that the warranty reserve, a contingent liability, is an implicit signal to the stock market on the company's future performance.^{xxv} Without directly stating in clear terms, Reddy reluctantly agreed that warranty accruals need an estimation of upcoming claims, and this is where there is a scope of earnings management.^{xxvi}

When quizzed about the metrics on which the effectiveness and efficiency of the warranty policy could be determined, Reddy mentioned that there were few vital metrics in this regard.^{xxvii} However, Reddy stated that he would prefer to track and analyze the percentage of warranty cost to sales as a very convenient measure in warranty management. Reddy also mentioned that the warranty cost to sales percentage should be zero in a very idealistic (not practical) situation. However, this perfect situation could be achieved, provided the firm has a high-quality research and design process clubbed with zero-defect manufacturing processes. Reddy mentioned that the zero-defect product may not be practical due to dependence on component suppliers. Reddy point out that in few situations, the warranty claim would be activated due to the defective parts from some supplier in the value chain. Thus, identifying the problems that lead to the warranty claim and fixing it at the root level for the

subsequent production batches is the key to success. Reddy stated that to better understand the root causes of warranty claims, huge Capex has to be invested in high-end predictive algorithms and automating the entire value chain. Reddy mentions that this is all a trade-off between investment in R&D and servicing the claims. On a conclusive note Reddy personally opines that 'product warranty is a more of a liability than a competitive differentiator'.^{xxviii} Reddy states that until the R&D has gone to a stage of providing a zero-defect product deliberating on lifetime warranties or longer-period warranties would be a compromise on the bottom lines of the HP MILP.

MEHTA'S TASK AHEAD

After taking leave from Reddy, Mehta headed back home with mixed reactions. On the one hand, he felt excited that he could understand major marketing and accounting issues in warranty management, but on the other hand, he thought that he needed to get few more critical inputs from technical experts and data scientists of NPMILP. As of now, Mehta is yet not able to strongly opinion whether product warrant should be treated as a stimulus to marketing strategy or warranties should be considered an expense and liability. On the personal front, Mehta felt that he has learnt that he should be more careful in seeking information and not to go in for some uncomfortable questions such as the possibility of earnings management. On the whole, Mehta feels that he is full of information and is looking forward to learning from Chary and his other team members during the meetings held to revise warranty policy/agreements of NPMILP.

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POINTS FOR REFERENCE

- I. Names of the Holding and Subsidiary Companies are fictitious and do not resemble any operating business entity. The theme for the case has been conceptualized based on some personal interactions with eminent engineers in the automotive industry.
- II. Chennai is considered the 'Detroit of India' because Chennai is the base for 30% of India's automobile industry and 35% of the automobile component industry (Wikipedia, n.d.).
- III. The strategic team of HPMILP is very proactive concerning the Brand Image of the Company. To quote a very recent example, HPMILP proudly claims that it was the first automotive company in India to announce the extension of the warranty period during lockdown that has benefited many customers from getting out of lapsed warranty policies. Apart from the unlock process started, HPMILP was the first car manufacturer to re-start the program of service-on-wheels such that as far as

- possible, the cars are serviced at the doorsteps of the car owners (with all C'COVID-19 precautions in place).
- IV. The year 2019 has been one of the scary years for the automotive industry in India. Society of Indian Automobile Manufacturers (SIAM) data shows that in 2019 the automobile sales decreased by 13.8 per cent.
  - V. Warranty data is critical in pinpointing systematic failure; proper analysis of the failed component is required to establish the root cause of the product failure. Generally, warranty data is classified into three categories: a) incident-based data, b) rate-based data, and c) warranty data with the month of production/ months in service (Smith & Miller, 2005).
  - VI. Japanese car manufacturer Toyota offers one of the best Comprehensive Warranty Solutions' and a premium extended warranty. On the other hand, car manufacturers such as M&M, Tata Motors, Ford India and Volkswagen are reputed due to kilometre based warranty terms (up to 100,000 km) (Paul, 2016).
  - VII. In simple terms, the manufacturers' warranty which is a part of vehicle cost, covers only specified problems with the vehicle/product. On the other hand, service contracts or extended warranties purchased at an additional cost typically cover mechanical and electrical parts not covered by manufacturers' warranty.
  - VIII. AS 29 (as per the revision of 2016) defines a Contingent Liability. Therefore, extended warranties are optional (CFPB, 2016).
  - IX. Mehta remembers that he and his teammates discussed AS 29 – Provisions, Contingent Liabilities and Assets while presenting an accounting case study.
  - X. In the present-day competitive World, the product warranty is becoming an essential component of competitive strategy. The sales, market share, top-line and bottom-line of many businesses are impact by the nature and scope of product warranties. From management's perspective, express warranties have two principal objectives: promotion and protection (Udell & Anderson, 1968).
  - XI. Ms Seema's research work during her masters was on the impact of Intrinsic and Extrinsic Cues on the Customers' Perceived Risk – (With Specific Reference to the Automobile Sector).
  - XII. A focused study on product warranties and perceived financial or operational risk showed that product warranties positively impact purchase decisions because product warranties reduce the perceived risk (Kelley, 1987).
  - XIII. The marketing strategies are formed after careful analysis of consumer buying behaviour and perceived value. Many marketing theories are developed to explain and predict consumer perception of value. Based on the theories, it is generally advocated that perception of value is usually formed based on an array of cues. These cues are used to evaluate the product. These cues could be intrinsic or extrinsic. Product warranty is one of the most popular extrinsic cues. Past studies show that the low-scope-cue, such as product warranty, is comparatively more diagnostic when a minimum of one high-scope-cues such as manufacturer reputation is positive (Ullah, 2011).
  - XIV. Warranty Quality (WQ) represents the adequacy of coverage and protection offered. It is generally postulated that the higher the WQ, the less is the perceived risk of buying a product. Further, Warrantors Reputation (WR) is the concept which deals with source credibility. In this regard, it is hypothesized that the higher the WR, the lower the consumer's perceived risk (Shimp & Bearden, 1982).
  - XV. A close relationship between grievance policy and product warranties exists.

Therefore, manufacturers should monitor consumer grievances to take clues for revising product warranty agreements (Kendall & Russ, 1975).

- XVI. Manufacturers are trying to leverage the power of warranty management analytics to get insights into the ever-changing expectation and demands of the consumers. This high-end analytics-based software is helping to provide a seamless flow of information among all the stakeholders, such as automotive OEMs and suppliers. Due to these software capabilities, supplier collaborations and warranty forecasting have become more productive (LTI, n.d.).
- XVII. The media reports state that after Hyundai has changed the warranty terms, Hyundai's US market share has increased from 1.1% to 4%.
- XVIII. After reducing the warranty coverage, Volkswagen lost 30% of the market share in three years period. This decline led to research studies to ascertain whether consumers perceive a higher warranty coverage as equal to higher product quality?
- XIX. Product warranty data could be acquired from the annual reports and quarterly financial statements. Manufacturers who use the accrual method of accounting to report warranty costs are expected to report opening and closing balances of warranty reserves, along with the addition and deductions to the warranty reserves. This data could be used to quality performance of a manufacturer.
- XX. Contingencies are created based on estimations. For example, in the case of contingency provision for product warranties, estimates such as an approximate number of claims, the probability that claims will result from warranties, and the eventual cost is made.
- XXI. Provisions are discounted to their present value based on critical estimates such that the business is in a position to settle the

obligation at the balance sheet date. The warranty provisions are reviewed at every balance sheet date; an adjustment is made to reflect the best estimate of the current position.

- XXII. Generally, the manufacturer/seller has to estimate the extra cost associated with providing a warranty. Usually, the warrantor assesses the component failures, frequency of failure, and impact of failures and determines the firm's expense. The warranty costs are estimated using well-established statistical and mathematical reliability procedures. The estimation methods vary in the case of products with some historical claims data and innovative and new products. FMEA methodology is the fundamental procedure to estimate component failures. FMEA has many variants such as Design FMEA, Process FMEA or Service FMEA (Vintr & Vintr, 2009).
- XXIII. Product warranty period is estimated based on a) industry standards, b) competitor analysis and c) reliability and failure rates of the specific company (Sherman, n.d.).
- XXIV. In simple terms, Earnings Management (EM) deals with accounting tools and techniques to project a brighter picture of the business. EM takes advantage of those situations where accounting rules permit the management to take an informed decision and provide some estimations. Evidence from research studies shows that managers use warranty accruals to manage firms bottom line opportunistically such that their financial targets are met. As a result, few times the warranty liabilities are over or underestimated to meet the financial targets and stock market expectations (Cohen, Darrough, Huang, & Zach, 2011).
- XXV. Product warranties are provided to minimize 'Information Asymmetry', which means that the seller has perfect information and the customer has limited information

(Svensson & Åberg, 2019).

- XXVI. Corporate firms are expected to provide accounting disclosures on product warranties, and these disclosures are the inputs for the stock analysts. From the analyst's point of view, the disclosure on warranties is an information signal with respect to future performance and liabilities of the firm. On the other hand, analysts and regulators also would use these disclosures to see whether they were used as tools for earnings management (Cohen, Darrough, Huang, & Zach, 2011).
- XXVII. The significant metrics that would be used to analyze the effectiveness and efficiency of warranty management are: a) the number of claims; b) frequency of claims; c) ratio of approved claims to rejected claims; d) warranty cost per unit; e) percentage supplier recovery; f) period is taken to process the claims (Claims cycle time); and g) parts return turnaround time.
- XXVIII. Poor warranty management has both explicit and implicit costs. For example, direct costs could be computed from the servicing of warranty claims, but the implicit costs in diminishing customer trust or fading brand image could not be easily calculated (Brown, 2020).