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## Product Quality and Customer Satisfaction (Case Study Proton Holdings Berhad)

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### **Abstract:**

*In the year 1983, Malaysia's first national automobile manufacturer, Proton Holdings Berhad was inaugurated. This study is aimed at examining the quality of products manufactured by Proton and the satisfaction levels of its customers. The study intends to dwell on the issues that Proton needs to address with accordance to its philosophy which covers aspects of quality and customers' interest in areas such as style, engine, after sales services and maintenance. This study intends to explore customer's behavior and feedback by adopting the questionnaire methodology to improve the company's sales outcome and to identify its weaknesses for future mitigation steps to be implemented.*

### **1. Introduction**

Proton was previously under the wing of Khazanah Nasional, the government of Malaysia's investment holding arm. With its head of operations in Shah Alam, Selangor and an additional manufacturing stronghold in Tanjung Malim, Perak, the national carmaker has sold over 3,500,000 cars domestically between 1985 and 2013.

Being a pioneer of the automobile industry in Malaysia, it was expected that four of every five cars sold in Malaysia was a Proton. However, Perodua took the bull at its horns and overtook Proton as the country's dominant vehicle brand.

56-year-old, Dr Wolfgang Karl Eppel was anointed as Proton's Director of Quality in the year 2009. Dr. Eppel once served in BMW AG as Vice President of Quality Management R & D and was experienced in handling Hybrid technologies. He was also the project leader for BMW's E-90 3 series (Local News, Malaysian Makes, Proton / By Paul Tan / 8 April 2009 1:26 pm / 115 comments).

By the year 2012, Proton was sold to a fully integrated automotive company, DRB-HICOM owned by Tan Sri Syed Mokhtar al-Bukhary in a transaction amounting to RM 1.2 billion. Proton relies heavily on its stake in the domestic market and is currently experiencing structural and internal changes, given the new faces brought in as owners, partners, a new chairman and the announcement of several latest and upcoming models in efforts to strengthen its global presence and increase profits ([http://en.wikipedia.org/wiki/Proton\\_%28automobile%29](http://en.wikipedia.org/wiki/Proton_%28automobile%29)).

Quality management is one of the most exploited managerial tool that can influence customer satisfaction. It also promotes long term product development and quality control to ensure customers are satisfied with what they are paying for. With quality, an organization gains trust and loyalty which promotes an increase of its market shares with time.

Correct use of employees can be a crucial asset to enforcing the expected quality levels of the organization's products. With recent years the number of competitors in the automobile industry has increased multifold. With such intense competition, it is only natural that companies have directed their focus into maintaining high quality standards in all aspects of their products and services (Ismah Osman, Husniyati Ali, Emi Normalina Omar, November 2007).

In order to remain relevant in today's market, Proton has to maintain high quality standards across its range of products and strive to improve current ratings. Proton's current standings in the local market alone speaks volumes of the effort required to reclaim their former position as the leader in the local automobile industry.

### **2. Proton Industry**

Khazanah Nasional was one of Proton's major shareholder and is involved in many sectors that steer the country's economy. The state owned investment firm had a large stake of 42.7% before it offloaded its stakes to DRB-Hicom. Proton is predominantly involved in the automotive industry which has been its stronghold that is evident with its wide range of models such as Saga, Gen2, Perdana, Persona, Satria and even a Proton motorcycle.

Throughout the years, Proton has accumulated a substantial share of the domestic market for passenger cars and had since then expanded its venture to include international markets. With a holistic approach into the automobile industry, Proton's business activities have encompassed not only the manufacturing of cars, but the whole automotive value chain including engineering, research and development, distribution, sales, after-sales services and even financing (Proton 2011 annual report). Figure (1) below shows Proton's market share in the automobile industry for the year 2012.

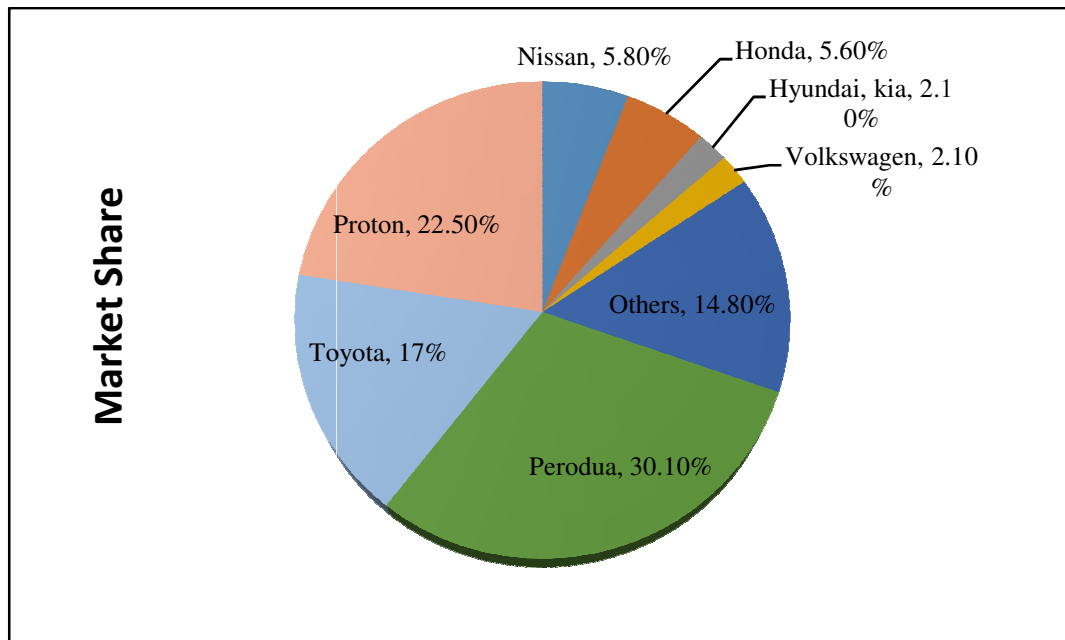


Figure 1

Source: 7-june-2015

[https://www.google.com.my/search?q=proton+market+share+2012&biw=1280&bih=675&source=lnms&tbm=isch&sa=X&ei=OctlVdXaJNGcugSQooDIAg&sqi=2&ved=0CAYQ\\_AUoAQ&dpr=1#imgrc=\\_b99bdLJinXZbM%253A%3BbVrvjB49HtaDPM%3Bhttp%253A%252F%252Fwww.kinibiz.com%252Fwpcontent%252Fuploads%252F2013%252F06%252Fbreakdown-of-Malaysia-TIV-share-market.gif%3Bhttp%253A%252F%252Fm.kinibiz.com%252Ftag%252Fumw%252Fpage%252F3%3B400%3B352](https://www.google.com.my/search?q=proton+market+share+2012&biw=1280&bih=675&source=lnms&tbm=isch&sa=X&ei=OctlVdXaJNGcugSQooDIAg&sqi=2&ved=0CAYQ_AUoAQ&dpr=1#imgrc=_b99bdLJinXZbM%253A%3BbVrvjB49HtaDPM%3Bhttp%253A%252F%252Fwww.kinibiz.com%252Fwpcontent%252Fuploads%252F2013%252F06%252Fbreakdown-of-Malaysia-TIV-share-market.gif%3Bhttp%253A%252F%252Fm.kinibiz.com%252Ftag%252Fumw%252Fpage%252F3%3B400%3B352)

### 3. Proton’s Establishment

Proton dominated the automobile sector and was the prominent carmaker in Malaysia between years 1983 to 1993, before the conception of Perodua (Perusahaan Otomobil Kedua) which posed great challenge towards Proton’s sales volume. By early 21<sup>st</sup> century, Proton’s sales began to experience a slump and in 2007 Perodua’s sales volume overtook that of Proton for the first time. Proton has since then been ousted up to the year 2012 when Khazanah sold its shares to DRB-HICOM. Figure (2) shows the life-cycle model of a few Proton models across certain aspects.

	Introduction Proton perdana V6 Proton satria GTi	Growth	Maturity Proton wira	Decline Proton iswara
• Growth Rate	Slow	Accelerating	Leveling	Declining
• Sales	Low	Rising	Peak	Declining
• Unit Cost	High	Declining	Low	Low
• Product Line	Short	Growing	Diversified	Shrinking
• Profits	Negative	Increasing	High	Declining
• Competitors	Few	Increasing	More but stable	Declining
• Pricing	Cost Plus	Penetration	Competitive	Cut

Table 1: Life-Cycle Model: [SITUATION ANALYSIS: Organization]

Source : ( <http://www.careers-proton.com/workingforproton.html>) 28-april-2015.

Mohammad Syahmi, 29, an avid Proton Fan Club member states that among the Proton models that did not capture public interest include Proton Savvy and Proton Juara. (15 September 2014 01:47 Written by Des Iskandar Ismail).

Many reasons contributed to Proton’s failures resulting in a decline in popularity amongst Malaysians. This was evident when Perodua’s sales overtook that of Proton in the year 2007. Not only did failures loomed over Proton, but inability to recognize and take charge of the situation, further worsened Proton’s performance. Proton was falling behind its initial mission and vision causing the company to fall short of targeted sales figures. Matters did not improve even after DRB-HICOM took over the reigns from Khazanah.

**4. Proton Main Products and the Net Profit after 2012**

Proton’s main trade involves its range of cars and was achieving considerable sales with acceptable nett profit for a few years. From an outstanding market share of 60% in the 1990s, Proton was hit hard when its sales descended to a mere 17% in recent years. According to statistics generated by the Malaysian Automotive Association, Proton had managed to sell 115,783 cars in the year 2014, which depicted a significant 16.5% drop from 138,753 cars recorded in 2013. As such, Proton’s market share was further scaled down from 21.2% (2013) to 17.4% (2014).

Proton’s car sales against its market shares over a duration of six years are depicted as follows: Year 2009 (148,031 cars sold; 27.6% share), 2010 (157,274 cars sold; 26%share), 2011 (158,657 cars sold; 26.4% share), 2012 (141,121 cars sold; 22.5% share), 2013 (138,753 cars sold; 21.2% share), 2014 (115,783 cars sold; 17.4% share).

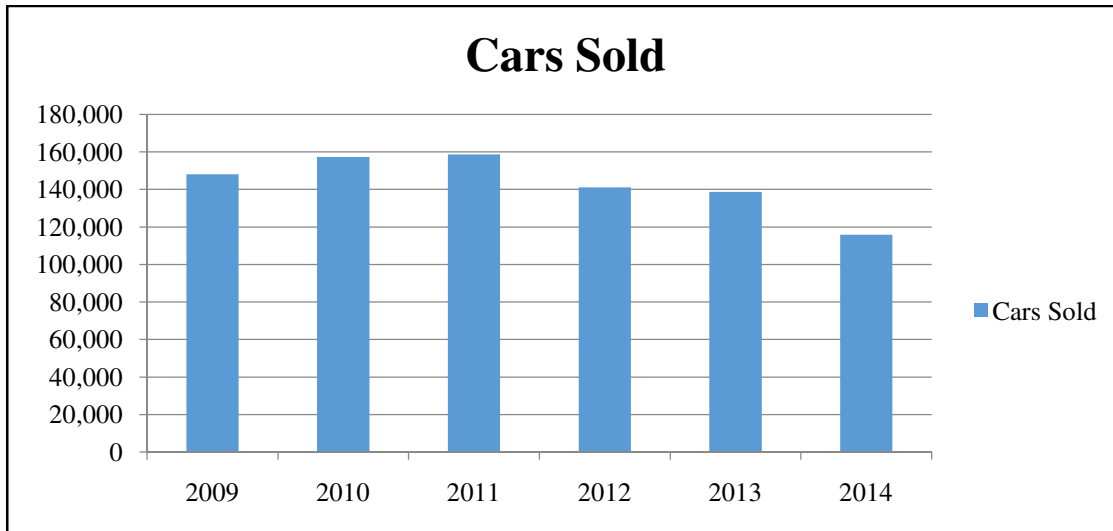


Figure 2: shows the number of cars sold from 2009 to 2014.  
Source: The Malaysian insider, Published: 27 January 2015 7:36 PM).

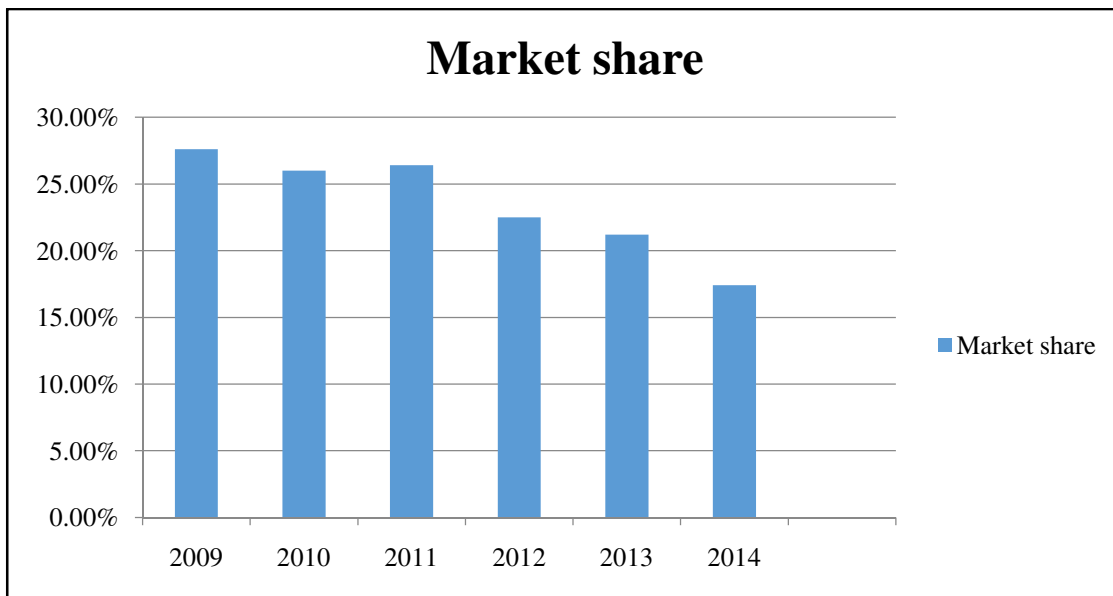


Figure 3: shows Proton’s market share during those same years.  
Source: The Malaysian insider, Published: 27 January 2015 7:36 PM).

The Proton Saga lineup constitutes the highest number of sales followed by Proton Exora. The least popular models, Proton Persona and Prevé which recorded low sales volume have badly affected DRB’s pre-tax profit in the automotive sector for the financial year ended March 31, 2014 (FY2014). Proton had contributed 63% or RM 7.1 billion to the automotive sector’s total revenue of RM 11.23 billion in the financial year of 2014. Considering the significant percentage of contributions, the slightest setback on Proton’s finances will cause DRB’s earnings to slump even further.

From FY2013 to FY2014, DRB’s automotive sector had declined by 2.2 times or 121% whereby earnings were recorded to have declined from RM194.88 million to RM88.25 million. Recent financial standings did not show signs of improvement either. DRB

witnessed a pre-tax profit decline of 11% quarter quarter-on-quarter and 70% year-on-year within a span of six months to September 30, 2014.

A slight decline of 2.3% in revenue growth, although not indicated in DRB's financial notes will inadvertently impede Proton's growth, unless steps are taken to tackle the situation at its core.

Surely, investors will appreciate if DRB can be as extensive as it can, in reviewing its quarterly performance. (William Yap's, 2015).

Proton had indeed achieved high sales for some of its model lineups which had underwent various improvements in hopes of winning over more customers. Despite such efforts, there are models that retard the company's finances by poor sales records. The company should have focused on the products that are doing well and abandon or eliminate the products that are dead weight. This 'cannibalistic' approach implores that Proton discontinue products that do not produce results and refocus their efforts on those that do.

### 5. Description of the Processing Technology in Proton

In October 2009, a Memorandum of Understanding (MOU) for the introduction of the "Vehicle Advanced Telematics System" (VATS) Program was initiated by PROTON, Azanor Exim Sdn. Bhd. and the Malaysian Industry-Government Group for High Technology (MiGHT). The collaboration was the brainchild of Techno Mart Malaysia, a technology trading enthusiast under the umbrella of the Ministry of Science, Technology and Innovation Malaysia (MOSTI) and MiGHT. (Proton 2010 annual report, page 63).

Under the Telematics Industry Development Programme, a national initiative, VATS was aimed at spurring the automotive industry within the nation by setting up infrastructures for the betterment of the telematics industry. MIGHTPROTON – Azanor was able to benefit from this joint venture by expansion of this programme to local small and medium enterprises so as to propel the local automotive telematics technology to levels that are on par with international standards. Several features shall be included in the technology which includes auto-electronics, GSM communications, low orbit satellite communications, GPS, GIS and a variety of other sensors. A full demo vehicle based on the P.O.C (Proof of Concept) is included in the VATS project. The project that has taken flight is now at the Feasibility Study and Market Research stage (Proton 2010 annual report, page 63).

Future innovation in technology should include elements that draw customers' attention such as engine capabilities, commendable safety mechanisms, acceptable speeds and eye-catching designs. These elements if worked on properly by Proton would work in their advantage by increasing competitiveness in the automobile industry and ultimately benefiting the consumers. Carmakers would be more stringent in quality control and strive to maintain their brand name and relevancy in today's market. With the wide range of brands flooding Malaysia's automotive industry, it is not surprising that companies are becoming more careful of what they churn out, which is why technology and innovation had always been the driving force behind Proton's Engineering Services Division. This strong-arm of Proton, continues to pioneer the organization's product development, styling, technology development, collaborations, talent development and process improvement (<http://www.careers-proton.com/workingforproton.html>).

As part of Proton's corporate social responsibility, PGM (Proton Green Mobility Challenge) was established in the year 2012 and spearheaded programmes focused on sustainable automotive mobility through advocating the use of electric vehicles and hybrid technology. (About proton green mobility challenge 2012 (pgmc 2012)

(updated as at 1 october 2012), (<http://greenmobilitychallenge.com.my/downloads/challengeProfileAndRegulations.pdf>).

Proton had been actively engaged in collaborative efforts with UK-based Frazer-Nash Research (FNR) to develop electric based vehicles. International Trade and Industry Minister Datuk Seri Mustapa Mohamed alleged that Proton's investment in green technology R & D was much more conserved as compared to other car manufacturers. Mustapa also refuted allegations that Proton had spent about RM 270mil to test 30 cars at the cost of RM 9mil each (mazwin nik anis, martin carvalho, shaun ho, and rahimy rahim, 2014).

### 6. The input and Proton's Manufacturing Sector

Proton's manufacturing capabilities have recorded a 918% growth, whereby in a span of 25 years' proton's manufacturing capabilities have accelerated from a mere capacity of 17,001 units to a record high of 173,057 units in the year 2009. This averages to an annual increase of 11% per annum. The actual profit margin lies in producing products that function optimally and that meets the demands of the industry; as opposed to popular belief that focusses only on building capacity and production volume.

The quality management division had devised stringent procedures to increase production volume optimally and streamlining storage and holding costs to bring about revenue via cost reduction.

The performance for the year under review after the slowdown in the year 2008 indicated that things are turning for the better as the demand for Proton vehicles had increased despite the gloom over the automobile industry.

The conception of Proton Exora, the first truly Malaysian MPV in 2009 contributed to the overall increase in production volume from 157,643 units to 173,057 units. Being a relatively new model, Exora still managed to contribute a significant 20% of the total sales volume in the first year of its production. Keeping the momentum going, Exora Special Edition was introduced with enhanced styling and product features with hopes of capturing the MPV market segment. The Saga models were refreshed with two facelift phases, one in November 2010 and the second in 2011, whereby the former focused on the appearance and the latter on an engine upgrade. The facelift was already set in place as part of Proton's promise for continuous quality improvement. This was planned despite the Sagas' continuous records of high bookings. The Saga was purported as the best seller several times over in the Malaysian automobile industry where its success was attributed to unparalleled quality, value for money and reliability.

Proton had again exhibited its pledge for continuous quality improvement in its range of vehicles with the launching of the Persona 'Elegance' in March 2010. Bring true to its vision, the Elegance was equipped with better features such as the 32 bit ECU for improved functionality, better engine performance, and better diagnostic capabilities. The appearance factors which include the body kit, alloy rims and interior trim leather had given the edge to the Persona Elegance when compared against other vehicles in its class. The Elegance is hoped to remain relevant and at the top of its class as a revenue generating vehicle for the years ahead. The Manufacturing Division is set upon the important task of up keeping the quality of Proton's products to ensure continuous levels of productivity.

In 2009, the quality levels had improved evident by the increase in production volume. Proton had also set in place mechanisms to increase its productivity index and set forth plans to include vendors in their ongoing efforts to take its manufacturing standards up a notch. Proton stresses that any minor disruptions in operations can adversely affect the performance of its production lines. In order to prevent such catastrophic events from happening, monthly benchmarks are set and new model lines are established to cultivate 'yokoten' (a Japanese term for copying) practices. Besides coping with the tremendous load of maintaining the quality of products, the Manufacturing Division had also focused on increasing the quality of their workforce, workspace and employee skillsets. Employees are sent for training in Japanese institutes with the latest technology in the automobile industry. It is hoped that these form of training would be beneficial for not only technological exchange but work ethics and quality as well. (PROTON 2010 ANNUAL REPORT, PAGES 68, 70, 71).

Proton's market shares for years 2009, 2010 and 2011 were 28%, 26% and 26% respectively. This averages out to 27% for the span of those three years.

Market share of national cars (2008-jun 2014)							
	2014 (jan-jun)	2013	2012	2011	2010	2009	2008
Perodua	28%	30%	30%	30%	31%	31%	31%
Proton	19%	21%	23%	26%	26%	28%	26%
total	47%	51%	53%	56%	57%	59%	56%

Table 2: The percentage share for TIV (tornado intercept vehicle).

Source: Malaysian automotive association. 3-june-2015

These scenarios prove that quality has a heavy impact on sales and market share. During those years where Proton's range of products were impressive, the market share was at reflective levels. Hence, Proton should direct their efforts at improving product quality with the use of modern technology to improve not only performance for certain models but the whole range of vehicles. This move by Proton, reflects the organization's pledge for better quality cars.

## 7. The Quality of Proton's Products

Total quality management (TQM) in the automobile industry should be implemented to bring about continuous quality improvement in terms of products and services which influences customer's satisfaction levels. There are several factors that significantly affects customer's satisfaction levels, such as product performance, reliability, response and action to feedbacks and improvement efforts (Ismahosman, Husniyati Ali, Emiformalin Omar, november 2007).

Customers will develop certain judgments about a product's overall performance or superiority by comparison with an alternative brand, an aspect known as perceived quality (Zeithaml, 1988; Aaker, 1996). It is the overall edge that a product possess which coaxes the customer to make the final decision of purchase (Aaker and Jacobson, 1994). Nonetheless, customers are less likely to make rational decisions about the quality of products. They are more likely to rely on characteristics such as colour, flavor, form, appearance and ease of obtaining product information (Bernués et al., 2003) to judge a product's quality (Acebrón and Dópico, 2000).

Based on the foregoing, Proton needs to be committed in increasing the quality of its products, not only for certain models, but across all vehicles in production. As aforementioned, Proton should not neglect certain models while making improvements on the rest. Proton's commitment on improving its products to attract customers should be wholesome and be implemented in tandem with the organization's vision and mission. Preconceived quality standards can only be mentally abolished if Proton commits to the change wholeheartedly without prejudice to the least popular models.

We opine that in order to uphold quality and ensure continuous increase in productivity, Proton will:-

- Uphold quality improvement procedures in all of their operating procedures.
- Establish an effective and efficient quality system based on ISO 9001: 2008 requirements.
- Ensure their personnel of all levels are properly equipped with adequate skills and knowledge through continuous structured training programmes.
- Promote an environment that propagates a culture for continuous learning, improvement and innovation in efforts to achieve excellence
- Provide a conducive, safe and healthy working environment for people to collaborate and prosper (Proton 2011 annual report).

Looking at Proton's track record, the organization needs to improve on retaining customers and attracting more attention to the new range of products. Proton needs to win over customers that may have lost their trust in the brand. With new faces in the organization, it is hoped that Proton will continue to revise plans and strategies that are reflective of their vision and mission.

### **8. Customer Satisfaction Survey about Proton Products Quality**

Kotler and Armstrong (2008) had defined customer satisfaction as the qualitative measurement of performance as defined by customers that are able to meet their basic requirements and standards. Proton should conceptualize the quality of their products to the extent that the perceived performance of their products matches the buyer's expectations. Such expectations incorporate built quality and also the aspect of services provided. In the arena of Malaysian made cars, a study by J.D. Power in 2009 established that the satisfaction levels of customers towards national vehicles were below average as compared to imported cars.

In recent decades, customer's expectations are definitely increasing by the multifold. Carmakers and dealers are finding it more challenging to rise up to the industry's ever changing needs while finding new and more holistic approaches to please their pool of customers (Taku Kimoto, GM of J.D. Power Asia Pacific, and Singapore).

It can be determined through quality of product coupled with services provided. In the context of Malaysian made-car, a study by J.D. Power in 2009 indicates that satisfaction level towards national car is below industry average as compared with imported cars. A study to measure customer satisfaction levels after 10 to 21 months of ownership that covered 77 attributes grouped into four general factors (expressed in terms of percentage) were executed in an independent CSI study. The results again depicted that vehicle quality and reliability recorded the highest percentage at 32%, followed by appeal (29%) which includes performance, design, comfort, styling and features, dealership satisfaction (19%), cost of ownership (20%) which includes fuel consumption, insurance and cost of service/repair (Nur Hazwani Binti Zolkifly/ Elixir Mgmt. Arts 56A (2013).

The outcome of the study is understandable and normal, given that customers are well informed of the world's standards. Throughout the years Proton had focused on adopting only one aspect of all the strategies at a given time. Given what Proton has come to achieve, it should be quite easy for the organization to apply all the necessary strategies to bring about better quality products.

### **9. Proton Pricing Strategy and its Relevance with Quality**

Tun Dr. Mahathir Mohammad, Proton's newly appointed chairman had announced that the company's immediate plan will be to divert its strategies from producing cheap cars to that are on par with the industry's giants (Bernama report).

Proton, according to the former PM, had always been tagged as a carmaker of cheap and poor quality. Therefore, in order to launch the company towards the direction of producing cars that are of world standards, consumers must be prepared to fork out more money. Mahathir responded to claims that when Proton Preve and Suprima S were announced, the public claimed that they were too pricey for a Proton. He reiterated to reporters that consumers can't have a good car and expect it to be cheap.

Former PM had indicated that the next rendition of the same quality would be roughly priced at RM 120,000. Proton can produce cheap cars that caters to consumers who want them, but these cars can be expected to run three miles and break down. Mahathir denied that Proton needed funding when he was posed with questions if whether Proton had approached the Ministry of International Trade and Industry (MITI) or Petronas for funding. He was also asked if he himself, as Proton's chairman would ask either parties for monetary support to which he denies, citing that Proton is completely privatized by now and is fully capable of progress with its own research and development. (In Cars, Local News, Malaysian Makes, Proton / By Jonathan James Tan / 9 June 2014 4:15 pm).

### **10. Example**

Proton was able to push Proton Exora, the first national compact multi-purpose vehicle (MPV) into production in the year 2009. Proton Exora is a combination of advanced styling and spacious interior to produce a new lifestyle family wagon. The Exora is able to accommodate 7 adults easily with its large interior space, entice consumers with its quality design and outstanding performance therefore granting the bang for buck.

With all that Proton had to offer, we identified that it is still faced with a few major challenges. Local and foreign competitors have managed to reduce Proton's market share in the domestic passenger car category from 60% in 2001 to a mere 29% in the first half of 2008 (Malaysian Automotive Association 2008). There is a slump in Proton's brand value from RM239 million in 2007 (rank 19) to RM150 million in 2008 (rank 23). News of Proton's drop in ranking from Malaysia's 30 Most Valuable Brands (MMVB) was reported on the 23<sup>rd</sup> of November 2009.

Taking into consideration of our findings, our group would suggest the conception of a new concept car known as Proton Exora 2. The car would be enhanced to include several new cutting edge features which include technologies to enhance performance, fuel efficiency, convenience, safety and reducing emissions which can harm the environment. The car is hoped to cater to the demands of the current consumer pool which are focused on value for money vehicles. Our action plan is devised with reference to the collective input of mix marketing models and 4P's strategies.

The new concept of Malaysia's first national MPV is expected to enhance and give Proton a fresh new breath to reestablish its reign in becoming the champion of the automobile industry especially within the domestic market. It is hoped that Proton will bounce back with greater brand equity that will set it back onto the playing field. (University of Malaya, Halisah Ashari, Linda Sim Siew Kian, Teh Chye Beng).

## 11. Conclusion

PROTON's lineup of executives should have an awareness of the company's stand and clarity of the perpetual challenges identified from previous studies conducted. Thorough scrutiny of the current models would not only reveal their flaws but provide an insight into customer satisfaction levels. Proton has had the luxury of many years of research and development, which should enable them to grasp the level of product quality expected of them by their pool of customers. It is believed that market shares would improve if Proton is able to refine their products to a certain acceptable level. It is evident that during years when Proton was able to manufacture cars of commendable quality coupled with added value, sales records for those models had soared. Therefore, in order to outdo their current achievements, Proton has to analyze the perpetual problems that its facing and act on them.

It is undeniable that Proton has been trying profusely to improve its products in terms of quality but is still short from achieving its targeted outcomes. Therefore, product quality is not the only determining factor that requires Proton's attention, but more efforts are needed in other sectors such as customer services, after sales services, reparability, spare parts availability and etc. Improvements in these sectors collectively would rebuild Proton's brand name, putting it on par with other foreign car manufacturers in the country.

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