The Effects of Marketing Mix (4P) on Companies' Profitability: A Case Study of Automotive Industry in France

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Abstract-*The goal of this research is to investigate the impact of marketing mix strategies on companies' profitability in the automotive industry in France. Therefore we will be able, by establishing the relationship between the efforts of the implementation of marketing mix strategies and their actual outcomes on that specific area, to obtain marketing mix determinants and demonstrate the interaction among related variables. All these will provide a better understanding of the sector and find points where improvements may be necessary. Data used were secondary data and where taken from papers and reports concerning the automotive industry in the world and in France. The product corresponds to the number of models belonging to each car makers which are listed among the 100 favourite vehicles at a given year. The average price of passenger cars by brands is used to estimate the price. The number of primary dealerships in France is used to estimate the place and the advertisement expenditures for the promotion. Findings demonstrate that the product, price and promotion are the most important factors that car makers have to take into account and that place must be carefully investigate before taking decisions.*

Keywords- *Automotive industry; marketing mix; regression analysis.*

1. INTRODUCTION

In a highly competitive market, characterized by intrinsic difficulties related for example to those concerning the cost of production, the price for the customers, the opening up of the base market to competition and many others; automakers around the world in general and in France in particular must strengthen their efforts to secure their position, prevent competition from gaining their market shares and build a customer loyalty. To achieve these goals among many others, car manufacturers adopt strategies that will be incorporated to their operations mainly through marketing mix strategies. The place where matters generally occurred is located around marketing strategies. Since its standardization, marketing notions changed constantly and adapted to the market. The place of marketing in the organization came late because marketing has long been considered a secondary function in the organization. Three phases dominated its evolution [10]. The first phase corresponded to the domination of the production function over all the other functions of firms; the goal was to produce more for the over increasing demand. Then, due to the economic depression from 1929, a second phase characterized by the emergence of the sales function forced companies to learn to use market research and advertisements to support the action of the sales force. At that time, the need of marketing strategies became more and more obvious. Finally, the last phase which corresponds to the emergence of modern marketing from 1950 highlighted the need of recognition of the primacy of demand on the offer and the overall orientation of the organization to meet the needs of the market, that is to say, customer is the central element of the whole company's strategies. From that point, firms decided to use a "pull" strategy instead of a "push" one. However, in practice, companies are not unlimited entities in terms of resources because they must take into account a lot of elements such as their capital, their human resources, their storage facility and many other costs related to their activities; so they have to prioritize certain elements of their marketing mix (4Ps) compare to others. Therefore, a firm may wonder in which P they will have better results that is to say a better return on the benefits that these P will bring. It is where our study will be useful because it will provide analyzed data so that a clearer standpoint and a better understanding of the market will be obtained in the automotive industry in France. Understanding these determinants for firms will allow, in the long term, to strengthen their position and to increase their number of customers.

2. CAR INDUSTRY IN THE WORLD

The history of the automobile can be traced since the 1800s, taking with it, major technological inventions that have considerably changed the society of many countries in the 20th century. Its global expansion has been dramatic. 25 000 automobiles are counted in 1907, 500 000 in 1914 and 50 million before the Second World War. During the "Thirty Glorious" period in France, the number of vehicles will be multiplied by three and in the world will reach 300 million in 1975. According to a report from Navigant Research by 2035, the world fleet of vehicles could reach 2 billion. With 8.4 million jobs, five times as many indirect jobs the automotive industry is a key sector of the world economy. Despite the economic crisis in 2009 and the fall of cars' sales in the world, in recent years the automotive industry is now recovering, driven mainly by the increase of demand from Asia-Oceania area and mostly from China with a 176% growth compared to 2007. Last year, and according to a report from Macquarie Bank, 88.1 million cars were sold in the world, which represents an increase of 4.8% from the year 2015. In spite of inherent problems in the automotive industry, such as the overcapacity, the low profitability, or an increasing competition; this sector retains a strong influence and is a major industrial and economic force worldwide. Indeed, since the collapse of 2009, the car industry experienced uninterrupted growth.

3. STRUCTURE OF AUTOMOTIVE INDUSTRY IN FRANCE

Pioneer in the automotive industry, France is home of two of the world most important automobile manufacturers in terms of sales volume namely Renault and PSA Group (Peugeot, Citroën and DS). As expected with the rebound of the automotive industry after the crisis in 2009, these two car makers benefited from the revitalization of the activity. However, in 2015 with around 18 groups and 33 brands presented in France, the French car makers are still under pressure because the market can be considered rather competitive. Indeed, a brief view of the four-firm concentration ratio and the Herfindahl-Hirschman index (HHI) demonstrated in 2016 that the values were respectively about 57% and 1060. Recall that for the first ratio, values between 50% and 80% characterize medium concentration; and for the second index, values under 1500 typify a competitive marketplace. Regarding households ownership, in 2015, multi-car represented 35% of all households and has been relatively stable since 2010. Besides, daily use of the car has fallen year by year, from 79% in 2010 to 72% in 2015, which tends to reduce the growth of purchase of new vehicles. Considering the ever increasing number of aging vehicles this phenomenon appears to have worsened. Plus the previously mentioned matters, the changing technologies, the economic constraints and the awareness of environmental concerns, have changes the use of vehicles, promoting the development of new consumption trends, replacing car ownership by its use. Indeed, car-sharing and car-pooling as well as rental between individuals are nowadays new means of travel. Nevertheless, in 2015, the households' purchasing power increased (+1.7% compared to +0.7% in 2014) and so did the household consumer spending which in turns lead to an increase of purchase of new cars of 6%. With these few figures, the market still have potentialities due to its recovery but at a company's scale it may be hard to evolve in it due to the changes in consumers' behavior and unsubstantial purchasing power.

4. CONCEPT OF MARKETING

The concept of marketing mix was introduced by Niel Borden in 1953 [1]. According to the author, the marketing plan is a mix of elements or control variables that can be modulated in order to obtain the answer of the market. McCarthy [2] developed it by introducing the 4P formula: the product, price, place, promotion. Thanks to its clarity and simplicity, this classification becomes the most used and most quoted in marketing management. Basically, the marketing mix refers to the set of actions, or tactics, that a company uses to promote its brand or product in the market. The 4Ps help companies to invest in the best option and in a more efficient way regarding their limits such as the budget.

4.1 Product

In marketing mix, product refers to the item actually being sold. The product must deliver a minimum level of performance. The brand name, functionality, packaging, design, guarantee, are choices that can be made regarded to marketing strategies concerning the product. Questions to understand the product elements can be: what does the consumer want from the product? What requirements does it satisfy? How is it different from one product of your competitors?[9]

4.2 Price

According to Kotler and Dubois (2012), the price is the only variable that provides income to the company compared to other variables in the marketing mix, to the extent that all other variables only engender investments or spending. Price refers to the value that is put for a product. It depends on costs of production, segment targeted, ability of the market to pay, supply - demand and a host of other direct and indirect factors. Pricing can also be used a demarcation, to differentiate and enhance the image of a product. If the price exceeds the value offered, the company missed sales opportunities. If the price is below the value offered, it limits its profitability. Questions to understand the pricing elements can be: What is the value of the product or service for customer? Is the customer price sensitive?[9]

4.3 Place

The place or distribution is the set of operations whose role is to provide the right product to the consumer at the right time on the right place. The distribution uses intermediaries whose main role is to reduce transactions between sellers and buyers. At its narrowest sense, the distribution is considered all outlets with which the end user is in contact. To understand this part, these questions can be asked: where the buyers search for your product? In what kind of stores do they look for the product?[9]

4.4 Promotion

The promotion or communication is the process which includes a number of elements to give the customer information needed to make a decision to buy, consume or adopt a product or service. Sometimes very costly, the promotion through advertisement for example, can considerably increase the sales. Questions that can be asked for this component of marketing mix are: when is the best time to promote? Where and when can one get across your marketing messages to the target market?[9]

5 IMPORTANCE OF MARKETING MIX IN THE AUTOMOTIVE INDUSTRY

In the 21st century, the environment in which a company has to evolve is not the same as decades ago. Indeed, in the past, maintaining a certain visibility for a firm and keeping its customers was easier than it is today. This phenomenon, explained by the increasing number of new enterprises, has also been sharpened by globalization. From that moment, companies were not only obliged to deal with internal competition within its country of origin but also with those outside its borders. In addition, in case that company is also located abroad, this phenomenon becomes, of course, much more important and this is particularly the case for the automotive industry. That is one of the main reasons why marketing strategies, through the marketing mix, are a critical point in the expansion of companies because without them and therefore without recognition firms will face a lot of difficulties to grow at a global scale. Recall that, unlike the previous century, nowadays, companies must change their way of tackling a market because due to the increase of available products, the "pull" strategy should be adapted instead of a "push" one. In theory, it is in this specific context, in which competition is becoming more fierce and intense, that firms have to struggle and innovate to have the biggest influence, notoriety and thus gain market shares compared to their competitors. This competition is particularly important in the car industry because with a lot of enterprises, groups, a long history of mergers, acquisitions, sales, failures - such as in 2009 General Motors or Chrysler bankruptcies or the "dieselgate" with Volkswagen in 2015- tremendous investments in research and development, high expectations from consumers in terms of security, performance; mistakes in strategies of firms may lead to collapses. Even though well-implanted, firms must constantly compete for ingenuity, above all concerning technologies to secure positions. With all these costs, missing opportunities for companies is something not acceptable.

6 METHODOLOGY

The analysis will help to demonstrate the impact of changes in the marketing mix of car makers on profitability. The range of our analysis begins from the year 2012 until 2016 for 20 car manufacturers in France. The data used for this analysis were secondary data collected from diverse sources. It includes electronic databases and indexes to scholarly literature in English and French. We conducted a repeated search using the bibliography of some of the most cited articles to source other relevant and useful articles. We also made sure that the content and coverage in the articles included the factors identified for consideration in the analytic framework. The selection of the result was on the basis of subjective judgment of appropriateness and relevance considering the study research scope and the title of academic journal shown in the search result. We boosted our literature database further by accessing key institutional websites in order to identify discussion and working papers relevant to this research.

7 DATA ANALYSIS AND RESULTS

A regression analysis is used to determine what effects marketing mix has on the profitability of companies in the car industry. The basic formula is:

$$Y = a + b_1X_1 + b_2X_2 + b_nX_n + e_i$$

Microsoft Excel and Stata are used to format and run a multiple linear regression analysis.

Table 1. Regression and ANOVA output

Source	SS	df	MS
Model	70.4986367	4	17.6246592
Residual	9.28437995	95	.097730315
Total	79.7830166	99	.805889057
Number of obs		100	
F(4,95)		180.34	
Prob > F		0.0000	
R-squared		0.8836	
Adj R-squared		0.8787	
Root MSE		0.31262	

Table 2

lny	Coef.	Std. Err.	t	P>|t|	[95% Coef.Interval]	
product	.2308628	.0193845	11.91	0.000	.1923798	.2693459
lnprice	-.3512199	.1203778	-2.92	0.004	-.5902001	-.1122397
lnplace	.0240162	.1181602	0.20	0.839	-.2105614	.2585938
lnprom	.2782196	.0676022	4.12	0.000	.1440122	.4124269
_cons	12.10919	1.527521	7.93	0.000	9.076673	15.1417

Based on the regression, the value of the F-test is equal to 0, which means that statistically the variables are significant. R-squared is equal to 0.8836 which means that 88.36% of the variation in the number of sold cars is explained by the independent variables. The adjusted R-squared, which has to be more focused on, is 87.87%. It is more useful in our analysis because it has been adjusted with the number of variables included in the regression model. Regarding the P-values of the t-test, the result for the product is equal to 0 which means that it has a strong influence on the dependent variable at a P-value of 0.001. For the price, the result is 0.004, which means that price has influence on the dependent variable at a P-value of 0.01 but not as strong as the previous one. The value for the place is quite important (0,839) so we cannot affirm that there is a relation between place and the number of sold cars. Finally, the value of t-test for the promotion is equal to 0. Again, the conclusion is that promotion has a strong influence on the dependent variable at a P-value of 0.001. Concerning the coefficients, product is positively correlated with the dependent variable, which means that when the product increases the number of car sold increases too. Price has a negative correlation with the dependent variable that is to say less the price is, more cars will be sold. The place does not have correlation with the number of sold cars. And promotion is positively correlated with the dependent variable, that is to say, the more promotion's budget will be spent, the more cars will be sold. Consequently, through the analysis, the resultant regression model calculated is:

$$\ln[E(y)] = 12.10 + 0.23X_1 - 0.35X_2 + 0.02X_3 + 0.27X_4$$

During the analysis, the product had a correlation on the number of cars sold, which means that design, innovation and the characteristics of the vehicle are important and consequently may affect and influence the purchasing decision process. Price has a high influence on the number of sold cars but not as much as for the product and promotion. Besides, the most sold cars are among those with lower price on average. However, the place is the less significant variable. This finding highlights the tendency stating that consumers are nowadays less eager to visit several times physical dealerships during the purchase process. As far as promotion is concerned, this variable has a high influence on the number of sold car. It appears that investing in advertisement will help companies to remain visible towards customers. Indeed, data show that advertisement expenditures increase every year. Publicity in television, press and radio are the most used even if the part for advertisement occurring on internet is increasing.

8 CONCLUSION

The place has low influence on the model while price has an average influence. The product and promotion have the highest influence on the number of cars sold meaning that taking the right alternatives about these two elements can improve the marketing strategies and consequently the results.

9 RECOMMENDATIONS

Regarding our analysis, car makers should invest more into cars models. This investment can be a design investment or the constant search and use of new technologies for example related to the motorization, the navigation system, security and the driving assistance. Companies should also work on their price policy. Results can be obtained by improving payment facilities or by enhancing customer loyalty policy. According to the study, the place does not have influence on the number of cars sold. Brands with a large amount of showrooms should carefully investigate the market before investing on more places; this can help concerned companies to remove unnecessary expenses by adjusting the real number of needed showrooms. Concerning promotion, customer appears to be attentive to this element; therefore particular attention is required in terms of quality and investments. Indeed, to have a great visibility, auto makers should invest in advertisements on special websites and social media where the customer can check the vehicles information. Finally, it is worth mentioning that automotive industry is an extremely competitive market probably one of the most competitive one; therefore enterprises should always be attentive to the new tendencies and customers' demand.

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