

How the Conversations in Social Media Concern in Sales in the Automobile Industry in Spain

González Carreño G., Rejas Muslera Rj., Padilla Fernández-Vega J., and Cepeda González M. I.

Abstract—Automobile Industry has great importance in the Spanish economy (8,7 % of the active Spanish population is employed in this sector). The above mentioned sector has been one of the principal sectors affected by the current economic crisis, consistently, the budgets in advertising have been severely limited (46,9 % less in the period of reference), these needs of reduction have originated a substantial change in the advertising strategy (from 2007 the increase of the advertising investment in Internet is 251,6 %), and increase profitability. The growing use of social media by consumers therefore makes online consumer conversations an attractive additional format for Automobile firms to promote products at a lower cost. This research analyzes the relation between the activity in Social Media and the design in the car industry, looking for relations between strategies of design based on Social Media and sales and a channel of information for companies to know what the consumer preferences. For this ongoing research we used a longitudinal withdrawal of information has been used using information of panel. Managerial and research implications of the finding are discussed.

Keywords—Automobile Industry, Design, Economics Crisis, Innovation, Internet, Social Media.

I. INTRODUCTION

THE world automotive industry, like many others, is in the midst of a profound transition. Since The mid-1980s, it has been shifting from a series of discrete national industries to a more integrated global industry. In the automotive industry, these global ties have been accompanied by strong regional patterns at the operational level [1]. Seven countries accounted for about 80 per cent of world production in 1975, at 2005, eleven countries accounted for the same share. The widespread expectation that the markets in China and India were poised for explosive growth generated a surge of new

investment in these countries. The recent economic crisis is serving to reinforce and accelerate many of these trends [2].

Automobile Industry shapes one of the most important industries of the world. Also it is one of the most sensitive to the cyclical fluctuations of the economies, to the variations in the demand of the industry and the families. The current economic crisis has revealed some of the problems of the sector, the global excess supply, which will become more explicit as the crisis continues. According to the European Association of Car manufacturers which groups 18 companies who invoice half a trillion of Euros a year, " the economic crisis is the causer, close to the cost derived from the new (environmental) regulations and the investments in technology, besides a fierce competition, of the fall of the sales in the sector for the fourth year in a row, placing to levels of 14 years ago.

Spain is the second producing country of vehicles in the continent (2,39 million units) and the fifth market in terms of sales. This country, invests in innovation 2,55 % of its turnover over the European average (1,1 %) and 10 of 18 factories placed in Spain are between the most productive of the European Union.

TABLE I
PRINCIPAL MANUFACTURES OF VEHICLES IN 2010

Country	Total	Cars	Commercial vehicles	% 10/09
China	18.264.667	13.897.083	4.367.584	32,4
Japan	9.625.940	8.037.382	1.318.558	2,3
USA	7.741.989	2.731.105	5.010.884	35,6
Germany	5.905.985	5.552.409	353.576	13,4
South Korea	4.271.741	3.866.206	405.535	21,6
Brasil	3.648.358	2.828.273	820.085	14,6
India	3.536.783	2.814.584	722.199	33,9
Spain	2.387.900	1.913.513	474.387	10,0
México	2.345.124	1.390.163	954.961	50,2
France	2.229.381	1.924.131	305.250	8,9
Canada	2.071.026	968.860	1.102.166	39,0

Source: Estudio prospectivo el sector de Automoción en España, servicio público de empleo estatal, Ministerio de trabajo e inmigración

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G.C.G. is with the Administration and Business Department, Camilo José Cela University, Madrid, Spain (email: gcarreno@ucjc.edu).

R.M.R.J. was with Francisco de Vitoria University and Alaclá University, Madrid, Spain. He is now with the Law and Administration and Business Department, Camilo José Cela University, Madrid, Spain (email: rrejas@ucjc.edu).

P.F.J. is with the Administration and Business Department, Camilo José Cela University and Complutense University, Madrid, Spain (email: jpadilla@ucjc.edu).

C.G.M.I. is with the History and Economic Institutions Department, Rey Juan Carlos University, Madrid, Spain (email: mariaisabel.cepeda@urjc.es).

TABLE II
VEHICLE PRODUCTION IN SPAIN

Vehicle production industry	2007	2008	2009	2010
Companies established in Spain	11	11	10	10
Producers in Spain	18	18	18	18
Total production	2.889.703	2.541.644	2.170.078	2.387.900
Car Production	2.195.780	1.943.049	1.812.688	1.913.513
Commercial vehicles production	693.923	598.595	357.390	474.387

Source: Estudio prospectivo el sector de Automoción en España, serviciopúblico de empleo estatal, Ministerio de trabajo e inmigración

This leads to the car manufacturing plants to produce below their capacity, therefore the profitability, therefore, suffers. Michelle Krebs, Analyst chief of Edmun.com (web specialized in information of the automotive) affirms that "The overflow is a problem of years ago, to reduce it the offer would allow to the manufacturers to fit better to the demand, to support the prices and to gain money".

Internet has significantly impacted the information search behavior of consumer. Many consumers regularly consult Internet sources for information on products categories, brands, manufacturers, and retailers, particularly when making a purchase decision about major durable goods as Automobiles [3]. Internet has reduced search time and costs for consumers and has made a revolution in the client, it has provided with a very much major power of information to the consumer and with capture of decision, both in the sale and in the after-sales one [4], they find that the Internet leads to reduced search time on average. Younger, more educated, and higher income consumers tend to use the Internet and search the most in general. The analysis suggests that total search increases with gains to search and decreases with costs of search.

In a later study [5] this authors look at choice of sources and amount of search. They find that 60% of buyers used Internet for information and that the manufacturer source is the most important and get the highest average share of time from Internet users.

Some studies show that consumers react favorably to recommendations, particularly when the source of the recommendation is perceived to be highly credible. Recommendations reduce the difficulty of making a choice and increase the confidence associated with it. It has been suggested that this general idea is a driving force behind the large number of intelligent agents available online [6]. Word of mouth can range from casual inter-personal conversations to consumer brand advocacy where a consumer actively promotes the brand to other potential consumers. Regardless of what form it takes, however, the marketing literature

suggest that word of mouth can play a significant role in influencing consumers' purchase behavior [7]. George Day argues that word of mouth, in fact, may have the most influence among all the sources of information that consumers turn to before making a purchase decision [8].

According to information of the EGM (General study of means), 68 % of the Spanish drivers has access to Internet and, 66 % of the recent buyers of new car has used this way during the process of purchase. Therefore, Internet plays a determinant role in the process of purchase of a vehicle and the consumers understand like indispensably the Internet utilization in the process of purchase, overcoat at the moment of the models seek and to shortlist to buying. Fewer visits are observed to Official Networks to request information of product, major interconnection between the strategies on and off line and a commercial strategy differentiated on the part of the sales force to approach this more informed and demanding client. If the comparative one is realized by the Internet utilization in the process of purchase by other categories of product (great consumption, etc.) the Internet platform is in use in a much more intensive way in the category of cars, being opposite to an opportunity for the brands of this sector. The comments online have influences in the buyer of cars: the only negative comment in the network can influence the corporate reputation of a brand (6 of every 10 digital recent buying motorists of a new car, affirm that the buzz marketing influences his opinions about brands and products).

As Kulkarmi et al describes, there is a strong link between Internet use and choice of automobile, and more specifically, Internet users place more weight on ratings, while non-Internet users depend more on recommendations [9]. In this study we pretend demonstrate that the Internet users opinion's has a direct relation with the design or the design's change accounted by the automobile firms.

On the other side, innovation is considered as a necessary evil by some organizations while it is considered to be an imperative economics by others according to what Rosner says [10]. However, it can be expensive not only due to the costs of research and development but also due to the expenses related to introducing newly developed product to markets. In 2008, five of the twenty largest corporate expenditures on research and development were done by automobile firms. They collectively spent more than \$35 billion during that year [11]. It is very important for the organizations to know what consumers want, and more specifically, what consumer preferences are.

A way to know that, it would be to analyze the conversations of the consumers in Social Medias and more specifically see which are the factors to bear in mind at the moment of buying a car.

The present research wants to analyze how the comments write in web and in specialized forums from Internet: motorpasion.com, diariomotor.com and forocoches.com, which also provides review and advice on automobiles and

offers consumers multiple forums and discussion areas to post their opinions, can influences in the design of the automobile firms and in future research, it will look for relation between strategies of design based on Social Media and sales.

This paper considers the impact of Internet on choice behavior. The analysis is done on automobile choice data for three models of vehicles which have not had any change in his design during 2010, 2011 and 2012 (To corroborate that there has not been any change in these models it has consulted in the webs: diariomotor.com, km77.com, arpem.com, pagani.com, motorpasion.com, autoblid.com, motorcoche.es, coches.net, supermotor.com and the journals: Autopista and motorlife and also the web:

www.idae.es/Coches/portal/BaseDatos/MarcaModelo.aspx, one for every range or segment of market, it means, high segment (if the price is superior of 45.000 \$, low segment if is minor than 25.000 \$, and medium if the price is between 25.000 \$ and 45.000 \$.

For this ongoing research we used a longitudinal withdrawal of information has been used using information of panel.

The data consist of automobile comments in webs referenced, more specifically, eleven factors that affecting sales of the automotive industry as several studies about it like [12] and Study realized by the Spanish foundation for the road safety (FESVIAL [13]), the above mentioned factors are: performance of engine, internal space/comfort, design, price, latest technology, fuel economy, automatic change, CO₂ emission, brand image, security, after sales service (satisfaction and customer service relationship). Once definite these factors tell themselves the number of positive and negative comments relative to these factors during 2010, 2011 and 2012 for each of these three models above mentioned.

For finish it has been analyzed that factors influence more the sales, it is to say, which of these factors are more important at the moment of the sale taking place.

The models are:

- Opel Insignia and Volkswagen Scirocco for Medium segment
- Mercedes SMS ALG and Audi TT for High segment
- Fiat 500 and Ford Fiesta for Low segment

Our investigation is based on consumer conversations regarding the six models, and obtained a number of results that are shown in the following tables:

TABLE III
NUMBER OF COMMENTS IN 2010

MODEL	Total +	Total -
FIAT 500	14	16
Ford Fiesta	39	6
OPEL Insignia	143	56
Volkswagen Scirocco	32	20
MERCEDES SLS	86	21
AMG		
Audi TT	21	5
YEAR 2010	249	103

Source: Own

TABLE IV
NUMBER OF COMMENTS IN 2011

MODEL	Total +	Total -
FIAT 500	9	5
Ford Fiesta	33	11
OPEL Insignia	69	36
Volkswagen Scirocco	66	33
MERCEDES SLS	53	8
AMG		
Audi TT	26	11
YEAR 2011	256	104

Source: Own

TABLE V
NUMBER OF COMMENTS IN 2012

MODEL	Total +	Total -
FIAT 500	22	7
Ford Fiesta	22	3
OPEL Insignia	64	24
Volkswagen Scirocco	47	17
MERCEDES SLS	41	11
AMG		
Audi TT	36	23
YEAR 2012	232	85

Source: Own

As can be seen, the numbers of positive and negative comments are similar in the reference period, and remained constant in the three years that there are a greater number of positive than negative comments.

On the other hand observed that the feedback gathered in the design is the factor that has more general comments (130 positive vs. 23 negative in 2010, 93 positive in 2011 vs. 19 in 2011 and 87 positive vs. 21 negative in 2012), followed by engine performance (71 positive vs.17 negative in 2010, 65 positive vs. 17 negative in 2011 and 51 positive vs. 11 negative in 2012), fuel economy, space/comfort, and price according to the year.

Comparing it with the sales obtained in these years:

TABLE VI
SALES IN 2010, 2011, 2012 MODELS TO STUDY

Model	2010	2011	2012
Fiat 500	1.5011	2.308	5.969
Ford Fiesta	24.600	11.343	7.573
Opel Insignia	13.157	10.276	7.695
Volkswagewn Scirocco	1.3520	986	1.147
Mercedes SLS	4	2	1
AMG			
Audi TT	370	183	162

Source: ANFAC, GANVAM [14]

Different models of simple and multiple regression will be in use for being able to explain the sales from eleven described factors.

II. CONCLUSION AND PROSPECT

From year 2010 to 2011 there was a decline in car registrations in Spain of 17.7% from 2011 to 2012 by 13.4% (TABLE VII) and we see that this general downward trend of sales is the trend that occurs in all models analyzed except the Fiat 500 and Volkswagen Scirocco sales increases in 2012 (TABLE VI).

TABLE VII
SALES IN 2010, 2011, 2012 IN SPAIN

YEAR	SALES	%
2010	982.015	
2011	808.059	-17,7%
2012	699.589	.13,4%

Source: ANFAC

Therefore the fiat 500 is being studied as model shows that sales follow the same trend as the comments on the web: reference period begins with more negative comments than positive and increases as the number of positive reviews, sales are increasing.

TABLE VIII
NUMBER OF COMMENTS TO FIAT 500

MODEL	YEAR	Total +	Total -
FIAT 500	2010	14	16
FIAT 500	2011	9	5
FIAT 500	2012	22	7

Source: Own

As noted, only the Fiat 500 model offers us a relationship with the objective to develop in this ongoing study, the other models studied, follows the general trend of falling sales widespread throughout Spain. This finding suggests that, on the one hand it is shown that there is a relationship between sales and comments on Social Media and secondly that more data are needed for this result is tested with more scientific rigor.

Due to the fact that the size of the sample is very small (they are only six models) it is impossible to elaborated a statistical and trustworthy model, therefore, in future investigations is going to carry out the above mentioned study for thirty models of cars (ten for every segment). Making it this way it would be possible to affirm the first conclusions obtained in this investigation, as well as elaborate a typified model representing an ideal model for the companies according to the comments spilt on the Internet by the consumers.

These preliminary results, particularly the results of the data set for the Fiat 500, suggest the design and development of a research focused to explore the relationship between the comments in social media and sales, isolating macroeconomic variables and more specifically the current crisis. Therefore, would be organized into three distinct stages: the first would confirm whether there is a relationship between sales and comments in Social Media, the second would be to identify the weight of each factor of the 11 referred to when designing a car model and the third type to model explained above. The first one stage is confirmed by the present investigation by the Fiat 500 model.

The objective of this ongoing research we will use a methodology to study correlation and causal relationship between the eleven numerical regression variables and the response variables (sales) and initiate the steps for a causal research can explain if indeed there is a causal relationship between the regression and the responses variables.

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Ganvam: Asociación Nacional de vehículos a motor (National Association of Motor Vehicle)

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- [14] ANFAC: Asociación Española de Fabricantes y Camiones (Spanish Association of Manufacturers and Trucks)

Gema González Carreño received her B.S. degree in Chemistry from Complutense University(1994), also she is Master in Strategic Management (University of Camilo José Cela) and Master in Marketing (ESIC).She worked in Marketing Management and sales from 1995 until 2009. In the fall of 2010 she moved at the University Camilo José Cela, where she is full Professor.

She research interest is Strategic Marketing. Also she has taken part in important research projects.

Ricardo J. Rejas-Muslera received his Ph.D in Computer Science (2007) from the University of Alcalá, and his B.S. degree in Law from the Carlos III University (1996), also he is Master in Information Technologies (University of Juan Carlos I.) and Master in Law (Complutense University).He worked in IT from 1999 until 2005, in the fall of this year he moved at the University of Francisco de Vitoria, where he was full Professor, assistant director at the Engineering Department until 2008. From 2005 he has been professor and coordinator in Master Program at the University of Alcalá, and from 2010 he has been full professor at the University of Camilo José Cela.

He research interests include different aspects of business and Information Technologies and distance learning. In such fields he have published different works in relevant journals and conferences. Also he have taken part in important research projects.

Juan Padilla Fernández-Vega received his Ph D in Economics (2011) from the University Camilo José Cela, and his B.S. degree in Statistic from Complutense University, also he is Master in Statistical Methods (Complutense University).

He worked in quality from 2001 until 2011. In the fall of 2009 he moved at the University Camilo José Cela where he is full Professor and he combines this activity also teaching at the Universidad Complutense.

M^º Isabel Cepeda González received her Ph.D in Economy (2002) from the University Complutense de Madrid, and her B.S. degree in Economy from the University Complutense de Madrid (1990).

She worked in INI from 1992 until 1993, in the University Alfonso X El Sabio, where she was full Professor at the Business Department from 1994 until 2003. From 2003 she has been full professor in the University Rey Juan Carlos at the History and Economic Institutions.