Effect of word-of-mouth communication on consumers' brand image and purchase intention: Empirical study in the wilaya of Bejaia

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Received date: 27-09-2020 / Accepted date: 28-24-2021

Abstract:

This article presents the results of a study on the influence of word-of-mouth communication on consumer behavior, and more specifically on consumer attitudes and purchase intentions as well as on brand image. Indeed, based on a quantitative approach, the data were collected through a questionnaire survey conducted among a sample of students at the University of Bejaia. The results obtained show that the phenomenon of word of mouth is linked to consumer attitude, purchase intention and the image of the brand perceived by the consumer. These results also show that this link is all the more important between word of mouth and attitude than between word of mouth communication and brand image.

Keywords: Attitude, Word of mouth, Consumer behavior, Communication **Jel Classification Codes:** M30, M31, M39.

Introduction:

The importance given by academics and marketing professionals to the mouth phenomenon can be explained by the importance that they recognize in the process of consumers' decision to purchase products and services (Steyer, Garcia-Bardidia, & Quester, 2007). In this context, studies have shown the role of the word of mouth (WOM) in reducing the risk associated with purchasing decisions (Murray, 1991), the success of a product or service (Godes & Mayzlin, 2004), the level of confidence (Bergeron, Ricard, & Perrien, 2003). Other research has also shown the success of the service provider and the quality of the service provided (Parasuraman, Zeithami, & Berry,

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1988) or satisfaction (Bone, Word of Mouth Effects on Short-term and Long-term Product Judgments, 1995), (Anderson, Customer satisfaction and Word-of-Mouth, 1998).

In addition, several marketing managers have exposed the importance of word-of-mouth and its influence in the formation of attitudes (Bone, 1995), in the formulation of expectations (Zeithaml & Bitner, 1996) and in a decision-making context (Herr, Kardes, & Kim, 1991); (Bone, 1995).

For certain researchers (Murray, 1991), (Bansal & Voyer, 2000), WOM is one of the most important marketing tools. A study by (Walker, 1995) shows that 40% of Americans adhere to the recommendations of their friends or family to finalize their decision. It is considered one of the most influential sources of information for consumers (Arndt, 1967).

The individual develops attitudes through his experience, culture and environment. This last personal source between the individual and his entourage (friend, family...) influences him through word of mouth, which is a phenomenon studied in marketing contributes enormously in explaining consumer behavior, by acting on a psychological variable that is unavoidable in its study

The starting point for this work was the observation of the relationship between students as consumers in their environment and among themselves, as well as their attitudes towards products and brands, including the smartphone product.

Smartphones have taken on a great importance in the daily lives of the different bangs of the Algerian population, especially the young, which makes this product an excellent object of study.

We have chosen the mobile phone sector because it is dynamic. It has undergone many changes (consumers with new habits, products with increasingly short life cycles, also manufacturers, foreign or local, share the market and compete fiercely), this, in order to attract and retain their customers, who do not hesitate to ask the opinion of their entourage to make the purchase of a smartphone.

From there, we can pose the following problem:

What is the effect of word of mouth on consumer attitudes and their perception of the company's brand image?

The structure of our problem is based on five hypotheses formulated as follows:

H1: Word-of-mouth positively influences the consumer's attitude towards the brand

H2: Word-of-mouth has a positive and significant effect on brand image

H3: Word-of-mouth positively and significantly influences the consumer's intention to purchase a smartphone product.

H4: Brand image has a positive and significant impact on the purchase intent of the smartphone product.

H5: The consumer's attitude towards the brand positively and significantly influences the intention to buy a smartphone.

The methodology followed for the realization of this work consists of a descriptive analysis method, which starts with a literature search in order to highlight the concept of word-of-mouth as an independent variable, the consumer's attitude towards the brand and the brand image as dependent variables. Then, in order to answer our problem, we used a quantitative study based on a questionnaire distributed to a sample of students who had already purchased a smartphone.

During our research, we chose to validate our theoretical model and the different hypotheses through regression, which is a set of statistical methods used to analyze the relationship of a variable to one or more variables.

1. Conceptuel Framework:

1.1. Word of mouth

WOM has become one of the most influential tools in the purchasing decision (Chakravarty, Liu, & Mazumdar, 2010). Generally, WOM word-of-mouth can be oral, written, or electronic communication (Kotler, Keller, & Monceau, Marketing management, 2012).

1.1. Definition of word of mouth

Word-of-mouth communication is not a new phenomenon; it existed long before it was considered a subject of study by marketing researchers and practitioners (Brodin & Roux, 1990).

Among the earliest definitions is that of (Arndt, 1967): "Word of mouth is defined as "informal" person-to-person oral communication from person to person unrelated to a commercial source about a brand, product or service".

Word-of-mouth is also defined as "post-purchase behavior and is the transmission of informal communications directed to other consumers about the ownership, use or characteristics of particular goods, services and even their vendors". (Westbrook, 1987)

(Higie, Feick, & Price, 1987) Note that Word-of-mouth represents conversations motivated by salient experiences.

Word-of-mouth was defined by (Bone, 1992) and conceptualized as a phenomenon of group, an exchange of comments, thoughts, ideas between two or more individuals, none of which is considered a marketing source

More recently, other researchers have defined word-of-mouth communications, (Moulins & Roux, 2008) presented them as informal interpersonal communications between a non-commercial sender and a receiver about a brand, product, service or organization. (Palmatier, Dant, & Evans, 2007) Present it as the probability that a customer will positively recommend the vendor to another potential customer.

(Mangold, Miller, & Brockay, Word-of-mouth communication in the service marketplace, 1999) Explained that word-of-mouth is caused by a consumer's need to help another consumer, through simple coincidence and by the expression of satisfaction and dissatisfaction with the delivery of a service.

From this, we can understand that this phenomenon of word of mouth has been studied in the literature either in relation to satisfaction or in relation to dissatisfaction; it is also associated with personal recommendations, interpersonal communications, interpersonal relationships and informal communications.

(Anderson, 1998) Showed that word-of-mouth communication is greater among those who are extremely satisfied or extremely dissatisfied compared to those with moderate levels of satisfaction (Goyette, 2007). (Oliver & Swan, 1989) Confirm this finding and show that positive word-of-mouth increases with increasing consumer satisfaction. Nevertheless, some other authors contradict the findings raised by (Anderson, 1998) and (Richins, 1983) show that word-of-mouth communication can be spontaneous and that several variables other than the feeling of satisfaction or dissatisfaction can be at the origin of word-of-mouth communication.

In the course of this study, we will consider that the concept of word-of-mouth represents any informal communication unrelated to a commercial source. The latter is done through the means of communication with the aim of helping a third

party to make a decision to purchase a good or a service, by allowing them to form beliefs as well as attitudes towards the object of the purchase in question

1.2. Dimensions and word-of-mouth measurement

A study of the marketing literature shows that several marketing and communication researchers have taken an interest in this concept. However, a minority of them have focused mainly on the measurement of this phenomenon.

(Higie, Feick, & Price, 1987); (Mangold, Miller, & Brockay, 1999) and (Bone, 1992) measure the word-of-mouth phenomenon using a single dimension generally consisting of one or two statements. Other authors; (Harrison-Walker, 2001), (Godes & Mayzlin, 2004) and (Goyette, 2007) are the only ones to have devoted their research to the measurement of word-of-mouth.

According to (Godes & Mayzlin, 2004), this small number of studies with a low number of dimensions and statements used can be explained by the fact that the measurement of word-of-mouth comes up against at least three constraints:

Firstly, the difficulty of collecting data and directly observing the exchange of information as it takes place in a private setting. Second, the difficulty of measuring interpersonal statements. Finally, the fact that word-of-mouth takes into account past and not future behaviors that are of great use to the company.

In addition, the paucity of studies focusing primarily on word-of-mouth communication, and the fact that this phenomenon is

considered relatively new, means that the measurement of word-of-mouth is based, in most studies, on a very limited number of statements (Harrison-Walker, 2001).

The number of dimensions that are taken into account in word-of-mouth measurement differs from one study to another. The literature allows us to identify six dimensions: the former studies (Higie, Feick, & Price, 1987), (Mangold, Miller, & Brockay, 1999), (Bone, 1992) measured the "content" dimension of word-of-mouth. This dimension takes into consideration items describing the information disseminated such as the price, product or service offered.

(Harrison-Walker, 2001) looked at two dimensions of word-of-mouth: the "praise" dimension of word-of-mouth, that is, talking about the good side of the business, and the "activity" dimension of word-of-mouth, which includes all statements related to the action of doing word-of-mouth (Goyette, 2007).

(Godes & Mayzlin, 2004) Have focused on two dimensions of word-of-mouth: the "volume" of word-of-mouth, which includes the frequency with which a person engages in word-of-mouth communication as well as the number of people engaged in word-of-mouth communication (Moulins & Roux, 2008) and the dispersion of word-of-mouth.

1.3. Concept of Attitudes

Attitude is a central element of consumer behavior. His initial study in psychology quickly developed into an understanding of consumer choices and the ordering of preferences among various offers. Attitudes express the consumer's positive or negative orientation towards an object.

An attitude summarizes evaluations (positive or negative), emotional reactions and predispositions to act on an object or idea. It is a summary of the attitude of a person who has a positive or negative attitude towards an object or idea. (Kotler, Keller, & Monceau, 2016)

An attitude is an overall evaluation that expresses how much we like or dislike an object, issue, person or action. Attitude are learned, and they tend to persist over

time. Our attitude also reflect our overall evaluation of something based on the set of association linked to it. Thus, we have attitudes toward brands, product categories, and ads, people type of stores, activities and so forth.

The importance of attitudes

Attitudes are important because they serve several functions (Wayne & Deborah, 2001):

- They guide our thoughts (the cognitive function)
- They influence our feeling (the affective function)
- Affect our behavior (the conative function)

An individual's attitude towards a product is an intermediate stage between need and motivation on the one hand and the actual act of purchasing on the other. It is supposed to be a predictor of behavior.

When the consumer's attitude towards a product or brand is positive or very positive, the consumer can indeed be expected to buy, or at least consider buying, the brand in question. Conversely, a brand for which the consumer's attitude is unfavorable is unlikely to be chosen by him.

The debate on the links between attitude and behavior is old. Intent to buy can be defined as the probability that a consumer will buy a product or service or as the willingness to buy the product in the future (Dodds, Kent , & Grewal , 1991). It represents a good indicator, even an assessor, of the future behavior of individuals in marketing literature.

The authors define purchase intent as the probability that a consumer will purchase a product or service or the willingness to purchase the product in the future. Intent to purchase is, according to some researchers, influenced by the perception of families and their role in the purchasing decision of other members, friends, and the media (Sayah, 2018)

1.4. Brand image

The brand image could be defined as the set of representations associated with a brand, whether cognitive or affective. For (Aaker, 1994), this image will create value for the brand for at least five reasons:

Indeed, the brand image helps the consumer to manipulate the information he receives (an image synthesizes a set of characteristics, making it easier for the firm when it communicates as well as the consumer's act of purchase, as he or she can remember certain points when making a purchase decision). It differentiates (an image trait that clearly differentiates becomes a competitive advantage, especially for banalized products whose objective characteristics are close from one brand to another). It also gives the consumer reasons to buy (the image often refers to product attributes that give reasons to buy and use the brand).

Brand image develops positive attitudes (characters and symbols associated with brand communication can develop very positive feelings that nourish the brand image while diminishing the impact of negative criticisms made against the company); and finally, the image is the basis for brand extensions (image traits can help an extension through the existing coherence between the brand and the new product). Following this literature review, we can see that academics and researchers seem to agree on the effect of word of mouth on consumer attitudes and brand image. Based on this literature review, we have established the following research model:

Word of Mouthe

H3

Purchase Intention

H4

Brand Image

Figure N°01: Research model

2. Methodology and materials:

In order to answer the main problem of this work, as well as the various secondary questions, the research relied on the descriptive and analytical method using the empirical survey for data collection. This was achieved through the questionnaire, which was designed to reflect the research objectives and test the relationship between the study variables .

We were able to distribute 300 questionnaires during the first semester of the current year; the target of our survey is the students of the Faculty of Economics, Management and Commercial Sciences of the University of Bejaia.

2.1. Choice of measuring instruments

The term measurement refers to the act of assigning a symbol or a number to object characteristics according to certain predefined rules (Malhotra, Décaudin, & Bouguerra, 2007).

The appropriate tool to measure the characteristics of the object of our study is the use of measurement scales. The measurement scales of the variables constructing the research model were made on the basis of scales already existing in the marketing literature and according to previous studies in the desired context.

Another factor that was taken into consideration in this step was the psychometric quality of the scales, through their reliability and validity, which has already been measured in other research.

As mentioned above, several scales have been developed to measure the concept of word-of-mouth: Moulin (2004), (Zeithaml, Berry, & Parasuraman, The behavioral consequences of service quality., 1996)...etc. Some scales measure a single dimension, while others measure two or more dimensions.

In our research, we used Harrison-Walker's (2001) scale, with the following two dimensions: the "praise" of word-of-mouth, that is, talking about the good side of the company, and the "activity" of word-of-mouth, which includes all statements related to the action of doing word-of-mouth. The items selected in this scale express positive word-of-mouth as well as the recommendation (see Appendix). For the first two components of attitude (beliefs and feelings), we used the (Munch & Swasy, 1988) scale, which is composed of three items. The third attitude component represented by the intention to buy is measured using the (Xia & Bechwati, 2008) scale containing three items (see appendix).

For branding, interviewees were asked about their level of agreement or disagreement with three proposed items on indicating the importance of branding

in the choice of brand X of a smartphone product, a scale proposed by (Davis, Golicic , & Marquardt, 2009).

2.2. Purification of scales

The principles for validating a measurement scale were presented by Churchill (1979), who proposed an approach to reinforce and ensure the validity and reliability of the measurements that the researcher makes. The KMO index and the Bartlett test allow the researcher to check whether the data accept factorization.

The value of the Kaiser-Mayer-Olkin index is greater than 0.7, indicating that the correlations between the items are of good quality. Then Bartlett's test of sphericity is significant (p<0.0005), so we can reject the null hypothesis that our data come from a population for which the matrix is an identity matrix. Therefore, not all correlations are equal to zero. We can therefore continue the analysis. To check validity and reliability of the Word of mouth scale, we performed a confirmatory factor analysis (using SPSS software). The analysis revealed two dimensions, examining eigenvalues that are greater than one allows us to extract two factors that explains 82% of the shared variance.

The reliability of the scale was measured using Cronbach's Alpha coefficient, which was

Of the order of 0,799, a value that represents high reliability according to (Malhotra, Décaudin, & Bouguerra, 2007).

For the measure of attitude, the scale in question accepts factorization, because the KMO index is average (0.570) with Bartlett's test (p<0.000). Only one factor was extracted, which explains 81.25% of the variance. Cronbach's Alpha is excellent with a value of 0.819.

The scale measuring the respondents' intention to purchase gave satisfactory results in terms of reliability with a value of 0.784 Cronbach's alpha, as well as the KMO index which is higher than 0.7;

The result obtained from the calculation of the KMO index for brand image scale is acceptable (0.658), also the Bartlett sphericity test (p<0.005) is satisfactory, indicating that the data accept factorization.

Examination of eigenvalues that are greater than 1 (default option) allows the extraction of a single factor, which explains 79.33% of the shared variance. This scale of measurement has a good reliability of internal consistency with a coefficient Alpha =0.801.

3. Results and discussion

3.1. Relationship between word of mouth and Attitude

The calculation of the correlation coefficient gives a synthetic measure of the intensity of the relationship between two variables, thus giving us information on the existence of a linear relationship (in the form of a straight line) between the two variables under consideration.

The following table presents the results obtained following the analysis of the data with the SPSS software.

In order to model the relationship between word of mouth and Attitude, we used linear regression; the results are presented in the following table:

Table 01: Results of the linear regression analysis between WOM and Attitude

		R-	A	В	T	sig
	R	squared				
WOM	0,745	0,699	2,004	-	1,547	0,011

Praise	-	-	1	0,041	0,400	0,000
Activity	-	-	-	0,301	1,050	0,030

Source: Based on the results obtained with SPSS

Results of the above table indicate that there is a significant positive impact of word of mouth on Attitude at the level ($\alpha \le (0.05)$). This correlation is estimated with a rate of 74.5% between the two variables.

The R squared, or the coefficient of determination, which measures the quality of prediction of a linear regression is estimated at R²=0.699, which explains that the two dimensions of the WOM, when they are considered, explain 69.9% of the consumer's attitudes towards the product. Therefore and based on these results, hypothesis H1 is verified.

3.2. Relationship between word of mouth and brand image

Hypothesis (H2) proposes to test that the WOM has a positive effect on brand image. This relationship has been of the first hypothesis of our research. The results in the table below show that the relationship is significant and positive, with a regression coefficient of 0.499, p=0.00. Therefore, the hypothesis H2 is validated.

Table 02: Results of the linear regression analysis between WOM and brand image

		R-	A	В	T	Sig
	R	squared				
WOM	0,499	0,413	0,187	-	3,233	0,001
Praise	-	-	-	0,018	0,255	0,002
Activity	-	-	-	0,207	1,001	0,000

Source: Based on the results obtained with SPSS

3.3. Relationship between word of mouth and purchase intention Table 03: Results of the multiple linear regression analysis between WOM and purchase intention

		R-	A	В	T	Sig
	R	squared				
WOM	0,590	0,501	1,005	-	2,815	0,003
Praise	-	-	-	0,011	0,255	0,000
Activity	-	-	-	0,207	1,001	0,002

Source: Based on the results obtained with SPSS

From Table 3, we can observe that the Sig is less than 0.05. This result confirms that the correlation coefficient R is statistically significant at the level ($\alpha \le 0.05$), in other words, there is a significant relationship with a correlation level estimated at 59%, at the level ($\alpha \le 0.05$) between the two dimensions of WOM and the consumer's intention to purchase a product.

In general, the higher the R-squared, the better the model fits your data, it is the percentage of the response variable variation that is explained by a linear model. For this model, the R squared is estimated at 0,501; which means that the dimensions of the WOM explains 50% of variation in the consumer's intention to purchase. Result that lets us verify the third hypothesis put forward.

3.4. Relationship between brand image and purchase intention

In order to confirm or not the relationship between brand image and purchase intent, we based ourselves on the calculated value of the R squared. The results show that indeed, there is a positive relationship between the two variables but that it is not strong; the brand image perceived by the smartphone user explains 35% (R squared at 0.35) of the purchase intent, except that this relationship

3.5. Relationship between Attitude and purchase intention

On the other hand, and according to the results in the table below, we also find that the relationship between consumer attitude towards the product and purchase intention is significant since the coefficient β =1,154 with (R2=0.483) and p =0.003) which confirms the hypothesis H4.

Table 04: Results of the linear regression analysis between Attitude and purchase intention

		R-	A	В	T	sig
	R	squared				
Attitude	0,557	0,483	1,005	1,154	2,815	0,003

Source: Based on the results obtained with SPSS

These results in fact support the existing literature. They thus affirm the role of word of mouth on consumer behavior and more precisely the consumer's attitude towards the product and his purchase intention. In the literature, word-of-mouth refers to the action of communicating about one's experiences with the company to those around one, recommending it to others and directing them towards it (Brown, Barry, Dacin, & Gunst, 2005) (Zeithaml, Berry, & Parasuraman, 1996).

Several marketing researches have confirmed that word-of-mouth is a source of influence on consumer preference and consequently, on their choices (Zeithaml, Berry, & Parasuraman, 1996). Word-of-mouth is seven times more effective than magazines and newspapers, four times more effective than sellers and finally, twice as effective as radios in influencing consumers to change brands.

This research confirmed these statements, while specifying that the relationship between the three variables is different. In other words, there is a positive and significant relationship, except that the influence of word-of-mouth is more important on attitudes than on purchase intention, i.e. consumers influence other people in terms of many more beliefs, opinions and feelings than on the expression of a purchase intention towards the product.

In addition, these results and the significant and positive relationship between word of mouth, attitude and purchase intention oblige managers to develop positive and strong attitudes towards their products. Changing attitudes is considered to be a long and difficult operation, which is partly due to the consumer's personality, experience, connection with social values and the degree of rootedness of attitudes and their complexity.

Conclusion:

Attitudes reflect the ability of human beings to organize themselves, their experiences, even their motivations, into rather coherent and stable mental sets. Attitudes allow us to adapt quickly to diverse situations and to simplify the vision of a very complex world through the stereotypes and beliefs they contain. Attitudes can be very different from one person to another and they can relate to any type of object and question, it is for this importance and role of attitudes in explaining consumer behavior, that the explanation of their relationship with other variables remains important.

Our research shows that word-of-mouth has a positive effect on attitude, brand image and purchase intent, especially towards the smartphone product. These results show once again the role and importance of word-of-mouth communication compared to other means of communication. The statistical results lead to two main findings: the first is to confirm the positive and significant relationship between consumers' attitude, purchase intention and brand image with their antecedent (word of mouth). Second, the strength of the link between word-of-mouth as a precedent and the other variables is different: the relationship between WOM, attitude and purchase intention is stronger than with WOM and brand image. From this, we can see that this work is of interest to business managers and marketers, as it confirms once again the role of word-of-mouth communication in developing a positive attitude towards the brand and the product.

Finally, there are some limitations to this study, such as the sample size: it would have been more appropriate to use a probability sample given the existence of lists of all students in the faculty, due to time constraints and the difficulty of reaching all of them, we settled for a non-probability sample. The choice of a single product (smartphone), the study and the comparison between two products can be an important object of study, so other explanatory variables could better explain the influence of word of mouth on purchase intention. These limitations could be a starting point for future research.

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Appendices: Measuring scales using

Measuring scale	Item				
Word of Mouth Harrison-Walker's (2001)	 I will recommend this brand to anyone who asks me for help. I will encourage e my friends and family to become customers of this brand (company). If one day a discussion leads me to talk about brands in general, I will speak favorably about the brand of smartphone I have purchased. I will say positive things to those around me about this brand. 				
Munch & Swasy (1988)	 My opinion of the brand is good/bad I don't appreciate this brand at all / I appreciate this brand a lot This brand is unpleasant/pleasant 				
Purchase Intention Xia & Bechwati (2008)	 It is very probable that I will buy this brand. If I had to decide now, I would probably buy this brand. The probability that I will buy this brand is high 				
Brand image Davis, Golicic & Marquardt (2009)	 Compared to other brands, this product/brand is of high quality. This product / brand has a rich history Customers can reliably predict how this product / brand will work 				