Studying the Digital Marketing Strategy through Big Data in Banking Sector

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Abstract
Along with the development of the Internet and IT technologies, there were noted changes in Digital Marketing Strategy also in Banking Sector. Until recent times, the customers have not had access to a wealth of information about a particular financial product, nor a wide range of financial products available from which to choose at the time of purchase. Thus, until a commercial product was purchased, the buyer went through several stages of the buying process. Banks made real efforts to understand their customers better, why they choose certain financial products, and what their needs are. Researches, tests, and studies were conducted on customers behavior, for the banks to be able to deliver financial products and services that matched the expectations of its customers so that they can be satisfied. But now, in a century of speed and permanent change, more and more customers use the internet in all daily activities from work to leisure activities, social networking, information, shopping and perform banking transactions. These online activities are recorded as datasets and become parts from the Big Data technology. Using the Big Data technology both customers will be able to find the right financial product or desired information, and the Bank to better understand their customer's behavior and thus better address digital marketing campaigns.

1. Introduction

The same word, the same question can be set aside for each of our height. They can be interpreted clearly in a diametrically opposite way because they are unique, different, and all of them can stimulate the care of provoking individual reactions with a robust psychological significance. But if we look at the whole can be covered individually or a universal pattern is revealed, we observe that it is respected with a set of laws that defines human nature. The field of study consumer behavior is necessary to put into practice a private marketing system, which may be in care during the care period more and more prominent because the strategy can succeed in businesses being consumer-oriented.

The Financial-Banking Services analyzes by the same principles the behavior of the consumers to identify the banking services suitable for each need of the consumers as well as the most efficient means of communication with them.

2. Influence factors in the study of consumer behavior

The concept of marketing refers to any economic activity that focuses on the satisfaction of consumers. Consumer behavior is a side of industrial business, which in turn represents a side of human behavior. (Balaure, et al. 2002)

According to Balaure, et al. (2002) "Consumer behavior can be defined, as a whole approach, as representing all the decisions made individually or by group, directly related to the obtaining and use of goods and services, to meet current and future needs, including decision-making processes. That precedes and determines these acts ".

There are four types of factors that are influential in consumer behavior, and these are individual influencing factors. These factors are classified in four ways: cultural, social, personal, and psychological. Cultural factors are the most substantial component of consumer behavior because they are based on patterns of behavior created from childhood.

Social factors are influenced by reference groups, family, social status, and role. The reference groups represent all the groups directly or indirectly involved. The groups that are part of the direct influence are those people from the service team, professional associations, party associations. The degree of control of the reference groups differs from product to product. The influence varies according to the product life cycle by the novelty of the product just out of the market, the importance of buying the product being caused by the buyers and not by the brand.

Another important social factor is the family, and here we refer to the influence between children and parents, but also the impact between spouses. The implications between children and parents are given for example by the mother's remembrance of how she taught the children to make tasty food, and the influence between the husbands is granted by choice of the wife when it comes to detergents.

The last social factor of influence is social status and role.

Personal factors give the third category of influences on consumer behavior. These factors are also classified into an occupation, material situation, life cycle stage, lifestyle, personality, and self-esteem. Preferences differ from man to man, as it varies according to age; for example, we do not dress the same at the age of 10, 20 years, and so on. The life cycle stage differs from person to person, and some are jealous, live with parents or are recently married.

The choice of a product is different for each one because it depends on the real situation of the respective person. Another factor of influence is the lifestyle of consumers, which is different because the way of life and activities of each individual are not alike. (Balaure, et al. 2002).

Personality and self-esteem are other personal factors of consumer behavior. According to Pînzaru, (2009), "Personality is usually analyzed according to characteristics such as self-confidence, mastery, independence, respect, sociability, defense capacity, and adaptability. On the other hand, many marketers resort to a concept related to personality - the self-image of the person. That's why marketers are trying to create brands whose images match the self-image of the people in the target market. "

The last category of influencing factors is psychological factors that include motivation, perception, learning, attitudes, and conceptions. From the latter category comes Maslow's theory, which is classified as physiological needs, safety needs, social needs, personal needs, and the need for self-improvement, which implies the feeling of self-realization. (Balaure, et al. 2002)

According to O'Sullivan and Hill, (1996): "The consumer can become aware of a certain need through an internal imbalance, whether of a physical or psychological nature, which can be solved by purchasing a good or service."

The financial savings represent the primary benefit for promotional sales, and the primary benefits represent the savings, the quality of the products, the comfort in the market, the expression of the value obtained and the entertainment. Consumer behavior falls into two categories: utilitarian and hedonic.

According to Tong, et al. (2012) "Situational factors are the causes of the influence on consumers in promoting the sale, such as the environment, the physical circumstance, the temporal perspective and the definition of the tasks. The social experience of consumers can influence the time of shopping because they would prefer the choices of social companies. Social factors can increase consumers' preference to buy products or services. Consumers can enjoy shopping and perceive it as a chance for social interactions. A pleasant physical environment can have a significant value for consumers' attraction to the mall. "

The time perspective consists of the sales period and the time consumption during the sale.

Following studies on factors that influence consumer behavior during shopping, several insights have been drawn about a survey done on personal factors on the decision to buy consumers in the cosmetic industry versus men's skincare products in Vietnam.

According to Khuong and Duyen (2016): "The study applied a quantitative approach to collecting data through a survey based on questionnaires and analyzed the data collected using descriptive statistics and ANOVA. The study concluded that personal factors could affect the purchase decision of consumers in the cosmetics industry. Also, other studies have determined that personal factors influence the buying behavior of consumers"(Rehman, et al. 2017).

Practitioners competing in the virtual world have always been interested in understanding the mechanisms of virtual shopping and online consumer behavior. Most buyers prefer to buy their stuff online, and this accounts for more than 20% of most countries. In the US, over 50% of buyers already purchase their online shopping.

A study conducted on this topic identifies two groups of uncontrolled factors, these being consumer characteristics and environmental influences, followed by three controllable groups: product characteristics, standard features, and trader characteristics.

It is emphasized that most researchers argue that in traditional markets, the interaction of controllable and uncontrollable factors underlies the online decision-making process.

"In addition to the individual and external uncontrolled factors that influence the purchasing behavior, exposing customers to the company's marketing can affect the decision-making process by providing information for the black box of the consumer where the data is processed before the final consumer's decision. Online marketing can influence the decision-making process of virtual customers by involving traditional physical marketing tools, but mainly by creating and providing a correct online experience, the Web experience: a combination of online functionality, information, emotions, indices, stimuli and products / services, in other words, a complex mixture of elements that go beyond the 4P of the traditional marketing mix. "- according to the statements made by Kotler, (2003).

3. Use of Big Data in banking services

Evolved technology influenced the behavior of consumers, being observed significant changes in the way in which these decisions in the purchasing process and the interaction with the organization. Impressing them, they became the most admirable and the most intolerant of marketing communications. They no longer trust the message for an organization product, so they access social forums, search for user reviews, and watch video demonstrations during the

information search stage. The evaluation of alternatives is also done in the online medium through specialized websites for the comparison of products so that you can see the characteristics of quality prices.

Consumers are consuming what is most of them digitally. Media consumption is completely digital at this time (Netflix, Pandora, news sites, Kindles, iTunes). The offline part of the lights is shrinking

Big Data refers to the large volume of data sets flowing at a very high speed. If actual data sets are processed, they can be extracted from valuable information. In the meantime, there are five differentiated characteristics of data sources: volume, variety, speed, veracity, and values.

Big Data grows every second; you grow up. Social media customer behavior is a significant factor in the phenomenon. The exponential increase resulted from the use of non-social media consumers and the growth of IoT.

There is information generated by all consumer decision-making cycles, including what the consumer does, how it is done, where it is consumed, when consumed with whom it consumes.

In marketing, the main engine of interest for Big Data is its potential utility for informing marketing decisions and for conducting marketing campaigns. Some authors have suggested that the analysis of big data consumers has transformed the significant way in which marketing is carried out.

Two Big Data analysis techniques are predictive analytics and machine learning. Analytical analysis refers to the anticipation of actions based on predictors by which the prediction methods are built.

Some of the values created by Big Data are the collection of some data on the most detailed performance (real-time or near time) about everything, segmentation of populations for the purpose of customizing actions, replacing / supporting the decision-making processes, the help of the product, the service of the enterprise, the function of the algorithm.

Many organizations have implemented Big Data-type applications, conducting business activities to make money from big data analytics. Such organizations can create customer images and use them as the foundation stone profiling tools to build custom documents for customers.

Big Data is also the next frontier for innovation, competitive advantage and productivity, the Big Data Adapter has become a vital tool in the organizations' activities, and they have never wanted to survive in a competitive era. Also, the notions of "artificial intelligence" and "cognitive computers" are meant to represent the next step in the Big Data study and behavior. The ability to learn how to apply human thinking processes to machine learning opportunities when it comes to testing and optimizing marketing campaigns.

In the area of banking services, the use of large volumes of Big Data type data has become an action included in the marketing and communication strategies, both to realize the behavioral models of the clients and to identify the most efficient methods of communication with the clients.

4. Methodology research

Within the article, a qualitative study was conducted using the interview guide as a research tool. It consisted of a set of 6 questions that contained indications and references to the topic of the discussion and which was addressed to specialists in the banking financial field. The purpose of the research was to identify the efficiency of using large volumes of data in knowing the needs of consumers, and among the objectives were to determine the impact that the evolution of banking services in the online environment had on consumers, to identify the

most used means of communication implemented by banks in the relationship. With customers, determining the measures imposed by the bank to understand the clients' needs better, identifying the big data tools implemented by the respective bank and the extent to which the online applications and the use of Big Data in their optimization represent an advantage for the bank.

Following the application of the interview guide, the following answers were obtained:

1. **With the development of the Internet and IT technologies, changes have been observed in the digital marketing strategy and the banking sector. What changes do you think have happened in the relationship with the clients within your company?**

- I believe that closeness to the client was created, in the sense that now he had communicated interacting with the clients/prospects, the majority of the media in the social networks. The marketing/communication strategy has become mapped, with the information coming exactly where it is needed, the customers getting the information about the products they would be interested in.

-Visibility in the online environment is more accentuated with the evolution of technology (social media, partnerships with big customers on the side of online payments, etc.)

-Delivery of offers for the defining product having as basis the information of the client's behavior in using the Internet resources.

-Sending the information to the customers in the online medium thanks to the help the customer knows precisely what interests them.

-Clients use all the online media for communication with the bank. Offering applications in the online environment to meet the needs of the clients as well as the client is no longer needed in the branch.

-Customers have quick access to information. The new digital marketing strategy for communicating with customers has become a reality.

-Customers are expecting high-speed access to financial information, and they will simplify banking operations (fewer documents, fewer steps, more comfortable to access).

Also, the customers expect that the information about the operations carried out about the bank will be transferred quickly and the simplest of the computer applications.

2. **Until recently, customers did not have access to a lot of information about what is called a financial product, a wide range of financial products available to choose the most advantageous outcome. What means of informing and promoting the use of communication with clients?**

-Website, Facebook page, Instagram account, Google Ads, newsletter, SEO, branch offices, Participation in events/fairs/ conferences

-Email, SMS, phone, online marketing: facebook

-Forms of promotion banners provided through the medium of social media platforms and content analysis platforms. Email marketing campaigns with personalized content for the client.

-Company site, Facebook page, Instagram account, Participation in profile fairs,

-Advertise radio, TV, Internet advertising, a website of the company, Facebook page, Instagram account.

-Participation in trade fairs, mobile sales offices in shopping centers

-Bank branches, radio ads, TV, Internet advertising, website, company page, Facebook page, Instagram account, Google Ads, newsletter, SEO,

-Participation in trade fairs, events, conferences, mobile sales offices in shopping centers

-Advertise radio, TV, Internet advertising.

-Participation in profile fairs (such as real estate), mobile sales offices in shopping centers.

3. Until the purchase of a financial product, the buyer passed through most of the calls of the buying process. What do you consider to have been enforced in this regard in the bank where you work?

-Marketing budgets for the customer's approach.

-Optimizing the client-bank relationship (updating data in the call center, activating/deactivating services from the bank's account)

-Attempting to know the customer's needs at a certain point in the delivery of some dedicated products.

-Use of information related to the accession number for certain products produced by the company

-Completion of some customer questionnaires for businesses.

-Improve the relationship between the customer and the customer by providing services and options that are customized according to the customer categories.

4. In a century of speed and permanent change, all the most frequent cyclists use the Internet to return daily activities, from work to leisure activities, social networks, information, shopping, and transactions. These online activities are registered as datasets and separated from Big Data technology. The bank you work in. Do you use such data sets? By what means are they implemented and utilized?

-Techniques of monitoring, analyzing traffic on the leading site to collect information about the typology of the clients to offer personalized products.

-Analyzers of performance indicators automatically deliver product types.

-We use the techniques of monitoring the traffic analysis of online platforms to collect the relevant data.

-The large company manages some customer information on the facebook page.

5. Do you consider that using the volume of data within the product strategies represents a competitive advantage of the Bank you work in? Why?

-Yes, I think it is an advantage over the competition. The company is a well-known customer, as well as the products/services offered, are necessary.

-Yes, because the information about financial products becomes easier for the customer.

-The possibility of optimizing the offers in a short time depending on the performance and the impact had during the promotion.

-Yes, I think it represents an advantage in the face of competition for the bank that can offer products customized for the customers.

-Yes, I believe it represents an advantage in the face of competition for the bank as it could have customized products for customers.

6. Do you think that using Big Data technologies, the Bank will be able to meet the needs of the customers? Why?

-Yes. The company is also the right customer, and the products/services are offered.

-Yes, due to the trends resulting from using these technologies.

-Yes. Knowing the needs of the customer, they can offer a product as close to the criteria as possible.

-Yes. Using Big Data technology, the company understands the customer's need to provide the services and products that are customized for the child.

-Yes. Using Big Data technology banks can know the customer so that they can offer the product to the customers.

-Yes. Using Big Data technology banks can better understand the behavior of new customers and the power of providing personalized services

-Yes, the use of Big Data offers competitive advantages for organizations that use them to enable them to make the most of the customer needs and offer them personalized products.

7. Do you think that the use of Big Data technologies is an efficient tool for developing online marketing campaigns? For what reason?

-Yes. Marketing companies will target the categories of customers interested in a particular product/service.

-Yes. More and more customers use the internet in all their daily activities. The online environment is the most used in marketing campaigns

- Yes. Online marketing companies will promote the product of each client's needs.

- Yes. By using Big Data technologies in the development of online marketing campaigns, we can target every client.

-Yes. By using Big Data technologies in the event of online marketing campaigns, we can promote the individual products of our clients' needs.

-Yes. By using Big Data technologies in the development of online marketing campaigns, we can get the attacks of each client's needs individually.

-Yes, because they allow the understanding of the client's profile, and once this information is available, it can be used to promote a particular product according to the client's capabilities.

As a result of the obtained results, we can observe that the specialists working in banks agree that the development of online communication tools with clients and the emergence of mobile banking applications have significantly increased the satisfaction of the clients and their degree of information regarding the banking services offered. Customers are satisfied because they have high-speed access to financial information and simplify banking operations (fewer documents, fewer steps, more comfortable to access).

As a means of promoting and communicating with clients we can see that the banks have used numerous channels such as Website, Facebook page, Instagram account, Google ads, newsletter, SEO, affiliates, Participation in events / fairs / conferences, Email, SMS, telephone, forms of promotion banners provided through social media platforms and content analysis platforms, participating in profile fairs and so on, to get as close as possible to the different categories of customers and to inform them about at the financial services available.

Through technological development, the use of Big Data tools for collecting information about clients of financial and banking services has become a competitive advantage of companies on the market. Through them, we can offer personalized products according to the needs and possibilities of the clients, and we can also design efficient marketing campaigns to reach where the right customer is.

Conclusions

We can conclude by saying that for more profound identification of customer needs, banks have used various methods of research and optimization of customer relationships, including optimizing the customer-bank link (updating the call center data, activating / deactivating services on their own account. of the bank), trying to know the needs of the client at a given time in the delivery of dedicated products, using information regarding the accession

number for certain products produced by the company, completing questionnaires for clients for businesses. All these approaches have been used to increase the satisfaction of users of financial-banking services.

In trying to identify which are the most efficient big data tools used by banks for collecting information by customers, we could see that they are varied, mentioning monitoring techniques, analyzing traffic on the leading site to collect information about the typology of customers to offer personalized products and even the collection of information through the Facebook pages of the users.

As for the attitude of the bank's specialists regarding the usefulness of using Big Data tools for analyzing customer needs, most of them mentioned that this aspect represents a competitive advantage over other banks because the information about the financial products becomes more comfortable for the customer, it appears the possibility to optimize the offers in a short time, depending on the performance and the impact had during the promotion, and the financial products can be adapted to the needs of the customers and can thus offer them personalized services.

Also, the use of Big Data tools is an advantage in designing online campaigns, because using Big Data technologies in the development of online marketing campaigns, individual battles of the needs of each client can be obtained and allow understanding of the customer profile and, once this information is available. It is possible, and it can be used to promote a particular product according to the client's capabilities.

Acknowledgments

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