LBS Marketing

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Abstract

The Marketing, along with the Geographical Information Systems was one of the sciences that experienced a greater advance in the last quarter of the XXth century; although born independently from one another; both sciences have come closer throughout the years, especially when the subject was related with the business world. This article aims to show how GIS have changed Marketing, in its way of understanding the products, consumers and markets. After the appearance and the popularisation of Geo Marketing and Mobile Marketing, it makes sense today to talk about LBS Marketing, that is, the use of Location Based Services in Marketing and its underlying advantages, especially those that generate an increase of effectiveness in customer loyalty.

Key words: Marketing, Geo-Marketing, GIS, Data Mining, Spatial Data Mining and Location Based Services.

Marketing

There are many definitions for Marketing, but as an example we can use three of them, from well-known authors:

- Marketing it's the process through which the economy is integrated in the society to serve the needs of human beings. (Peter Drucker)
- Marketing it's the process to attract and to keep the customer. (Levitt)
- Marketing it's an orientation of the management whom it aims at in the long run to provide to the satisfaction of the customer and well-being of the consumer, as form to satisfy the objectives and the responsibilities of the organization." (Kotler)

As we see, all of them are related to the customer satisfaction. We can say that Marketing it's the science that identifies, creates and satisfy customer needs.

The marketing departs from the concept that the demand and offer are heterogeneous, that is, that the demand departs from a set of consumers whose preferences are distinct between itself, and that the offer is composed by a set of manufacturers whose products present certain degree of dissimilarity. The marketing looks for the best possible coupling between segments, offer and the demand.

The main Marketing management decisions can be classified in one of the following categories:

- Product
- Price
- Place
- Promotion

It's the Marketing Mix. The perfect mix of these four variables dictates the success of any organization in the market where it's involved.

The meaning for each P is:

> **P for Product** – it is everything that is capable to satisfy a desire or a need. It can be physical or virtual (service). This element plans and manages the image of the given benefit. It is strongly connected with the concept of economical good, in other words everything that as utility for someone.

> **P for Price**: it is the aggregate value that justifies the exchange. The moment of product ownership it's defined by this factor. It is not only connected with the price list but also includes discount policies and financing solutions.

> **P for Place**: the local or the chain for which we will offer the product. This element plans and manages where, as, when and under what conditions the product will be placed in the market.

> **P for Promotion**: it is the system of communication and relationship that interacts with the internal and external market of the organization. This variable has several such as: Merchandizing, Franchising, Telemarketing, and many others that must be worked by the marketer in order to reach the customers.

Location Based Services

Mobility has always assumed a basic role in the history of the humanity, being one of the main causes for the development of our civilization. Presenting advantages, it also had many disadvantages throughout many thousands of years, namely due to the lack of communication resultant from the great distance between communities or the individuals. This fact was overcome with the telecommunications appearance, and has changed in a radical way with the appearance of mobile telecommunications.

In global terms the Location Based Services can be defined as services that use the capacity to determine and to transmit in a dynamic way the localization of one given entity, through a mobile communication network. In the case of the user these services are materialized in the form of a service available in a mobile communication device.

From the analysis of several definitions of Location Based Services, available in literature, all of them have a common factor, which is the geographic location. In fact, the LBS are not more then a service based on the current localization of the user. The initiative of that service could come from the user, for example to know the localization of a certain restaurant, or could come from the server of the LBS (e.g.: when it detects the proximity between the user and a certain restaurant with a specific promotion advising the customer for that situation through a message).

The number of possible applications of the LBS is very high, because they are very connected with something basic to humans, the mobility.

GIS and Location Based Services

A common definition of Geographical Information Systems (GIS) found in literature relates this technology with a tool that associates databases and digitalized maps. Concepts ampler than this are presented nowadays. A complete GIS consists of at least five components: software, hardware, geographical data, people and the organization. If a system is implemented in an company, only the software is not enough to work with the database and the digitalized map, is important that exists: qualified personal, an objective in the use of the system and the interaction with other areas inside of the organization. Therefore, GIS is a collection of software, hardware, geographical data and people to facilitate the process of decision taking into consideration that involves the use of geo-referencing information in the organization.

GIS can be defined, in general terms, as Information Systems that process spatial data. In the same way LBS works and processes spatial data, so it can be considered as a specialized type of GIS. These two systems had different evolutions GIS was developed, as an Information System for the analysis of spatial data in a continuous and sustainable way, while LBS appeared and grew up in a very fast way with the appearance of the mobile communications and according to the user needs.

After its birth, in the sixties of last century, the GIS currently present a very high degree of maturity. The science of the Geographic Information, basic support to the GIS, allows a specialized knowledge on spatial databases and modelling of spatial data, based in methods supported in mathematics, statistics and complex numerical analysis. Most of this type of analysis techniques existed before the existence of the GIS, having however implied some time until it's fully integration in GIS, normally due to computational reasons.

Also concerning to its principles of use, the GIS and the LBS had distinct ways of evolution.

The GIS had been created for the use for experienced users armed of vast informatics resources and making use of some dedicated software extensions varying in accordance with the intended use, on the other hand LBS emerged with user-friendly interfaces and intended to get the maximum of non-specialized users.

As you can see, LBS are part of a vast universe called GIS. Due to its specification the LBS use the best characteristics existing in the GIS used to define concepts such as mobility and dynamic localization of the geographical position of one given entity. On the other hand LBS gives dynamic skills to the GIS that in the majority of the cases refers to a certain scenario in a specific moment in time.

LBS Marketing

Organizations face today two great challenges: increase sales and optimize their processes and resources. Gurus of the strategically planning, and of the customer relationship, suggests that the creativity and the innovation are the solutions for a highly competitive market, where the changes of products and services happens in an extremely quick form. Following this advises the areas of marketing and planning are starting to use a new technological tool: Location Based Services.

LBS is becoming today part for the decision taking process. With the use of a system based on digital maps, GIS software and diverse databases, the information are graphically distributed, being able itself,

for example, to analyze the market trends, to monitor the competition, to visualize opportunities and to launch marketing campaigns.

Location it's one of the main problems in Marketing. An incorrect decision of localization promotes a series of sequential errors in the concept of the marketing mix. This means that the 4 P's - place, price, product and promotion – are deeply related and depend one on the other.

Conclusion

The competitive environment where organizations are involved as increase is competitiveness in last two decades, especially due to the development of the Information Technologies. Marketing was one of the tools that organizations have adopted to fight in this environment, trying to get more knowledge of their customers. Location Based Services have allowed the maximization of results and the best performance in the optimisation of resources in the interactions between organizations and customers. The rate of error in Marketing will decrease radically with these new-combined tools, and we will have better perception and knowledge of our customers, optimizing resources in development, adapting the prices, focalizing the advertising, choosing the right retail partners. In other words we will control more efficiently the marketing mix in order to take the best decisions. With the increase of accuracy of Marketing actions and with the perfect knowledge of the customer, resulting from the correct Marketing mix adopted, we have reach a new Marketing era, more connected with scenarios simulation of customers and competitors reactions to variations of the Marketing mix, the LBS Marketing.

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