

Chapter 4

Importance of Applying Big Data Concept in Marketing Decision Making

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ABSTRACT

The aim of this chapter is to enable marketing managers to gain basic knowledge of the capabilities of the latest data management technology, big data, which has the potential of digitally storing huge amounts of data, processing and utilizing the results of processing different types of data, as well as data of different formats in real-time. Due to the enormous potential of implementing the big data, there are also tremendous expectations in terms of the direct financial benefits of its implementation. Realizing all these expectations is a very complex task, which is set to marketing and other managers. The knowledge and skills of managers acquired by education will greatly help to understand the benefits of faster adoption and implementation of new data management paradigms. This chapter emphasizes the differences between the big data concept and conventional data processing technologies, as well as the benefits and potentials that this concept offers, especially when it comes to the process of making quick marketing decisions or making decisions in a reasonably short time.

DOI: 10.4018/978-1-7998-5077-9.ch004

INTRODUCTION

The primary objective of this paper is to integrate and systematize some basic knowledge that is commonly found in various articles and / or books in one place, and to explain to marketers in an acceptable way what the revolution and potential of the new data management concept - Big Data, and how they can use this concept to realize the basic concept of e-marketing - "added value", where competitors strive to deliver as much benefits and added value to their customers as possible (Aker, Kumar & Day, 2016).

The question of the type of why something goes wrong (not the way we want it) in any human activity, and therefore business or marketing activity, can be answered with two universal reasons. The first reason is formulated by Peter's principle, which states: "In the hierarchy, every employee longs to be promoted to the level of his incompetence". (Laurence & Hull, 1989, p. 28) In time, every employee in the hierarchy will come with an employee who is incapable of doing his job. However, the hierarchy is how it works, because jobs are done by those employees who have not yet reached the level of their incapacity. The second reason is that there is a natural tendency of every system (here we mean organizational system, or company) towards a state of chaos and disorder, called entropy (Shannon, 1948, Martínez-Berumena, López-Torres, Romo-Rojas, 2014; p 396; Ursacescu, Cioc, 2016, p 83; Ben-Naim, 2008, Farazmand, 2003).

Because of this feature of each system, it is necessary to continuously invest certain energy, that is, to undertake appropriate activities (management activities, which solve the problems and improve processes), or activities that act in the direction of order and organization. This work can also be considered as an attempt to act in this direction in order to increase the level of education of the employees, who work in this field, in order to reach the level of their incapacity as soon as possible, and in order to influence their knowledge to reduce entropy and system organization. In order to organize the system, problems must be solved, and in order for them to be successful, good decisions must be made. In order to make quality decisions, they must be based on information. Therefore we fight information against entropy, so in information theory, information is defined as negative entropy. Those can't be any kind of information. It must be information that is relevant to the particular domain of the problem being addressed, and information that is correct, timely, clear, accessible and complete. How is information generated and how do we define it? Information is derived from data. Data is the carrier of information. "Data is facts and figures, raw information" (Kroenke, 1977). "Data items refer to an elementary description of things, events, activities, and transactions that are recorded, classified, and stored but are not organized to convey any specific meaning. Data items can be numbers, letters, figures, sounds, or images. Examples of data items are a student grade in a class and the number of hours an employee worked in a certain week" (Rainer R. and Turban, 2008).

"Information is new knowledge, which brings to the recipient new facts. It has the character of novelty, eliminates uncertainty and serves as a background for decision making" (Birolla, Habek, Kliment A., Kliment K., Padjen, Ugarković, 1985). "Information refers to data that have been organized so that they have meaning and value to the recipient. For example, a grade point average (GPA) is data, but a student's name coupled with his or her GPA is information. The recipient interprets the meaning and draws conclusions and implications from the information" (Rainer R. and Turban, 2008).

In order for the company management to successfully manage the company, it needs to make effective decisions at all times. The basis for making such decisions is quality information. Since information is the output of data processing, it is logical to assume in accordance with the GIGO (Garbage In - Garbage

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