Chapter 6
Big Data:
The New Gold Mine for Supermarkets

Atour Taghipour
https://orcid.org/0000-0003-1687-8881
University of Normandie, France

ABSTRACT

Big data is a collection of massive data that makes it possible to analyse trends, anticipate emerging needs, optimize operations as well as make decisions confirmed with the needs of the customers. Recently, big data can become a new business for large stores and retailers, because it offers the possibility of generating a new line of profit by selling data to other companies looking for data, which is difficult to collect. This new investment generates a significant profit. For now, there are firms specializing in the field of big data, which sell data to companies in all sectors, including mass distribution. If the data is correctly assessed, it can enable strong growth in the competitiveness of the company that collected or purchased its data. This chapter is an attempt to track the use of big data in supermarkets based on a literature analysis.

INTRODUCTION

This chapter studies the impact of Big Data on supply chains. Big Data makes it possible to manage large data flows. However, a Supply Chain is crossed by significant and continuous exchanges of information. Traditional data analysis tools are therefore not sufficient to take advantage of this mass of data thus generated. New technologies such as Big Data make it possible to make forecasts. Forecasting the customer demand contributes to improving the supply chain service rate, and ultimately the customer satisfaction rate (El-NEMR et al., 2020; Gao et al., 2018). In order to generate these forecasts, Big Data tools take as input: the inventory status of suppliers and their suppliers; customers and transporters geolocation data; data relating to delivery to the end customer and last mile management (Taghipour, 2020). By combining all of this data, the algorithms associated with Big Data allow in-depth analysis of

DOI: 10.4018/979-8-3693-1578-1.ch006

the supply chain and thus enhance all of the data flows collected (Babinet and Orsenna, 2016; Lebosse et al., 2017).

Optimizing deliveries represents a central issue in improving Supply Chain management. Indeed, it has a direct impact on logistics costs and transport costs, but also on companies' corporate social responsibility commitment and customer satisfaction (Taghipour & Frayret, 2010). The use of Big Data tools in the analysis of data relating to deliveries, the transport of goods and the state of the fleet of vehicles used within the Supply Chain, makes it possible to provide different answers that are impossible to obtain using traditional tools. Thus, by strategically implementing the use of Big Data in the Supply Chain, it is possible to ensure: real-time monitoring of road traffic and anticipation of traffic jams; the creation of alerts in the event of meteorological hazards, works or social movements; the reduction in the circulation of empty transport vehicles. This different information makes it possible to better guide delivery people and transporters, while ultimately reducing transport costs and optimizing journeys. This also guarantees better control of the carbon footprint relating to the delivery of products and goods.

BIG DATA AT THE SERVICE OF THE OPTIMIZATION OF RETAILERS

In the current digital era, businesses must adapt to new technologies and adopt the right techniques to remain competitive. The primary challenge today is represented by Big Data, in all sectors of activity. The mass distribution market is no exception to this revolution since the use of information contained in Big Data allows large brands to rethink their sales strategy and move towards a new retail industry (Ren et al., 2016).

The use of collected customer data is now an integral part of business activity. Indeed, the processing of Big Data allows them to improve their customer knowledge and thus offer a service more suited to their needs. This strategy consists of taking an interest in the multiple information available on customers and their consumption habits. This data has exceptional potential for companies to improve their business and commercial strategy through better targeting. In order to fully utilize the potential of Big Data, it is necessary for mass retail brands to use the most appropriate tools in order to be able to effectively process the masses of available data. By implementing appropriate strategies to process data, players in this market will be able to benefit from different advantages: optimization of marketing and sales strategies; improved customer knowledge; redesigned points of sale; anticipation of trends and needs; better understanding of behaviours; automation of certain marketing campaigns.

Faced with new consumer behaviours, Big Data appears to be an essential resource to use for mass distribution companies. Indeed, we note the desire for a return to local commerce and a demand for transparency regarding the products sold (Husna et al., 2021). In order to respond quickly and as precisely as possible to customer wishes, it is therefore necessary for these companies to enrich their customer knowledge.

In order to be as efficient as possible, mass distribution companies will therefore be interested in the information obtained through data analysis. The information obtained will allow large retailers to remain efficient and offer a service in line with customer needs. Retailers will be able to derive various benefits from data analysis: implementation of a predictive commerce strategy; adaptation to customer needs and behaviours; performance optimization; implementation of a cross-channel strategy; monitoring of customer journeys and purchases. All of this information collected on customer habits and purchases comes from different sources (Taghipour et al., 2020).