Using Big Data in Marketing and Advertising: A Case Study

Adrian Ionuț MOȘESCU
The Bucharest University of Economic Studies
ionutbz@yahoo.com

Raluca Giorgiana CHIVU
The Bucharest University of Economic Studies
raluca.chivu0126@gmail.com

Ștefan-Claudiu CĂESCU
The Bucharest University of Economic Studies
stefan.caescu@gmail.com

Ionuț-Claudiu POPA
The Bucharest University of Economic Studies
popa.claudiu3@yahoo.com

Florina BOTEZATU
The Bucharest University of Economic Studies
bflorr@yahoo.com

Abstract
Nowadays, organizations collect and store an enormous amount of information to be able to use them. This faces the organizations to the challenge of managing and extracting the valuable data to support their decisions. The term of "Big Data" is now globally spread and accepted. The term Big Data has become more and more known and used in many industries. In this article, exploratory research was carried out to highlight the areas in which large volumes of data are used primarily. Besides, from the marketing approach, an attempt was made to highlight the purposes of using Big Data in the context of marketing and consumer behaviour.

Keywords: Big Data, Marketing.

JEL classification: M31.

1. Introduction

Promoting science has a long custom of grasping new difficulties, new strategies, and new trains. The field today is based upon the differing endeavors of specialists who, for very nearly 50 years, have orchestrated arrangements from an assortment of orders to give new knowledge to advertising issues. As a rule, the pot of promoting science has offered back to different controls, models, and techniques that are better and progressively vigorous (Chintagunta et al, 2016). The continuous development of digital technology had a significant influence on marketing theory and practice. The available information structured in big data transformed traditional marketing into digital marketing with powerful tools and innovative ways that can provide essential information to questions like what is the most suitable product for a specific market; how to advertise such product in that market; through what communication channels; at what points in time and for what price; and supported by what kind of promotional and advertising actions, to promote the decision making for marketers. Given these facts, it is with no surprise that Marketing has become from the start of a field for situations with Big Data approaches (Amado et al, 2018).

While the potential power of Big Data and Marketing Analytics can readily be detailed, a key challenge lies in integrating Big Data into a client company's overall strategy. It requires a significant commitment of resources in terms of money, staff, and time - and the organization needs a plan on how to execute. Big Data and advertising Analytics ecosystem is complex and still evolving. Many companies are missing information required for integration into the ecosystem (Jobs et al., 2016).

2. Digital Marketing, Advertising and Big Data

Taking in consideration the growing volume of usable unstructured data and the velocity of change many marketers will ultimately be forced out of their comfort zone, especially for small and medium (max $100,000 monthly ad spend) sized client companies who likely have limited marketing budgets and staff. These companies even if they want to start using Big Data they often do not know where to start, and the Big Data firms will vet them as the firms qualify their marketing and sales funnels to optimize both time and client profit potential (Jobs et al., 2016).

Jobs et al. (2016) provided a consolidated framework and typology of the emerging Big Data ecosystem as it relates to marketing communication. Figure 1 provides a diagram of the structure that reinforces the point that not all Big Data players are the same and have different roles in the ecosystem and Graphical overview of the potential interaction touchpoints a progressive marketing organization should consider and when engaging this ecosystem.

Big data investors are typically high tech or media sectors like Google, Adobe, want influence over the customers and are currently buying up Big Data speciality companies. Demand Side Platforms (DSP) are most often used by advertisers and agencies to help them buy display witch dictates who sees the content and when they see it. Data Management Platforms (DMP) typically rely on third-party cookies to help target segments and link third behavioural data to first-party data and personal information. These firms have the database, and they effectively are the data warehouses of the external world in which the organization operates. Bottom-up Media Mix Modelers (MMM) allow customers to make sense of big data and make better marketing decisions. Digital and Full-Service Agencies Digital agencies focus primarily or exclusively on internet advertising content, creative and techniques (Jobs et al., 2016).

In this framework, marketing companies have the option to collaborate with any of the actors and to decide which type of client interaction they want to have with each actor from the ecosystem. The strategies that they implement will most likely be a function of budget, level of sophistication of the firm, and the industry sector in which they works(Jobs et al., 2016).
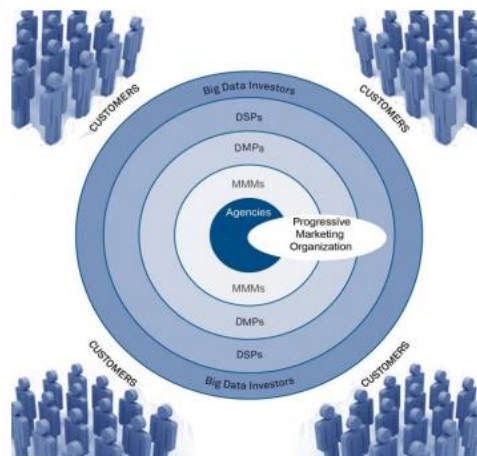

Fig 1. Classification Framework for Big Data Ecosystem
Source: Job, 2016

The impact of digital technology varies widely from industry to another, and also the significant data adoption differs. Big Data is already making a substantial impact on the industry like healthcare, retail sector. Moreover, enterprises that offer virtual products than physical, like financial services, telecommunications, insurance will adapt more rapidly to digital transformation and will utilize Big Data technology to obtain more information from data, gain competitive advantage and minimize the total costs.

3. Research methodology

"Big data" alludes to informational indexes that are excessively huge or unreasonably complex for conventional information preparing applications. The term is regularly used to allude to the discreet investigation or different strategies for removing an incentive from the information. To tackle considerable knowledge, organizations depend on crude stockpiling and handling power just as substantial examination capacities and abilities. In 2019, yearly income from the vast worldwide information advertise was relied upon to arrive at 49 billion U.S. dollars, with expectations proposing this would additionally develop inside the next years. The most significant portion of substantial information income is accepted to come from administrations spending, speaking to 39 per cent of the general market starting in 2019. The significant suppliers of huge information administrations incorporate common names, for example, IBM, Splunk, Dell, Prophet, and Accenture.

While only one out of every odd bit of information discovers its way into the extensive information biological system, various figures as of now feature the test of finding valuable information among the rest. In 2019 it was assessed that versatile information traffic would arrive at 190 exabytes (190 billion gigabytes), climbing quickly into what's to come. That equivalent year, distributed computing traffic was estimated to reach more than 400 exabytes for every month in North America alone. Adding to the quick development of information traffic is the web of things (IoT), which is now associating the computerized and physical universes through a system of sensors. A few figures put the quantity of IoT associated gadgets worldwide as high as 18 billion starting in 2018.

One other industry profiting by the development of significant information is that of distributed computing. The measure of preparing power and additionally stockpiling required to utilize enormous information is to such an extent that numerous organizations have taken to facilitating and handling their huge informational indexes in the cloud. In one overview, 69 per cent of respondents said that their association utilized cloud innovation for information stockpiling and reinforcement. In contrast, 56 per cent said their association was using distributed computing for information examination (Liu, 2019).

The big worldwide data advertise develop to 103 billion U.S. dollars by 2027, more than twofold its standard market size in 2018. With a portion of 45 per cent, the product fragment would turn into the sizeable huge information showcase section by 2027 (big data is a term that alludes to the sort of informational indexes that are excessively enormous or unreasonably complex for typical information handling applications. It is characterized as having one or a portion of the accompanying qualities: high volume, high speed or top assortment. Quickly developing portable information traffic, distributed computing traffic, just as the fast advancement of advances, for example, man-made brainpower (man-made intelligence) and the Web of Things (IoT) all add to the expanding volume and multifaceted nature of informational collections).

Progressed investigation devices, for example, prescient examination and information mining, help to remove an incentive from the information and produce new business bits of knowledge. The enormous worldwide information and business investigation showcase was esteemed at 169 billion U.S. dollars in 2018 and is relied upon to develop to 274 billion U.S.

dollars in 2022. As of November 2018, 45 per cent of exports in the statistical surveying industry, purportedly utilized substantial information examination as an exploration technique (Holst, 2020).
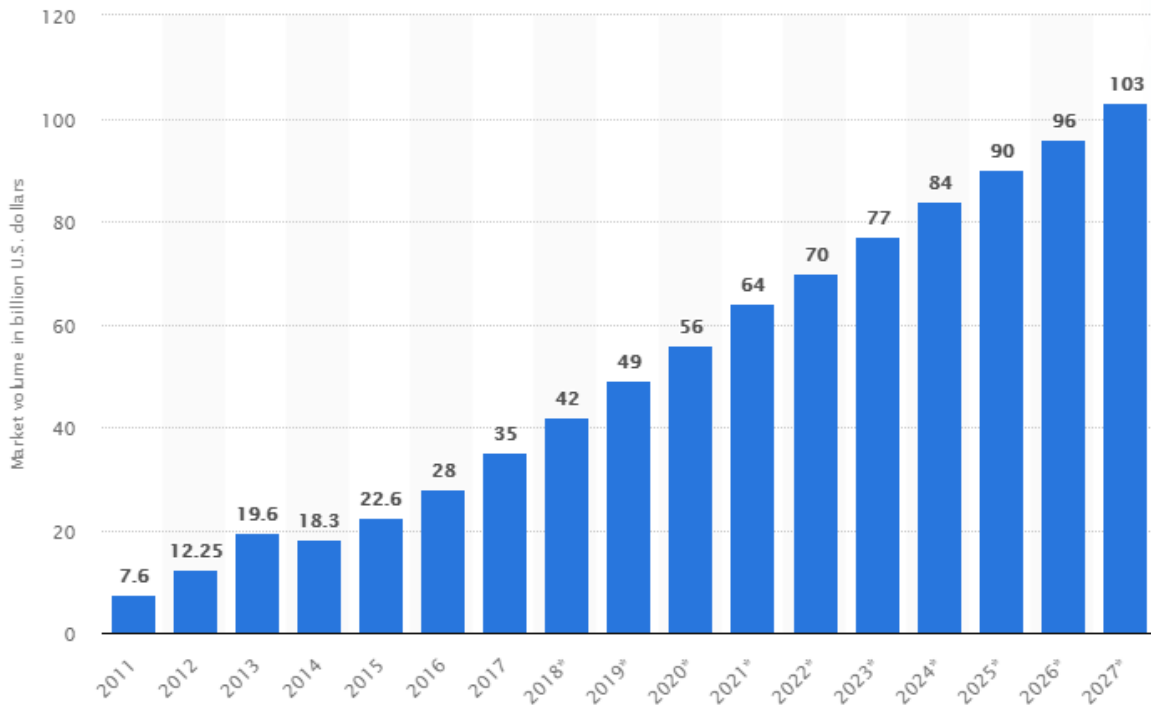

Fig 2. Significant data market size revenue forecast worldwide from 2011 to 2027
Source: Holst, 2020

Nowadays, large companies in different industries have realized the need to use large volumes of data, big data becoming an integral part of their activity and a necessary tool in various researches.
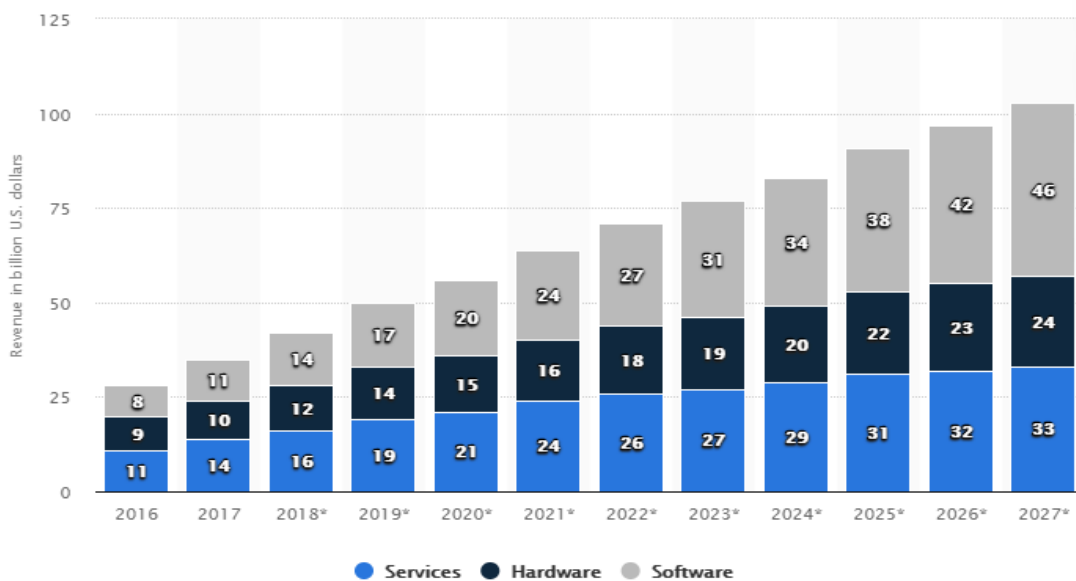

Fig 3. Significant data revenue worldwide from 2016 to 2027, by significant segment
Source: Holst, 2020

Analyzing the data from the past and maintaining the growth rate, we can observe a forecast of the Big Data trend in different industries. The measurement shows the income from the worldwide extensive information showcase by a significant fragment from 2016 to 2027. In 2018, the enormous information programming market was evaluated to be worth 14 billion U.S. dollars, while the market generally speaking will be worth 42 billion U.S. dollars (Holst, 2020).

Marketing and advertising are tied in with arriving at target crowds in a significant and relatable manner, standing apart from the group, and creating original and remarkable messages that clients won't just get, however ideally convert into buys. To make such powerful publicizing and showcasing efforts, industry experts need to approach data on their objective shoppers, and this is the place information proves to be useful. Knowing who the customers are, what they purchase, and their name and are not just illustrates their present buying conduct, yet also predicts future examples, which, thus, means progressively ideal-promoting systems (Guttmann, 2019). The utilization of enormous volumes of information in showcasing adds to getting data, for example, Screen Google Patterns to Illuminate Your Worldwide/Nearby Procedure, Utilize Advanced Data to All the more Unmistakably Characterize Your ICP, Make Constant Personalization to Purchasers, Distinguish the Particular Substance that Moves Purchasers Down the Business Pipe.
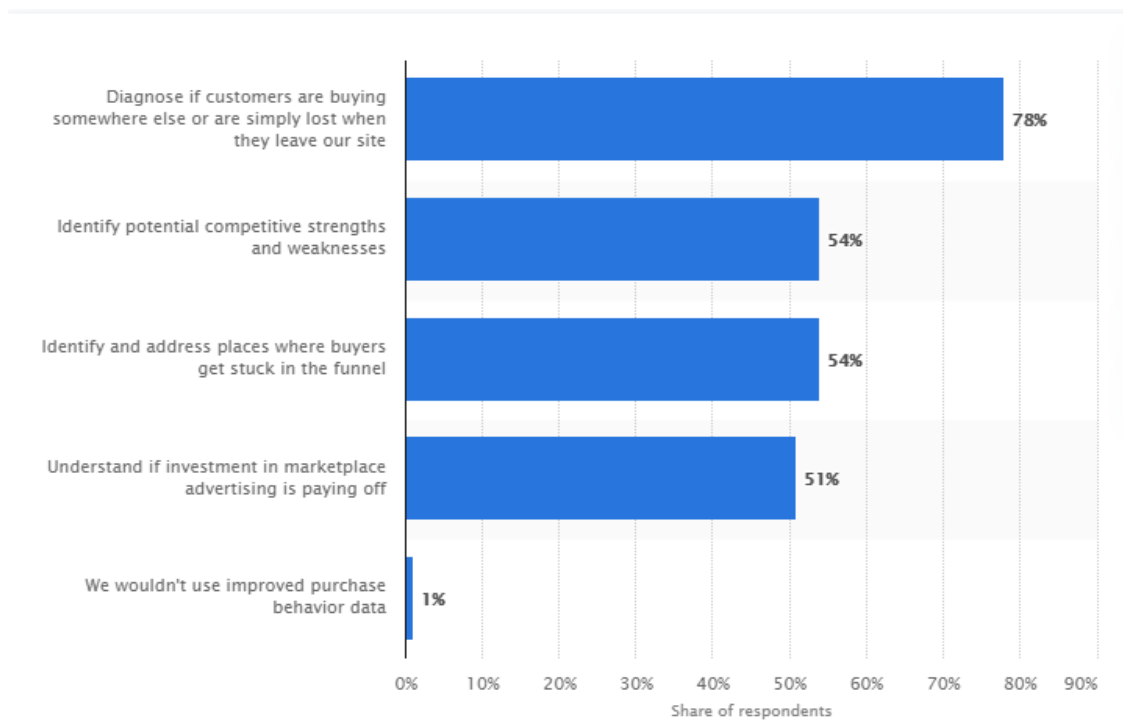

Fig 4. Big How companies would use improved purchasing behaviour data from e-commerce marketplaces according to marketing professionals
Source: Clement, 2018

For example, this measurement presents the most widely recognized ways how organizations would utilize improved buying conduct information from online business commercial centres as per showcasing experts in the U.S. starting in 2018. As indicated by the discoveries, 78 per cent of respondents expressed that on the off chance that they could get to improved buy conduct information from internet business commercial centres they would utilize that information to analyze if their clients are purchasing elsewhere or if they are just lost when they leave their site. Only a single per cent of respondents expressed that they would

not utilize such improved buying conduct information if the open door was there (Clement, 2018).

Given the development context of the large database industry and their use in more and more fields of activity, we can consider conducting future research to address the topic of big data, not in the general sense of marketing, but in each component in part (using big data in understanding consumer behaviour, using big data in developing communication strategies, etc.).

Acknowledgments

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