Ethical Implications in the Way Some Marketing Activities are using Big Data

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ABSTRACT

Big Data has been used by managers to expand their ability to measure results and make decisions (Brynjolfsson & McFeem, 2012). In Brazil, companies still operate in a certain lack of regulations. Although existence of specific laws is not considered always sufficient to deal with all potential abuse of Big Data, (King & Richards, 2014). In this context, the purpose of this paper is to discuss the ethical implications of using Big Data tools in marketing activities. This work is a case study conducted in a Brazilian company of the loyalty program market. The data were obtained through an interview with a marketing manager working with Big Data and also through documents provided by the company. Data were analyzed using content analysis. The organization internally adopts specific rules to avoid abuse of Big Data. One of them would be to not use data that the customer is unaware of having made available, such as those related to certain consumer interactions on platforms such as Facebook. Despite these practices, the organization still does not have a comprehensive and official policy regarding the ethical implications of using Big Data.

Keywords: Big Data, Marketing, Ethics, Consumer Rights, Brazil.

1. INTRODUCTION

In Brazil, Big Data has attracted the interest of more and more companies, in fact, recent research has shown growth both in the number of companies investing in Big Data and in the value applied in storage, processing and management tools of this data set. Frost & Sullivan, an American consulting firm, shows that by the end of 2015, more than 34% of Brazilian companies will have invested in Big Data Analytics (Lobo, 2015). Big Data tools have been particularly adopted by the marketing departments of companies as a way to know customers and potential consumers in depth and thus offer products and services with greater chance of winning their loyalty. As Galli (2014) asserts, considering the increasing interaction of individuals with technology (including the use of clocks and eyeglasses that constantly capture personal information), marketing will soon be able to anticipate consumers' needs.

However, this process of collecting, storing, analyzing and using consumer data in marketing activities already runs into ethical and regulatory issues (Surjan, 2014). In the one hand, a company can, for example, use customer data (captured from using the internet) to identify desires and attract consumers with highly personalized offers with greater potential for sales. In addition to providing financial gains to the organization, such an initiative can even be seen by the consumer (Meyer-Gossner, 2015). On the other hand, the same company may be accused of violating ethical standards or even laws with marketing actions based on Big Data tools. While the potential of Big Data is gaining more visibility, the discussion about the ethical aspects of using these tools is still somewhat incipient at all levels, whether among the companies themselves or in the academic world. In fact, as the world becomes increasingly digital, people are increasingly releasing information about themselves on websites, social networks and applications (Craig & Ludloff, 2011).

The issue brought by this is that most citizens probably have no idea that they are leaving so many traces behind (Rocha, 2015). Although corporate abuse of Big Data is not necessarily motivated by ill intentions, the lack of clear rules for the use of consumer data in marketing actions ends up being subject to ethical standards and may end up harming organizations and consumers (Chessell, 2014). Considering this context, the purpose of this paper is to discuss the ethical implications of using Big Data tools in marketing activities.

2. THEORETICAL BACKGROUND

The majority of traditional marketing relies on analysis using with small data sets (megabytes or gigabytes, or kilobytes) with limited analytic platforms and implementation capacity. These fixed-scale data sets are commonly available from the manager

or researcher's computer and the analysis takes place locally (Xu, Frankwick and Ramirez, 2016). This analysis are not easily replicable, and the central entity organizes decision making (Xu, Frankwick and Ramirez, 2016). Nevertheless recent changes in marketing and information technologies feature high magnitude and mobility. The literature refers to these changes as Big Data analytics. Big Data is a term that primarily describes data sets that are so large (terabytes to exabytes), unstructured, and complex that require advanced and unique technologies to store, manage, analyses, and visualize (Chen et al., 2012, apud Xu et al., 2016).

Lycett (2013) states that data is the underlying resource for Business Intelligence (BI) (accepting limitations of data protection and privacy), arguably, it is the increasing availability of data (so-called 'Big Data' ultimately) that provides the impetus for BI, most typically characterized by industry commentators in the '3 Vs' as follows:

• Volume proposes that there is key benefit in being able to process large amounts of data – the underlying analytic thesis being that more data beats better models. Key considerations here relate to scalability, distribution, the ability to process and so on.

• Velocity proposes that the data flow rate is important. Key considerations here include the granularity of data streams, understanding what can be discarded, and the latency acceptable in relation to data, decision making and action taking.

• Variety proposes that data is messy in reality, coming from many sources in many different forms – often unstructured, error ridden and inconsistent in nature. Key considerations here include the degree of information loss in clean up, semantic integration and versatility in representation (Lycett, 2013).

The way organizations and their marketing departments will process and use that huge mass of data from distinct sources today is still very variable (King, & Richards, 2014). What changes is the unprecedented volume, velocity, and variety of primary data available from individual consumers, resulting in the so-called Big Data revolution: potentially, a revolution that will lead to entirely new ways of understanding consumer behavior and formulating marketing strategy (Erevelles, Fukawa, & Swayne, 2016). Buytendijk and Heiser (2013) also argue that the adoption of sector-specific and industry-specific codes of conduct is critical, since the context is very important in the use of Big Data.

Ethical implications of Big Data Use

Big Data present complex and multi-dimensional challenges. The use of data and evidence is increasingly recognized as a major opportunity, but is also an opportunity that needs questioning. As technological developments continue, two primary means of questioning Big Data were identified, trust in the findings, and truth in the methods (Varley-winter & Shah, 2016).

Another approach is to apply a general computer framework to Big Data, such as the Ten Commandments of Computer Ethics. Of 10, two appear potentially apply directly to Big Data: Commandment 1, thou shalt not use a computer to harm other people, Commandment 5, thou shalt not use a computer to bear false witness.

As more data is collected, an increasing numbers of products depend on reused data, such as targeted advertising services, that combine data from many sources to customize online advertising. Personally identifiable data is now a commodity, transferred to others for reuse beyond the initial context in which it was captured. Yet the fate of this data is largely obscure to people who provide it (Goodman, 2014).

Selling or reusing data is a great way to destroy contextual integrity. Even if the users consented to the original capture and use of their data, they do not always know if it is later used in ways they did not expect or desire (Goodman, 2014).

Chessell (2014) asserts that the individual judgment of those in command positions regarding specifically what would or would not be abuse in using Big Data can have consequences. Consumers and other stakeholders may have different opinions from the organization about what is ethical.

Goodman (2014) establish that ethical concerns emerge from four related trends:

• The sensor-infused world: embedded sensing allows many more types of devices to collect data about the actions of users and conditions of the world around them. Even if the results are intended to benefit users, this is, to put it bluntly, mass-market consumer surveillance.

• Data as a commodity: once collected, data can be stored indefinitely, passing into new management and new uses. The opacity of back-end information exchange. What's often called the data curtain veils the circulation of data in uncertainty. Where is your data stored? Who has access, whether openly or through secretive (but legal) back doors? Do managers share your beliefs about what they can or should do with it?

• Mass scale: when millions of users are scattered around the world, how are designers to take into account different culturally inflected expectations for the collection and reuse of data? Even when developed with the best of intentions, these products will unpleasantly surprise some of their users. How can we give users a chance to object before being unpleasantly surprised or an opportunity to mitigate any consequences afterward? (Goodman, 2014).

Thus, for Chessell (2014) companies should promote a broad debate to formulate their data-use policies, formally recording their decisions and developments, in an inclusive and continuous process of learning and evolution involving the company as a whole.

According to the Brazilian lawyer Patricia Peck Pinheiro (2014), a specialist in digital law, companies are increasingly fluid and without walls, which requires greater ethical conduct, more executive integrity and more corporate governance, as the guidelines of the recently approved Brazilian Civil Internet Framework.

James Moor defined it as "the analysis of the nature and societal impact of computer technology and the corresponding formulation and justification of policies for the ethical use of such technology." These definitions suggest a strong tie between ethics and professional conduct and an approach for influencing that conduct through policies and rules (O'Leary, 2016).

In addition to the more broad rules stipulated by the Civil Code, most companies still rely on more ethical milestones in the use of Big Data. According to Srour (2012), a large part of strategic decisions, both politically and is inspired by the ethical theory of responsibility.

Srour (2012) also explains that the theory of responsibility ethics considers justified actions that result in what is best for the general interest. In this context, the so-called necessary evil can be accepted as a form of sacrifice to achieve a greater good. Moreover, the purposes that guide decisions and actions, as well as presumed results, are justified only if they generate the promised benefits (Srour, 2012).

However, we will have to change how we think of personal data—and interaction design. A first step is treating personal data as potentially perilous, rather than as an innocuous source of value (Goodman, 2014). When data is a harmless commodity, we are more likely to maximize what we collect and store, just in case it will be valuable later. A world in which data presents dangers to users and businesses alike changes that calculation

(Goodman, 2014). Instead of treating databases like tidy libraries, we might see them instead as more like blood banks—full of messy, leaky substances that are helpful when used appropriately but harmful when wrongly transfused (Goodman, 2014). A next step might be to reconsider the design assumptions that lead to opacity rather than disclosure. In the name of minimalism and usability, the mechanisms of data collection and storage often remain behind the curtain (Goodman, 2014). Valuing simplicity doesn't excuse keeping people in the dark. Finally, acting ethically doesn't always mean saying no. Legal scholars and sociologists have started to propose means of "due process" for Big Data. Such due process would include not only notice of data collection and management process but also the opportunity for mediation by an impartial outsider (Goodman, 2014). Right now, such technological due process exists only as conceptual proposals. For researchers and designers, these calls for due process present a fascinating service design challenge. It's easy to think of ethical responsibilities as a barrier to unrestrained data collection and reuse (Goodman, 2014).

3. METHOD

The exploratory method was chosen, Gil (2008, p.27) states that exploratory research is developed with the purpose of providing an approximate general view about a certain fact. This type of research is usually developed when the theme chosen is little explored and it is difficult to formulate precise and operable hypotheses.

The selected method was the single case study, which is considered more appropriate for 'how' and 'why' questions, it is also preferable for studying contemporary events that cannot be manipulated and where the boundaries between phenomenon and context are not clearly defined. In addition to allowing the researcher to retain the holistic characteristics of the events (Yin, 2010). The case, selected by convenience, is a Brazilian company of the loyalty program market, from here called Organization F. The data were obtained through an interview with a marketing manager, who works with Big Data in a daily basis, and also through documents provided by the company. Data were analyzed using content analysis.

4. FINDINGS

Overview of the use of Big Data in marketing actions by the company studied

According to Organization F's marketing manager, Big Data is one of the areas where the company has invested most lately, they say the competitive advantage depends on knowing the customer, the moment and their needs, exchanging generic offers for personalized promotions.

The manager's explanation of the company's decision to prioritize Big Data corroborates the discourse of Erevelles et al. (2016, p.1) "what is different today is the unprecedented volume, velocity, and variety of primary data available from individual consumers, resulting in the so-called Big Data revolution".

Thus, by increasing investment in data capture, storage and processing tools Organization F's marketing department is already able to make more relevant offers to customers - which increases the chances of conversion. According to the manager it is an area that has become increasingly relevant in the company, and it helps to leverage results. They expect to evolve more and more, not only with the acquisition of new tools available in the market, but mainly also by investing in people capable of analyzing the information

Ethical implications of the use of Big Data by the company

The manager says that the use of Big Data in Organization F's marketing actions respects some rules, precisely to prevent consumers from feeling invaded and to ensure that personalized offers are seen as positive, not as an affront. According to the manager, this use of Big Data is governed more broadly by the company's privacy policy and the E-Mail Marketing Self-Regulation Code (CAPEM in Brazilian Portuguese).

The CAPEM provides in general terms that companies may not disclose or make available to third parties personal information contained in such databases without the prior and express consent of the persons to whom such information refers. The privacy policy of the Organization F mentions briefly in a generic way that filling in a personal data record on the site allows the company to know consumers better and thus provide services and information that meet their needs. The text explains that as the company commits itself to respect customers' privacy and ensure confidentiality of all shared information, the data would only be used to improve the experience of customers - and would never be shared with third parties.

However, there is no mention in the privacy policy of the use of information from other databases in marketing actions, although the manager admits that this is a practice adopted by Organization F. The manager explains that Organization F processes data from diverse sources.

One of the actions highlighted by the manager is the construction of predictive models to identify which participants have a greater chance to be interested in certain offers and to direct the offers sent, guaranteeing a greater rate of conversion. The manager states that all available information, such as registration data, transactions in partner companies, navigation on the companies' website and free external information available are used.

It can be a problem, since the use of data and evidence is increasingly recognized as a major opportunity, but is also an needs questioning. As technological developments continue apace, two primary means of interrogating Big Data were identified, which are to question trust in the findings, and truth in the methods (Varley-winter & Shah, 2016).

The company monitors all customer interactions in its channels, such as opening the website, searching for a product, opening an email, clicking on a particular offer. Based on this monitoring, the company trigger immediate triggers (for example: retrieving a ticket to a certain destination, the client receives an email the next day with tips about the destination). They also use all interaction logs for behavioral analysis and predictive models. Although there is no mention of the uses of data from various sources in the company privacy policy, the manger guarantees that the organization internally adopts specific rules to avoid abuses in the use of Big Data. One of them would be to not use in its marketing actions data that the client is not aware of having made available, as those related to certain interactions of social platform consumers such as Facebook. Some companies use Facebook's public information, such as the pages that customers have liked and sell this information. As it is not clear to the vast majority of people that this is public information, this can cause the client to feel violated and invaded if used for some specific action. According to the manager they do not use this kind of information. Some companies in the market offer behavioral data (which would be very useful for enriching the statistical models), but they never close any contracts that may violate the privacy of customers, when we are not very clear on the origin of these data and the prior authorization of customers for marketing them.

Ethical Principles and risks associated with using Big Data

The manager asserts that the company uses only spontaneously

given by consumers in its marketing actions. As Craig and Ludloff (2011) states, the traces that people its activities in the digital world, including purchasing, research and interactions on digital platforms.

Buytendijk and Heiser (2013) state, the use of public data and donated by the customers themselves does not prevent the company from being questioned about possible abuses, since consumers do not always have the exact notion that they are delivering this information. Taking this in account, Organization F should be clearer about its use of customer data, since its privacy policy does not mention the use of several databases.

In addition to this restriction on the use of assigned data, she states that Organization F processes information from consumers only in an anonymous way, avoiding individualizations. "We use the information to know the customers and to direct the most relevant offers for each one based on similar behaviors of other clients of the same profile and the preferences that it indicates with its own consumption behavior", "we never directly use information that could make customers feel violated or monitored," the manager states.

However, as Buytendijk and Heiser (2013) point out, the so-called re-identification of consumers in clusters of data can be easily performed by a few variables, such as date of birth, gender and ZIP code - and is one of the biggest risks associated with the use of Big Data. Many people consent to the assignment of data on the assumption that they will be analyzed anonymously, along with data from thousands of others. However, Buytendijk and Heiser (2013) also argue that no useful database can be perfectly anonymous. According to them, at least 87% of US citizens could be identified in public databases using these three variables.

Despite this, the manager affirms that company would never have registered any dissatisfaction with the use of data, customers like to know we know them. "Customized offerings have a rate of interaction and conversion up to 100% greater than mass-market". Given this statement, it is possible to conclude that the absence of a broader and more in-depth set of rules for the use of Big Data in marketing actions by Organization F could be associated with a perception that the company's posture, as it is today, is adequate enough because customers are happy with personalized promotions and have never complained about abuse.

In addition, based on reported practices and statements, it is possible to infer that the company considered to be providing a service to the community by using more and more data capture, storage and processing tools to offer promotions in line with the needs and wishes of their consumers rather than wasting their time with generalist offers. For Organization F, its use of Big Data would be justified because its goal would be to satisfy the needs of the largest number of consumers in the best possible way - offering advantages that they expect to receive

As reward for the assignment of your personal data. Any abuse claims would be the necessary evil so that the majority can enjoy this benefit, since the purposes that guide decisions and actions, as well as presumed results, are justified only if they generate the promised benefits (Srour, 2012).

Possible improvements regarding the use of Big Data

While the using of Big Data on broad rules and some more specific guidelines (such as the deletion of information from unidentified databases), Organization F does not yet have a comprehensive and official policy for addressing the various ethical implications of using Big Data, since being accountable for it means more than addressing mostly privacy issues (Buytendijk and Heiser, 2013).

However, we will have to change how we think of personal data—and interaction design. A first step is treating personal data as potentially perilous, rather than as an innocuous source of value. A next step might be to reconsider the design assumptions that lead to opacity rather than disclosure. Finally, acting ethically doesn't always mean saying no. It's easy to think of ethical responsibilities as a barrier to unrestrained data collection and reuse (Goodman, 2014).

In an emerging field with so many possibilities and in which the limits of become so quickly, the consequences of use can never be anticipated. More than guidelines and rules, a debate about what is a right or wrong principle (Buytendijk and Heiser, 2013). Although it has already taken important steps and stands out in relation to other companies that are much less careful (or intentionally more daring), it is concluded that there is still room for Organization F to promote an even broader debate and formulate even more specific policies, according to Chessell (2014).

In addition, the fact that the company has not filed complaints about abuse of Big Data does not mean that its conduct is error-proof. As Taurion (2014) points out, today's use of Big Data can quickly become something unforeseen, since it is a developing tool. Thus, the author stresses that it is fundamental that the company never stop discussing the topic, even if it means reviewing the effectiveness of certain policies. Finally, just as other companies have stood out for pioneering the adoption of more ethical and environmentally responsible practices, advocating for more committed behavior towards Big Data may be a differential - as long as consumers themselves become aware of the issue.

5. CONCLUSIONS

Given the growing worldwide relevance of Big Data for companies of different industries and sizes, including Brazil, the present work allowed a discussion of the ethical implications of the use of capture, storage and data processing tools in marketing activities. From the perspective of a large national company in the loyalty programs sector, it was possible to analyze the theme from a Brazilian perspective, contributing to a debate still incipient in the country. The report on the practices of the company studied in relation to the behaviors, challenges and recommendations mentioned by the experts presented as theoretical references shows that although Organization F is ahead of many in relation to the ethical implications of its use of Big Data in marketing actions, there is not only space, but also the need for improvement. Through this study, it can be concluded that while Organization F has taken important steps and is engaged in an internal discussion on the ethical implications of using Big Data in marketing activities, the magnitude of the risks requires even more detailed work.

The choice of the company to be studied reinforced the relevance of this work, since the loyalty program market has been particularly interested in the use of Big Data due to its incessant search for more efficient ways of retaining consumers.

The organization internally adopts specific rules to avoid abuse of Big Data. One of them would be to not use data that the customer is unaware of having made available, such as those related to certain consumer interactions on platforms such as Facebook. As it is not clear to the vast majority of people that this is public information. Although the Organization has advanced and is engaged in an internal discussion on the ethical implications of Big Data, the magnitude of the risks requires more robust policies on the current and future use of the data collected. As limitations, the analyses of only one company

impairs the generalization of the results. As suggestions for future research we recommend to study the use of Big Data from the consumers' point of view, mostly regarding their opinion about the collection and use of the information collected, also the ethical implications of using Big Data from the perspective of consumers or businesses in other industries.

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