

# Applications of Text Mining in the Construction Sector

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## Abstract

Given the interest in big Data in marketing research, we present a semi-automated text mining-based research literature analysis with the aim of identifying the main trends in this field. In particular, the analysis focuses on five relevant dimensions and terms: Marketing, big data, the countries and continents of authors' affiliation, products and industries. 1560 published articles from were examined in total. Big Data publications did not clearly align cutting edge marketing techniques with benefits, indicating that research is bipartite between technological and research domains. Additionally, there were only a few publications with co-authors across continents. Additionally, the findings indicate that big Data applications to marketing research are still in its infancy. As a result, for Big Data to thrive in marketing, more focused efforts toward business must be made. Unstructured data generated by new communication technologies and user editing platforms (e.g., text, images and videos) and structured data generated by organizations traditional databases are both forms of Big Data that are currently prevalent. Customer's decisions are being significantly influenced by social media platforms like Facebook and twitter, leading businesses and brands to incorporate information from these platforms into their marketing strategies. As a result, Big Data is expanding.

**Keywords:** Marketing • Communication technologies • Editing platforms

## Introduction

In Big Data management, the first to mention the three vs. is variety, velocity and volume. The Big Data equation now includes two additional. Value and variability in its definition of Big Data, Gartner summarizes these five dimensions as high volume, velocity and variety of information assets at low cost innovative forms of information processing for improved insight and decision making. New methods have been developed by researchers to capture, process, analyse and visualize large amounts of data in a short amount of time in order to make use of Big Data. Diverse fields of study are involved in these methods: mathematics, statistics, optimization techniques, signal processing, data mining and machine learning, visualization strategies and social network analysis are all examples of these fields. There are three categories of data exploration technologies and tools: tools for batch processing, streaming processing and interactive analysis there is a distinct focus and functionality for each Big Data platform. For example, a few stages are intended for cluster handling, like Apache Hadoop or Pentagon Business Examination, while others are centered on continuous investigation, like Apache Kafka or Tempest. When it comes to the architecture of Big Data systems, logical layers offer a method for organizing components that carry out particular tasks. Because layers are merely logical, they do not imply that the processes or machines responsible for supporting each layer are distinct. The four logical layers are typically included in a Big Data solution. Big Data sources are the various sources from which the data is obtained; data messaging and store: This layer is in charge of getting and keeping the data; examination - where the information and bits of knowledge are extricated; and consumption, or the use of the results of the analysis layer.

## Discussion

A Major Information framework is just viable for business when it is set

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up for the extraction of helpful information to help business choices. For this purpose, predictive analytics solutions can be layered on top of Big Data in a solution that combines the benefits of both massive amounts of data and cutting-edge machine learning techniques. The goal of marketing analytics solutions predictive analytics based on Big Data gathered specifically for marketing purposes is to provide marketers with solid grounding in marketing and methods for resolving real-world marketing issues. Marketing analytics principles have recently been prescribed by malhouse, haenlein, skiera and wege in the form of adequate human resources with analytical skills and predictive models in order to get the most out of CRM solutions. In addition, other studies have shown that CRM must incorporate analytics solutions that take into account well-known marketing concepts like customer lifetime value evaluation. Big Data-based marketing analytic solutions can help businesses solve a wide range of problems, such as finding customers who are more likely to respond positively to a telemarketing campaign, creating interactive dashboards and reports for managers and even revealing interesting trends from social media comments about a brand. As a result, Big Data solutions can be seen as the foundation for insightful systems that effectively support marketers and alleviate the burden of sluggish human analysis [1,2].

Recent research has shown that, despite the fact that some work has been done to fill this gap, it is getting bigger at the same rate as Big Data availability grows. As a result, the coming years present a significant opportunity for marketing solutions research and development that take advantage of Big Data's knowledge. In an effort to identify the trends in these applied domains through various dimensions, this research literature analysis focused on the application of Big Data in Marketing. Because there are so many articles, text mining is a good option for better evaluating the literature. According to the findings, there has been a growing interest in Big Data in Marketing over the years, with publication output numbers increasing by a factor of two each year. By grouping articles into logical topics defined by key relevant terms, the application of text mining and topic modelling in the collected articles provides a summarized overview of the literature. The author affiliation analysis enabled us to arrive at the conclusion that Asia, Europe and North America comprise the majority of the research. It appears that Asian authors are more interested in intercontinental research. In Africa and South America, two of the world's most populous continents, there are few publications. However, this outcome could be brought about by a general decline in research output or interest in Big Data or data analytics in general that is unrelated to marketing. Additionally, energy and healthcare account for approximately half of consumer goods' attention [3-5].

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## Conclusion

In the form of recommendations for subsequent research, this study's findings are presented. First, there is a lot of research being done on Big Data and marketing, but less is being done on the benefits that marketers might get from using a Big Data solution. Because each solution needs to be context-aware, the implementation needs to be perfectly aligned with the challenges presented by the specificities of the business. The confirmation of this finding revealed a gap in cross-disciplinary research, requiring technology researchers to better align the advantages of Big Data with marketing. It is interesting to note that, despite the inclusion of a few specific marketing-related terms that are frequently thought to be associated with data analysis (such as customer retention and customer segmentation), very few of these terms are highlighted in the topics that were discovered and the ones that are, they have a weak relationship to the corresponding topic, pale in comparison to the significance of the Big Data term in question.

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## Conflict of Interest

No potential conflict of interest was reported by the authors.

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