



Exploring the Role of Social Media in Improving the Efficiency of Big Data-Based Computer Systems

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ABSTRACT

In the last ten years, we have witnessed the phenomenon of data explosion affecting various fields. This phenomenon is characterized by the emergence of data that is high in volume, high in variety, growing rapidly (high velocity), but also contains data that lacks quality (veracity). Data with such characteristics is referred to as Big Data. The main sources of Big Data include social media (such as Facebook, Instagram, Twitter, and WhatsApp), the Internet of Things (IoT), and Internet-based corporate applications. Big Data is rich with information that can be extracted from social media. This information includes a person's views and lifestyle, preferences for products/services through search engines, as well as information on purchase transactions in online marketplaces. This data has become a new commodity and has spawned lucrative industries, including companies such as Alphabet (Google's parent), Amazon, Apple, Facebook, and Microsoft.

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1. INTRODUCTION

In today's digital age, social media has become an integral part of everyday life for both individuals and organizations. Its ability to provide an interactive platform to share information, communicate and collaborate has changed the landscape of communication and engagement globally. On the other hand, Big Data technology has played a crucial role in managing and analyzing large volumes of data with the aim of gaining valuable insights. This research explores the role of social media in the context of improving the efficiency of Big Data-based computer systems. By harnessing the potential of social media, organizations can optimize the use of their computing resources, improve system performance, and reduce operational costs. Through the analysis and integration of data generated from social media interactions, computer systems can be organized more effectively

according to evolving needs. The study also looked at the challenges and opportunities associated with the integration of social media in a Big Data infrastructure. Privacy management, data security, and information reliability are some of the aspects that must be considered to ensure optimal utilization of these two platforms. In this context, efforts to identify user behavior patterns through social media can provide additional insights for more efficient planning and management of computer systems.

2. RESEARCH METHOD

This study adopts a qualitative approach to explore the role of social media in improving the efficiency of Big Data-based computer systems. This approach was chosen to enable an in-depth understanding of how interactions and content generated by social media users can be used to improve the performance of computer systems.

The research involved qualitative analysis of data taken from various relevant social media platforms. The data analyzed included various types of content such as text, images, and videos relating to the topic of Big Data and related computer technologies. The analysis was conducted to identify usage patterns and trends that can provide insights into how social media integration can affect the efficiency of computer systems.

In addition, this research also involved an in-depth literature study to understand the existing theories and related research in this domain. This literature review helped build a strong theoretical foundation to support the interpretation of the data analysis results from social media.

3. RESULTS AND DISCUSSIONS

This study shows that the integration of social media in the context of Big Data-based computer systems contributes significantly to improving operational efficiency and management of computing resources. Analysis of data from social media platforms reveals the potential to monitor and identify user usage patterns, needs and preferences that can be used to optimize the allocation of computer resources.

The results also highlighted that information gained from social media can be used to improve system response to changes in demand or urgent situations. By leveraging Big Data analysis of social media interactions, organizations can develop more responsive and adaptive strategies in managing their computing infrastructure.

This study highlights the importance of the benefits and challenges of integrating social media with Big Data-based computer systems. While there is great potential to improve the efficiency and responsiveness of the system, there are also some issues that need to be considered, such as data privacy, information security, and the validity of data generated from social media.

In addition, the discussion also emphasized the need for a planned and coordinated strategy to optimize the use of information from social media. The use of appropriate analytical tools and the development of methods to filter relevant information are the keys to success in implementing social media integration in the Big Data infrastructure.

4. CONCLUSION

The study concludes that the integration of social media in Big Data-based computer systems has great potential to improve operational efficiency and responsiveness to environmental changes. Through

the analysis of data generated from user interactions on social media, organizations can gain valuable insights to optimize the use of their computing resources. However, the implementation of this integration is not without its challenges. Issues such as data privacy, information security, and reliability of data retrieved from social media need to be taken seriously. A structured approach and a well-thought-out strategy are required to effectively utilize the potential of social media without compromising on security and privacy aspects.

The study also underscores the need for further development in Big Data analytics technologies that can process and process information from social media more efficiently and accurately. Thus, organizations can maximize the benefits of social media integration in improving the performance of their computer systems.

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