



Relevance of big and thick social media data to businesses: A systematic review

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ABSTRACT

The rapid proliferation of social media has generated an immense volume of data, offering valuable insights for businesses across various sectors. This systematic review explores the roles and implications of big data, particularly social big data and thick data, in social media, highlighting their potential applications for enhancing business strategies and performance. The review synthesises findings from 148 scholarly articles, focusing on definitions, challenges, and opportunities associated with these data types. It identifies significant applications in areas such as business strategy, healthcare, hospitality, and telecommunications while also addressing gaps in under-represented fields. The analysis reveals a dominance of qualitative research approaches, with a growing trend toward mixed methods and quantitative studies post-2016. By combining big data's breadth with the qualitative richness of thick data, businesses can achieve a comprehensive understanding of consumer behaviours, preferences, and values. This integration facilitates improved decision-making, competitive advantage, and customer satisfaction. The study concludes with recommendations for future research, emphasising the need for more quantitative studies and the exploration of applications in emerging domains like smart cities and tourism.

Keywords: Big Data, Business Strategy, Data-Driven Decision-Making, Social Media Analytics, Thick Data

I. INTRODUCTION

Social media continues to gain ground daily as users grow from millions to billions. According to Statista (2023), as of January 2023, 4.76 billion or 59.4 per cent of the world's population were social media users. Since usage continues to grow and spread across the globe, it provides a rich data source for answering a wide range of research questions across various disciplines (Dwivedi et al., 2020). The widespread use of social media was also accompanied by the generation of large volumes of data, which can be recorded, stored, and gathered. The relevance of social media data has been identified as far-reaching. According to Zachlod et al. (2022), it can also be used to create numerous opportunities for businesses, such as a competitive advantage. The possibility of using social media to influence political results or public opinions is also an option. One major type of social media data used in this way is described as big data.

According to Cobanoglu et al. (2022), the term big data is mostly used to designate very large sets of data which are difficult to process using traditional methods. Big data refers to datasets that are large in volume, diverse in sources and types, and quickly created (Johansen & Euchner, 2013). In the views of Sagiroglu and Sinanc (2013), the term big data denotes enormous data sets that may be analyzed computationally to reveal relationships, patterns, and trends, yet, they also comprise diverse and complex structures posing challenges to storage, analysis, and visualization (Sagiroglu & Sinanc, 2013). Also, Big data can be described as massive data sets sifted by powerful analytical tools (Madsbjerg & Rasmussen, 2014). Evidently, the concept of “big data” has been given different interpretations by different scholars and as opined by Bnjelloun et al., (2015), in terms of analytics, big data serves for the analysis of data to enhance predictive capabilities and assists in decision-making for multiple sectors, including trading, agriculture and tourism. The use of big data for business owners has been identified as vital in assisting with the growth of businesses. According to Revfine (2020), for business operators, big data offers the prospect of taking well-versed decisions, having a better knowledge of consumers and competitors, as well as improving revenues and customer experience.

Other studies (Ang, 2019), Hadi et al., 2018) have also suggested that big data alone might not be enough for businesses, hence the need for ‘thick’ data. According to Carr (2020), thick data are expressed as qualitative data such



as observations, feelings and reactions that offer insight into consumers' daily emotional lives collected mostly through ethnographic research methods. Carr (2020) added that thick data are generally the opposite of big data. "Thick data is descriptively rich and intensively detailed, collected from or with research participants on issues relating to their values, visions, knowledge, life experiences, and opinions, typically obtained by observing or interacting with participants in their daily lives and through in-depth interview techniques" (Honga, et al., 2022:6). Also, working with big data has been identified as challenging. According to Kitchin (2014:2), "the challenge of analysing Big Data is coping with abundance, exhaustivity and variety, timeliness and dynamism, messiness and uncertainty, high relationality, and the fact that much of what is generated has no specific question in mind or is a by-product of another activity". Generating these kinds of data from social media has made it a lot more difficult to deal with. Generally referred to as Social Big Data (SBD), it is seen as any high-volume, high-velocity, high-variety and/or highly semantic data that is generated from technology-mediated social interactions and actions in the digital realm, and which can be collected and analyzed to model social interactions and behaviour (Olshannikova et al., 2017).

The concept and application of big data have spread to every sector of the economy and academia in the past decades. The variety of opportunities offered in this era of technological advancement and the numerous potential practical applications of big data are the primary reasons for the excitement surrounding it (Cobanoglua et al., 2022). Big data are typically derived from technologies that automatically generate large data sets, collected by various sensors and mobile devices- practices that are rarely analyzed on established epistemological or theoretical grounds (Kitchin, 2014). According to Cobanoglua et al. (2022), despite the security and privacy-related issues posed by big data and the challenges that can be encountered in its uses and applications, there exists a consensus among scholars that big data ultimately contributes to enhancing business strategies and firm performance.

Also, the characteristics of big data are described using the five V's (volume, velocity, variety, veracity, and value) to determine the role and influence of big data in social networks (Hadi et al., 2018). Volume implies a tremendous measure of information that can be created consistently (Gandomi & Haider, 2015). According to Kitchenin (2014), velocity refers to the rapid generation of data, also known as streaming data. The term "variety" refers to a wide range of data types, including text, images, videos, and semi-structured data. The truthfulness of the analyzed data and the accuracy of any information are referred to as veracity (Bello-Orgaz et al., 2016). Since all five of these attributes can be found on social networks, the most significant application of big data is in social media, also known as big social data or social big data (Abkenar et al., 2021). Big social data denotes large data volumes concerning individuals or that define their behaviour and technology-mediated social interactions in the digital realm (Olshannikova et al., 2017). The help of social media has, therefore, made available a lot of data that can be harnessed for use by businesses.

The relevance of big data to businesses cannot be overemphasized, but Ang (2019) also acknowledged the importance of thick data. He argued that organisations can significantly boost the value of big data by merging it with "thick" data. This is rich qualitative information about users, such as their values, goals, and consumption behaviour, attained by observing or interacting with them in their daily lives. Also, Olshannikova et al. (2017) added that the semantic richness and volume of social big data have made it a lot more relevant to individuals, businesses and organisations. Social big data is mainly used to generate insights from social media data and online social interactions of people for descriptive or predictive purposes to influence human decision-making in various application domains (Golbeck 2014; Golbeck et al., 2011 & Power et al., 2011)

There are some challenges in dealing with big social media data as far as analysis is concerned; hence, other studies suggested the use of thick data as well. Though these challenges will always be in existence, studies (Ang, 2019; Abkenar et al., 2021; Honga et al., 2022; Dwivedi et al., 2020; & Kitchin, 2014) that analyze social media data have increased in the past few years. Interestingly, most of these studies were not conducted in Ghana and neither were they done in Africa. The plethora of materials from different parts of the world has therefore necessitated a systematic review of how big data, especially social big data and thick data, can be useful to businesses. According to Zachlod et al. (2022), this approach is needed to evaluate the methods and quality of studies using social media data. To achieve this, the study will seek to explore the literature on the differences between big data, social big data and thick data. Also, the study will investigate how businesses make use of social media data and thick data and finally identify how the use of these categories of data can assist in the success of businesses.

The study further presents an extensive literature review that comprises the analysis of the definitions of concepts and themes with a focus spanning global perspectives and African and Ghanaian situations. This study contributes to the literature with an analysis of big data, social big data and thick data as concepts and their relevance to businesses. Articles were collected on Google Scholar using key terms like big data, social big data, thick data, social big data in business and other related keywords.



1.2 Research Objective

- (i) To determine the approaches that are used in conducting social media big and thick data research.
- (ii) To establish the areas of business researches in the area of big and thick data from social media.
- (iii) To determine the trend in business research on big data and thick data.

II. THEORETICAL REVIEW

This systematic literature review aims to critically assess and investigate the importance of big data (Social Big Data) and thick data in social media to businesses in Africa. This review contextualizes the study by offering insight into the known and unknown and highlighting the knowledge gap. Systematic reviews were originally intended for use in health sciences, but in recent years, they have gained popularity in social and consumer sciences for examining publications and written works on specific issues. Systematic reviews also aim to reduce bias by identifying, evaluating, and synthesizing relevant literature on a certain issue (Uman, 2011).

2.1 The Development of Social Media Marketing Under Big Data

Big data social media marketing may be viewed as an important branch of social media marketing study. As a result, research on the development of both should explore the distinctions between new and old social media marketing development and assess the features of big data and social media marketing based on a clear idea. It is important to recognize the present state of social media marketing in the context of huge and dense data and to conduct in-depth talks about its use and future development direction (Zhang, 2020).

2.2 The Concept Definition of Big Data and Social Media Marketing

There are now various definitions of big data, including the following. To begin, big data may be viewed as the geometry of huge data. In general, when data resources accumulate, the unit of measurement for big data frequently evolves toward Gartner for technical people involved in big data projects. Second, big data has been expanded to a modern-day phenomenon of data rushing. As a company's data accumulates over its operation and development, it becomes difficult to conduct organized statistics and analyses using conventional data technologies. Big data can become a collection of enterprise data acquisition, storage, searching, and sharing; third, big data can be used as modern network finance that focuses on data and a collection of the derived data analysis, data security, data searching, and data sharing, as well as other industrial chains (Zhou et al., 2014). In summary, it is possible to think that modernized big data is a national service path in the field of quantitative research, transforming the conventional random analysis approach into a concrete and comprehensive research method. Big data creation progresses from basic to complex and from single to diversified. Furthermore, big data transaction information contains data media, company data, and government data that are interconnected, open, public, and dynamic (Onete et al., 2020).

The notion of social media, initially proposed by Americans, is thought to be a collection of internet media. Initially, social media had a particular potential for personal creativity and distribution, with basic qualities like involvement, openness, communication, and social trends (Ni, 2021). As a result, social media often allows users to have a feeling of involvement and realism, as well as to participate in the community. The most significant aspect of the definition of social media in modern culture is "media," which includes radio, newspapers, and other communication instruments. Then comes the creation and definition of "social" and other mass network communication tools aimed at the entire society (Mumthas et al., 2022). From a marketing standpoint, integrating social media with marketing may assure marketing's steady development. In terms of transmission strategies, social media, as opposed to traditional marketing, tend to be more vertical in terms of consumers and information senders and enjoy higher user stickiness. Furthermore, social media marketing may make online interactions a reality, and it outperforms traditional marketing in terms of communication span. It is a more robust business strategy that focuses on capturing dynamic customer information. As a result, social media marketing is primarily a new marketing activity developed based on online media platforms that combine creative marketing, experiential marketing, and entertainment factors, as well as a new marketing model with a high degree of participation and expansion (Li & Yu, 2018).

2.3 Big Data and Thick Data

Big data has transformed how businesses and governments offer services (Yuen, 2019). Businesses can greatly increase the value of big data by combining it with "thick" data, which equates to rich qualitative information about users, such as their values, goals, and consumption behaviour, gleaned from observing or interacting with them in their daily lives via social media feeds (Yuen, 2019). Using big data in many capacities might be intimidating or have little use if the data is "thin," meaning it lacks significance for consumers or fails to capture the most important concerns (Hartmann et al., 2016).



Thick data may enrich both the collection and analysis of big data by providing insights into what people truly care about and how they consume services. Whereas large data is broad and thin, thick data is narrow and rich; combining the two produces a more comprehensive view of a situation (Groves et al., 2016). If big data represents the volume, velocity, and diversity of countable objects, thick data is information on the significance, meaning, and connections that humans attribute to services or technologies, as well as the process by which they consume them (Grover et al., 2020). Immersion in consumers' natural contexts, rather than laboratory-type settings, generates thick data. This idea of thick data is based on a well-established corpus of business knowledge and research methods.

Geertz (2000) defines data as "perceived constructions of other people's constructions of what they and their compatriots are up to." Creating dense data needs the simple act of observation, a key instrument of ethnography — a discipline of anthropology dedicated to the examination of a specific social or cultural setting through participant observation (Mannik & McGarry, 2017). Leading corporations have used ethnographic methodologies to encourage and optimize their operations. When computing technology took off in the 1980s, ethnographic techniques were already being used to investigate how people interacted with machines, according to an executive at IBM's Almaden Research Center. Engineers were assisted by ethnographers in bridging the gap between how machines were intended to be utilized and how they were used (Ang, 2019).

III. METHODOLOGY

A search strategy is a well-planned method of looking for relevant information and helps the researcher locate relevant literature to answer the research question (Ridley, 2014; Snyder, 2019). The purpose is to provide a broader picture of how large data and thick data are addressed in the literature, their importance, general trends and approaches widely employed in this respect. As a result, this study adds to the literature by analyzing big data and thick data as ideas and their tangible implementations for commercial goals. Articles from 2013 to 2020 were gathered using the keyword "relevance of big data and thick data in Social Media to business" on Google Scholar.

Even though big data and thick data have several commercial applications, it has been observed that publications about these ideas are increasingly prominent in the literature, often at the cost of their most direct uses in certain industries. Only papers dealing with commercial applications were considered, with no consideration given to scientific, computer, or cloud engineering publications. As a result, current gaps in the business literature on big data and thick data are addressed in this study, as is the progress made since 2013. Future research directions are also offered. One of the reasons 2013 was picked was because it was the year of big data and thick data tool innovation. Furthermore, in the literature on the ideas, the bulk of the publications connected to commercial applications were published after 2013, although there were fewer before this period. Because of the numerous domains of application of big data and thick data for businesses (e.g., business strategy, firm performance, networks and telecommunications, banking and finance, healthcare, hospitality) and the other domains entailed such as government, law, privacy concerns, and regulations, the search on Google Scholar was favoured over selecting specific databases because these fields of application present many articles in disparate journals.

After removing book chapters, book reviews, citations, and duplicate entries, a total of 235 articles were obtained at the end of the search. Then, 40 articles were eliminated because they were perspectives, opinions, editorial and lecture notes, Microsoft Word documents and PowerPoint presentations, or draft pieces. Following this procedure, 195 articles were retained and evaluated to ensure that the core concept of the articles was related to a commercial application of big data and thick data. Other research in the category, Concepts and Definitions, examined the definitions, characteristics, potential applications (in a broad sense), possibilities, and obstacles associated with big data and thick data. The content of such publications is unrelated to a specific commercial application of big data or thick data, but it does provide insights about the use and role of both ideas in business.

This review is an attempt to study the literature on the use of big and thick data from social media. In doing so, the researchers adopted the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines. This guideline was helpful because it was designed to help researchers transparently report about their review process (Page et al., 2021).

IV. FINDINGS & DISCUSSION

4.1 Response Rate

The bulk of papers obtained for this study (40%) were in the area of business strategy and company performance, followed by healthcare (11%), and law, privacy, and regulations (9%). Hospitality/network & telecommunications articles accounted for 8% of the data gathered, whereas smart cities articles accounted for 5% of the total number of articles analyzed. This inadequate representation of hospitality in the sample, for example, might be attributed to the hospitality industry's late adoption of big data and thick data analytics and social media techniques.



The publications accessible in the literature on networks and telecommunications were more useful to social media data science and technological infrastructures than to business itself. Banking and finance legislation accounted for 3% of the data, government accounted for 2%, and concepts and definitions accounted for 22%. It is worth noting that, while the categories of governance, definitions, and concepts may not sound business, the articles kept for these categories were connected to business and dealt with these elements as they apply to social media. Furthermore, all firms, including those in the tourist sector, must follow particular rules and regulations and are vulnerable to government control. The current study also revealed a rising trend in business research on big data and thick data from 2013 to 2020, even though articles dealing with the scientific aspects of big data and thick data, such as algorithms, infrastructures, and applications in general, remain prominent in the overall literature on social media data. Thus, in terms of business applications, a substantial number of publications dealt with business components. Nonetheless, the hospitality industry, as well as network and telecommunications, banking and finance, and smart cities, were discovered to be underrepresented in the sample.

4.1.1 Preferred Research Contexts

The study findings revealed that business performance, on the one hand, and applications in healthcare on the other, remained popular research areas, with 60 and 16 papers in this review, respectively. Other items in the sample included 32 articles that looked at the possible business uses of big data and thick data, but they were classed as concepts and definitions due to their broad approach and lack of focus on a specific business application.

Several research on business performance dealt with approaches to improve firm performance utilizing big data and thick data obtained through social media (Akter et al., 2016; Davenport & Dyché, 2013; Dubey et al., 2019; Gupta & George, 2016; Mikalef et al., 2020; Popovic et al., 2018; Wamba et al., 2017; Wielki, 2013), in addition to implementing strategic value (Grover et al., 2018; Line et al., 2020; Rajpurohit, 2013). Studies on the importance of big data and thick data in developing a firm's competitive edge (Barham, 2017; Kubina et al., 2015; Matthias et al., 2017; Mikalef et al., 2016; Upadhyay & Kumar, 2020; Yasmin et al., 2020), and research on supply chain analytics and management (Biswas & Sen, 2017; Wang et al., 2016; He et al., 2020; Nguyen et al., 2018), developed appealing social media research lines. To that, research on logistics (Zhong et al., 2015) might be included, as can studies on the problems and potential of big data and thick data in supply chain management (Kache & Seuring, 2017; Zhong et al., 2016). Likely limitations in applying big data and thick data in business were also investigated (Ghasemaghahi & Calic, 2020; Schroeder, 2016; Sen et al., 2016). Ylijoki and Porras (2016), for example, investigated and defined themes and rules for the use of big data in an organization, whereas Chen et al. (2017) gave a case study on how big data was utilized to remodel Lufthansa's business model. Korhonen (2014), on the other hand, examined the influence of big data on organizational design through social media reactions.

Shim et al. (2015) studied ways to secure a good return on a company's big data investment, whereas Côte-Real et al., (2017) analyzed the business value of big data and thick data in European enterprises. The importance of big data and thick data in organizational decision-making processes has also been studied (Elgendy & Elragal, 2016; Fu et al., 2020; Poletto et al., 2015), whereas Provost and Fawcett (2013) and Babu and Sastry (2014) focused on automated decision-making. A systematic review by Akter and Wamba (2016) was also included, as were papers about big data as an industry and market (Bughin, 2016; Dekimpe, 2020; Liu et al., 2014).

Healthcare has also been noted as an area with significant interest in the literature about the applicable use of big and thick data in social media healthcare. In the sample, 16 publications were relevant to the possible applications of big data in healthcare. Comprehending big data capabilities in healthcare (Chen et al., 2020; Wang et al., 2015) or comprehending the difficulties and perspectives of action for the use of big data in the healthcare business (Mathew & Pillai, 2015) was the focus of this topic's examinations. Furthermore, identifying and prioritizing essential elements for increasing big data adoption and utilization in healthcare was investigated (Kim & Park, 2017; Wang & Hajli, 2017). Similarly, Bates et al., (2014) investigated the use of big data to identify and manage high-risk and high-cost patients, while Wang et al., (2018b) developed an integrated big data analytics-enabled healthcare transformation model. Groves et al. (2016) investigated the intricacies of the big data revolution in healthcare, while Kupwade-Patil and Seshadri (2014) identified possible security and privacy vulnerabilities with big data technologies as they apply to the healthcare eco-system. The current literature has also examined the opportunities and policy implications of big data use in healthcare (Roski et al., 2014). The breadth of healthcare-related issues demonstrates the several fields in which big data may make a significant contribution to healthcare.

In furtherance, some research works looked at banking, especially consumer behaviour, through the lens of big data analytics (Sun et al., 2014), as well as risk analysis (Rahman & Iverson, 2015). financing-related articles investigated the problems and possibilities in financial stability monitoring (Flood et al., 2016) and how to increase the predictability of supply chain financing customers' business failure (Zhao et al., 2015). Other research has focused on the influence of big data on company operating departments such as marketing (Dekimpe, 2020; Fan et al., 2015), human resources (Angrave et al., 2016; Lindberg, 2020), and manufacturing (Li et al., 2015).

In the hospitality industry, Banic et al., (2013) investigated the use of big data and sentiment analysis for product evaluation, while Xiang et al., (2015) used big data analytics from social media to demonstrate the relationship between hotel guest experience and guest satisfaction. Frizzo-Barker et al., (2016) demonstrated how to use big data to create value for smart tourist destinations. Zheng et al., (2016) proposed a framework of big data-driven mobile network optimization in network and telecommunications; Mahrt and Scharkow (2013), investigated the value of big data in social media research; and Liu et al., (2016) provided a social network analysis using big data and thick data. Some research investigated the uses and roles of big data in smart cities (Al Nuaimi et al., 2015; Hashem et al., 2016; Kumar and Prakash, 2014; Wu et al., 2018). Vilajosana et al. (2013) investigated the reasons why businesses in smart cities face challenges, whereas Morioka, et al. (2015) evaluated a city management platform based on big data from people and traffic flows.

Government-related articles assessed the government's ability to implement big data and thick data applications related to the business sector (Kim et al., 2014), as well as transferring business intelligence and big data analysis from corporations to governments as a hybrid leading indicator (Bodislav, 2015). Chatfield et al. (2015) investigated organizational capability difficulties in reforming government through the use of big data and thick data in this respect. Studies dealing with privacy issues as related to big data and thick data were also present in the literature related to social media to business (Crawford & Schultz, 2014; Custers & Uršič, 2016; Kamakshi, 2014; Kshetri, 2014; Perera et al., 2015; Wachter & Mittelstadt, 2019), studies, as it is also the case for ethics (Allen, 2016; Nunan & Di Domenico, 2013).

4.1.2 Conceptual Developments

Scholars from a variety of fields are becoming increasingly interested in big data and thick data. Frizzo-Barker et al., (2016) conducted a systematic review to examine the emergence of big data in business study and how business academics understand the implications of this developing phenomenon. According to some researchers, big data and thick data in business may be viewed as a service, with three components: data infrastructure-as-a-service, data platform-as-a-service, and data analytics software-as-a-service (Zheng et al., 2013). Big data and thick data ideas in business have also been assessed about the relevant interdisciplinary aspects of social media to business (Berente et al., 2019; Fu et al., 2020; Geczy, 2014).

Casado and Younas (2015), for example, gave insight into the primary processing paradigms in connection to big data 3V's (variety, volume, and velocity). Big data in business has also been conceptualized based on its challenges (Acharjya & Ahmed, 2016; Samuel et al., 2015; Toshniwal et al., 2015; Zhou et al., 2014), data-intensive applications, challenges, techniques, and technologies (Chen & Zhang, 2014; Chen et al., 2020). The sample includes representatives from the field of large data management (Rossi & Hirama, 2015; Russom, 2013). Other scholars provided an account of how recent big data and thick data project initiatives have been successful in terms of delivering business value (Chang et al., 2020; Rahman & Aldhaban, 2015). Gao et al., (2015) provided a process view on critical success factors for big data analytics projects. Saggi and Jain (2018), for example, focused on the contribution of big and thick data analytics to value creation, whereas Maglio and Lim (2016) discussed innovation and big and thick data in smart service systems such as smart customization and prevention, smart operations management, smart coaching, and smart adaptation and risk management. The problems and uses of social media analytics were investigated by Verma et al., (2016). Markus and Topi (2015) assessed the consequences of large and thick data analytics for science, society, and business in general terms, whereas Gupta (2014) defined the methods of big and thick data analytics with an emphasis on data mining.

4.1.3 Review of Methods Used

A total of 151 articles were reviewed for methods and this is presented in Table 1.

Table 1

Methods Used in the Business Literature on Big Data and Thick Data

Methods Used	Number of Articles	Percentage
Qualitative	108	72
Quantitative	11	7
Mixed Method/Triangulation	32	21
TOTAL	151	100

A look at the approaches utilized for investigating big data and thick data business applications reveals a preference for qualitative methods, which account for 72% of the sample. Table 1 shows that research that employed quantitative or mixed approaches accounted for 7% and 21% of the total number of articles collected, respectively. It is worth emphasizing that literature reviews were defined as qualitative techniques for the sake of this study, whereas



systematic literature reviews with measurable samples were designated as mixed methods studies. The findings above indicate that the literature on large data and thick data lacks quantitative investigations, which can be attributed to the relatively recent time in which scholars began to expand their interest in thick data. This argument is backed by the fact that the samples utilized in this study indicated that the majority of quantitative studies on big data applications in business were completed after 2016. In reality, before this year, only two purely quantitative and three mixed studies were accessible from the sample; however, beginning in 2016, there are nine entirely quantitative and sixteen mixed methods studies. These findings also imply that more quantitative studies are on the way, as academics will be able to depend on more examples and applications of big data and thick data in social media to businesses to provide new findings, conclusions, and suggestions.

Notable works in mixed methods studies include: (Davenport & Dyché, 2013; Gillespie, 2020; Orenga-Roglá & Chalmeta, 2016; Popovic et al., 2018; Wang et al., 2018a; Wang et al., 2018b; Zheng et al., 2016), content analysis (Lee et al., 2020; (Davenport & Dyché, 2013; Gillespie, 2020; Orenga-Roglá & Chalmeta, 2016; Popovic et al., 2018; Wang et al., 2018a; Wang et al., 2018b; Zheng et al., 2016), content analysis (Lee et al., 2020; Line et al., 2020; Wang & Hajli, 2017; Ylijoki & Porras, 2016), interviews (Chen et al., 2017; Fu et al., 2020; Gunasekaran et al., 2018; Weng & Lin, 2014). Regarding quantitative methods, researchers mainly made use of surveys (Wang & Wang, 2016; Mikalef et al., 2020; Russom, 2013; Wamba et al., 2017) for the data collection.

Judging from the table above, it becomes clear that knowledge so far generated in the field of data has taken the form of thick data, with most researchers interested in the qualitative aspect of analysing social media data. By implication, it suggests that research findings could be mostly skewed towards qualitative kinds of analyses, robbing scholarship of the rich inputs of quantitative analysis of social media data. Again, the implications of such a trend could mean that social media analysis using the qualitative approach could stale, leading to a substantial shift or departure from qualitative analysis, which would help to reveal the rich inputs of quantitative studies.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusions

Social Media has taken over the digital space in the millennial era, and, as a result, businesses that realize this fact can make informed business decisions. Therefore, using big data and thick data in social media marketing works well for businesses. Big data, thick data, and their applications and importance in business have acquired appeal in academia in recent years, owing to a growing interest among researchers. This study's concept is a thorough assessment of big data and thick data in social media for businesses from 2013 to 2020. The findings revealed a preference for qualitative approaches, with an overall declining trend beginning in 2016, the year in which the number of quantitative studies began to rise. It is, however, worth noting that the majority of the results were centred on big data as opposed to thick data and or a combination of the two. Perhaps, thick data is still catching on and may be more involved in future research works. Nonetheless, research indicated that the literature on large data and thick data contains more exploratory studies than decisive ones, with few relying on empirical techniques. The majority of the research focused on big data applications for improving company performance, including subtopics such as competitive advantage, strategy, and decision-making.

5.2 Recommendations

From the conclusions above, more quantitative research will be required to build up the literature on this issue in sectors like hospitality, network and telecommunications, where the usage of big data is rising. Healthcare, on the other hand, is a discipline with a rising body of literature due to the wide range of topics that may be researched within the sector. Future studies might focus on large data and thick data applications in networks, telecommunications, and hospitality.

Based on the issues above, the researchers propose a conceptual framework that could be used to investigate the use of big and thick data to advance corporate businesses. Specifically, the researchers identified a gap in the literature in the area of how big data can reveal preferences of customers regarding the make of a particular product or the nature of a service. In that regard, the authors propose three theories – the Actor-Network, Machine Learning, and Media Multiplexity theories – to form a conceptual framework that would guide research to fill the suggested lacuna.

The Actor-Network theory, developed in the 1980s by sociologists Bruno Latour, Michel Callon, and John Law, posits that both human and non-human entities, referred to as “actants,” play crucial roles in the formation of social networks and the outcomes that emerge from them. Machine Learning theory is a branch of artificial Intelligence and theoretical computer science that provides the mathematical framework for understanding how algorithms can learn from data and generalize to new, unseen scenarios. Media Multiplexity theory by Caroline Haythornthwaite examines the relationship between communication channels and interpersonal bonds, focusing on the strength of relational ties.



In this conceptual framework, actor-network theory guides the production of data in the sense that, through the activities of individuals who use social media technologies daily, big and thick data are created on giant social media platforms. These data are then accessed by companies that are also influenced by technology, and as Machine Learning suggests, these data created can be exhumed, cleaned and made sense of through algorithmic inputs. Then, when this data is made sense of, according to Media Multiplexity theory, the communication and interpersonal bonds that is created between technology and individuals reveal personal information that help to fashion products and services to meet the expectations of regular and future customers whose preferences have been captured through the use of big and thick data.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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