The Effects of Social Media Content on a Firm's Book-Based and Market-Based Performance

Literature Review

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Abstract: The success of companies is increasingly dependent on their online image. Therefore, the research has called for a better understanding of the characteristics of a firm's online content that can enhance a firm's performance. This study delves into the impact of social media content on both book-based and market-based performances of firms, drawing insights from 32 articles published between 2016 and 2022. The present article encompasses the categorisation and explanation of the economic effects of user- and firm-generated social media content, while also exploring cross-firm and cross-industry spillover effects. The study extends prior research that has primarily focused on the effects of one type of content or the other and only on some specific measures. Moreover, the study visually illustrates the economic effects of social media content on book-based and marked-based firm attributes. These insights provide a valuable resource for firms seeking to optimise their social media strategies to improve performance and for researchers choosing a research agenda.

Keywords: social media content, user-generated content, firm-generated content, book-based performance, market-based performance

Introduction

In today's digital age, social media is of paramount importance to businesses. With the proliferation of online communication channels, especially social media platforms, individuals now have an unprecedented ability to share their opinions and experiences about companies and products. Social media, as defined by Kaplan & Haenlein (2010), serves as a primary conduit for the creation and exchange of user-generated content. Its accessibility and popularity make it a powerful medium for sharing content compared to traditional media. As a result, companies have recognised social media as a crucial channel for customer

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communication (Cioroianu *et al.*, 2021). Leveraging social media to provide information to investors, society and customers has been found to have a direct impact on financial performance (Byun & Oh, 2018; W. Zhang *et al.*, 2021) and crisis recovery (N. Zhang *et al.*, 2021). Moreover, embracing social media is associated with increased productivity (Wardati & Er, 2019).

Amid this digital landscape, the financial performance of companies is profoundly affected by the content shared on social media, both user-generated and firm-generated. User-generated content, encompassing personal publications, reactions ('likes') and comments, acts as a form of electronic word-of-mouth (e-WOM) capable of either enhancing or tarnishing a company's image. On the other hand, firm-generated content, disseminated by the company itself on its website or official social media pages, plays a pivotal role in constructing and maintaining the company's image and brand. As companies strive to enhance their digital presence, be it through digital marketing (Uzunoğlu & Misci Kip, 2014; Yu *et al.*, 2021), expanding their online footprint with a well-developed website (Saridakis *et al.*, 2018) or active social media engagement (Wardati & Er, 2019; Olanrewaju *et al.*, 2020), understanding the economic implications of social media content becomes paramount.

The intersection of social media with bonding (Coleman, 1988) and bridging (Granovetter, 1973) social capital is particularly relevant for firms' economic performance. Social capital refers to the resources and benefits individuals and organisations derive from their relationships and networks. While it has traditionally been rooted in offline networks' density and resource richness, entrepreneurs can now harness social media's bonding and bridging aspects to bolster their economic endeavours. For example, firms can use social media to build strong customer relationships, engage in co-creation activities, gather valuable feedback, and connect with new suppliers and partners. By cultivating these ties through social media, firms can enhance trust, cooperation and resource accessibility, which are vital for economic performance (Smith *et al.*, 2017).

The primary objective of the present paper is to provide an overview of the findings regarding influence of social media content on a firm's book- and market-based performances. Despite a search of existing literature reviews on the effect of social media on firm performance, no comprehensive study was found on the role of social media content characteristics. This review aims to fill this gap by identifying and categorising impactful characteristics of social media content and outlining their economic relevance for firms. By synthesising the findings from diverse studies, the review underscores the importance of user-generated content, such as sentiment and volume, in shaping stock market characteristics of a firm and the influence of firm-generated content on a firm's book-based performance.

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In this study, we differentiate between book-based performance and market-based performance to evaluate a firm's overall success. Book-based performance, often referred to as financial performance, encompasses metrics derived from a firm's accounting records, such as net income or return on assets (ROA). On the other hand, market-based performance includes indicators influenced by investor perceptions and market conditions, such as stock price or market capitalization. Understanding both perspectives is crucial for a comprehensive assessment of how social media impacts firm performance.

The article contributes to the existing body of knowledge by offering valuable practical implications of user- and firm-generated content for companies seeking to refine their social media publishing strategies for enhanced profitability. These insights encompass strategies such as enhancing user engagement in social media, responding to market-wide sentiment, and customising firm-generated content to industry-specific requirements. The article also includes a visual representation of intricate connections between social media content attributes and firm performance, offering organisations a tool to pinpoint the specific content characteristics they should prioritise for enhancing their chosen performance aspect. Overall, present research acts as a stepping stone for a more comprehensive understanding of a social media and business economics interplay.

The article adheres to a structured approach, commencing with the methodology section, which outlines the article selection process for the review and provides a rationale for the chosen article structure. Subsequent sections expound upon the impact of social media content on firms. To ensure clarity and comprehensiveness, this impact is classified into two categories, each aligned with specific firm attributes: the effect on market- and book-based performances. Both sections are further divided based on the source of content — user-generated and firm-generated. The following sections address spillover effects of social media and introduce a model illustrating the impact of social media content on companies. Finally, the article discusses the key findings, offering actionable insights for firms seeking to strategically manage their social media presence and improve their performance, and for researchers choosing a research agenda.

Methodology

Scopus was used as a primary source for articles to provide an up-to-date overview of the literature on the effect of both user- and firm-generated social media content on a firm’s book-based and market-based performances. Five queries were constructed, targeting the title, abstract and keywords of articles to ensure the inclusivity of pertinent literature. Acknowledging the presence of valuable research prior to 2016, we specifically targeted studies from 2016 to 2022 to incorporate the most recent and pertinent advancements. After the initial search, 213 articles were considered. To systematically explore the impact of social media content on firm performance, the following search queries were employed:

(1) 'Social media' AND 'firm performance' AND SUBJECT ('Economics');
(2) 'Social media' AND 'user-generated content' AND SUBJECT ('Economics');
(3) 'Social media' AND 'content' AND 'sentiment' AND ('firm' OR 'company');
(4) 'Social media content' AND 'content strategy' AND SUBJECT ('Economics');
(5) 'Social media' AND ('text mining' OR 'content mining').

Query (1) addresses the effects of social media on a book-based performance, particularly in financial terms; (2) was instrumental in acquiring literature that explores the impact of user-generated content; and (3) was tailored to get articles about the effect of user sentiment specifically. It is worth noting that the majority of the literature from queries (2) and (3) is centred on the impact on a firm's stock market characteristics. Query (4) was employed to gather articles about the impact of content strategies on firm performance; and (5) was applied to unearth articles discussing techniques for text-mining social media content, with the goal of identifying potential text features that could affect a firm's financial performance, which may not have been explored in the economic literature.

Following the initial search, manual screening for relevance was critical. The selection of studies was based on a detailed review of abstracts, with inclusion criteria focusing on empirical, quantitative analyses of social media's impact on firm performance. Only articles addressing user-generated or firm-generated content's effect on book-based and market-based performance indicators were considered. Abstracts that did not clearly articulate a focus on these areas, were excluded. This criterion ensured that only articles with a direct and clear relevance to the study's research questions proceeded to the full article review stage. Only high-quality studies from the upper half of ranked journals were included. The decision to focus exclusively on economics studies in this article is grounded in the objective to understand the measurable impact of social media on firm performance through financial metrics. While social media's impact is undoubtedly interdisciplinary, the concentration on an economics perspective ensures direct relevance for assessing effects on firms' book-based and market-based performances. Ultimately, 32 articles were selected for review, with the majority published between 2016 and 2022, and an additional four articles selected for their citation and relevance. The list of 32 reviewed articles encompasses a variety of sources, including but not limited to the *Journal of Banking & Finance*, *Finance Research Letters* and several others.

To ensure the quality of the selected articles, we assessed their publication in top-quartile journals for the respective years. The quartile data was derived from the SCImago journal rankings (SCImago, n.d.). The sample primarily consists of articles from high-quartile journals, with 75% appearing in the first quartile, and 25% from the second quartile. This distinction characterises the focus of the journals as predominantly high impact. Furthermore, the temporal distribution reveals a balanced spread across the years, with a marked surge observed in 2021 (Figure 1). This surge raises speculation on the potential influence of external factors, such as the global COVID-19 pandemic, which may have heightened the significance of research pertaining to social media.

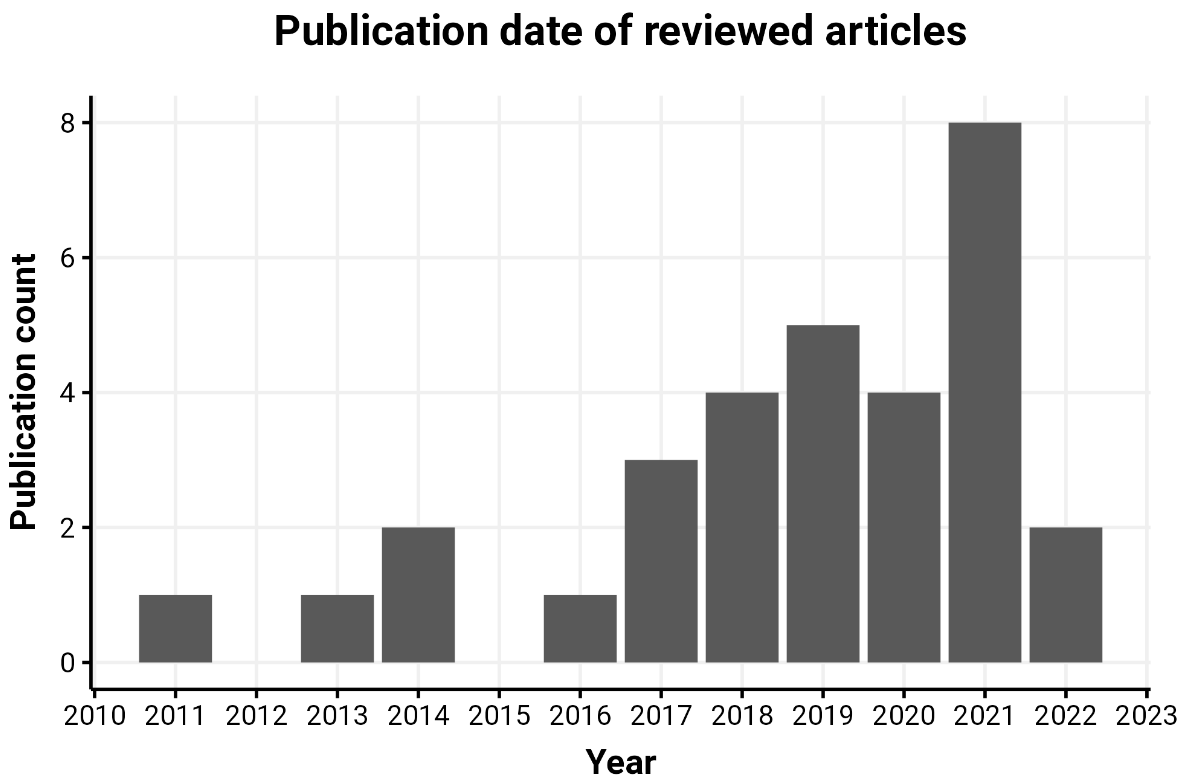

Figure 1. Publication date of reviewed articles

To address the categorisation of articles, a two-tiered approach was employed. Initially, articles were categorised based on the type of social media content, distinguishing between user-generated and firm-generated content. Subsequently, each category was further subdivided based on the impact of the content on two aspects of firm performance: book-based and market-based performance. This segregation allows for a more precise examination of the factors that influence a firm from an internal perspective, as well as its market performance from an external, investor-oriented viewpoint. Book-based performance metrics are rooted in the company's own financial statements and operations and are primarily designed for internal stakeholders. In contrast, market-based performance reflects the external market's judgement and acts as a barometer for investors. By categorising articles in this manner, we were able to conduct a more comprehensive analysis of the diverse effects of social media publications on firm performance.

In addition to these categories, we established a separate category for articles discussing the spillover effects of social media content. The inclusion of a dedicated section on spillover effects in this study is essential because it discusses the indirect consequences of social media content on firms, which can be as important as direct effects. However, a notable omission of this study is the lack of dedicated exploration into the effects of firm-generated content on the stock market – a result of limited research materials currently available in this specific area. This gap puts forth an intriguing prospect for potential further study. The following sections will explain the findings, highlighting how user- and firm-generated content affect the characteristics of a company.

Market-Based Performance

User-generated content

User-generated content influences a company's stock market characteristics primarily through two key attributes as indicated in the literature: user sentiment and the volume of user-generated content. User sentiment reflects the collective opinions expressed by customers, investors, or counterparts on social media platforms, ranging from positive to negative, whereas volume represents the amount of publications related to the company. Both characteristics play a pivotal role in shaping investment and purchasing decisions for other users, thereby exerting a profound impact on a company's stock characteristics.

User-generated sentiment therefore plays a key role in a company's stock. For instance, several stock market characteristics are found to be affected by user sentiment: stock market price (Yang *et al.*, 2020; Umar *et al.*, 2021), return on investment (Broadstock & Zhang, 2019), stock volatility (Audrino *et al.*, 2020), and co-movement with the market (Ding *et al.*, 2020). A notable real-world example of social media sentiment affecting company's stocks is the GameStop phenomenon. Anand & Pathak (2022) illustrated that user sentiment on social media platform Reddit had a pronounced impact on the company's stock price.

In general, most studies demonstrate that positive user sentiment has a positive impact, whereas negative sentiment produces a negative impact. However, there are some contrary results. Reboredo & Ugolini (2018) demonstrated that the effect is insignificant for renewable energy companies. Saridakis *et al.* (2018), concluded that the impact of social media is particularly high for third and fourth sector companies, which is consistent with Reboredo & Ugolini's conclusion (2018). Additionally, the influence of user sentiment can fluctuate over time (Ho *et al.*, 2017). Overall, there is a room for deeper exploration of the impact of user sentiment in social media across industries or markets.

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A second important factor that can affect a firm's stock is the amount of user-generated content related to the firm. Zu *et al.* (2019) found that the intensity of stock-related discussions in online forums related to the firm can enhance the informativeness of a firm's stock price, thereby raising its value. Similarly, Ding *et al.* (2020) noticed that as the number of non-professional analyses published online increases, the firm's stock price co-movement with the market is reduced. Investor attention, as indicated by the volume of Google searches and publications on a Twitter-like social media, may predict stock volatility (Audrino *et al.*, 2020). News related to a company may affect its volume of credit swap spread (Naumer & Yurtoglu, 2022). Evidently, both sentiment and content volume are vital user-generated content characteristics that affect a firm's stock market performance.

Several practical implications for companies can be derived from these results. Firstly, companies should actively manage their online presence and reputation by monitoring and responding to user-generated content. User sentiment can have a significant impact on a company's stock, so addressing negative sentiment and embracing positive sentiment is critical. Secondly, companies should monitor user sentiment as it can help to predict excessive stock volatility and to mitigate the risks associated with share prices. Finally, as the impact of user sentiment varies by industry (Reboredo & Ugolini, 2019; Saridakis *et al.*, 2018), companies can tailor their approach to user-generated content by sector. This allows for more targeted communication to foster positive sentiment.

Book-Based Performance

User-generated content

User-generated content wields an influence over a company's financial and operational performance. As established by Yost *et al.* (2021), heightened user engagement, measured by comments and likes on a company's community page, directly correlates with increased sales. Furthermore, the extent of user-generated content, as illustrated by Lányi *et al.* (2021), can shape the company's image in the eyes of consumers and competitors. This impact extends further as demonstrated by Cui *et al.* (2018), who have shown that user sentiment can be harnessed to enhance sales forecasting, suggesting that fostering and maintaining an active online community is tied to improved financial performance. Collectively, the findings emphasise the need for firms to invest in user engagement strategies, reputation management and sentiment analysis to bolster financial performance and better cater to their customer bases.

Transitioning from the realm of user-generated content to the impact of news, it is evident that news related to a particular company carries immense weight, exerting a considerable

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influence on its financial trajectory. It exerts influence not only on traditional stock market indicators, such as returns and volatility (Moussa *et al.*, 2017), but also on non-traditional attributes, like a company's crisis management capabilities (Derani & Naidu, 2016). The significance of industry-specific news should not be overlooked, as it can provide invaluable insights into stock returns and market dynamics, facilitating more informed investment decisions. Walker (2016) offered an example in the context of real estate, where news content exhibited a significant relationship with the stock returns of housing market firms. To the best of our knowledge, this was the sole market-specific research on the subject, highlighting the potential for firms to conduct additional industry-specific analyses to refine their strategies.

In essence, all findings underscore the need for a proactive and strategic approach to maintaining an online presence, responding to user-generated content and monitoring news in the pursuit of improved business performance.

Firm-generated content

Companies benefit from social media by publishing their own content ('firm-generated content'). For instance, it serves as a vital tool for providing information to various stakeholders, including consumers (Cioroianu *et al.*, 2021), investors (Byun & Oh, 2018; W. Zhang, 2021), and society at large (N. Zhang *et al.*, 2021). The benefits of adopting this approach are diverse. Firstly, providing information through social media can have a positive impact on firm productivity, as demonstrated by W. Zhang *et al.* (2021), thereby enhancing operational efficiency. Secondly, it can improve a firm's overall operating performance, as indicated by multiple metrics such as return on assets, profit margin, profit per employee and sales growth (Byun & Oh, 2018). This implies that companies should actively engage in content creation and dissemination to reap these operational benefits.

Furthermore, beyond operational improvements, firms can also bolster their financial performance and enhance their crisis recovery capabilities by providing information to society through social media (N. Zhang *et al.*, 2021). The study by Byun & Oh (2018) revealed that announcing a firm's corporate social responsibility activities in traditional media can increase shareholder value and lead to enhanced future operating performance. Additionally, Cioroianu *et al.* (2021) observed that a firm's statements about initiatives like blockchain development can cause short-term anomalies in stock prices.

The findings highlight the importance of leveraging social media platforms for the effective dissemination of information, not only for improved operational performance but also for gaining a competitive edge, enhancing financial outcomes and fostering crisis resilience.

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Spillover effects

Several studies have been conducted to measure the spillover effects of social media. Users often leverage information obtained from social media regarding a specific company to form opinions about similar companies. For instance, Kirchhain *et al.* (2021) found that news about a particular real estate company can affect home prices in the location of a competitor. Additionally, cross-industry research was also conducted: Audrino & Tetereva (2019) discovered that news pertaining to one industry can impact the stock returns of other industries. Furthermore, market sentiment can also exert an influence on the individual prices of firms within that market (Broadstock & Zhang, 2019). Notably, the impact of a company's digital image is most pronounced in information-intensive industries, particularly in sectors like the tertiary and quaternary segments of the economy, as elucidated by Saridakis *et al.* (2018). There remains substantial potential for future researchers to uncover additional spillover effects.

Recent findings illuminate the non-uniform impact of social media across sectors, urging companies to take recognition. Firms must grasp that their online presence can wield a substantial influence – particularly in information-intensive industries – so tailoring social media strategies to align with industry-specific needs can be highly effective. Companies must also actively monitor and analyse social media discussions concerning their brand and competitors. This proactive strategy may aid in comprehending potential spillover effects, be they positive or negative, and it also allows for mitigation measures to be implemented swiftly. Furthermore, recognising the potential for cross-industry spillovers, firms should explore partnerships with companies in related sectors as it could potentially yield mutual benefits in reputation and market performance.

Results and Discussion

In order to highlight the primary findings from reviewed literature, a visual representation of the results was created. The illustration summarises the impact of both user- and firm-generated social media content on a company's book-based and market-based performances (see Figure 2). The left side displays social media content attributes, while the right side presents firm-specific characteristics (dependent variables). As can be seen from the model, market-based characteristics are mainly influenced by user-generated content, whereas book-based performance is mostly dependent on firm-generated content. This illustration may be used to determine the specific aspects of social media content that firms may focus on to improve a performance aspect of their choice and would help firms in developing sound publication strategies.

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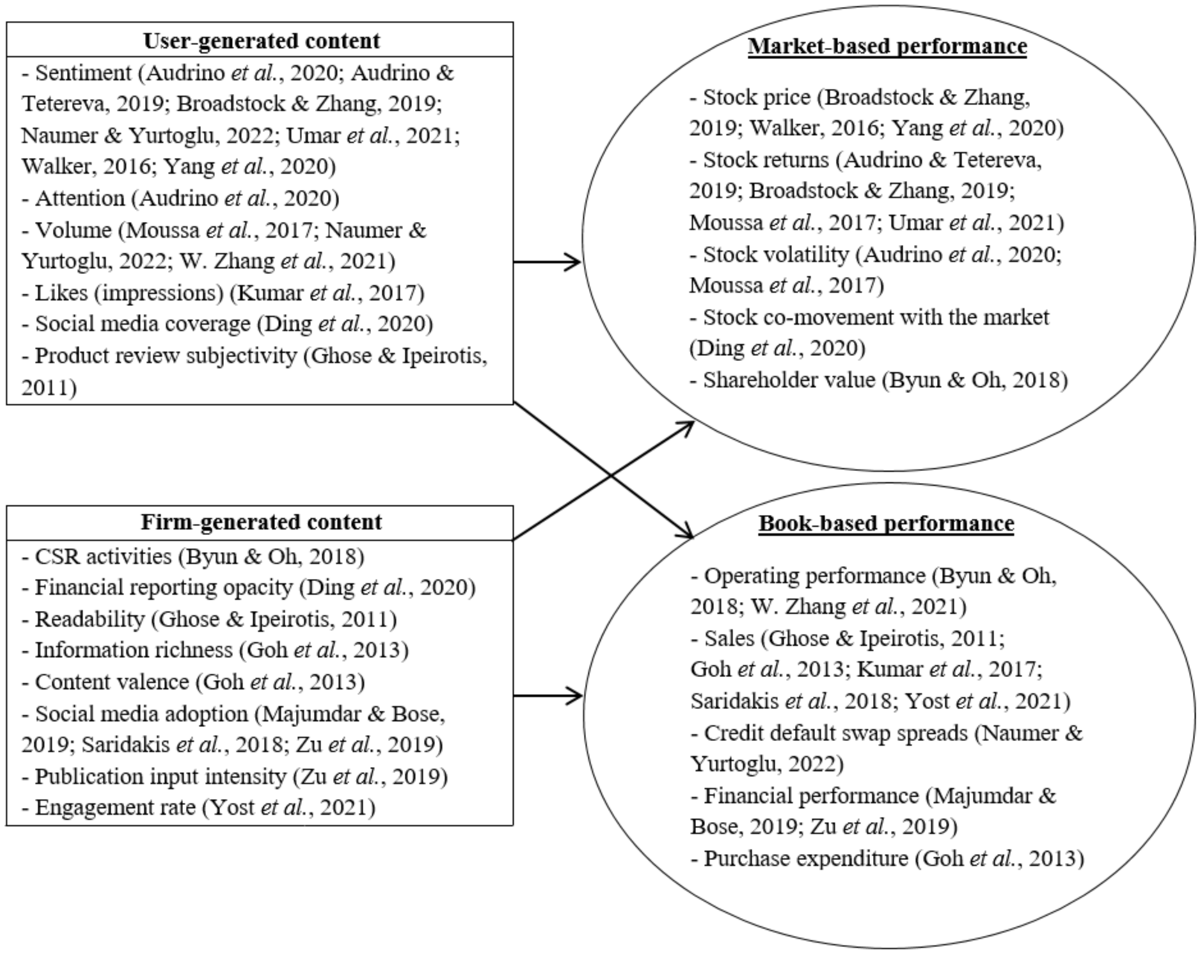

Figure 2. Economic effects of social media content characteristics

As can be seen from the model in Figure 2, market-based characteristics are mainly influenced by user-generated content. Only stock co-movement with the market (Ding *et al.*, 2020) and shareholder value (Byun & Oh, 2018) are influenced by firm-generated content. This may happen due to several reasons. Firstly, user-generated content may be more prevalent and more easily accessible than company generated-content due to the rising popularity of social media and therefore be more effective in shaping market-based performance. Secondly, user-generated content is usually considered more up-to-date because of the real-time nature of investing forums. Lastly, user-generated content may be more trustworthy as firms may provide incorrect information to affect its prices, for example, by a false announcement in social media (Cioroianu *et al.*, 2021).

As for firm characteristics, they are mainly dependent on firm-generated content. This may be explained in two ways. Firstly, in terms of quality, user-generated content can be unpredictable and inconsistent and thus not preferable, whereas firm-generated content undergoes rigorous quality control processes, ensuring its accuracy, relevance and reliability. Secondly, firm-generated content allows firms to carefully craft their messaging, presenting it in a way that aligns with their strategic objectives, rendering it more influential on company performance than user-generated content.

From a practical standpoint, the findings underscore the need for firms to strategically manage their social media presence and develop suitable content strategies. Firms should monitor and respond to user-generated content promoting positive sentiment, as it can significantly influence their stock market characteristics. At the same time, they should carefully craft their own content to enhance their book-based performance. The findings suggest that firms can generate suitable social media content to improve sales, competitiveness and crisis recovery.

From a theoretical standpoint, there is room for research. Firm-generated content in social media may be treated as a resource in a resource-based view (RBV) framework introduced by Barney (1991). In this context, a company gains sustainable competitive advantage by controlling information flow in social media – it may disclose a unique, rare, valuable resource to the public and control what and when it is published. The problem is that not every publication may be considered a resource that gives competitive advantage, and the researchers have to find a feature that would distinguish 'valuable' publications.

It is essential to recognise that social media's impact on firm performance extends beyond traditional economic aspects. According to Hanafizadeh *et al.* (2021), social media can contribute to organisational success in various ways. The authors present various stages of social media maturity, each with corresponding performance benefits. Initially, firms experience improved knowledge sharing, customer relationships and social presence. As firms advance, they witness enhancements in product development, stakeholder communication and value creation. Therefore, firms should view social media as a comprehensive platform contributing to organisational success, rather than just an economic tool.

Conclusions and Orientation for Future Research

The study contributes to the literature by differentiating the effects of user- and firm-generated content on market- and book-based performances. This extends prior research that has primarily focused on the effects of one type of content or the other and only on some specific measures. This review offers practical implications for managers, social media strategists, and marketing professionals, helping firms pinpoint the exact attributes of social media content to emphasise in order to enhance book- and market-based performances. Specifically, the study suggests strategies such as enhancing user engagement, responding to market sentiment, and customising content to industry-specific needs.

While existing studies have made progress in understanding the effect of social media content, there are several avenues for future research. First, more work is needed to examine the industry- and market-specific effects of online publications. By focusing on specific industries and markets, researchers can uncover sector-specific challenges and opportunities, enabling practitioners to implement more targeted strategies. For instance, it would be feasible for future researchers to discover cross-industry and cross-market spillover effects and derive practical implications for firms working in specific industries.

Another perspective research avenue is broadening the set of features that could affect a firm's performance, particularly by exploring the impact of the quality of firm-generated content. Quality could be measured by metrics such as syntactic correctness of the text (Khadjeh Nassirtoussi *et al.*, 2014) or information richness of the content (Goh *et al.*, 2013). Research could be extended to event studies to determine which information disclosed to the public has the greatest impact on performance. Moreover, a comparative analysis of different content types (text, images, video, poll) is warranted to ascertain their relative influence on a firm's financial outcomes.

Furthermore, expanding the research to encompass non-mainstream social media platforms like Instagram, YouTube and country-specific networks such as Weibo is essential. Current studies predominantly rely on limited platforms, such as Twitter, for data collection. This constraint can potentially limit the generalisability of the findings, a trend also observed in social media data analytics studies within the marketing field (Benslama & Jallouli, 2022). Therefore, it is crucial to explore the outcomes derived from various social media platforms, and the potential synergistic effects of utilising multiple platforms simultaneously.

Finally, it is important to acknowledge the limitations of this review, particularly in terms of limiting the focus of the review to empirical economics studies. While this perspective provides valuable insights, other significant social media data analytics methods may be overlooked such as visualisation or the utilisation of artificial intelligence (Benslama & Jallouli, 2022). The growing interest in artificial intelligence technologies and their role in enhancing digital marketing strategies, as highlighted by Jallouli & Kaabi (2022), suggests that AI has become paramount, particularly with the rise of large language models like ChatGPT (Brown, 2020). These models can be used for data visualisation and information extraction (Liu *et al.*, 2023), making it crucial for future research to integrate findings from interdisciplinary literature related to AI and other data analytics methods in the context of social media. This approach will enrich the analysis and offer a broader perspective on the topic.

Another limitation of this paper is not outlining the specific mechanisms linking social media to the performance of firms. Therefore, future research should seek to uncover the underlying mechanisms, including moderators and mediators, to provide a deeper theoretical and practical understanding of how social media content translates into financial and market outcomes for firms.

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