International Journal of
Financial Studies

MDPI

Review

From Tweets to Trades: A Bibliometric and Systematic Review of Social Media's Influence on Cryptocurrency

Sheela Sundarasen [1,*] and Farida Saleem [2]

[1] Department of Accounting, Prince Sultan University, P.O. Box No. 66833, Rafha Street, Riyadh 11586, Saudi Arabia
[2] Management Department, Prince Sultan University, P.O. Box No. 66833, Rafha Street, Riyadh 11586, Saudi Arabia; fsaleem@psu.edu.sa
* Correspondence: ssundarasen@psu.edu.sa

Abstract: The rise of social media has significantly influenced the cryptocurrency market, driving volatility through sentiment-driven trading. This study employs a bibliometric and content analysis approach to examine how social media, particularly Twitter, impacts cryptocurrency price movements. Using the bibliometric analysis, 151 peer-reviewed articles published between 2018 and 2024 were analyzed to identify key research trends, themes, and potential future research. This study finds that social media sentiment plays a crucial role in cryptocurrency price forecasting, with machine learning and natural language processing (NLP) techniques enhancing prediction accuracy. Thematic analysis reveals four primary areas of focus: sentiment analysis and market prediction, machine learning-driven algorithmic trading, blockchain investment risks, and influencer-driven market behavior. This study contributes to the field by consolidating existing social media sentiment and cryptocurrency valuation knowledge, offering insights to investors, regulators, and academics. It highlights the need for future research to integrate multi-platform sentiment analysis, regulatory considerations, and behavioral finance perspectives. These insights are vital for understanding the evolving landscape of digital asset markets and their susceptibility to sentiment-driven speculation.

Keywords: cryptocurrency; social media; sentiment; bibliometric analysis; Twitter

check for updates

Academic Editors: Indranil SenGupta and Zied Ftiti

Received: 12 April 2025
Revised: 2 May 2025
Accepted: 13 May 2025
Published: 19 May 2025

Citation: Sundarasen, S., & Saleem, F. (2025). From Tweets to Trades: A Bibliometric and Systematic Review of Social Media's Influence on Cryptocurrency. *International Journal of Financial Studies*, *13*(2), 87. https://doi.org/10.3390/ijfs13020087

Copyright: © 2025 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Cryptocurrency has become a game-changing financial innovation that redefines traditional financial markets and drastically alters transactions (George, 2024). Using blockchain technology, Satoshi Nakamoto introduced Bitcoin, which helped establish the idea of decentralized digital currency (Nakamoto, 2008). Bitcoin and other cryptocurrencies function on peer-to-peer networks (Dhali et al., 2024; Cao et al., 2020) and promote a borderless international financial ecosystem (Dhali et al., 2023, 2024), as opposed to fiat currencies governed by central banks. Cryptocurrencies are currently viewed as competitive alternatives to traditional financial instruments (Wilson, 2019) due to their decentralized character (Saiedi et al., 2021; Low & Marsh, 2019), mature blockchain technology (Mikhaylov, 2020; Low & Marsh, 2019) and digital security infrastructure. Furthermore, ongoing efforts to achieve global regulatory clarity (Ferreira & Sandner, 2021; Frediani, 2024), digital innovations such as tokenized real-world (Tian et al., 2020) and lower transaction costs (Symss, 2023; Giudici et al., 2020) have further added the attractiveness and feasibility of digital currencies (Böhme et al., 2015). Thus, the usage of cryptocurrencies has rapidly

expanded in several areas, including international remittances and e-commerce asset management (Gandal & Halaburda, 2016). Institutional investors and multinationals have added digital assets to their portfolios (Grujić & Vojinović, 2024; van der Merwe, 2021), realizing their potential as investment and exchange vehicles (Foley et al., 2019). According to a 2023 survey by Ernst and Young[1], 69% of institutional investors anticipated increasing their allocations to digital assets and/or related products in the next two to three years. Despite its growing prominence, social media (Ali et al., 2022), the rise of technology, and the absence of regulations have significantly influenced the cryptocurrency market and driven volatility through sentiment-driven trading. These factors contribute to massive speculative trades and volatility in the crypto space (Doğan & Yalçıntaş, 2023; Makarov & Schoar, 2020).

Thus, this study intends to examine further and consolidate scholarly discussion on social media influences and public sentiment, which has been a key challenge in the cryptocurrency market, as the market overreacts to influencers dominating the space (Bennett et al., 2024; Frans, 2024; Govindaraj & Agarwal, 2022). As documented by Liu and Tsyvinski (2021), cryptocurrency markets have been significantly impacted by the growth of social media, especially Twitter, and sentiment analysis has become an essential natural language processing (NLP) technique in assessing cryptocurrency valuations. The authors also contend that sentiment analysis of social media sites like Twitter and Reddit has made it possible to comprehend how public opinion affects Bitcoin values. Influencers, including prominent entrepreneurs who are market movers and shakers, analysts, and tech entrepreneurs, shape public sentiments through their tweets and posts. For example, significant fluctuation is observed in the crypto market (specifically on Bitcoin and Dogecoin) whenever there are tweets from Elon Musk. Ante (2023) documented that Elon Musk's tweet caused an increase in the trading volume of Bitcoin by 44% within 24 h. Similar sentiments were documented by Kraaijeveld and De Smedt (2020), who highlighted that Twitter sentiments highly correlate with short-term price fluctuations, causing price surges or sell-offs. Ethical considerations include the potential manipulation of unsophisticated retail investors, selective disclosure of material information, and conflicts of interest where influencers may have undisclosed financial stakes.

Technological advances largely influence social media's influence on crypto market volatility (Burra, 2024; Colombo et al., 2023). It has changed the cryptocurrency trading landscape, providing investors and traders with information for largely speculative trades (Dell'Erba, 2024; Rauch, 2024). Sentiment analysis via natural language processing (NLP), machine learning algorithms, and artificial intelligence (AI) can analyze big datasets to predict short-term price movements and enhance the precision of trading strategies. Corbet et al. (2018) further conjectured that AI-driven deep learning and neural networks support real-time data processing and trading pattern recognition, a big contrast from delayed econometric approaches. These sophisticated models support portfolio optimization, trading opportunity detection, and risk exposure management in the highly volatile cryptocurrency market. Because cryptocurrency is decentralized and retail driven, it is far more vulnerable to social media hype and FOMO (fear of missing out) than traditional financial markets, where institutional reports and economic statistics frequently influence price swings (Naeem et al., 2021). Algorithmic trading algorithms increasingly use social media analytics to forecast market movements, underscoring the crucial role that online discourse plays in pricing digital assets. Studies also indicate that more than 60% of traders actively track Twitter sentiment before making trading decisions. Despite its rising significance and becoming more mainstream, data integrity, reliability, and interpretation are formidable challenges investors face (Ahmad & Abbas, 2024; Patil et al., 2024; Gandal &

Halaburda, 2016). Financial analysts and traders find it challenging to trust automated decision-making systems because black-box models frequently lack interpretability.

Given cryptocurrencies' significant impact on the world's financial markets and the speed at which individuals, organizations, and businesses adopt digital assets, an in-depth and structured understanding of the scholarly discussion on the subject matter is crucial. A comprehensive understanding of social media dynamics and sentiment is also essential for traders, investors, and policymakers to accurately assess and predict movements in the crypto market. This study will provide a bibliometric and systematic overview of cryptocurrency studies within social media influence. It ultimately aims to highlight research trends, prominent themes, and possible directions for future study in social media influence and cryptocurrency markets.

This study could benefit multiple stakeholders. It highlights the importance of regulation in protecting consumers from high volatility due to social media influence in the cryptocurrency market. Creating a well-informed and balanced regulatory framework that addresses and balances innovation and consumer protection is essential. This study also provides insights to investors and businesses on the possible need to integrate blockchain and use artificial intelligence and appropriate machine learning technologies and models to examine consumer sentiment and market adoption patterns when valuing cryptocurrencies. Financial institutions can further comprehend the influence of decentralized finance (DeFi) on conventional banking systems. They can adjust to changing digital finance ecosystems by thoroughly understanding these factors. For scholars and researchers, this study provides an organized summary of the body of knowledge regarding cryptocurrencies and determines the understudied potential topics within this domain.

This study is structured as follows: Section 2 discusses the methodology, while Section 3 provides the study findings—descriptive analysis, bibliometric evaluation, content analysis, and recommendations for future research. Section 4 concludes this study.

2. Methodology

As adopted in several established studies (Sundarasen et al., 2024; Khatib et al., 2023; Ejaz et al., 2022; Ansari et al., 2022; Donthu et al., 2021), this study analyzed the dataset using bibliometric and content analysis techniques.

2.1. Data Collection Method and Procedure

The data extraction process commenced on 20 January 2025, using the Scopus database. As a preliminary step in the data extraction process, the 'Title, Abstract, and Keyword' were thoroughly searched using the terms "crypto" OR "cryptocurrency" OR "digital currency" AND ["social media" OR "digital marketing" OR "crypto whales" OR "influencer* or "sentiment"]. The initial process produced a total of 294 academic articles. We ensured a refined dataset by applying inclusion and exclusion criteria within the Scopus database search. The first restriction was to include only articles published in English, focusing on peer-reviewed articles and early-access publications. Subsequently, the publications were restricted to the 'Business, Finance and Management' domains. Finally, 169 articles published between 2011 and 2024 were chosen by applying additional criteria using the citation topics Meso-Management and Economics. As a final step, to ensure objectivity in the selection of articles, both authors independently screened the abstracts and, where necessary, the full texts. Following an independent review, discrepancies were discussed jointly to reach a consensus on the final corpus of 151 articles. This dual process of independent assessment followed by collaborative agreement aimed to minimize individual bias and enhance the rigor and transparency of the data collection. This approach aligns with best practices in bibliometric and systematic review methodologies.

2.2. Data Analysis Techniques

As Donthu et al. (2021) proposed, performance analysis and science mapping are undertaken. This study employed Biblioshiny version 4.0 to create textual representations of the publication trends, prominent articles, authors, sources, top nations, and affiliations. As for the keyword analysis and visual representations, VOSviewer software version 1.6 is used. The interconnected keywords are categorized and grouped into logical clusters and thematic entities. The software identification of clusters or groups of related keywords suggests strong thematic or conceptual connections. The resulting visualization is then examined in light of the keywords produced to comprehend the literature's structure, highlight key themes and clusters, and determine thematic connections and recommendations for additional research.

3. Findings

3.1. Main Information About Data

A total of 151 cryptocurrency research articles from 2018 to 2024 were analyzed, highlighting advancements and challenges faced in the field (Table 1). Despite international collaboration (29.8 percent) and the annual growth rate (10.41 percent), which indicate growing scholarly interest, the comparatively young document age (2.55 years) suggests that a significant portion of the research is still in its infancy. This could also be the reason for a relatively low citation count (19.71). The large number of Keywords Plus (538) and Authors Keywords (490) suggests a fragmented research landscape and a lack of standardization. The dataset demonstrates a relatively high degree of collaborative research (29.9%). Collaboration predominates in improving research depth and interdisciplinary perspectives, although 27 papers are single-authored. Multidisciplinary collaboration enhances methodological rigor, raises the visibility and impact of published work, and improves the quality of research.

Table 1. Data summary.

Description	Results
Timespan	2018:2024
Documents type: Articles	151
Annual Growth Rate %	10.41
Document Average Age	2.55
Average citations per doc	19.71
Keywords Plus (ID)	538
Author's Keywords (DE)	490
Authors	416
Authors of single-authored docs	25
AUTHORS COLLABORATION	
Single-authored docs	27
Co-Authors per Doc	2.99
International co-authorships %	29.8

3.2. Publication Trends

Figure 1 depicts the number of publications between 2018 and 2024. According to the data, research activity has steadily risen, reflecting the changing role of digital discourse in financial markets and growing scholarly interest. Between 2018 and 2023, the number

of publications increased exponentially from two to forty-three. This pattern indicates the following:

- The paucity of early research in 2018–2020 probably caused skepticism regarding cryptocurrencies and their function in financial markets.
- Major cryptocurrency events, such as Bitcoin reaching an all-time high in regulatory talks and Elon Musk's market-moving tweets, are correlated with a notable surge that began in 2021.
- The peak in 2023 (43 papers) denotes a surge in scholarly interest, suggesting that scholars understood the significance of social media and sentiment analysis in cryptocurrency valuation.

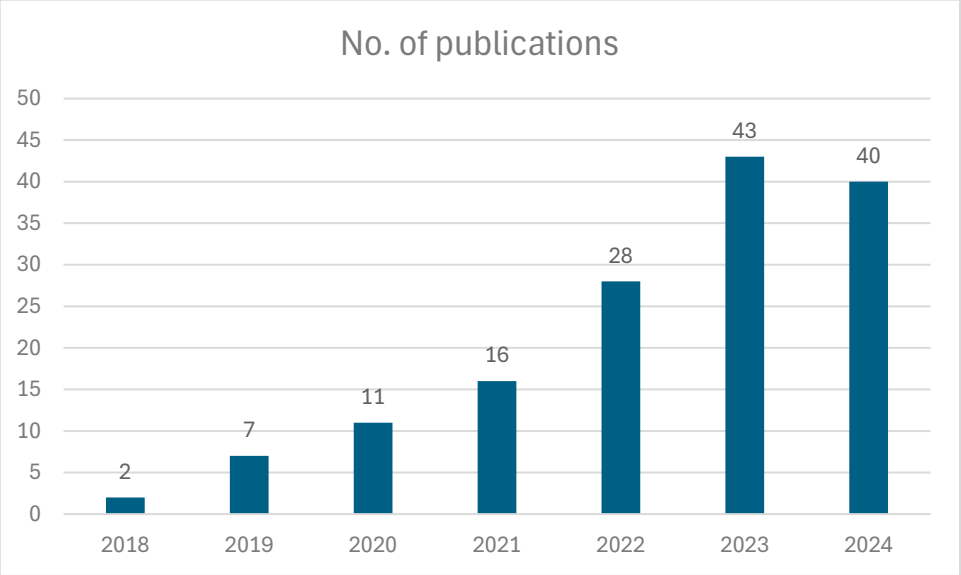


Figure 1. Publication trends.

Regulations surrounding the institutional adoption of cryptocurrency and potential policy changes affecting digital assets may receive increased attention under Donald Trump's new administration. This political shift may prompt further investigation into how political sentiment, regulatory ambiguity, and governmental policies influence cryptocurrency markets, underscoring the need for multifaceted sentiment analysis that extends beyond social media trends, particularly in the context of multi-platform sentiment integration, bot-driven manipulation, and decentralized finance (DeFi). Conclusively, this pattern suggests that sentiment analysis in cryptocurrency has evolved from a nascent area of study to a mature one. However, future research needs to extend beyond sentiment analysis based on Twitter to investigate real-time trading tactics and address the moral and legal implications of sentiment-driven markets to remain relevant. The slight drop in 2024 is negligible, as the data were extracted in the third week of January 2025, and there is a possibility that some accepted manuscripts may not have been published.

3.3. Top Articles, Authors, and Publishers

A substantial body of research has been undertaken and published in reputable journals (and publishers), exploring the relationship between social media sentiment and cryptocurrency markets. Many studies examine how well platforms like Twitter can predict the prices of digital assets (Table 2).

Table 2. Summary of top articles, authors and sources.

#	Title	Authors	Year	Source	Summary
1	Does Twitter Predict Bitcoin? [Shen et al. (2019)]	Shen D., Urquhart A., Wang P.	2019	*Economics Letters* (Elsevier B.V.)	Investigates the impact of Twitter activity on Bitcoin price, trading volume, and volatility using Granger causality tests.
2	The Predictive Power of Public Twitter Sentiment for Forecasting Cryptocurrency Prices [Kraaijeveld and De Smedt (2020)]	Kraaijeveld O., De Smedt J.	2020	*Journal of International Financial Markets, Institutions and Money* (Elsevier B.V.)	Uses sentiment analysis with a cryptocurrency-specific lexicon and Granger causality to study the predictive power of Twitter sentiment on multiple cryptocurrencies.
3	Price Movement Prediction of Cryptocurrencies Using Sentiment Analysis and Machine Learning [Valencia et al., 2019]	Valencia F., Gómez-Espinosa A., Valdés-Aguirre B.	2019	*Entropy* (MDPI)	Compares neural networks, SVM, and random forests for predicting cryptocurrency price movements based on Twitter sentiment.
4	Using Sentiment Analysis to Predict Interday Bitcoin Price Movements [Karalevicius et al., 2018]	Karalevicius V.	2018	*Journal of Risk Finance* (Emerald Publishing Limited)	Analyzes financial news articles and blog sentiment to predict Bitcoin price fluctuations.
5	A Complete VADER-Based Sentiment Analysis of Bitcoin (BTC) Tweets During COVID-19 [Pano & Kashef, 2020]	Pano T., Kashef R.	2020	*Big Data and Cognitive Computing* (MDPI)	Evaluates text preprocessing strategies for machine learning models predicting Bitcoin price trends.
6	Media Attention and Bitcoin Prices [Philippas et al. (2019)]	Philippas D., Rjiba H., Guesmi K., Goutte S.	2019	*Finance Research Letters* (Elsevier B.V.)	Uses a dual-process diffusion model to examine the impact of media attention from Twitter and Google Trends on Bitcoin prices.
7	Predictive Role of Online Investor Sentiment for Cryptocurrency Market [Naeem et al., 2021]	Naeem M.A., Mbarki I., Shahzad S.J.H.	2021	*International Review of Economics and Finance* (Elsevier B.V.)	Studies the impact of Twitter, happiness sentiment and FEARS index on cryptocurrency returns using quantile regression.
8	Topic-Level Sentiment Analysis of Social Media Data Using Deep Learning [Pathak et al., 2021]	Pathak A.R., Pandey M., Rautaray S.	2021	*Applied Soft Computing* (Elsevier B.V.)	Proposes a deep learning-based sentiment analysis model to assess cryptocurrency market sentiment at a topic level.
9	Advanced Social Media Sentiment Analysis for Short-Term Cryptocurrency Price Prediction [Wołk, 2020]	Wołk K.	2020	*Expert Systems* (Wiley, Hoboken, New Jersey, USA)	Uses machine learning techniques to analyze Twitter and Google Trends data for short-term cryptocurrency price forecasting.
10	How Elon Musk's Twitter Activity Moves Cryptocurrency Markets [Ante, 2023]	Ante L.	2023	*Technological Forecasting and Social Change* (Elsevier B.V.)	Examines the market impact of Elon Musk's tweets on cryptocurrency volatility.
11	How Can We Predict the Impact of Social Media Messages on Cryptocurrency? [Tandon et al., 2021]	Tandon C., Revankar S., Palivela H., Parihar S.S.	2021	*International Journal of Information Management Data Insights* (Elsevier B.V.)	Uses ARIMA models to analyze Twitter data and cryptocurrency prices.
12	Twitter-Based Uncertainty and Cryptocurrency Returns [Aharon et al., 2022]	Aharon D.Y., Demir E., Lau C.K.M., Zaremba A.	2022	*Research in International Business and Finance* (Elsevier B.V.)	Studies the effect of Twitter-based uncertainty on cryptocurrency market returns.
13	Price Explosiveness in Cryptocurrencies and Elon Musk's Tweets [Shahzad et al., 2022]	Shahzad S.J.H., Anas M., Bouri E.	2022	*Finance Research Letters* (Elsevier B.V.)	Investigates price bubbles in Bitcoin and Dogecoin linked to Musk's tweets.
14	The Role of Interpersonal Trust in Cryptocurrency Adoption [Jalan et al., 2023]	Jalan A., Matkovskyy R., Urquhart A., Yarovaya L.	2023	*Journal of International Financial Markets* (Elsevier B.V.)	Analyzes the influence of trust on cryptocurrency adoption.
15	High on Bitcoin: Emotional Contagion in the YouTube Crypto Influencer Space [Meyer et al., 2023]	Meyer E.A., Sandner P., Cloutier B., Welpe I.M.	2023	*Journal of Business Research* (Elsevier B.V.)	Investigates the emotional influence of YouTube crypto influencers on viewers.

Studies by Shen et al. (2019) and Kraaijeveld and De Smedt (2020) examined the influence of social media platforms (e.g., Twitter) on the price movements of digital currencies using the Granger causality methodology. Though Shen et al. (2019) document a positive association, bot interference was noted by the study undertaken by Kraaijeveld and De Smedt (2020), thus casting some doubt on the association between social media and crypto price movements. The authors further opined the need for further research, data validation, and other extraneous factors that could affect the relationship. Pathak et al. (2021) support this; they stress that representative and high-quality data are essential for making the right decisions. Valencia et al. (2019), Pathak et al. (2021), and Karalevicius et al. (2018) employed machine learning techniques to carry out comparable sentiment analysis research on the link between social media and cryptocurrencies. Neural networks are shown to perform better than other forecasting models, and the authors highlight the accuracy and effectiveness of social media in influencing changes in cryptocurrency prices. However, the authors also proposed that investors' propensity to overreact to social media announcements could cause notable short-term price volatility.

Pano and Kashef (2020), Wu (2021), and Philippas et al. (2019) carried out comparable studies using the Valence Aware Dictionary and Sentiment Reasoner (VADER-based) sentiment analysis to ascertain how social media sentiment (tweets of Bitcoin) affected changes in the price of Bitcoin during the COVID-19 period. Although there was evidence of a relationship of some kind, the authors also discovered that the rule-based sentiment analysis tool (VADER-based sentiment analysis model) might not fully identify subtle sentiments such as sarcasm or language specific to a given context. To identify fluctuations in the price of cryptocurrencies, peripheral factors like macroeconomic or regulatory changes are crucial. Because an over-reliance on Twitter data may not fully capture the relationship, the authors recommended that other social media platforms, such as Reddit and Telegram, be included in such research. Naeem et al. (2021) investigated the impact of feelings like fear and joy. They discovered that positive sentiment can forecast returns for major cryptocurrencies. However, sentiment on other platforms, such as Reddit and Telegram, should also be considered, so relying solely on the FEARS index and Twitter data may not fully support the relationship.

In support of the sentiment analysis debate, Elsayed et al. (2022) showed that the movement of the price of Bitcoin was also impacted by broader market volatility, as measured by the CBOE Volatility Index (VIX). The VIX gauges investor sentiment toward possible market swings based on the S&P 500 index options. The problems of causality versus correlation were emphasized by Philippas et al. (2019). The authors hypothesized that price fluctuations might be the primary factor causing social media to impact cryptocurrency price movements significantly. Apart from sentiment analysis, through various approaches, research has looked at how well-known individuals affect the cryptocurrency market's volatility (Ante, 2023; Shahzad et al., 2022). Ante (2023) investigated Elon Musk's tweets and discovered a notable influence on Dogecoin's price movement, while Shahzad et al. (2022) found a range of effects on Bitcoin. These results pave the way for additional research on market manipulation and the moral implications of these influencers' impact on cryptocurrency market volatility.

The common thread throughout all these studies is investigating social media sentiment influencing cryptocurrency price fluctuations. As almost all studies demonstrate, digital marketing, investor psychology, and public discourse impact cryptocurrency markets' highly speculative nature. Most studies use machine learning, econometric models, or sentiment analysis techniques to evaluate how digital platforms—specifically YouTube, Google Trends, and Twitter—affect price prediction, investor decision making, and market volatility. A second commonality is the impact of influential figures on market movements.

Multiple studies, such as Ante (2023) and Shahzad et al. (2022), highlight the role of Elon Musk's tweets in driving volatility, especially in Bitcoin and Dogecoin.

Furthermore, many studies address the issue of information asymmetry, showing how market participants react disproportionately to media hype, news sentiment, and online discourse. Finally, another prevailing theme is the interdisciplinary approach to cryptocurrency forecasting, combining finance, behavioral economics, and artificial intelligence. While some studies focus on traditional econometric approaches (e.g., Granger causality, ARIMA), others adopt machine learning-based sentiment analysis and deep learning models to extract predictive patterns from unstructured data.

The abovementioned articles are published in reputable financial and economic journals, reflecting the interdisciplinary nature of cryptocurrency research. *Economics Letters* (Elsevier, Amsterdam, the Netherlands) and *Journal of International Financial Markets, Institutions & Money* (Elsevier) are high-ranking finance journals known for their empirical research. *Entropy* (MDPI) covers computational and statistical methods, while *The Journal of Risk Finance* (Emerald) specializes in financial risk management. *Finance Research Letters* (Elsevier) and *International Review of Economics & Finance* (Elsevier) hold decisive impact factors. The presence of these studies in reputable, high-impact journals from established publishers such as Elsevier, MDPI, and Emerald underscores the growing importance of cryptocurrency as a legitimate and critical area of financial and economic research.

3.4. Co-Author Analysis

The co-authorship analysis (Figure 2) derived from VOSviewer reveals a moderately fragmented yet thematically rich collaborative landscape within the governance and accounting literature. Multiple distinct clusters, each color-coded, indicate the presence of localized research communities. The red cluster, led by Marchegiani L. and Acciarini C., demonstrates a high internal collaboration density, suggesting a stable, long-term research partnership. The blue cluster, featuring Said R.F., Sarmidi T., and Lii S., also reflects robust intra-group collaboration, potentially anchored in shared methodological approaches or regional affiliations. A purple cluster—anchored by Lunesu L. and Marchesi M.—represents another tight-knit subgroup engaged in parallel thematic inquiry. Meanwhile, Gupta A. appears in a more central and unclustered position, indicating a potential bridging role across multiple research silos.

In addition, the green cluster of Jung H.S., Lee H., and Kim J. reflects another coherent group, possibly situated within East Asian academic networks. In contrast, the orange cluster comprising Sandner P. and Meyer E.A. shows collaboration likely linked to innovation or fintech-related governance topics. A smaller but notable yellow cluster, involving Managi S. and Inuduka T., may represent a specialized thematic focus in sustainability or ESG governance. On the periphery, we observe other micro-clusters such as the brown cluster (e.g., Boure E. and Ibrahim A.), the aqua cluster (e.g., Yaqub U. and Saleem T.), and individuals like Roy S., Mittal A., and Wang H. who appear as isolated or weakly connected nodes.

The diversity and dispersion of these clusters point to an academically active yet structurally disjointed co-authorship network. While strong intra-group ties exist, the map reflects minimal inter-group connectivity, thereby signaling opportunities for strategic bridge building. Encouraging cross-cluster collaboration, especially through central figures such as Gupta A. or Said R.F., could enhance the intellectual cohesion, knowledge diffusion, and global impact of research within the governance and accounting domain.

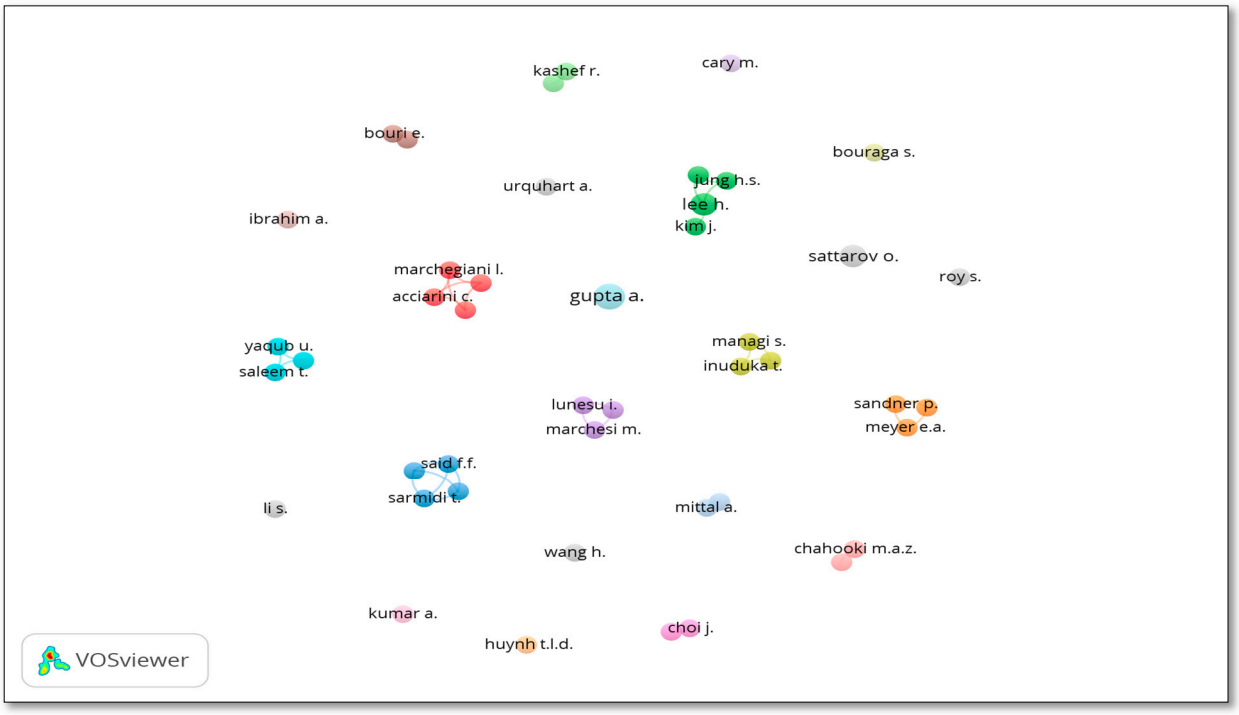


Figure 2. Co-author analysis. Source: VOSviewer.

3.5. Country Analysis

Figure 3 shows the number of publications of cryptocurrency-related research by nation, indicating a significant difference in international scholarly contributions. The leading countries in publications are the USA (36) and India (33), reflecting their robust research ecosystems and keen interest in cryptocurrency. With its well-established financial markets, extensive blockchain innovation, and institutional involvement in fintech, the USA's dominance is to be expected. However, given India's historically ambivalent position on cryptocurrency regulation, the country's high output is especially intriguing. This implies that research on digital finance and regulatory frameworks is becoming more and more focused, perhaps due to the region's growing use of blockchain-based solutions.

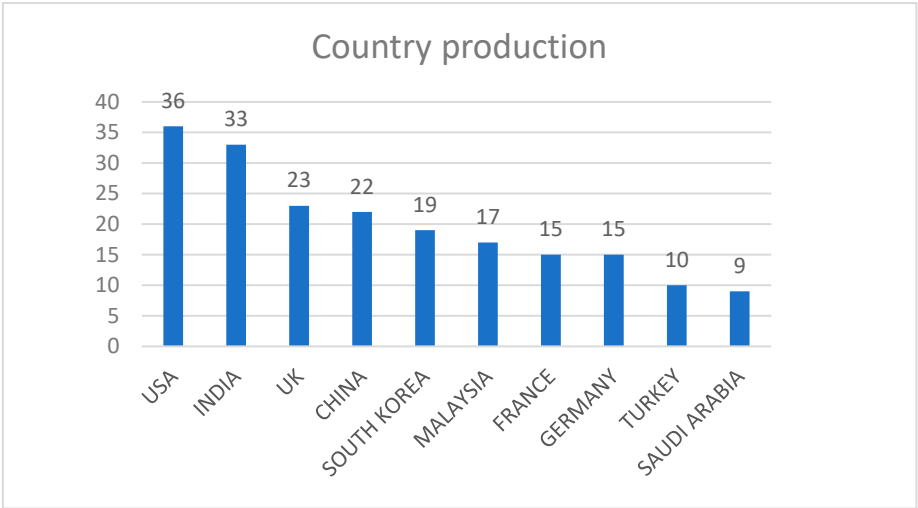


Figure 3. Country production.

China (22) and the United Kingdom (23) are also major contributors to this domain of study. The UK's participation is consistent with its robust fintech sector research on DeFi

and regulatory supervision. China's inclusion in the rankings is unexpected, considering its stringent regulations on mining and trading cryptocurrencies. Emerging markets such as Malaysia (17) and South Korea (19) also contribute significantly, indicating their increasing interest in cryptocurrencies. The adoption of cryptocurrencies has been led by South Korea, which has a thriving retail market and government-supported blockchain projects.

The representation of European countries, especially France (15) and Germany (15), indicates a persistent scholarly interest in cryptocurrencies, which is probably related to recent regulatory developments in the European Union (EU) like the Markets in Crypto-Assets Regulation (MICA). The policies that these nations develop have the potential to establish international norms for the governance of cryptocurrencies. However, their output is comparatively lower than that of the USA and India, indicating that a large portion of cryptocurrency research is still US-centric, which could result in a biased discourse toward the West.

It is interesting to note that Saudi Arabia (9) and Turkey (10) complete the list, indicating a low but rising level of scholarly interest in cryptocurrency issues in the Middle East and North Africa (MENA). This is especially noteworthy in light of the quick uptake of cryptocurrencies in these areas, where digital assets are frequently used as a hedge against unstable economies. Due to regulatory uncertainty or a lack of funding for research in fintech domains, the lower publication count may suggest a lag between the adoption of cryptocurrencies and official academic research.

Despite their sizeable crypto economies, the underrepresentation of major cryptocurrency hubs such as Singapore, Japan, and Brazil is a significant critique of this distribution. These countries' exclusion from the chart can indicate gaps in academic indexing or a disconnect between industry and research. Even though the United States and India are at the forefront of the conversation, the distribution of research indicates that more international participation is required for a more comprehensive understanding of cryptocurrency dynamics. To overcome biases in global cryptocurrency scholarship and guarantee a more inclusive and varied viewpoint on cryptocurrencies and their socioeconomic effects, future research should promote cooperation among underrepresented regions. Additionally, the presence and influence of prominent cryptocurrency influencers may indirectly shape academic interest and research output across countries by driving public discourse and funding priorities. Although difficult to quantify at present, this influence represents an important socio-cultural factor that warrants further exploration in future research.

3.6. Keyword Analysis

The keyword diagram (Figure 4) presents four distinct yet interconnected research clusters examining the influence of social media on cryptocurrency in the present study. These are (1) Sentiment Analysis, Forecasting, and Market Prediction (red cluster); (2) Machine Learning, NLP, and Algorithmic Trading (green cluster); (3) Blockchain, Ethereum, and Investment Risks (yellow cluster); and (4) Social Networking, Digital Influence, and Market Behavior (blue cluster). Each cluster represents a distinct field of study. Still, taken as a whole, they show the complex interrelationships among financial markets, artificial intelligence, social media sentiment, and the performance of digital assets. For instance, sentiment analysis studies (red cluster) often employ machine learning and NLP techniques (green cluster), highlighting the integration of AI methods in forecasting market trends. Similarly, social media sentiment and influencer activity (blue cluster) directly contribute to perceptions of investment risks and market behavior, overlapping with the themes in the yellow cluster. These interconnections underscore the interdisciplinary nature of current research, where sentiment dynamics, algorithmic trading, and behavioral finance converge in cryptocurrency studies.

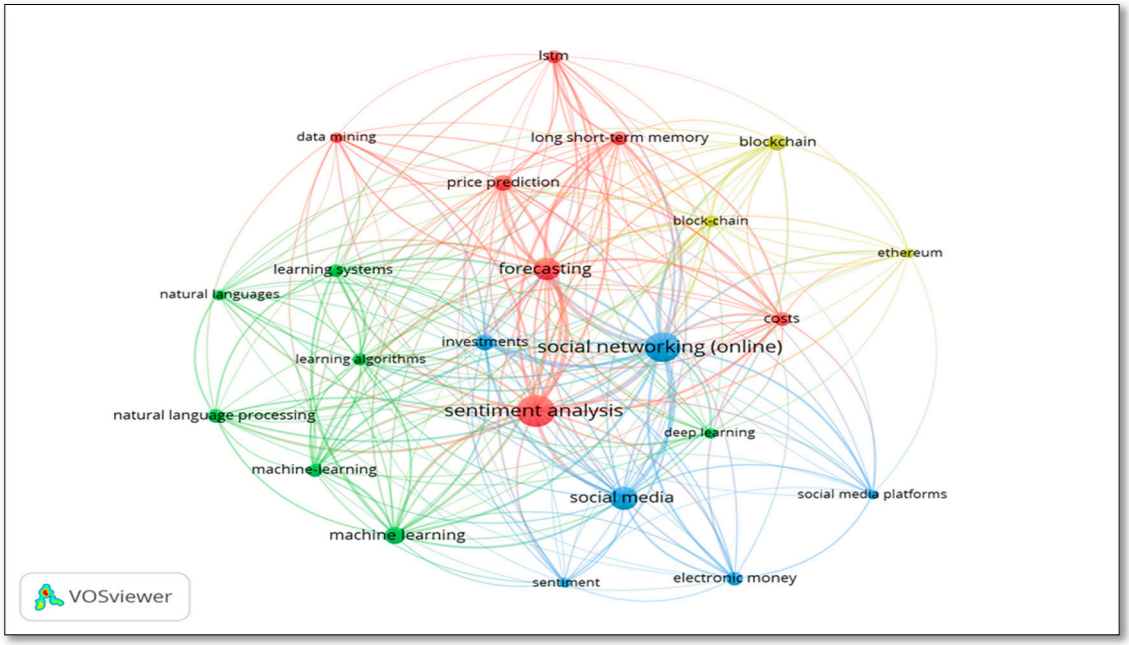


Figure 4. Keyword analysis. Source: VOSviewer.

1. Sentiment Analysis, Forecasting, and Market Prediction (red cluster)

One of the central themes in cryptocurrency research is the role of sentiment analysis in forecasting market trends, mainly through the lens of social media-driven price movements. Under this cluster, primary keywords include sentiment analysis, price prediction forecasting, LSTM trading volume, market volatility, Twitter data, and media attention. Several studies, including those by Shen et al. (2019) and Kraaijeveld and De Smedt (2020), have examined the impact of Twitter sentiment on Bitcoin and other cryptocurrencies. Both studies employ Granger causality tests to establish a statistical relationship between social media activity and cryptocurrency volatility, highlighting that increased tweet volume often precedes price fluctuations. Building on this, Karalevicius et al. (2018) extends the discussion beyond Twitter by incorporating financial news and media sentiment, demonstrating how market participants often exhibit herding behavior, which can lead to speculative price bubbles. Likewise, Philippas et al. (2019) provide further evidence that Twitter conversations and Google Trends are stimulants for short-term price momentum, suggesting that traders respond to online discourse in addition to the intrinsic asset value.

Pano and Kashef (2020) argue that, despite the established correlation between sentiment and market volatility, sentiment-driven forecasts remain highly erratic during times of crisis, such as the COVID-19 pandemic. Their research highlights that Bitcoin demonstrated a robust association with public sentiment during the pandemic, but these associations varied over time, underscoring the challenge of achieving long-term predictive accuracy. Furthermore, Naeem et al. (2021) state that emotion-based investor sentiment indices have been introduced, further complicating the field of sentiment-driven forecasting by demonstrating a significant correlation between trading behaviors and emotions of fear and happiness. Because models cannot distinguish between natural sentiment and bot-driven activity, filter out noise, or detect sarcasm, forecasting accuracy is still severely limited despite these advancements. Future studies must incorporate real-time filtering, multi-platform sentiment aggregation, and contextual understanding to improve predictive reliability.

2. Machine Learning, NLP, and Algorithmic Trading (green cluster)

The main keywords under this cluster include machine learning, natural language processing (NLP), learning algorithms, algorithmic trading, financial AI models, and data mining. According to research by Valencia et al. (2019), the convergence of financial markets and machine learning has led to the development of AI-driven trading strategies. This evaluates cryptocurrency price prediction models by contrasting neural networks (NNs), support vector machines (SVMs), and random forests (RFs). According to their research, NN models outperform alternative methods; however, a significant problem with black-box AI systems is their inability to be interpreted. Pathak et al. (2021) propose a sentiment analysis model based on deep learning that enables topic-level sentiment classification in financial decision making, further advancing this field. Unlike traditional sentiment research, their method focuses on subject relevance, ensuring that price projections are based only on market-related discussions. Similarly, Elsayed et al. (2022) highlight how sentiment algorithms' incapacity to understand complex financial jargon and emerging crypto-slang reduces accuracy.

Although machine learning methods enhance market analysis, they pose computational and data integrity challenges. For instance, Tandon et al. (2021) find that sentiment-based trading models often exhibit poor performance during periods of high volatility due to their tendency to overfit short-term trends and ignore macroeconomic and geopolitical issues. Additionally, traders struggle to comprehend black-box AI algorithms, which raises questions about regulatory confidence and approval. Future research should focus on explainable AI (XAI), which will reduce bias in financial data models and cross-platform data integration to ensure greater transparency in AI-driven financial technologies.

3. Blockchain, Ethereum, and Investment Risks (yellow cluster)

The main terms under this cluster are smart contracts, blockchain, Ethereum, decentralized finance (DeFi), financial costs, investment risks, and adoption barriers. The third primary research cluster focuses on blockchain-based assets' financial and economic impacts, particularly concerning investment risks and decentralized finance (DeFi). As Philippas et al. (2019) and Tandon et al. (2021) observed, social media has a significant impact on investment trends, increasing price volatility and speculative activity, even though cryptocurrencies have long been considered assets for speculation research; considered one of the most critical facets of this theme is the acceptance and confidence in cryptocurrency. Their findings demonstrate that trust remains a key component in adopting cryptocurrencies, as many investors remain skeptical due to concerns about security flaws, ambiguous regulations, and a lack of institutional backing. Likewise, Naeem et al. (2021) assert that market sentiment is crucial in adopting cryptocurrencies, particularly when investor emotions, such as happiness or fear, influence trading decisions. Despite the surge in investment, fundamental problems persist, including scalability issues, high transaction costs, and unclear regulatory environments.

4. Social Networking, Digital Influence, and Market Behavior (blue cluster)

This cluster's primary keywords are misinformation, market psychology, digital marketing, influencer impact, social networking, and media-driven speculation. Research by Ante (2023) and Shahzad et al. (2022) highlights the significance of social networking and influencer-driven market behavior, demonstrating that high-profile tweets and celebrity endorsements can lead to instantaneous market changes. By examining cryptocurrency influencers on YouTube, Meyer et al. (2023) expand on this concept and demonstrate that herd behavior is influenced by emotional contagion among individual investors. Wołk (2020) illustrates that social media platforms and Google Trends serve as essential information sources for cryptocurrency traders and how the frequency of their influence on speculative movements lends more credence to this phenomenon.

However, while influencer-driven hype can drive prices upward, it also increases the risk of market manipulation, pump-and-dump schemes, and misinformation. Despite the documented impact of social media influence, research on the control of misinformation and regulatory responses remains limited. Future studies should investigate the role of algorithmic content moderation in financial discourse, the impact of misinformation on retail trading behavior, and the effectiveness of regulatory measures in mitigating social media-induced volatility.

While the four research clusters cover distinct topics, they are inherently interconnected, with sentiment analysis, machine learning, blockchain adoption, and social networking all influencing cryptocurrency markets. However, current research lacks a multidisciplinary approach, often treating these topics in isolation. To overcome this issue, future research should adopt an integrated, interdisciplinary approach that combines sentiment analysis, machine learning, blockchain analytics, and social media dynamics to develop holistic models. These models should ensure excellent reliability, practical applicability, and regulatory preparedness in the rapidly changing financial ecosystem.

3.7. Future Research Directions in Social Media Sentiment and Cryptocurrency Markets

Although previous research provides valuable insights into how social media sentiment impacts cryptocurrency markets, several critical questions remain unanswered. Future studies should employ sophisticated methodologies to analyze asset sentiment across various platforms and regulatory perspectives, thereby filling these gaps. The following are essential topics for further research.

(1) Methodological Improvements and Analytical Advancements

- Explore transformer-based and deep learning models, such as LSTM networks, BERT, and GPT, for more precise sentiment classification and forecasting.
- Examine the potential use of explainable AI (XAI) methods to increase the transparency and trustworthiness of sentiment-based trading algorithms.
- Integration of misinformation detection algorithms into social media sentiment analysis frameworks.
- Adoption of high-frequency, real-time sentiment tracking techniques to improve market prediction accuracy.
- Development of trading models responsive to minute-by-minute sentiment shifts.
- Investigation into institutional and hedge fund usage of real-time sentiment data.
- Optimization of algorithmic trading models using social media sentiment for improved profit and risk management.

(2) Multi-Platform and Multi-Cryptocurrency Sentiment Analysis

- Comparative analysis across platforms, such as Twitter, Reddit, Discord, YouTube, Telegram, and TikTok, and examine the sentiment dynamics unique to each platform and their differentiated impacts on cryptocurrency prices.
- Creation of sentiment aggregation models that function across multiple platforms.
- Investigation of how Reddit-based discussions (e.g., CryptoCurrency) influence long-term market trends compared to short-lived Twitter hype.
- Exploration of the contribution of Telegram trading groups and YouTube influencers to sentiment-driven price movements.
- Analysis of social sentiment impacts across multiple cryptocurrencies, including Ethereum, Binance Coin, Solana, Cardano, and emerging altcoins.
- Examination of meme coins (e.g., Dogecoin, Shiba Inu) affected disproportionately by viral marketing and influencer activity.

(3) Regulatory Frameworks

- Future research should explore formulating ethical guidelines and policy recommendations to regulate influencer-driven financial discourse. This is crucial in current times as it causes sudden market fluctuations, which could distort market performance, intensify volatility, and weaken investors' confidence.
- Develop regulatory frameworks that promote transparency and require disclosures from influential market participants (influencers) to prevent manipulative practices within the cryptocurrency ecosystem. Addressing these issues is crucial to enhancing market integrity and protecting vulnerable investors.
- Frameworks that balance investor protection and market freedom in light of sentiment-driven trading.
- Examination of governmental regulations (e.g., under the Trump Administration) and their effect on cryptocurrency markets.

(4) The Role of Behavioral Finance and Investor Psychology

- Future research should adopt an integrated approach that combines machine learning-based sentiment analysis with behavioral and computational finance theories. This fusion would help explain irrational, sentiment-driven behavior in cryptocurrency markets by incorporating factors like herd behavior and FOMO, ultimately enhancing market analysis's predictive accuracy and depth.
- Examine how social media influences FOMO (fear of missing out), contributing to irrational cryptocurrency trading decisions.
- Examine how social proof influences investment communities, where individuals base their financial decisions more on the recommendations of influencers than on technical analysis.

4. Conclusions

This research systematically examines the academic discourse on the influence of social media sentiment on cryptocurrency markets, drawing on 151 articles published between 2018 and 2024. This study employed bibliometric analysis using Biblioshiny version 4.0 to generate textual and graphical representations of key metrics, including publication trends, leading authors, influential articles, and prominent publishing sources. VOSviewer version 1.6.20 was also used to visualize keyword networks and thematic clusters. Through content analysis, four dominant research themes emerged: Sentiment Analysis and Market Prediction, Machine Learning and Algorithmic Trading, Blockchain and Financial Risks, and Social Networking and Market Influence. These themes were derived from an extensive literature review of keyword relationships and conceptual clusters.

The bibliometric findings reveal consistent growth in academic research, with an annual publication growth rate of 10.41%. The top-cited articles and authors indicate a strong scholarly interest in sentiment analysis and its impact on price volatility. Twitter and other social media platforms have been extensively studied as leading sentiment indicators influencing cryptocurrency valuation. Moreover, deep learning techniques, econometric models, and behavioral finance approaches have been integrated into forecasting methodologies, demonstrating interdisciplinary convergence in this domain. The analysis also highlights a significant level of international collaboration, with 29.8% of research conducted in collaboration with partners from other countries. However, research remains predominantly concentrated in the USA, India, the UK, and China.

This study provides critical implications for multiple stakeholders, including investors, financial institutions, regulators, and academic researchers. The research highlights the importance of integrating social media sentiment analytics into trading strategies for in-

vestors and traders while being cautious of potential manipulation risks. Investors can leverage real-time sentiment analytics from social media to optimize trading strategies, manage exposure to volatility, and improve entry and exit decisions in cryptocurrency markets. Financial institutions can leverage machine learning-based sentiment models to optimize risk management, anticipate market anomalies and develop portfolio strategies. Conversely, the increasing influence of social media on cryptocurrency price volatility necessitates urgent regulatory attention. Regulators must develop frameworks that address real-time sentiment-driven market distortions, particularly those arising from influencer activities and algorithmically amplified misinformation. Stringent surveillance mechanisms should be developed to mitigate the risks of social media-induced volatility and market manipulation, particularly by influential figures. Effective measures could include requiring influencers to disclose financial interests related to assets they promote, implementing surveillance mechanisms to detect abnormal sentiment-driven trading patterns, and establishing cross-platform monitoring collaborations between financial authorities and major social media companies. These steps are crucial for preserving market integrity, protecting retail investors, and ensuring that systemic manipulation risks do not undermine the innovation of cryptocurrency markets. Moreover, the findings are valuable for academic researchers seeking to expand the domain by incorporating more diverse datasets, refining machine learning methodologies, and integrating regulatory and behavioral perspectives.

While this study provides a comprehensive bibliometric and systematic review of social media's influence on cryptocurrency markets, several limitations must be acknowledged. First, the dataset was sourced from the Scopus database, potentially omitting relevant articles indexed in other repositories, such as Web of Science, IEEE Xplore, or Google Scholar. Second, although carefully designed, the keyword search strategy may have excluded studies that used alternative terminologies. Third, the bibliometric analysis is based on publications up to January 2025; given the rapidly evolving nature of cryptocurrency markets and social media platforms, newer developments may not be captured. Furthermore, the dynamic influence of social media influencers, regulatory changes, and integrating advanced AI tools into market prediction suggest that the field is highly fluid. Future reviews could broaden their scope by incorporating multiple databases, using evolving keyword taxonomies, and conducting periodic longitudinal analyses to track shifts in thematic focus over time. An interdisciplinary approach integrating finance, computer science, and behavioral psychology will be critical for a deeper understanding of this complex research domain. Future research could also use normalized impact metrics (e.g., citations per article) combined with topic modeling to identify which countries are the most productive and influential across specific cryptocurrency-related themes.

By filling these gaps, future studies can provide solid interdisciplinary insights that transcend the boundaries of behavioral economics, technology, and finance, helping us to understand cryptocurrency markets more comprehensively. Academic research must adjust as cryptocurrencies develop, incorporating real-time data, advanced artificial intelligence models, and regulatory foresight to guarantee that digital asset markets remain stable and innovative.

Author Contributions: Conception and design: S.S.; analysis and interpretation of the data: S.S. and F.S.; drafting of the paper: S.S. and F.S.; revising it critically for intellectual content: S.S. and F.S.; final approval of the version to be published: S.S. and F.S. All authors have read and agreed to the published version of the manuscript.

Funding: The authors would like to thank Prince Sultan University for their financial support.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data are available on reasonable request from the corresponding author.

Conflicts of Interest: The author declares no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Note

[1] https://www.ey.com/content/dam/ey-unified-site/ey-com/en-us/insights/financial-services/documents/ey-driving-meaningful-opportunity-tokenization-in-asset-management.pdf?download (accessed on 12 February 2025).

References

Aharon, D. Y., Demir, E., Lau, C. K. M., & Zaremba, A. (2022). Twitter-Based uncertainty and cryptocurrency returns. *Research in International Business and Finance*, *59*, 101546. [CrossRef]

Ahmad, T., & Abbas, M. (2024). *AI based cryptocurrency price prediction: A comparative analysis of traditional & deep learning models with sentiment integration* [Master's thesis, UIS].

Ali, H., Farman, H., Yar, H., Khan, Z., Habib, S., & Ammar, A. (2022). Deep learning-based election results prediction using Twitter activity. *Soft Computing*, *26*(16), 7535–7543. [CrossRef]

Ansari, Y., Arwab, M., Subhan, M., Alam, M. S., Hashmi, N. I., Hisam, M. W., & Zameer, M. N. (2022). Modeling socio-economic consequences of COVID-19: An evidence from bibliometric analysis. *Frontiers in Environmental Science*, *10*, 941187. [CrossRef]

Ante, L. (2023). How Elon Musk's twitter activity moves cryptocurrency markets. *Technological Forecasting and Social Change*, *186*, 122112. [CrossRef]

Bennett, D., Mekelburg, E., Strauss, J., & Williams, T. H. (2024). Unlocking the black box of sentiment and cryptocurrency: What, which, why, when and how? *Global Finance Journal*, *60*, 100945. [CrossRef]

Böhme, R., Christin, N., Edelman, B., & Moore, T. (2015). Bitcoin: Economics, technology, and governance. *Journal of Economic Perspectives*, *29*(2), 213–238. [CrossRef]

Burra, Y. (2024). The influence of social media on financial markets: A comprehensive behavioral and quantitative analysis. *International Journal of Current Business and Social Sciences*, *10*(5), 1–12.

Cao, T., Yu, J., Decouchant, J., Luo, X., & Verissimo, P. (2020). Exploring the monero peer-to-peer network. In *Financial cryptography and data security: 24th international conference, FC 2020, Kota Kinabalu, Malaysia, February 10–14, 2020 revised selected papers 24* (pp. 578–594). Springer International Publishing.

Colombo, J. A., Akhter, T., Wanke, P., Azad, M. A. K., Tan, Y., Edalatpanah, S. A., & Antunes, J. (2023). Interplay of cryptocurrencies with financial and social media indicators: An entropy-weighted neural-MADM approach. *Journal of Operational and Strategic Analytics*, *1*(4), 160–172. [CrossRef]

Corbet, S., Meegan, A., Larkin, C., Lucey, B., & Yarovaya, L. (2018). Exploring the dynamic relationships between cryptocurrencies and other financial assets. *Economics Letters*, *165*, 28–34. [CrossRef]

Dell'Erba, M. (2024). Crypto-Trading Platforms as Exchanges. *Michigan State Law Review*, 1. Available online: https://ssrn.com/abstract=4405361 (accessed on 8 February 2023). [CrossRef]

Dhali, M., Hassan, S., Mehar, S. M., Shahzad, K., & Zaman, F. (2023). Cryptocurrency in the darknet: Sustainability of the current national legislation. *International Journal of Law and Management*, *65*(3), 261–282. [CrossRef]

Dhali, M., Hassan, S., & Zulhuda, S. (2024). The regulatory puzzle of decentralized cryptocurrencies: Opportunities for innovation and hurdles to overcome. *Journal of Infrastructure, Policy and Development*, *8*(6), 3377. [CrossRef]

Doğan, E., & Yalçıntaş, S. (2023). An empirical analysis of speculative behavior and the spillover effect in cryptocurrency markets. *Journal of Research in Economics*, *7*(1), 1–21. [CrossRef]

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, *133*, 285–296. [CrossRef]

Ejaz, H., Zeeshan, H. M., Ahmad, F., Bukhari, S. N. A., Anwar, N., Alanazi, A., Sadiq, A., Junaid, K., Atif, M., Abosalif, K. O. A., Iqbal, A., Hamza, M. A., & Younas, S. (2022). Bibliometric analysis of publications on the omicron variant from 2020 to 2022 in the Scopus database using R and VOSviewer. *International Journal of Environmental Research and Public Health*, *19*(19), 12407. [CrossRef]

Elsayed, A. H., Gozgor, G., & Yarovaya, L. (2022). Volatility and return connectedness of cryptocurrency, gold, and uncertainty: Evidence from the cryptocurrency uncertainty indices. *Finance Research Letters*, *47*, 102732. [CrossRef]

Ferreira, A., & Sandner, P. (2021). EU searches for regulatory answers to crypto assets and their place in the financial markets infrastructure. *Computer Law & Security Review*, *43*, 105632.

Foley, S., Karlsen, J. R., & Putniņš, T. J. (2019). Sex, drugs, and bitcoin: How much illegal activity is financed through cryptocurrencies? *The Review of Financial Studies*, *32*(5), 1798–1853. [CrossRef]

Frans, M. N. (2024). Economic behavioral anomalies in cryptocurrency transactions during the COVID-19 pandemic. *Social Science Studies*, *4*(4), 262–278. [CrossRef]

Frediani, M. E. A. (2024). Crafting the future of finance: A comparative analysis of cryptocurrency regulation in the global economy. *Journal of Financial Risk Management*, *13*(1), 193–206. [CrossRef]

Gandal, N., & Halaburda, H. (2016). Can we predict the winner in a market with network effects? Competition in cryptocurrency market. *Games*, *7*(3), 16. [CrossRef]

George, A. S. (2024). Finance 4.0: The transformation of financial services in the digital age. *Partners Universal Innovative Research Publication*, *2*(3), 104–125.

Giudici, G., Milne, A., & Vinogradov, D. (2020). Cryptocurrencies: Market analysis and perspectives. *Journal of Industrial and Business Economics*, *47*, 1–18. [CrossRef]

Govindaraj, J., & Agarwal, S. (2022). Classification of various factors that have caused major fluctuations in cryptocurrency markets. *SJCC Management Research Review*, *12*, 22–43.

Grujić, M., & Vojinović, Ž. (2024). Investing in blockchain technologies and digital assets: Accounting perspectives. *Anali Ekonomskog Fakulteta u Subotici*, *60*(52), 119–136. [CrossRef]

Jalan, A., Matkovskyy, R., Urquhart, A., & Yarovaya, L. (2023). The role of interpersonal trust in cryptocurrency adoption. *Journal of International Financial Markets, Institutions and Money*, *83*, 101715. [CrossRef]

Karalevicius, V., Degrande, N., & De Weerdt, J. (2018). Using sentiment analysis to predict interday Bitcoin price movements. *The Journal of Risk Finance*, *19*(1), 56–75. [CrossRef]

Khatib, S. F., Abdullah, D. F., Elamer, A., Yahaya, I. S., & Owusu, A. (2023). Global trends in board diversity research: A bibliometric view. *Meditari Accountancy Research*, *31*(2), 441–469. [CrossRef]

Kraaijeveld, O., & De Smedt, J. (2020). The predictive power of public Twitter sentiment for forecasting cryptocurrency prices. *Journal of International Financial Markets, Institutions and Money*, *65*, 101188. [CrossRef]

Liu, Y., & Tsyvinski, A. (2021). Risks and returns of cryptocurrency. *The Review of Financial Studies*, *34*(6), 2689–2727. [CrossRef]

Low, R., & Marsh, T. (2019). Cryptocurrency and blockchains: Retail to institutional. *The Journal of Investing*, *29*(1), 18–30. [CrossRef]

Makarov, I., & Schoar, A. (2020). Trading and arbitrage in cryptocurrency markets. *Journal of Financial Economics*, *135*(2), 293–319. [CrossRef]

Meyer, E. A., Sandner, P., Cloutier, B., & Welpe, I. M. (2023). High on Bitcoin: Evidence of emotional contagion in the YouTube crypto influencer space. *Journal of Business Research*, *164*, 113850. [CrossRef]

Mikhaylov, A. (2020). Cryptocurrency market analysis from the open innovation perspective. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(4), 197. [CrossRef]

Naeem, M. A., Mbarki, I., & Shahzad, S. J. H. (2021). Predictive role of online investor sentiment for cryptocurrency market: Evidence from happiness and fears. *International Review of Economics & Finance*, *73*, 496–514.

Nakamoto, S. (2008). *Bitcoin: A peer-to-peer electronic cash system*. Available online: https://bitcoin.org/bitcoin.pdf (accessed on 27 February 2025).

Pano, T., & Kashef, R. (2020). A complete VADER-based sentiment analysis of bitcoin (BTC) tweets during the era of COVID-19. *Big Data and Cognitive Computing*, *4*(4), 33. [CrossRef]

Pathak, A. R., Pandey, M., & Rautaray, S. (2021). Topic-level sentiment analysis of social media data using deep learning. *Applied Soft Computing*, *108*, 107440. [CrossRef]

Patil, D., Rane, N. L., Desai, P., & Rane, J. (Eds.). (2024). *Trustworthy artificial intelligence in industry and society*. Deep Science Publishing.

Philippas, D., Rjiba, H., Guesmi, K., & Goutte, S. (2019). Media attention and Bitcoin prices. *Finance Research Letters*, *30*, 37–43. [CrossRef]

Rauch, C. (2024). Fintech in capital markets. In *The emerald handbook of fintech: Reshaping finance* (pp. 381–396). Emerald Publishing Limited.

Saiedi, E., Broström, A., & Ruiz, F. (2021). Global drivers of cryptocurrency infrastructure adoption. *Small Business Economics*, *57*(1), 353–406. [CrossRef]

Shahzad, S. J. H., Anas, M., & Bouri, E. (2022). Price explosiveness in cryptocurrencies and Elon Musk's tweets. *Finance Research Letters*, *47*, 102695. [CrossRef]

Shen, D., Urquhart, A., & Wang, P. (2019). Does Twitter predict Bitcoin? *Economics Letters*, *174*, 118–122. [CrossRef]

Sundarasen, S., Zyznarska-Dworczak, B., & Goel, S. (2024). Sustainability reporting and greenwashing: A bibliometrics assessment in G7 and non-G7 nations. *Cogent Business & Management*, *11*(1), 2320812.

Symss, J. (2023). *Can cryptocurrency solve the problem of financial constraint in corporates? A literature review and theoretical perspective*. Qualitative Research in Financial Markets.

Tandon, A., Aakash, A., Aggarwal, A. G., & Kapur, P. K. (2021). Analyzing the impact of review recency on helpfulness through econometric modeling. *International Journal of System Assurance Engineering and Management*, *12*, 104–111. [CrossRef]

Tian, Y., Adriaens, P., Minchin, R. E., Chang, C., Lu, Z., & Qi, C. (2020). *Asset tokenization: A blockchain solution to financing infrastructure in emerging markets and developing economies. ADB-IGF special working paper series "Fintech to enable development, investment, financial inclusion, and sustainability"*. Asian Development Bank. Available online: https://ssrn.com/abstract=3837703 (accessed on 27 February 2025).

Valencia, F., Gómez-Espinosa, A., & Valdés-Aguirre, B. (2019). Price movement prediction of cryptocurrencies using sentiment analysis and machine learning. *Entropy*, *21*(6), 589. [CrossRef] [PubMed]

van der Merwe, A. (2021). Cryptocurrencies and other digital asset investments. In M. Pompella, & R. Matousek (Eds.), *The palgrave handbook of fintech and blockchain* (pp. 445–471). Palgrave Macmillan.

Wilson, C. (2019). Cryptocurrencies: The future of finance? In *Contemporary issues in international political economy* (pp. 359–394). Springer Nature Singapore.

Wołk, K. (2020). Advanced social media sentiment analysis for short-term cryptocurrency price prediction. *Expert Systems*, *37*(2), e12493. [CrossRef]

Wu, S. (2021). Co-movement and return spillover: Evidence from Bitcoin and traditional assets. *SN Business & Economics*, *1*(10), 122.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.