# The Dual-Edged Influence of Social Media in Financial Decisions

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## Abstract

This research investigates the impact of popularity-driven investments on financial stability, focusing on how social media influences investor behavior. With the growing prominence of influencers, social media platforms have fundamentally reshaped how individual investors and the general public make financial decisions. However, they also bring significant risks, such as reliance on trends driven by popularity and often unverified advice. A survey of 284 investors using a questionnaire was conducted, with 86% aged between 18 and 40, highlighting the widespread use of social media in shaping investment decisions, though the outcomes varied considerably. Also using Pearson and Spearman correlation analysis, this study explores the relationship between social media influence and the likelihood of experiencing financial losses. However, the correlation does not imply causation. The findings revealed the dual-edged impact of social media it raises concerns about its tendency to emphasize short-term gains, insufficient scrutiny of influencer advice, and the potential for suboptimal decision-making. This study emphasized the need for a balanced integration of social media into investment strategies, leveraging its advantages while minimizing the risks. Key recommendations include improving investor education to enhance financial literacy, promoting transparency to rebuild trust, and introducing regulatory frameworks to oversee the activities of financial influencers and their impact on markets.

**Keywords:** *Social Media Influencers, Financial Decision-Making, Behavioral Finance, Correlation Analysis, Investment Risks, Financial Stability*

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## 1. Introduction

In recent years, social media has become a powerful influencing tool for financial decision-making, reshaping global markets. Platforms like Twitter, Reddit, and YouTube have transformed how people interact within financial markets, democratizing information access in the hands of retail investors. Previously used for social interaction these platforms are now essential tools for investors seeking financial insights, often influencing asset values through viral content while this online engagement fosters financial empowerment, it also introduces

risks by amplifying speculative trends and disseminating unsolicited investment advice based on popularity rather than sound financial principles.

The 2017-2022 cryptocurrency mania exemplifies social media-driven speculation, as platforms like Reddit and X (formerly Twitter) fuelled FOMO and volatility. Bitcoin prices skyrocketed from $1,000 in early 2017 to $20,000 by the year's end, peaking at $68,000 in 2021 before experiencing a significant decline. Another example can be observed in Dogecoin which was started as a joke cryptocurrency by two software engineers named Jackson Palmer and Billy Markus, the price of Dogecoin saw a major surge from $0.01 to around $0.68 in 2021, this surge was fueled by social media buzz on platforms like Reddit, X, and TikTok along with endorsements from celebrities like Elon Musk. This surge showcased how viral content can increase the demand for assets with little fundamental value.

These dynamics highlight the dual-edged role of social media in shaping financial markets, while democratizing access to investment opportunities, social media has also amplified speculative behavior and volatility, highlighting both the potential benefits and risks of this new, collective-driven approach to investing.

## 1.1 Problem Statement

The study focuses on understanding how social media influences investors' financial decisions and examines whether this influence is ultimately beneficial or harmful to modern investors?, By employing correlation techniques to evaluate these responses, the research provides critical insights into the evolving role of social media in shaping investment behavior and its broader implications for financial stability.

## 2. Literature Review: A Comparative Analysis of Past Researches

Existing research on social media's impact on investment decisions highlights key behavioral and market influences but often lacks comprehensive empirical validation and regulatory insights. This study addresses that gap by incorporating a broader range of biases, including FOMO (Fear of Missing Out) and herding behavior, and validating their impact using Pearson and Spearman correlation analysis. Several studies have explored the influence of social media on investment behavior but suffer from limitations related to sample size and statistical methodologies. Maniy et al. (2024) conducted an empirical study on social media-driven investments; however, their research was based on a limited sample of 110 respondents and did not incorporate advanced statistical analyses such as correlation techniques. Their findings suggested that social media significantly affects investment behavior but lacked the depth needed to quantify risk exposure or financial losses. This study overcomes those limitations by increasing the sample size to 284 respondents and incorporating Pearson and Spearman correlation analyses to establish stronger statistical validation. Similarly, Subramanian & Prerana (2022) analyzed young adults' reliance on social media for investment advice; however, they failed to assess financial losses or long-term effects, which this study extends by covering a wider demographic and differentiating short- and long-term investment behaviors. Garcia & Schweitzer (2021) focused on market sentiment analysis rather than individual investor decision-making, limiting the direct applicability of their findings to personal investment behaviors. This research builds on their work by directly linking social media influence to financial losses while proposing risk mitigation strategies. Additionally, Hayes & Ben-Shmuel (2024) critiqued financial influencers, emphasizing their role in shaping financial narratives but failed to provide empirical backing; this study strengthens their

argument by providing statistical validation and recommending regulatory frameworks, including disclosure mandates and AI-driven content monitoring. Other studies, such as those by Vasquez & Cross (2024) and Hasan (2024), primarily examined the role of social media within investment communities but did not explore the regulatory and psychological factors that drive investment behavior, particularly the impact of viral trends and influencer credibility. While Abu-Taleb & Nilsson (2021) studied online communities' behavior in financial decision-making, their research lacked quantitative analysis to measure how these online interactions translate into actual financial risks. Additionally, Barros et al. (2024) explored the role of AI and social media analytics in financial decision-making but have not focused on how these technologies could be leveraged for regulatory oversight to prevent misinformation. Smrithi & Selvi (2024) investigated the role of social media in investment decisions but did not account for the variance in financial literacy levels among investors, which this study considers while assessing risk perception. By filling these gaps, this study offers a more comprehensive, quantitative, and solution-oriented analysis of social media's dual-edged impact on financial decision-making, balancing the risks and benefits while providing actionable recommendations for investor education, regulatory intervention, and technological advancements in misinformation detection.

## 3. Methodology

### 1. Pearson correlation

In our research, the Pearson correlation coefficient was calculated to analyze the relationship between two key variables: the percentage of investments influenced by social media (X) and the significant losses incurred after acting on recommendations from social media (Y). The dataset for this analysis consisted of various data points representing specific instances of social media influence and the corresponding financial losses. Advanced computational tools, including a state-of-the-art natural language processing model, were utilized to ensure precision and reliability in performing the calculations. This approach provided valuable insights into how changes in social media influence impact financial outcomes for investors.

## 4. Findings

### Step 1: Data Representation

Social Media Influence Categories:

- 0-20% 148 responses → X = 0.2
- 20-40% 83 responses → X = 0.4
- 40-60% 41 responses → X = 0.6
- 60% and above: 12 responses → X = 0.8

Significant Losses Categories:

- Yes: 146 responses → Y = 1
- No: 138 responses → Y = 0

**Step 2: Mean Calculation**

$\bar{X} = \sum X/n = [0.2(148) + 0.4(83) + 0.6(41) + 0.8(12)]/284$

$\bar{X} = [29.6 + 33.2 + 24.6 + 9.6]/284 = 97.0/284 = 0.3415$

$\bar{Y} = \sum Y/n = [1(146) + 0(138)]/284$

$\bar{Y} = 146/284 = 0.5141$

**Step 3: Deviations from the Mean**

For each X and Y, calculate the deviation from the mean:

$X - \bar{X} = [0.2 - 0.3415, 0.4 - 0.3415, 0.6 - 0.3415, 0.8 - 0.3415]$

$Y - \bar{Y} = [1 - 0.5141, 0 - 0.5141]$

**Step 4: Covariance**

The numerator of the Pearson formula is the covariance:

$$\text{Cov}(X, Y) = \sum (X - \bar{X})(Y - \bar{Y})$$

For each category:

- Multiply $(X - \bar{X})$ and $(Y - \bar{Y})$, then sum.

$\text{Cov}(X, Y) = -7.7284$

**Step 5: Variance**

The denominator requires the variance of X and Y:

$$\text{Var}(X) = \sum (X - \bar{X})^2, \text{Var}(Y) = \sum (Y - \bar{Y})^2$$

Calculated values:   $\text{Var}(X) = 0.1621$, $\text{Var}(Y) = 0.2498$

**Step 6: Pearson Correlation Coefficient**

Combine the covariance and variances:

$r = \text{Cov}(X, Y)/\sqrt{Var(X).Var(Y)}$

$r = -7.7284/\sqrt{0.1621 * 0.2498} = -0.8411$

**Conclusion of Pearson coefficient of correlation**

The analysis reveals a **strong negative correlation (r = −0.8411)** between the extent of **social media influence** on investment decisions and the likelihood of incurring **significant financial losses**. This correlation is statistically significant, as indicated by the **extremely low p-value**, confirming that the relationship is not due to random chance. The findings suggest that as the percentage of investments influenced by social media increases, the probability of experiencing significant financial losses decreases.

However, this does **not establish causation**, as investors which tends to use social media can engage in independent research, diversify investments, and follow safer strategies promoted by influencers and platforms. Additionally, the findings may be influenced by **sampling bias**, as individuals who faced severe financial losses might have stopped investing and were not included in the study.

**2. Spearman correlation**

To further validate and strengthen our findings, we employed the Spearman rank correlation coefficient as an additional statistical method to analyze the relationship between social media influence (X) and significant losses (Y). This non-parametric measure allowed us to assess the strength and direction of the association between the two variables, particularly in cases where the data may not follow a linear distribution or when the relationship could be monotonic but not necessarily linear. The presentation of the data for this analysis is as follows:

### Step 1: Data Representation

The data consists of two variables:

1. Social Media Influence (X):

- Categories: 0.2 (148 responses), 0.4 (83 responses), 0.6 (41 responses), 0.8 (12 responses).

2. Significant Losses (Y):

- Categories: 1 (146 responses) for "Yes" and 0 (138 responses) for "No."

We treat these data points as paired observations: each response from X is matched with a response from Y.

### Step 2: Rank the Data

Spearman correlation works on **ranked values** rather than raw data.

1. Rank the X values:

- 0.2: Rank 1 (lowest value)
- 0.4: Rank 2
- 0.6: Rank 3
- 0.8: Rank 4

2. Rank the Y values:

- 1 ("Yes"): Rank 2 (higher value)
- 0 ("No"): Rank 1 (lower value)

### Step 3: Compute the Differences in Ranks

- For each pair of data points, calculate the difference in ranks ($d = R_x - R_y$) and square the difference ($d^2$).

| X | Rx (Rank of x) | Y | Ry (Rank of Y) | d = Rx- Ry | $d^2$ |
|---|---|---|---|---|---|
| 0.2 | 1 | 2 | 2 | 1-2=-1 | 1 |
| 0.4 | 2 | 1 | 1 | 2-1=1 | 1 |
| 0.6 | 3 | 2 | 2 | 3-2=1 | 1 |
| 0.8 | 4 | 1 | 1 | 4-1=3 | 9 |

These calculations are repeated for all 284 data points. The total sum of $d^2$ is:

$$\sum d^2 = 14052$$

**Step 4: Apply the Spearman correlation formula**

The Spearman correlation formula is:

$$r_s = 1 - [(6\sum d^2)/n\,(n^2 - 1)]$$

Where:

- N; Total number of observations (n=284).
- $\sum d^2$: Sum of squared differences in ranks

Substituting the values:    $r_s = 1 - [(6*14052)/\,(284\,\{284^2 - 1\})]$

Simplify:        $r_s = 1 - [(84312)/\,(284\,\{80535\})]$

$r_s = 1 - [84312/\,22863240]$

$r_s = 1 - 0.0368$

$r_s = -0.9362$

**Step 5: Statistical Significance**

The p-value is computed based on r, and the number of observations (n = 284). The p-value ($4.45 \times 10^{-130}$) confirms that the correlation is statistically significant.

**Conclusion of Spearman rank coefficient of correlation**

Based on the Spearman rank correlation analysis, the calculated correlation coefficient ($r_s$) is -0.9362, indicating a strong negative monotonic relationship between social media influence and significant losses. This suggests that as social media influence increases, the likelihood of losses decreases, and vice versa, consistently across the data points. Capturing a monotonic trend where greater social media engagement aligns with reduced financial losses. This may be influenced by higher financial literacy, psychological factors (FOMO, herding), and platform-driven content curation favoring stable investments. However, as correlation does not imply causation, further research is needed to determine whether social media directly influences investment success or if other variables drive this trend.

In summary, the results from the Spearman rank correlation support a strong, statistically significant negative relationship between the two variables, further confirming the accuracy of our findings.

**Key findings**

**1. Insights into Investment Selection**

Stocks emerged as the most favored investment choice, with **58.6%** of respondents showing a strong preference for equities, likely due to their potential for long-term returns. Mutual Funds followed closely, chosen by **52.9%**, reflecting an interest in diversified and professionally managed portfolios. Moderate interest in bonds **23.6%** and cryptocurrency **21.4%** indicates a balanced approach to stability and high-risk, high-reward opportunities. Conversely, traditional investments like Fixed Deposits, PPF, and Property attracted minimal interest **less than 1%**, underscoring a clear preference for growth-oriented investments over secure but low-yielding options.
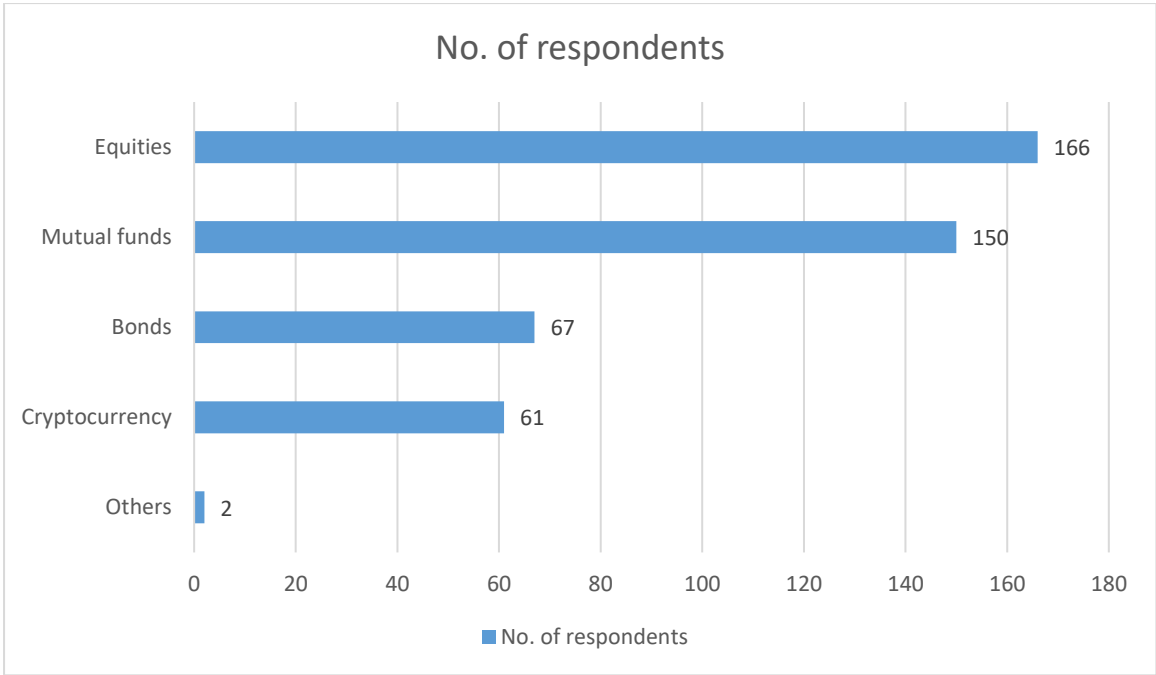
**Note: Respondents were allowed to select all the investment types they participated in.**

## 2. Pathways to Investment Knowledge

The primary sources of investment knowledge are Social Media Platforms **47.1%** and Personal Research **48.6%**, reflecting a combination of modern digital tools and independent, self-reliant approaches to financial decision-making. In contrast, traditional sources, such as advice from family, friends, and colleagues, held significantly less influence **less than 2%**. This trend highlights the increasing prominence of digital platforms in shaping investment decisions, while the reliance on personal research demonstrates a cautious and informed approach among investors.

## 3. The Intersection of Social Media and Investment Decisions

Social media has become a prominent influence on investment behavior, with **58.6%** of respondents frequently seeking advice from influencers and another **7.9%** doing so regularly. Encouragingly, **81.4%** of respondents take a cautious approach by checking the background and credentials of influencers before acting on their advice. This highlights a growing sense of prudence among investors. Social media tends to steer **55%** of respondents toward short-term gains, likely due to the focus on speculative opportunities often showcased on these platforms. However, **45%** prioritize long-term strategies, reflecting an effort among investors to balance immediate opportunities with sustainable, future-oriented goals.
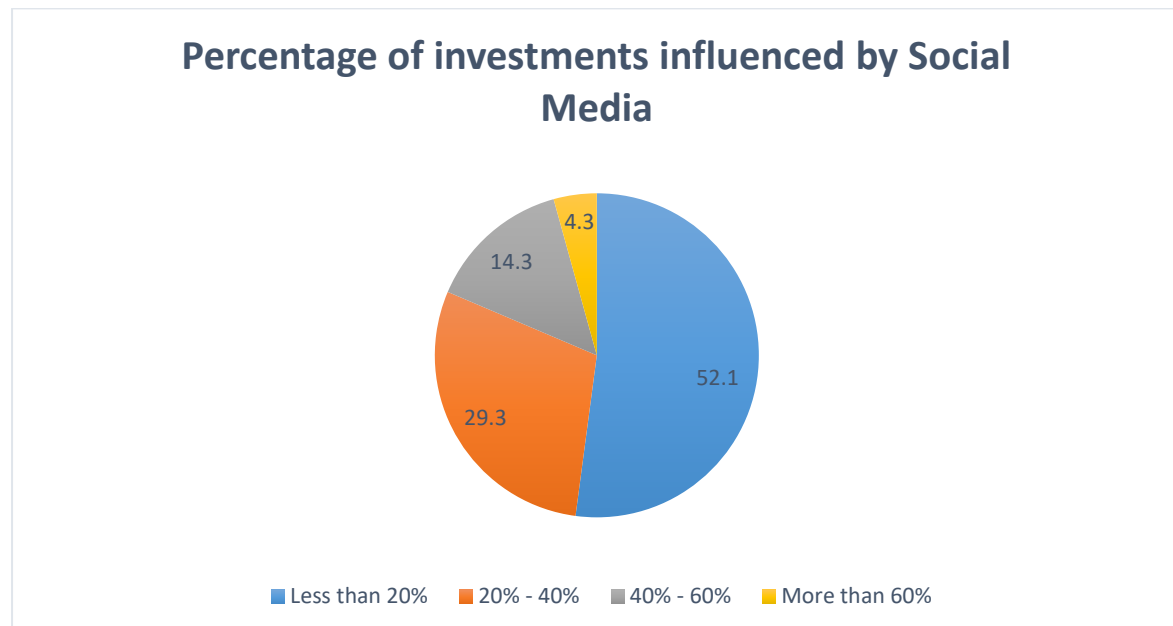
## 4. The Role of Trends in Shaping Investor Choices

Approximately **25%** of respondents admitted to investing in trending stocks without having much knowledge about the companies behind them. This suggests a more speculative approach, likely fuelled by social media buzz, viral content, and the fear of missing out (FOMO). On the other hand, **75%** chose to steer clear of such investments, opting instead for a cautious and well-researched approach. This divide highlights the difference between those drawn to the promise of quick gains and others who value informed decision-making to manage

risks. These findings show just how important it is to promote financial literacy and encourage people to take the time to research, especially in today's world, where digital platforms often amplify the appeal of market trends.

## 5. The Role of Social Media as a Supporting Resource in Investment Decisions

These findings indicate that the majority **52.1%** of respondents rely on social media for less than 20% of their investment decisions, suggesting that social media primarily serves as a complementary resource. Meanwhile, **29.3%** of respondents reported a moderate influence of 20–40%, **14.3%** of respondents based 40% - 60 % of their decisions, and only a small fraction of **4.3%** attributed over 60% of their investment decisions to social media.



**Percentage of investments influenced by Social Media**

- Less than 20%: 52.1
- 20% - 40%: 29.3
- 40% - 60%: 14.3
- More than 60%: 4.3

This data demonstrates that while social media is present in the investment decision-making process, it is not the primary driver for most investors. Instead, it complements other tools and methods, reflecting a cautious and balanced approach to integrating digital influences into financial strategies.

## 6. Financial Risks of Social Media Recommendations

The research revealed that **48.6%** of respondents suffered significant losses after acting on social media advice, while **51.4%** did not encounter such outcomes. This near-even split highlights the risks of relying on unverified recommendations, often shaped by personal opinions and biases available on social media platforms. Nearly half of respondents acknowledge the uncertainty associated with making investment decisions based on social media advice. While some individuals benefit from insights shared on these platforms, others experience financial setbacks, reflecting the varying reliability and unpredictability of social media. These results illustrate a significant aspect of the changing investment landscape.

## 7. Legal Obligation on Influencers about Disclosure Requirements

The research findings show that the majority of respondents around **77.9%** agree with making it legally binding for influencers to show their financial incentive disclosure if they are receiving by promoting a certain investment. Such a high percentage of support shows that

investors may unknowingly invest in high-risk or unsuitable products based on the influencer's endorsement, believing the recommendation is impartial. Clear disclosure helps ensure that influencers' motivations are transparent and reduces the risk of deceptive marketing practices.

Nearly 75% of respondents believe influencers should be legally required to provide greater transparency. This would help prevent misleading advice and allow followers to make more informed decisions. These results highlight an important shift in how investors approach decision-making today. As social media continues to influence how people gather and process investment information, it's clear that this new source of guidance comes with both opportunities and challenges for investors in the digital age.

## 5. Conclusion

This research explores the dual-edged impact of social media on financial decision-making, particularly in popularity-driven investments. Using Pearson (-0.8411) and Spearman (-0.9362) correlation analyses, the study finds that greater reliance on social media correlates with fewer financial losses—though this does not establish causation. However, this correlation may seem counterintuitive given that 48.6% of investors reported losses from social media recommendations. However, it highlights a key distinction: investors who rely on social media responsibly—conducting research, following credible influencers, and adopting risk-mitigation strategies—are less likely to suffer losses. Conversely, those who faced financial setbacks often acted impulsively on speculative trends, viral content, or unverified advice without due diligence. This reinforces the study's recommendation that financial literacy, cautious decision-making, and responsible engagement with social media are critical for investment success.

The study further reveals that while social media is a supplementary resource for most investors (52.1% rely on it for <20% of their decisions), behavioral biases like FOMO and herding still influence speculative investments, with 25% of respondents admitting to investing in trending stocks without research. Additionally, 77.9% support mandatory financial disclosures for influencers, indicating a growing demand for transparency and accountability in digital financial content.

Ultimately, social media is a powerful tool that democratizes financial access, but it amplifies both opportunities and risks. This research underscores the urgent need for investor education, regulatory oversight of financial influencers, and enhanced transparency to mitigate misinformation and speculative behavior. By balancing informed decision-making with responsible social media engagement, stakeholders can leverage its benefits while ensuring financial stability and inclusion.

## 6. Recommendations

These recommendations directly address the dual-edged impact of social media on investment behavior identified in the study.

### 1. Enhancing Financial Literacy and Transparency

The research highlights the significant influence of social media on investment decisions, often leading to financial losses due to reliance on unverified advice. To mitigate these risks, enhancing financial literacy is essential. Educational programs and awareness campaigns should be implemented to help investors critically evaluate financial information. Investors should be taught to independently interpret research opportunities, assess risks, and identify

biases in social media-driven recommendations. Transparency must also be improved by mandating influencers to disclose any financial incentives tied to their endorsements. This measure can help rebuild trust and empower investors to make more informed decisions. Platforms must include disclaimers on financial content to clarify its promotional nature.

## 2. Regulating Social Media Influencers and Platforms

The findings, particularly the strong negative correlations observed in the Pearson and Spearman analysis, underscore the risks of social media influence on financial stability. Regulatory frameworks should be introduced to govern the activities of financial influencers. These frameworks must enforce mandatory disclosure of financial incentives, penalize misleading or fraudulent advice, and require influencers to substantiate their recommendations with credible data. This regulation will ensure influencers provide accurate, unbiased, and reliable advice, reducing the prevalence of speculative investments and financial instability.

## 3. Leveraging Technology to Enhance Credibility

The data shows that **48.6%** of investors experienced losses from social media recommendations, emphasizing the need for technology-driven solutions to enhance credibility. Social media platforms should deploy AI tools to monitor and flag misleading financial content. Algorithms must prioritize credible and verified investment information while de-emphasizing speculative trends. This technology can also support investors by providing real-time risk assessments and alerts for potentially biased or fraudulent posts. By integrating these tools, platforms can create a safer environment and reduce the likelihood of financial losses caused by misinformation.

## 4. Promoting Responsible and Balanced Investment Strategies

The findings reveal that **55%** of respondents prioritize short-term gains, while **25%** invest in trending stocks despite limited knowledge, driven by psychological factors such as FOMO. To address this, investors should be educated about the benefits of long-term, diversified investment strategies. Social media platforms should actively promote educational content that encourages balanced approaches to investing. Responsible investment communities can be fostered where users share verified information and discuss strategies collaboratively. This shift from a speculative to a sustainable strategy will align with the growing need for financial stability and informed decision-making.

## 5. Advancing Research and Regulatory Oversight

The strong negative correlation (**Pearson: -0.8411; Spearman: -0.9362**) between social media influence and financial losses indicates the complexity of the relationship and the need for further exploration. Future research should investigate the desired mechanisms by which social media influences investment behavior and identify ways to mitigate psychological drivers like FOMO and herding behavior. Regulatory oversight must be enhanced to address the risks associated with social media-driven investments. Financial regulatory bodies should work closely with platforms to identify and combat fraudulent promotions, ensuring the evolving digital investment landscape remains transparent, secure, and beneficial for all participants.

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