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Original Research Article

CRYPTOCURRENCY MARKET BEHAVIOR: AN ANALYTICAL STUDY WITH IMPLICATIONS FOR RETAIL TRADERS AND INVESTORS

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Abstract:

This study examines cryptocurrency market behaviour during crash conditions and evaluates the extent to which structured risk management techniques and behavioural biases affected financial losses. The study employs a quantitative design that is bolstered by qualitative observations. A structured questionnaire was used to gather primary data from (111) retail cryptocurrency traders. In order to obtain a deeper understanding of behaviour, (12) active cryptocurrency market traders were interviewed for qualitative analysis. The relationships between behavioural biases, social media influence, risk management techniques, and financial losses were examined using one-way ANOVA and Pearson correlation analysis. The results show that emotional biases like panic selling, overconfidence, FOMO, and frequent short-term trading greatly increase financial losses. A majority of respondent groups' trading decisions were found to be influenced by social media sentiment. Most significantly, correlation analysis confirms that disciplined strategies significantly lower the magnitude of losses during times of high volatility by showing a strong negative relationship between structured risk management practices and financial losses.

Introduction:

The Cryptocurrency market is one of the highly volatile markets of the financial markets and Global Financial System. Because prices change quickly and there is a lot of speculation in this market. The crash of 2025-26 showed how dangerous it is for normal retail traders and investors, especially when the market is very volatile. In the last few years, more people have started trading in Cryptocurrencies at high volume. However, many of these traders do not know how to manage their risks properly. Trading decisions are often affected by Behavioral biases such as Fear of Missing out (FOMO), Panic selling, Overtrading, and Over Confidence. These biases can cause big losses when the market goes down. The study seeks to analyze:

The behavior of the Cryptocurrency market during the crash conditions and evaluate its effects on the financial losses incurred by retail traders. It also looks at whether structured risk management practices really do cut losses or not. The study is done to promote sustainable and disciplined trading and investing in highly volatile markets.

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(Conceptual Framework of the Study):

- **Cryptocurrency: -**

  Cryptocurrency is a type of digital asset that is decentralized and runs on blockchain technology. It is not controlled by banks or governments. Satoshi Nakamoto, who used a fake name, created Bitcoin in 2008. It was the first Cryptocurrency, and it is still well unowned digital asset on the market. Over time, Cryptocurrencies like bitcoin and Ethereum have become very popular around the world because they have the potential to make a lot of money and more institutions are getting involved.

  But unlike other Traditional financial assets, the prices of Cryptocurrencies are getting affected by market sentiment, speculative trading, macroeconomic changes, regulatory uncertainty, and lack of centralized regulation and the fact that trading is always going on make prices even more unstable.

- **Risk Awareness:**

  Many retail traders in the cryptocurrency market don't know how to properly manage their risk and often make decisions based on how they feel instead of sticking to plan. They buy stocks because they are afraid of missing out when prices go up quickly, and they sell stocks in panic when the market crashes, which is the worst time to do so. They lose even more money by overtrading, using too much leverage, and not managing their risk well, like not using stop-loss, sizing their position wrong, and not diversifying. Many traders don't have a structured trading plan or a long-term vision because they are influenced by social media hype and the hope of making quick money. Because of this, inexperienced and uninformed investors often lose money trading cryptocurrencies because they don't know enough about them, don’t have enough discipline or don't know how to control their risks.

Background of Current Cryptocurrency Market:

The Cryptocurrency market in 2025-226 was very unstable market and had one of the biggest corrections in recent years. After a long rally Bitcoin dropped almost 20000 points in a short amount of time, which caused a lot of panic in the market. The crash caused record number of leveraged liquidations, which showed how risky speculative trading positions are. Global macroeconomic uncertainty, trade tensions, geopolitical conflicts, and changing risk sentiment in international financial markets made this correction worse. Episodes of instability caused by war and sudden political changes made the market even more scared, which lead to quick capital flows from risk sensitive assets like Cryptocurrencies.

The big sell off and the big price drops showed that retail trading has more structured problems, especially when people use too much leverage and don’t have structured risk management plans. These conditions are important for looking at retail financial losses and how important is disciplined risk management during times of high volatility and crashes.

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- **VARIABLES:**

INDEPENDENT VARIABLES: -	**DEPENDENT VARIABLES: -**
Market volatility Price trends Global economic news Social media sentiment	Investment Decisions Risk taking behavior Trading frequency

ODERATING VARIABLES: -
Financial literacy Experience level Risk tolerance News Awareness

Review of Literature:

Author Name	**Research Findings**	**Research Gap**
C Chinazzo, V Jeleskovic 2024	According to the study, Bitcoin has extremely high volatility on a daily and annual basis across all methodologies. It also emphasizes how estimates of implied volatility may be impacted on the lack of liquidity in the Bitcoin options market, especially for options with longer maturities or extreme moneyness.	This study primarily focuses on quantitative volatility comparisons in the cryptocurrency market. However, risk management advice specifically for retail investors is missing. The paper does not discuss how new retail traders can practically apply these techniques in real trading and investment decisions.
J Qi, Y Zhang, C Ouyang, 2025.	According to the study, investors who rely significantly on financial advisors are less likely to make current and future cryptocurrency investments. On the other hand, dependence on social media and the media boosts present and future cryptocurrency investment. It	While this study is useful in understanding investor psychology in the cryptocurrency markets, it does not address proper risk management techniques.

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	demonstrates that greater investor confidence raises investing in cryptocurrency.	Does not provide insights into future growth prospects of the cryptocurrency market.
S Li, J Ma, 2024	This study found that the sentiment on Twitter has a mixed impact on the short-term price movements of five different cryptocurrencies. It also demonstrates that the prices of all five cryptocurrencies are adversely impacted by increased interaction with original Twitter posts.	The study mainly focuses on investment intention rather than risk management practices adopted by retail traders, especially during periods of high volatility. It does not propose or evaluate structured risk management or discipline strategies that retail investors can use to control behavioral biases. The limited sample size restricts its applicability to evolving cryptocurrency market conditions.
So, Han, 2025	According to the paper, investor sentiment has a big impact on cryptocurrencies' returns. A study found that speculative assets are overpriced. Cryptocurrencies that are highly sensitive to positive sentiment produce lower returns than those with moderate sentiment sensitivity, which yield higher risk-adjusted returns. These outcomes hold true for various model and liquidity metrics.	Although the study examines the impact of investor sentiment on cryptocurrency prices, it does not consider recent market crash conditions of 2025-26. Does not provide a framework for understanding future cryptocurrency price growth.
M Sahu, F Uddin, MB Hossain, 2025	The findings show that psychological factors strongly affect the investment decision of Indian crypto investors. Personality traits like extraversion, agreeableness and openness increase biases such as the disposition effect an availability bias. In the highly volatile crypto market, biases often lead to illogical investment decisions.	The paper does not analyze structured risk management techniques used by retail investors or traders. The study focuses on psychological factors; it does not examine how these biases cause financial losses, particularly during times of high volatility or crashes. It also lacks a forward-looking viewpoint on market growth and risk management in the cryptocurrency market.

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BW Miba'am, H Güngör 2025	The study finds that geopolitical risk and pandemic risk negatively affect Bitcoin returns, while economic policy uncertainty has a positive effect. The outcome demonstrates that bitcoin returns act as a hedge against EPU in the lower and middle return levels and against pandemic risk at lower levels. The study concludes that uncertainty in the US affects Bitcoin returns, with economic policy uncertainty having the strongest impact, supporting cryptocurrency hedging and safe-haven role.	It fails to show any real connection between political figures or tweets to investor's behavior. Analysis of social media manipulation by influencers or political commentary is ignored. No implication or future growth potential for the market and retail risk management is provided.
M Cary, 2024	The study shows that cryptocurrency market crash affects investors' sentiment differently. Crypto-focused investors are becoming more neutral and less negative compared to traditional investors. Also, they felt less happiness and surprise after the crash, and cryptocurrency enthusiasts increased their social media activity. Analysis of tweeted content indicates that the cryptocurrency investors heavily exhibit herding behavior.	The study does not offer a systematic comparison between the crash and typical market phases The direct correlation between the degree of loss and the severity of behavioral biases like panic or herding is not analyzed. No analysis is done on post-crash recovery participation patterns, which include investors re-entry or exit from the market.
H Mauludin, VMN Marayana, 2026	The results of this study state that factors such as herding, loss aversion, reflection effect significantly influence crash-prone behavior, with risk perception being the strongest predictor. The study finds that higher risk perception increases investor's fear of losses, but it has no effect or herding behavior. It contradicts the traditional prospects theory by lessening the reflection effect.	The paper does not compare crash market vs normal market behavior. The relationship between actual loss amount and bias strength is not analyzed. The study yet fails to find out whether people re-enter the market after crashing or staying away.

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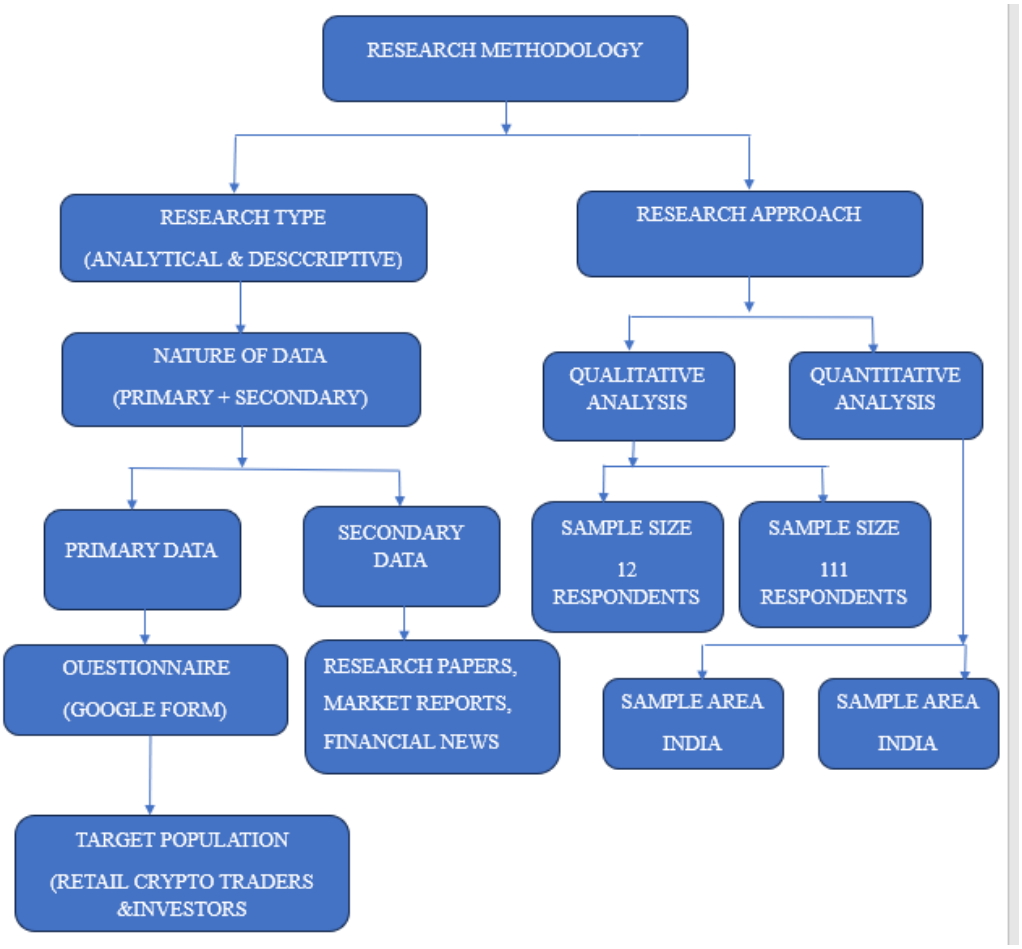
Research Methodology:



Objectives of the Study:

- To analyze Cryptocurrency market behavior during high-volatility period and crash conditions (2025-26).
- To evaluate the extent and causes of financial losses experienced by retail traders, during the crash.
- To examine whether structured risk management practices significantly reduce financial losses among existing retail traders and Investors.
- To propose practical risk management guidelines for new retail participants based on the study findings.

Hypothesis of the Study:

- H0: Cryptocurrency market volatility during crash conditions has no significant impact on financial losses experienced by retail traders.
- H1: Cryptocurrency market volatility during crash conditions significantly increases financial losses experienced by retail traders.
- H0: Market conditions and behavioral factors do not significantly influence the extent of financial losses experienced by retail traders during the crash.

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- H2: Market conditions and behavioral factors significantly influence the extent of financial losses experienced by retail traders during the crash.
- H0: Structured risk management practices do not significantly affect the magnitude of financial losses among retail traders.
- H3: Retail traders who adopt structured risk management practices experience significantly lower financial losses compared to those who do not.

Significance of the Study:

The study looks at retail traders' increasing involvement in the extremely volatile Cryptocurrency market, especially during the crash 2025-26. It concludes that investors who lacked structured risk management and were influenced by behavioural biases like panic selling and FOMO suffered large financial losses. The study offers empirical proof that disciplined risk management techniques lessen the size of losses by examining the connection between market volatility, behavioural biases and losses. The study provides useful insights that highlight the significance of discipline and strategic consistency for long- term retail participation by combining psychological aspects, market behaviour and structured risk management into a single framework.

Limitations of the Study:

- The sample size of the study is limited to retail traders, which generalizes the diverse characteristics of Cryptocurrency investors across different countries and markets.
- The Cryptocurrency market is very dynamic and continuously developing, therefore findings based on 2025-26 period may not remain applicable under future economic and regulatory changes.
- It is difficult to accurately measure behavioural biases and emotional biases and emotional decision- making by the investors because of their subjective and psychological nature.

Data Analysis and Interpretation:

To examine the research objectives, both one-way ANOVA and correlation analysis were applied to the collected primary data.

1. **FOMO-Based Investment Behavior (ANNOVA result):**

   One-way ANNOVA test was conducted to examine whether there was a statistically significant difference in FOMO-based investment behavior between respondent groups (PG and PA).

Anova: Single Factor

SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
PG	111	139	1.252252	0.190336		
PA	111	187	1.684685	0.926945		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	10.37838	1	10.37838	18.57792	2.46E-05	3.884075
Within Groups	122.9009	220	0.55864			
Total	133.2793	221				

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The result indicated:

2. F = 18.57
3. P-value 0.0000246 < 0.05

   Since the P value was less than 0.05 significance level and calculated F-value exceeded the critical value, the null hypothesis was rejected.

   Interpretation:

   There is a statistically significant difference in FOMO-driven investment behavior between the groups. This suggests that emotional decision-making plays a substantial role in Cryptocurrency trading behavior.

2 Influence of Social media sentiment:

One- way ANOVA was conducted to determine whether educational qualification influenced the impact of social media on trading and investment actions.

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
PE	111	173	1.558559	0.757903
PG	111	139	1.252252	0.190336

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	5.207207	1	5.207207	10.9829	0.001075	3.884075
Within Groups	104.3063	220	0.47412			
Total	109.5135	221				

Result showed:

- F = 10.98
- P-value 0.001075 < 0.05

  The One-Way ANOVA reveal a statistically significant difference between PE and PG respondents regarding the influence of social media sentiment on trading actions ($F(1,220) = 10.98$, $p < 0.05$). Therefore, the null hypothesis is rejected, indicating that educational qualification significantly affects the impact of social media sentiment on trading behaviour.

  Interpretation: Social media sentiment significantly influences trading decisions and its impact varies across respondent groups. This confirms that external information triggers and contributes to behavioral volatility in Cryptocurrency markets.

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3. Risk Management Practices:

ANOVA was conducted to compare 5 structured risk management practices:

Anova: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Do you regularly use stop-loss orders	111	331	2.981982	2.6724		
Do you follow fixed position sizing rules	111	308	2.774775	1.903358		
Do you diversify your investments across assets	111	324	2.918919	1.602457		
Do you control leverage usage carefully	111	337	3.036036	2.562326		
Do you frequently enter and exit trades within short periods.	111	319	2.873874	2.547584		
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	4.493694	4	1.123423	0.497613	0.737512	2.388139
Within Groups	1241.694	550	2.257625			
Total	1246.187	554				

One-Way ANOVA was conducted to compare five trading practices. The results showed no statistically significant difference among the groups ($F(4,550) = 0.498$, $p > 0.05$). Therefore, the null hypothesis is not rejected, indicating that respondents exhibit similar behaviour across the selected trading practices.

- Stoploss
- Position Sizing
- Diversification
- Leverage Control
- Structured Trading Plan

The result showed:

- $F = 0.498$
- $P=0.737512 > 0.05$

Interpretation: There was no Statistically significant difference among the adoption levels of various risk management practices, indicating that respondents exhibit relatively similar behavior across these practices.

4. Behavioral Bias Factors:

One-way Anova was conducted to compare five behavioral factors that influence Cryptocurrency trading behavior.

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Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Do you invest due to Fear of Missing Out FOMO	111	396	3.567568	2.629484
Do you panic sell during market crashes	111	382	3.441441	1.339722
Do you follow social media trading signals during volatile periods	111	361	3.252252	1.881245
Do you feel overconfident after making profits	111	384	3.459459	2.541523
Do you frequently enter and exit trades within short periods.	111	394	3.54955	2.213432

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	6.983784	4	1.745946	0.82314	0.510724	2.388139
Within Groups	1166.595	550	2.121081			
Total	1173.578	554				

One-Way ANOVA was conducted to compare five behavioural bias factors affecting trading decisions. The results revealed no statistically significant difference among the variables ($F(4,550) = 0.823$, $p > 0.05$). Therefore, the null hypothesis is not rejected.

- FOMO (Fear of missing out)
- Panic selling during market crashes
- Following social media trading signals
- Overconfidence after making profits
- Following social media signals
- Over trading

The result showed:

- $F(4, 550) = 0.823$
- $P= 0.510724> 0.05$

  Since the calculated F value (0.823) was lower than the critical value the P – value exceeded the 0.05 significance level, the null hypothesis was not rejected.

Interpretation: These findings suggest that the behavioural bias factors do not significantly differ in their average influence on trading decisions. In other words, respondents exhibit relatively similar levels of behavioural tendencies across the selected bias dimensions.

However, while comparing bias factors it was found to be not statistically different, corelation analysis revealed that behavioural bias intensity is positively associated with financial losses. Therefore, although the bias does not differ significantly from one another, their collective influence remains economically important in explaining loss magnitude during high- volatility market conditions.

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5. **Correlation Between Financial Losses and Structured Risk Management:**

Correlation analysis was conducted to examine the relationship between financial losses structured risk management practices.

Correlation: Pearson Product-Moment Correlation

Variables	Count	Correlation (r)
Loss vs Risk Management Score	111	-0.647

Correlation result:

r = 0.647

n = 111

Interpretation: The correlation coefficient (r = -0.647) indicated a strong negative relationship between structured risk management practices and financial losses.

Since r > 0.60 null hypothesis is rejected.

This means that retail traders who adopt disciplined strategies such as stop-loss usage, position sizing, diversification, leverage control, and structured trading plans experience significantly lower financial losses during high-volatility and crash periods.

6. **Corelation between Financial losses and behavioural bias:**

Pearson correlation was conducted to analyse the relationship between financial losses and Behavioural bias.

Variables	Count	Correlation (r)
Loss vs Behavioural Bias Score	111	0.611

Correlation result:

- r = 0.611
- n = 111

Interpretation: The correlation coefficient (r = 0.611) indicated a strong positive relationship between behavioural bias intensity and financial losses.

Since r> 0.60, the null hypothesis is rejected.

This suggests that traders exhibiting higher levels of FOMO, Panic Selling, Overconfidence, and frequent short-term trading experience greater portfolio losses during the 2025-26 crash period.

Emotionally driven trading often increases financial vulnerability in volatile cryptocurrency markets.

Overall Statistical conclusion:

- The findings confirm that behavioural biases significantly increase financial losses.
- Social media sentiment primarily influences trading behaviour.
- Structured risk management practices majorly reduce financial losses.

  Thus, the study strongly validates that disciplined trading frameworks are essential for retail traders and new market participants operating in highly volatile markets.

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Qualitative Findings:

The qualitative findings show that most participants engaged in short-term and futures trading. During the 2025-26 crash, traders experienced fear, uncertainty and FOMO, which increased emotional pressure and led to impulsive decisions. Although many reported using risk management strategies , some deviated from their plans under stress. Social media also moderately influenced trading behaviour, highlighting the importance of emotional discipline and structured risk management.

Solution for Minimizing Financial Losses:

1. **Structured Risk Management Framework:**

   Based on correlation findings (r = -0.647), the study suggests:

   - Mandatory stoploss-loss placement.
   - Fixed Position Sizing (1-2% capital rule).
   - Leverage control (avoid excessive margin trading).
   - Portfolio Diversification.

2. **Behavioral Bias Control Mechanism:**

   Since r = 0.611 (Bias ↑ → Loss ↑), suggest:

   - No-Trade rule during emotional spikes.
   - 24-hour rule before high-risk trades.
   - Avoid trading based on social media hype.
   - Maintain a trading journal.

3. **Crash-Phrase Trading Protocol:**

   During high volatility:

   - Reduce position side by 50%
   - Avoid Averaging down blindly.
   - Avoid revenge trading.
   - Increase cash Allocation.
   - Risk-to-Reward minimum 12

   The proposed remedies were drives from empherical findings of the study and are designed to reduce loss magnitude and improve survival possibility among retail participants in volatile Cryptocurrency market.

Conclusion:

The study comes to the conclusion that retail traders' financial losses during the 2025-2026 cryptocurrency crash were greatly impacted by behavioral biases and market volatility. Higher loss magnitude was significantly correlated with emotional factors like FOMO, panic selling, and overconfidence. Trading decisions were also significantly influenced by sentiment on social media. Most importantly, the results demonstrate that disciplined strategies like stop-loss usage, position sizing, diversification, and leverage control significantly reduce risk exposure. They also confirm a strong negative relationship between structured risk management practices and financial losses. The study confirms that in order to guarantee long-term capital preservation and sustainable

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participation, retail traders operating in extremely volatile markets must implement structured and methodical risk management frameworks.

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