Digital Platforms Impact on Generation-Z Option Trading in India: A Behavioural Analysis

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Abstract. The study looks at how digital platformers changing the way young people in India trade options. Generation Z is leading the generations thinking on social media and discount brokerages and understanding their impact on option trading is important. Logistic regression reveals that after checking the multicollinearity and homoscedasticity, if the social media is indicated it shows that it enhances the chances of trading by 28.3%, which means that the Google trend is interrelated with social media by 19.7% increase in chances of trading. The study brings together ideas from finance and digital platforms to create a framework for understanding trading decisions. We looked at how social media, online attention and biases affect the trading choices of Gen Z option traders. We used survey data from 500 Gen Z option traders and existing data from the NSE to do this. Keep in mind that this is a one-time survey. The outcomes show connections not cause and effect. The main target of the study is to help the growing market by making things more practical for teachers, brokers and regulators. Two key things that predict how risk someone will take when trading are fear of missing out (FOMO) and being overconfident Z option traders are affected by FOMO and overconfidence. These factors play a role, in their trading decisions. Understanding these factors can help teachers, brokers and regulators work with Gen Z traders. Hence, the validity tests include (convergent validity, factor analysis, discriminant validity) which is to see the robustness of the measurement model. Furthermore, our findings reveals that when people know more about media and are aware of digital things they take fewer risks when investing. This is especially true for people from Generation-Z. If you are really into topics like how Generation-Z develops, finance, Option trading, Indian Stock market how investors behave and Digital platforms, then you will find this article interesting to read. People who are keen, on knowing more about these subjects will enjoy reading this article.

Keywords: Generation-Z, Behavioural finance, Option trading, Indian Stock market, Investors behaviour and Digital platforms.

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1. Introduction

The Indian stock market has changed a lot in the few years. This is especially true for trading platforms. Many are now using discount brokerages. Most of this growth is because of traders. These traders are mostly Generation-Z people. Generation-Z people were born between 1997 and 2012. They like to trade in the market using platforms that charge money. Some of these platforms are Groww, Zerodha, ICICI stock and Upstock. Generation-Z people like these platforms because they can trade without paying a lot of commission. The Indian stock market is getting more popular with Generation-Z people who like to use platforms to trade. They are also very interested in Option trading and Behavioural finance. This is a trend, in the Indian stock market. The data sources assembled with the NSE show that the volume of derivatives traded at the highest level of Rs. NSE 2024 450 lakh crores for the year 2023-24 along with option contribution of more than 90% of the same. As for investing young investors are now more into influencers and social media and they are completely missing out on investing in the option market. The way investors behave has been changed by technology and finance, however researchers have not provided a clear framework to connect the features of digital platforms like, social media posts, algorithmic suggestions and influencer advice with how Gen-Z investors in emerging markets trade options. Most previous studies have focused on developed markets. This study provides evidence from India. The main goal of this study is to fill the gap by suggesting a model where digital influence affects how behavioral biases relate to trading outcomes. This article aims to research in the ways:

* To study risk. Return with trades driven by attention.

* To analyses how social media affects biases.

* To find out important factors for option trading.

2. Literature Review

2.1., Indian Financial Market Digital Revolution

As per the RBI, 2023[13] reports, Indian financial scope of digital transformation, gone through digital India in enhanced smartphone penetration. Recently, Joshi and Kumar [6] indicated in their work about the democratization of market access by discount brokerages thereby minimizing the costs of account opening from 1000 to zero. For new investors, mobile apps offer many upgrading features like strategy option creators, interface of social trade and one click trade etc., for these features made option investment easier and simpler.

2.2. Investors of Gen-Z

As per the Deloitte, 2023 reports [3] Gen-Z traders are very good adjustable with technology but they don't have proper financial literacy, they are completely varying from the older cohorts. Recently, Kumar and Sharma [8] in their study explained that 68% of Indian gen-Z traders and 32% of millennials are purely depending on advice from social media. As per SEBI investor survey [14], 45% positions hold the investment for a less than a week.

2.3. Behavioural Finance in the Digital Context

Barber & Odean, 2008 [1] explained majority of traditional biases like, overconfidence, loss aversion and herd behaviour increased in digital platforms. Jame, et al., 2021 [5] indicate that, in eco chambers created by social media, all the bias flourishes with confirmation. According to Kumar, 2022 [7], meme stock phenomena clearly show FOMO and it drives young investors towards speculative trading. Algorithmic recommendations on platforms like Instagram and YouTube amplify these biases by creating feedback loops.

2.4. Option Trading behaviour

According to Mayhew & Mihov, 2004 [9] most of the retail investors face the issues while understanding the option market, it includes greater risk when compare to the equity trading and also its leverage, volatility risks and time decay and its movements. Recently, Gupta & Singh, 2023 [4] and Christie & Huang, 1995 [2] says that option market used by a young investor like a lottery other than investment platform and risk management technique.

In the present available literature, we can identify only related to digital finance along with behavioural biases, some are explaining about digital platforms and rest others talks about behavioural biases. However, no existing study properly explains how digital platform affects the Generation-Z trading in option market and my research equates the gap through empirical study by using primary and secondary source data.

Theoretical Framework:

Based on above, this study proposes an integrated model where digital platforms directly influence frequency and trading participation, its moderates the effect of financial literacy, and behavioural biases mediate this relationship.

3. Methodology

3.1. Research Design and Data Sources

Study used mixed methods that involves Primary Data from Survey Research of Gen-Z option investors and Secondary data from Google trends as well as NSE to analyse the discussion in social media. Data collection is mainly focussed on structured

questionnaire prepared and collected from 500 Gen-Z traders (see Table 1) in option market by using Google Form. Secondary data collection sources are; NSE derivatives information between 2022-2024, Google trends and social media metrics (see Table 5).

Purposive Sampling method was used to screen and present option trader experience. This Non-probability Sampling Method was chosen because no complete data or frame of Generation-Z option traders in India exists. We acknowledge that, the above method may introduce selection biases and restrict generalisability. The gender imbalance is another drawback (77% male).

Table 1: Sample Demographics

Demographic	Category	Frequency	Percentage
Age	18-21 years	210	42%
	22-24 years	185	37%
	25-27 years	105	21%
Gender	Male	385	77%
	Female	115	23%
Education	Undergraduate	245	49%
	Graduate	180	36%
	Postgraduate	75	15%
Trading Experience	<6 months	155	31%
	6-12 months	190	38%
	1-2 years	110	22%
	>2 years	45	9%
Monthly Investment	<₹10,000	265	53%
	₹10,000-25,000	165	33%
	>₹25,000	70	14%

Source: Primary data

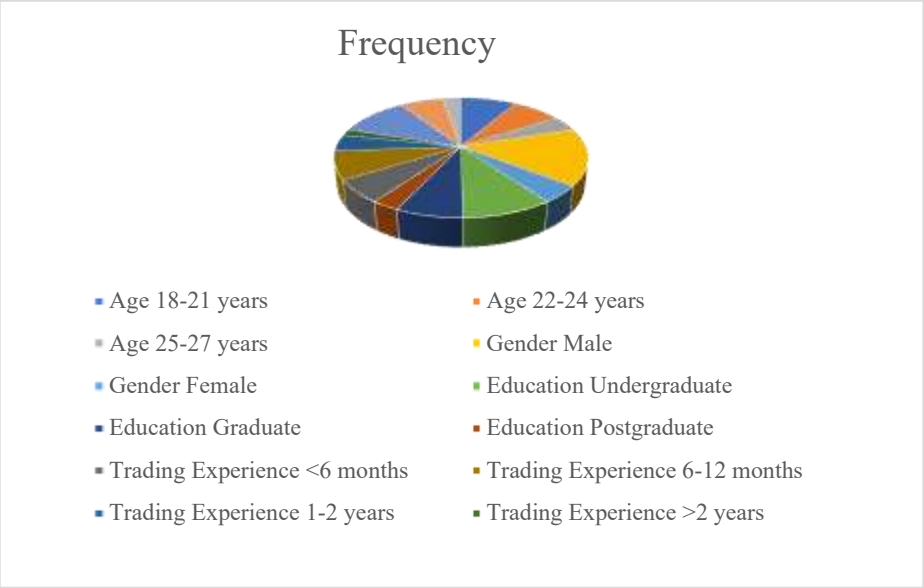


Fig. 1: A pie chart depicting demographic data based on different categories.

The above pie chart (Fig. 1) clearly explains the data from various demographic age categories and how they are different in percentages. As per the chart, it clearly shows that 18-21 years and male participants are more and majority of them are from student community with less than Rs. 10000 as an investment.

3.2. Variables

For the above study, we used dependent variables such as Trading Participation (see Table 2), Frequency of Trading and Index of Risk-taking. Independent variables are digital attention which includes Google search volume and usage of social media impact and behavioural elements like overconfidence, herd behaviour and FOMO and also few control variables, namely, age, education, trading experience, gender and financial literacy.

3.3. Measurement Instruments

All scales were used from the prior studies ($\alpha > 0.79$). Validity testing: exploratory factor analysis (KMO = 0.82, Bartlett's $p < 0.001$); convergent validity (AVE > 0.55 for all constructs); discriminant validity (HTMT < 0.85).

3.4., Analytical Methods

For analysis, we used several analytical methods. These are: Descriptive Statistics which includes Measures of central tendencies and Correlations (see Table 4), Logistic Regression to examine trading participating decision, Multiple regression (see Table 3)

to understand risk-taking and to know the trading frequency, Content Analysis for social media data and t-tests and ANOVA for comparisons of grouped data. Regression assumptions were checked: logistic regression (VIF < 2, Hosmer-Lemeshow p = 0.312); multiple regression (normality, homoscedasticity p = 0.14, Durbin-Watson = 1.89).

3.5. Regression Model

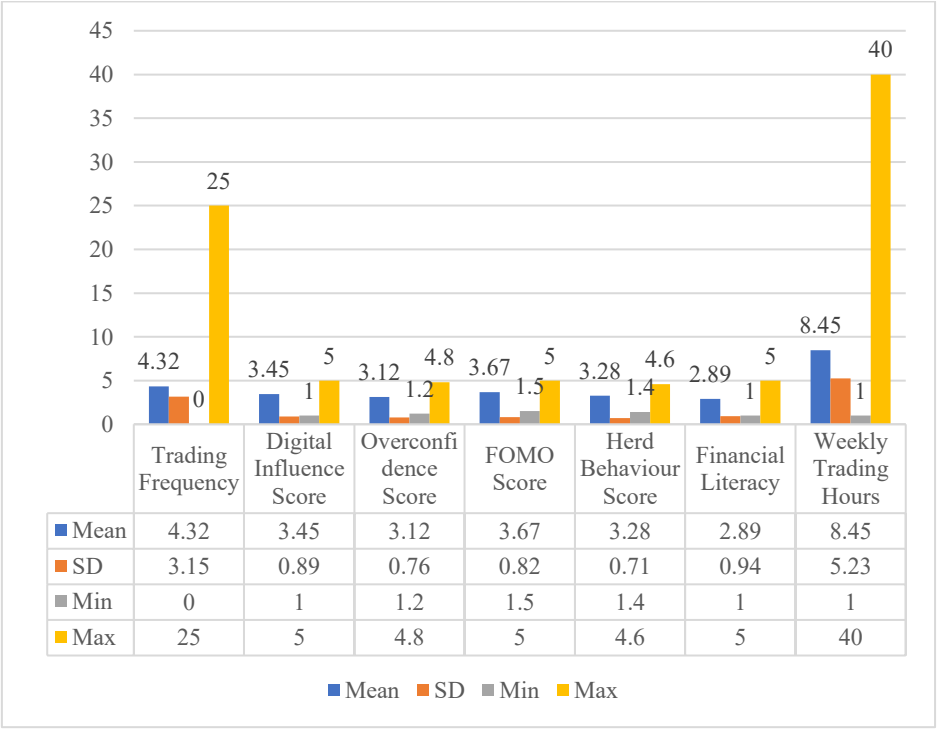
$$Y_i = \beta_o + \beta_1 Dig_i + \beta_2 Beh_i + \beta_3 Con_i + \varepsilon_i$$

Where, Y_i represents outcome of trading, Dig_i measures usage of digital platform, Beh_i tells behavioural biases and Con_i represents demographic variable.

4. Results And Discussions

4.1. Descriptive Statistics

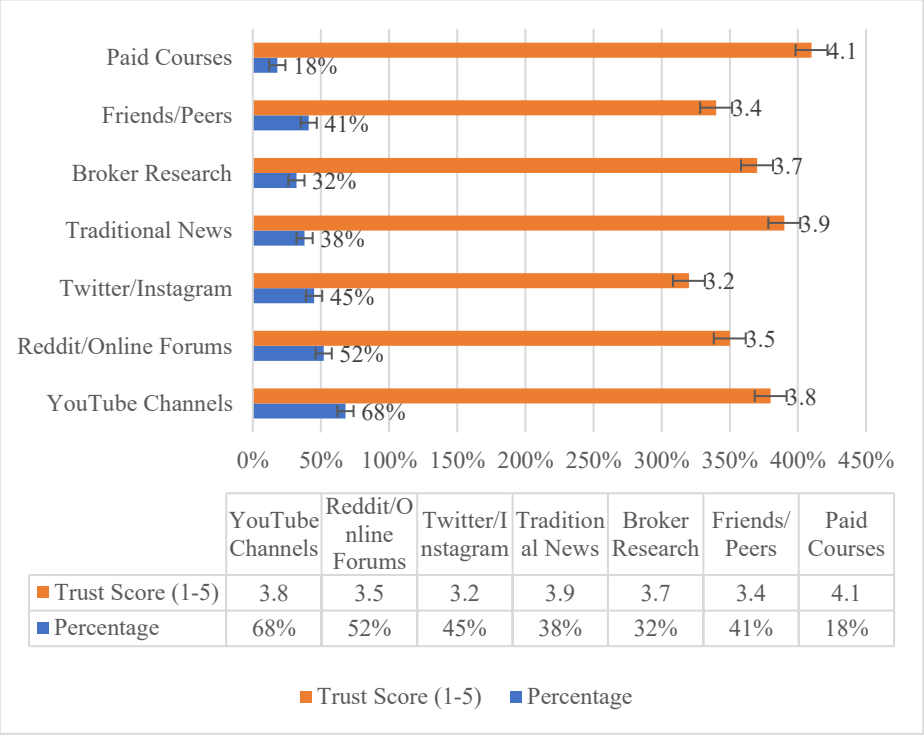
Mean weekly trading hours = 40 (SD = 12.3). Google search volume for "weekly options" correlates with trading volume r = 0.71 (p < 0.001). Platform usage: Twitter 12%, YouTube 68%, broker research 8%.



	Trading Frequency	Digital Influence Score	Overconfidence Score	FOMO Score	Herd Behaviour Score	Financial Literacy	Weekly Trading Hours
Mean	4.32	3.45	3.12	3.67	3.28	2.89	8.45
SD	3.15	0.89	0.76	0.82	0.71	0.94	5.23
Min	0	1	1.2	1.5	1.4	1	1
Max	25	5	4.8	5	4.6	5	40

Fig. 2: Bar chart of central tendency and dispersion data.

Fig. 2 explains the Measures of central tendency, i.e., Arithmetic mean and Measures of dispersion, i.e., Standard Deviation outcomes by using Descriptive Statistics as a key variable. This exactly suggests that, for 'weekly trading hours' up to 40 hours by an individual trader, the weekly trading pattern of option trader will be significantly increased.



	YouTube Channels	Reddit/Online Forums	Twitter/Instagram	Traditional News	Broker Research	Friends/Peers	Paid Courses
Trust Score (1-5)	3.8	3.5	3.2	3.9	3.7	3.4	4.1
Percentage	68%	52%	45%	38%	32%	41%	18%

Fig. 3: Usage Pattern of Digital Platform.

The above Fig. 3 explains how Google trends vary based on the behavioural pattern of Gen-Z option trader. Majority of option trading investors are depending on YouTube, that is, 68% of overall Gen-Z traders, whereas broker research and twitter usage show minimal.

4.2. Regression Results

Table 2: Trading participation – Logistic Regression

Variable	B	SE	Wald	Exp(B)
Digital Influence	0.483	0.112	18.62	1.621
Overconfidence	0.356	0.142	6.28	1.428
FOMO	0.412	0.125	10.85	1.51

Herd Behaviour	0.287	0.154	3.47	1.332
Financial Literacy	-0.156	0.138	1.28	0.856
Experience	0.234	0.098	5.7	1.264
Age	0.045	0.067	0.45	1.046
Constant	-2.134	0.345	38.25	0.118
Model χ^2	84.32			
Nagelkerke R^2	0.284			
Hosmer- Lemeshow	0.312			
Classification Accuracy	76.80%			

Note: $p<0.05$, $p<0.01$, $p<0.001$

Digital influence increases odds of trading by 62.1%, supporting H1. Overconfidence and FOMO are significant; herding is marginal.

Table 3: Multiple regression - trading frequency

Variable	β (Std.)	t	p	VIF
Digital Influence	0.342	4.82	0	1.45
Social media Hours	0.287	3.95	0	1.52
Overconfidence	0.234	3.12	0.002	1.38
FOMO	0.198	2.67	0.008	1.41
Herd Behaviour	0.176	2.34	0.02	1.29
Financial Literacy	-0.145	-1.98	0.048	1.32
Experience	0.213	2.89	0.004	1.26
Income	0.167	2.25	0.025	1.18
R^2	0.412			
Adjusted R^2	0.387			
F-statistic	16.45			
Durbin-Watson	1.89			

Note: $p<0.05$, $p<0.01$, $p<0.001$

FOMO and Overconfidence are significant mediators, supporting H2. Financial literacy reduces trading frequency ($\beta = -0.145$), supporting H4.

4.3. Google Trends Correlations

Table 4: Correlation with google search Volume

Search Term	Correlation with Volume	Correlation with IV
Nifty options	0.67	0.58

Bank Nifty options	0.62	0.54
Option trading	0.59	0.51
Options strategy	0.48	0.42
Weekly options	0.71	0.63

Note: $p<0.01$, $p<0.001$

4.4. Performance Analysis

Table 5: Performance Metrics by Digital Impact Level

Metric	Low Digital	Medium Digital	High Digital
Monthly Return (%)	2.34	1.56	-0.87
Win Rate (%)	54.3	48.2	42.7
Sharpe Ratio	0.68	0.41	0.18
Max Drawdown (%)	18.7	25.4	32.8
Risk-Adjusted Return	1.12	0.74	0.41

Higher digital engagement is associated with negative returns and lower Sharpe ratios, supporting H3.

4.5. Discussion

This study discloses the important relationship between option trading behaviour and digital platform usage of Generation-Z traders. Trading predictor majority depends on digital influence because Exp(B)=1.621. It shows that for every unit of digital influence score increase, because of the accompanying effect, it also enhanced odds trading by 62.1%. According to Barber and Odean's, 2008 [3], these are mapped with attention theory and extends to digital native era.

Out of three determinants, overconfidence and FOMO show maximum effects, while Behavioural biases show less effect. The FOMO coefficient, i.e., 0.412, explains that FOMO drives decisions of trading, and also gives short-dated options to invest. According to Odean 1998 [4], most frequent trading leads by overconfidence but it fails to perform.

In fact, the trading frequency shows negative correlation with financial literacy (B= -0.145) and no significant effect on participation. It shows that knowledge underrated when compared to overconfidence and derivative risks are not properly addressed by financial education.

Now, the main aim of social media is to boost older behavioural biases. Data says that only 28% of the traders were ready for the risk while remaining 72% of the traders

preferred more and quick profits. This creates an imbalance in the trading system for traders.

The relationship between trading activity and Google search volume expresses attention driven trading, i.e., r=0.67. Majority of the traders' searching and trading activity increases during the earning time and budget periods by 1-2 days.

Performance metrics become poorer due to digital influence correlation. Those traders who addict for digital influence will taste negative average profits (-0.87%). Likewise, others get a positive return (2.34%). This settles down after getting continuous experience along with controlling capital. Also, more dependence on social media promotes suboptimal outcomes which leads to risk-return trade off.

Platform-specific mechanisms:

1. 58% of respondents bought an option after YouTube "guaranteed profit" video.
2. 62% reported that YouTube/Instagram reels increased their trading frequency.
3. 47% of Reddit posts (Indian Street Bets) featured lottery-style bets or "loss porn".
   Social media posts revealed the content analysis themes: YOLO trades 72%, loss porn 58%, influencer screenshots 44%.

5. Conclusions

The study explains, empirical evidence of digital platforms that incredibly affect Generation-Z option trading behaviour in India. This work considers the dual nature of digital platforms; democratizing market and boosting behavioural biases. Behaviour of the young investors are very crucial for their financial safeguard and marketability in upgrading digital and financial market conditions. For example, FOMO is the leading parameter when compared to all other behavioural biases in risk taking drive.

Some key findings of this work are: (1) Digital influence enhances trading behaviour by 62% and frequency by 34% and (2) trading frequency is affected by continuous attention on digital platforms and (3) More digital involvement creates negative relation in performance of trading (where only 67% of the correlation is predicted by Google trends)

Lastly, social amplification model boosts the biases through social media network. Without proper guidelines and knowledge, it is not feasible to evaluate and adapt the required skills and thus, digital literacy needs to be incorporated. The future research direction will be focus on: digital interventions testing experimentation, regulatory data

comparison with other countries data, measuring effects of digital attention in microfinance and analysis of trading by Gen-Z through algorithm.

Limitations:

Gender Imbalance and Purposive Sampling reduce generalisability. Cross-sectional design protects casual inference. Random sampling can be used in future research, experimental interventions and actual trading logs.

Ethics Approved and Consent Participate:

Informed, consent received and details included in the survey from all the participants. This is conducted as per the ethical standards of the institutional research committee.

Consent for publication:

All the participants provided consent for the anonymised publication of the survey responses for the purpose of academic research use.

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