



# Decoding the Behavioral Intentions of Gen Z Investors: Analysing the Impact of Investor Protection in the Digital Era & Predictive Insights from PLSpredict

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## ABSTRACT

This study aims to examine the impact of investor protection measures on generation Z (GenZ) investors behavioral intentions under the mediation of cognitive bias and perceived risk, using S-O-R model and theory of behavioral finance. Employing a quantitative approach, data was collected through survey responses from 402 GenZ investors. The data was analysed using SmartPLS4 for PLS-SEM. The study evaluates the effectiveness of investor protection measures and contrasts modern finance theories, which assume market efficiency with behavioral finance theories highlighting the influence of psychological factors on behavioral intentions. The findings reveal that investor protection measures which include financial literacy, regulatory effectiveness, and surveillance deterrence, significantly influence behavioral intentions of GenZ investors. These factors have both direct and indirect effects with cognitive biases and perceived risk serving as mediators. This study is among the first to uniquely integrate investor protection measures with theory of behavioral finance. It empirically demonstrates that internal cognitive factors and external regulatory factors are crucial in shaping behavioral intentions of genZ investors.

**Keywords:** GenZ, Behavioral Finance, Investor Protection, Cognitive Bias, Perceived Risk, behavioral Intentions

**JEL Classifications:** D91 G11, G41, I22, K22

## 1. INTRODUCTION

The rapid global evolution of financial markets has made the implementation of effective investment protection measures a critical concern (Barna and Nachescu, 2014). Capital markets have undergone significant transformation in recent decades (Panda, 2023). Ensuring the integrity of financial markets, reducing informational asymmetry, and safeguarding investor interests is paramount (Pandey, 2016). This study examines the effectiveness of investor protection measures, concentrating on how these measures influence Generation-Z (GenZ) investors behavioral intentions within a complex regulatory environment. Offering insights and implications for enhancing investor confidence worldwide.

The conceptualized framework methodically examines the interconnections between various constructs derived from theory of behavioral finance and the stimulus-organism-response (SOR) model. This framework hypothesizes that the perceived effectiveness of regulatory measures, the deterrent effect of surveillance mechanisms, and financial literacy for investor protection measures significantly alter investors' cognitive biases and perceived risks associated with financial investments. Furthermore, it assesses how these perceptions impact behavioral intentions.

SmartPLS 4 software was used for empirical validation. The measurement model was evaluated using outer model assessment confirmatory factor analysis (CFA) to ensure construct validity

and reliability. Partial least squares structural equation modeling (PLS-SEM) was employed to examine latent constructs and their causal relationships, providing insights into the underlying dynamics of investor behavior in response to regulatory and protective measures (Nitzl, 2016). Bootstrapping was conducted to assess the reliability and significance of the path coefficients, enhancing the robustness of the PLS-SEM results.

To the best of our knowledge, no research has been conducted on the impact of investor protection measures on Generation Z (GenZ) investors' behavioral intentions with the mediating role of perceived risk and cognitive bias. The absence of research on this topic is highly significant because GenZ represent a growing and influential demographic shaping global investment trends they are characterised by a heightened digital literacy, inquisitiveness, and openness to innovation, inclined to make decisions and quickly consume.

Behavioral finance factors have been shown to influence individual behavioral intentions in various contexts; however, it is unclear how these factors interact with investor protection measures. Therefore, further investigation is required to gain a more comprehensive understanding. Focusing on GenZ, practitioners can uncover critical patterns in investment preferences, behavioral finance, and the adoption of ethical practices, informing strategies for financial institutions to design tailored products that align with this cohort's values and digital lifestyle. This knowledge could help investors make more informed investment decisions and financial analysts design and develop better product offerings, and regulators could use it to develop policies that promote a more resilient, sustainable, and inclusive capital market. Ultimately, this study aims to contribute to the creation of a more stable and trustworthy global investment climate. Fostering superior investor confidence and encouraging greater participation in capital markets which is essential for the overall economic growth and development of the country.

## 2. LITERATURE REVIEW

Research suggests a positive relationship between the level of minority protection provided by laws concerning investors and the development of economic capital markets (Varottil, 2019). Financial regulation will only be effective when it swings to either minimum or comprehensive regulation with a nuanced approach to enforcement (Herzog, 2014). A mix of both, market forces and regulatory action should hold in check regulatory outcomes; this implies that a proper balance must be attempted not to allow 'capture' of regulation and, at the same time, not onerously fetter market forces to unduly restrict their potential to protect the public welfare (Helm, 2006).

Good regulation needs to take care of the systemic roots causing financial crises and try its best to prevent them in the future, the history of financial crises attests more to the failure of regulation than to its absence (Danielsson et al., 2013). Therefore, the appearance of the world financial market calls for international coordination of regulatory bodies.

Behavioral finance theories propose that investor protection can counter biases by providing objective information and reducing emotional influence (Barberis et al., 2006). Debiasing through law can integrate bias corrections into daily decisions (Jolls and Sunstein, 2006).

One of the key insights of Odean, (1998) is that investors may not always make rational decisions based on all available information. This is because investors may be subject to a range of biases such as overconfidence, anchoring, and loss aversion, which can lead to suboptimal investment decisions.

A crucial aspect related to investment decision-making is perceived risk, which affects how individuals observe and evaluate the level of risk linked with an investment. Bazley et al., (2020), have studied perceived risk and emphasized on its complex nature, influenced by various factors. These factors include individual characteristics, market situations, and cognitive prejudice.

In consumer studies, behavioral science, and psychology, the SOR model introduced by Woodworth, 1928 is widely recognized for its ability to describe the interrelatedness between "environmental stimuli (S)," "organism (O)," and "behavioral response (R)" (Mehrabian and Russell, 1974). The S-O-R theoretical model has been applied in various retail settings to explain consumer decision-making processes (Chebat and Michon, 2003). It provides a framework for understanding how external environmental factors, such as market conditions, regulatory measures, or marketing cues, interact with the internal cognitive and emotional states of individuals, ultimately leading to specific behavioral outcomes (Mehrabian and Russell, 1974; Jacoby, 2002).

The SOR model posits that environmental stimuli trigger a range of internal processes within the organism, including cognitive evaluations, emotional reactions, and attitudinal shifts, which then influence the individual's behavioral intentions and subsequent actions. In the context of this study, investor protection measures are conceptualized as the external stimuli that interact with the investor's psychological and cognitive processes—the "organism." These organismic responses are crucial in shaping the investor's intentions to engage in specific investment behaviors and their ultimate decision-making process (Peng and Kim, 2014).

### 2.1. Perceived Regulatory Effectiveness

Perceived regulatory effectiveness reflects an investor's belief in the adequacy and efficacy of regulatory frameworks for protecting investments (Singh and Bhattacharjee, 2019). The regulatory framework constitutes the basis for investor protection; however, its effectiveness depends on its implementation and enforcement, which strongly affects public compliance and confidence in regulatory frameworks (Weil et al., 2005). One of the critical conditions for market integrity is the effective regulation of intermediaries in conjunction with transparent and enforceable rules. The first level of investor protection is the licensing and continuous supervision of market intermediaries and approval of public offer documents. This complies with prudential, fit, and proper standards and ensures that only documents containing correct disclosures are sent to the public. In India, there are solid

and progressive securities regulations. (Bose, 2005). Perceived regulatory effectiveness from low to high levels increases trust and transaction intentions, although the effect occurs at the peak for high levels. For example, the stronger the perceived regulatory effectiveness of investor protection, the weaker the influence of perceived risk on transaction intentions (Weil et al., 2005). Strong regulatory frameworks can enhance investor assurance and encourage investment activities (Chhabra et al., 2009).

Hence, we hypothesize as follows:

H1a: Perceived Regulatory Effectiveness (PRE) negatively affects Perceived Risk (PR).

H1b: Perceived Regulatory Effectiveness (PRE) positively influences Behavioral intentions (INT).

H1c: Perceived Regulatory Effectiveness (PRE) negatively affects cognitive Biases (CB).

## 2.2. Surveillance Deterrence

The formal legal framework for financial markets operates as a combination of deterrence and regulation. Building on the seminal work of Becker, (2018), deterrence is a cornerstone of effective law enforcement according to law enforcement literature. Law is incomplete in its very construction—it is impossible to foresee all the contingencies and the political economy of rule-making. Socioeconomic and technological changes necessarily produce ambiguities, even without malevolence on the part of lawmakers (Pistor and Xu, 2002). Automation of surveillance has advanced from traditional deterrence to predicting and preventing unwanted actions. This lies in the comprehensive data collection and predictive analytics in taking an active intervention rather than what is traditionally expected from deterrence models (Andrejevic, 2019). Effective surveillance can boost investor confidence by affecting the perceived risk of fraud (Diaz et al., 2013).

Therefore, we hypothesize as follows:

H2a: Surveillance Deterrence (SD) negatively affects Perceived Risk (PR).

H2b: Surveillance Deterrence (SD) positively influences Behavioral intentions (INT).

H2c: Surveillance Deterrence (SD) negatively affects Cognitive Biases (CB).

## 2.3. Financial Literacy for Investment Protection

Investor education is necessary to protect investors. Different levels of investor awareness of securities laws and financial literacy form the template and a tone of regulation is required. An educated investor can care for his interests and is less dependent on regulators. Consumer education empowers investors to deal with disclosed information and to build public confidence in capital markets (Zhou, 2017). There is no one-size-fits-all approach to regulation, and appropriateness depends on market development, investor sophistication, legal and judicial systems, and the availability of regulatory resources (Marcacci, 2012).

Financial literacy has a significant bearing on investors' ability to manage money, make informed decisions, and gain financial security (Qamruzzaman and Jianguo, 2016).

It encompasses the knowledge and understanding of financial principles necessary to make informed investment decisions and safeguard investments (Nugraha et al., 2022; Kanwal, 2021).

Hence, it is hypothesized that:

H3a: Financial Literacy for Investment Protection (FLIP) negatively affects Perceived Risk (PR).

H3b: Financial Literacy for Investment Protection (FLIP) positively influences behavioral intentions (INT).

H3c: Financial Literacy for Investment Protection (FLIP) negatively affects cognitive bias (CB).

## 2.4. Perceived Risk

Perceived risk, defined as the risk that motivates decision-makers to engage in specific behaviors (Dowling and Staelin, 1994), is influenced by psychological variables, such as self-efficacy (Krueger and Dickson, 1994) and wealth position (Grable and Lytton, 1999). Investors encounter two primary types of risk: Unsystematic and systematic. Unsystematic risk can be mitigated through portfolio diversification, while systematic or market risk stems from overall market movements and cannot be diversified away (Galagedera, 2007).

Risk perception is the subjective evaluation of potential threats encompassing personal knowledge, decision-making processes, and external information sources (Ricciardi, 2008). Key factors influencing risk perception include potential losses, return unpredictability, portfolio diversification, reliance on professional advice, and financial asset information (Olsen, 1997). Studies confirm that perceived risk directly and positively affects both investment performance and intention (Trang and Tho, 2017). High perceived risk involves an investor's assessment of the potential negative outcomes associated with an investment, and can deter investment by inducing fear of losses (Ishfaq et al., 2020). In conclusion, perceived risk is a multifaceted concept that is influenced by psychological, qualitative, and quantitative factors. Understanding these dimensions is crucial for improving investment decision-making and enhancing investor protection.

Thus, we hypothesize as follows:

H4: Perceived Risk (PR) affects Behavioral intentions (INT)

H6a: Perceived Risk (PR) mediates the relationship between Perceived Regulatory Effectiveness (PRE) and behavioral Intentions (INT).

H7a: Perceived Risk (PR) mediates the relationship between Surveillance Deterrence (SD) and behavioral Intentions (INT).

H8a: Perceived Risk (PR) mediates the relationship between Financial Literacy of Investment Protection (FLIP) and behavioral Intentions (INT).

## 2.5. Cognitive Bias

Cognitive bias was first hypothesized by Tversky and Kahneman, (1974), which refers to systematic errors in decision-making and judgment, some of which are linked to memory and others to problems arising from our cognitive processing system. Cognitive biases infuse various aspects of human decision making, particularly investment and financial decisions (Kumar

and Goyal, 2015). In this context, they represent psychological tendencies that deviate from rationality, challenging the traditional financial theory's assumption of homo economicus – an economic agent who behaves perfectly rationally (Samuelson, 1999). Tversky and Kahneman, (1974) illustrated how cognitive biases reflect the imperfect nature of human cognition, highlighting prominent biases such as representativeness bias, availability bias, overconfidence bias, and anchoring. The prevalence of bias is not limited to laymen; it can also be found in knowledgeable researchers and professionals (Gokhale and Mittal, 2024).

In a study by Andriamahery and Qamruzzaman, 2022 posits that investment decision-making often deviates from rationality because of complex situations, where selecting from multiple alternatives becomes a specialized skill. According to Zindel et al., (2014), cognitive biases, heuristics, and illusions significantly contribute to poor financial decisions.

The value of behavioral finance extends to practitioners and market participants, as it aids in minimizing errors by offering cues for vigilance or reminders of past mistakes to prevent their recurrence (Shefrin, 2002). Despite the presence of protective measures, cognitive biases such as overconfidence can lead investors to underestimate risks, and loss aversion may result in excessive caution (Shefrin, 2002). These biases influence investors who, despite aiming for rational decisions, are constrained by their cognitive capacities including values, habits, knowledge, reflexes, and external environmental factors (Lebiere and Anderson, 2011).

Investors' propensity to herd, resulting in market bubbles, is seen as a balanced response to bounded rationality and information asymmetries (Hott, 2009). Under conditions of uncertainty and complexity, individuals aware of their informational limits may use heuristic rules or mimic the actions of those presumed to be more informed (Daniel et al., 1998). This often leads to free-riding on the decisions of perceived knowledgeable traders. Cognitive biases can significantly impact investment behavior by distorting decision-making processes (Sahi, 2017).

Therefore, it is hypothesized that:

- H5: Cognitive Biases (CB) affects Behavioral intentions (INT).
- H6b: Cognitive Biases (CB) mediate the relationship between Perceived Regulatory Effectiveness (PRE) and behavioral Intentions (INT).
- H7b: Cognitive Biases (CB) mediate the relationship between Surveillance Deterrence (SD) and behavioral Intentions (INT).
- H8b: Cognitive Biases (CB) mediate the relationship between Financial Literacy of Investment Protection (FLIP) and behavioral Intentions (INT).

### 3. DATA AND RESEARCH METHODOLOGY

#### 3.1. Data Collection

The quantitative phase of the study employed a stratified sampling technique. The questionnaire data from respondents were collected via Google forms, shared via e-mail. Finally, 448 responses

were received for the period of April 2024-June 2024. A total of 402 surveys were retained for analysis after omitting for invalid responses. Hair et al., (2017) suggested that the minimum number of samples required to satisfy the statistical constraints should be at least 5 times the total number of entries ( $5 \times 25 = 125$ ).

The scale items for the questionnaire were adopted from previous studies (appendix 1) after a thorough literature review. Face validity and expert validity, was conducted for credibility, comprehensiveness and to ensure that the questionnaire appears effective. A pilot study was organised to identify any ambiguous questions and issues in survey administration.

The items in the questionnaire were divided into two sections. The items measuring and recording the demographics details of the respondents were incorporated in the first section, while the items measuring the latent constructs were incorporated in the second part of the questionnaire.

Figure 1 shows the theoretical grounding from derived literature to develop specific hypotheses within the conceptual framework.

#### 3.2. Quantitative Data Analysis

Demographics for 402 participants in the study

Table 1 displays the demographic characteristics of the 402 GenZ respondents. The largest proportion of participants (64.33%) are between 23 and 27 years. There was a higher representation of male respondents (52.23%) compared to female respondents (46.77%). 36.07% of the respondents were engaged in part time employment and 57.96 % held a bachelor's degree. In terms of annual income, the majority of the sample (63.18%) reported earnings below Rs.3,00,000.

#### 3.3. Confirmatory factor analysis (CFA)

CFA was used to evaluate the measurement model. (Table 2) Cronbach's Alpha (CA), Composite Reliability (CR) and Average Variance Extracted (AVE), were used to evaluate the internal consistency of latent variables and check the reliability of the structure (Hair et al., 2012). Cronbach's alpha values for all constructs exceeded 0.7, indicating strong internal consistency. Composite reliability values (rho\_a and rho\_c) also indicated high reliability across all constructs, with values well above the acceptable threshold of 0.7: This suggests that the items within each construct consistently represent the underlying latent variable.

The AVE values further confirmed adequate convergent validity, with all constructs having AVE values above 0.5, indicating that more than half of the variance in the observed variables is accounted for by the latent construct.

Discriminant validity was assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio of correlations. The Fornell-Larcker criterion results (Table 3) demonstrated that the square root of the AVE for each construct was greater than the inter-construct correlations, confirming that each construct is unique and captures distinct aspects of investor behavior and perceptions.

Figure 1: Conceptual Framework for the research

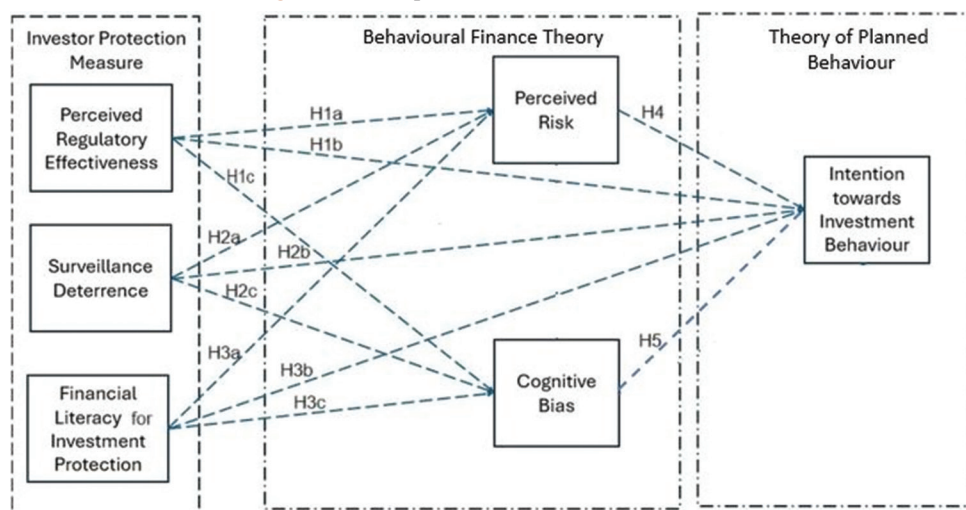


Table 1: Demographic Details Table for 402 Participants of our research survey

Characteristics	Frequency	Percent
Gender	N=402	100
Male	214	52.23
Female	188	46.77
Age group	N=402	100
Between 18 and 22 years	172	42.78
Between 23 and 27 years	230	57.21
Marital Status	N=402	100
Married	195	48.51
Unmarried	207	51.49
Education Level	N=402	100
Non-Formal Education	1	0.25
High school	44	10.2%
Bachelor's degree	233	57.96
Master's degree	124	30.85
Doctorate degree	3	0.74%
Occupation	N=402	100
Student	139	34.58
Part-time employment	145	36.07
Full-time employment	81	20.15
Business	13	3.24
Professional	24	5.97
Annual income	N=402	100
Below Rs. 3,00,000	254	63.187
Rs. 3,00,001-Rs. 5,00,000	67	16.67
Rs. 5,00,001-Rs. 7,50,000	44	10.95
Rs. 7,50,000-Rs. 12,50,000	20	4.98
Rs. 12,50,000 and above	17	4.23

The HTMT ratios (Table 3) further supported discriminant validity, with all values below 0.9, demonstrate that each construct captures unique elements of investor behavior and perceptions. Outer loadings, which measure the correlation of each indicator with its respective construct, showed that most items had loadings above the preferred threshold of 0.7, indicating strong measures of the constructs. Although some items had loadings slightly below 0.7, the majority met or exceeded this threshold, indicating reasonable reliability. (Figure 2).

### 3.4. Structural Model Assessment

To address the issue of common method bias (CMB), an approach proposed by Kock, (2015) was used, where construct-level

variance inflation factor (VIF) lower or equal to 3.3 would indicate no presence of CMB (Table 2). In our study, all scale items displayed VIF values ranged from 1.196 to 2.211. Based on these findings, it can be inferred that the constructs are independent and CMB- multicollinearity is not a concern. The R<sup>2</sup> values for Cognitive bias, Perceived risk and behavioral intentions were 0.209, 0.149 and 0.479, respectively, suggesting a satisfactory level of explained variance in the model (Figure 2).

Model Fit Assessment in PLS-SEM is suggested to be done through the Standardized Root Mean Square Residual (SRMR) value (Henseler et al., 2014) with SRMR value 0.066, which is below 0.08 indicating a satisfactory model fit.

## 4. RESULTS

Hypotheses were tested by running the model in SmartPLS 4 software using PLS-SEM Algorithm. Bootstrapping was run using 10,000 subsamples to test the significance of the coefficients (Table 4). The results indicate Perceived regulatory effectiveness (PRE) positively affects perceived risk (PR) leading to rejection of H1a. Similarly Surveillance Deterrence (SD) and Financial Literacy for Investment Protection (FLIP) positively affects perceived risk (PR), thus leading to the rejection of H2a and H3a.

Perceived regulatory effectiveness (PRE) impacts behavioral intentions (INT) but statistically insignificant thus leading to a rejection of H1b. Surveillance Deterrence (SD) and Financial Literacy for Investment Protection (FLIP) positively influences behavioral intentions (INT), thus confirming the acceptance of H2b and H3b.

Perceived regulatory effectiveness (PRE) positively affects cognitive biases (CB) leading to rejection of H1c. Similarly, Surveillance Deterrence (SD) and Financial Literacy for Investment Protection (FLIP) positively affects cognitive bias (CB), thus thus leading to the rejection of H2c and H3c.

Cognitive biases (CB) significantly influence the behavioral intentions (INT) similarly Perceived risk (PR) also influences

Figure 2: PLS-SEM Model

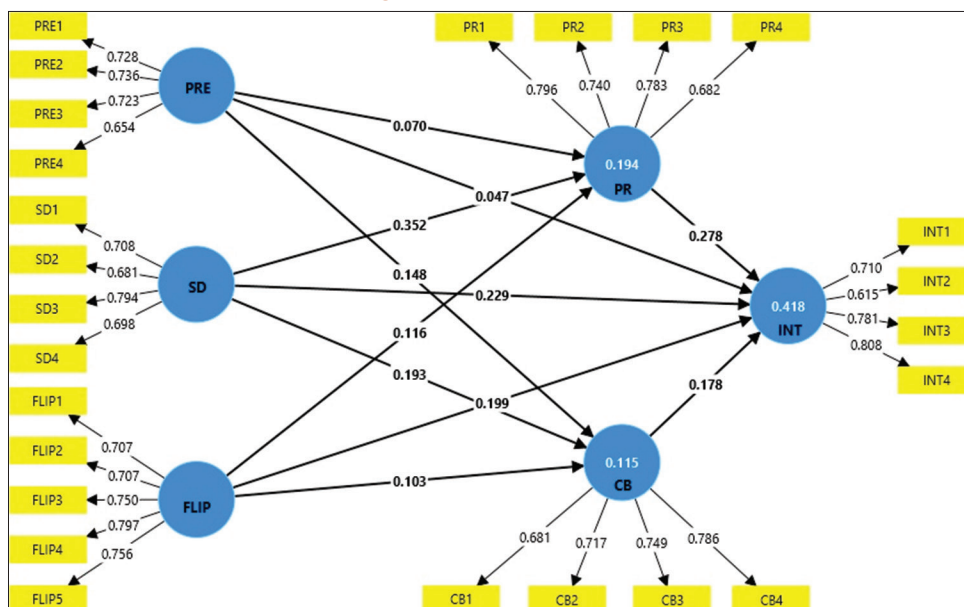


Table 2: Construct validity and reliability

Constructs	Items	Loading	VIF	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Cognitive Bias (CB)	CB1	0.681	1.231	0.716	0.727	0.823	0.539
	CB2	0.717	1.405				
	CB3	0.749	1.445				
	CB4	0.786	1.371				
Financial Literacy of Investment Protection (FLIP)	FLIP1	0.707	1.298	0.800	0.806	0.861	0.554
	FLIP2	0.707	1.596				
	FLIP3	0.750	1.738				
	FLIP4	0.797	1.891				
	FLIP5	0.756	1.828				
Behaviour Intentions (INT)	INT1	0.710	1.320	0.707	0.723	0.821	0.536
	INT2	0.615	1.197				
	INT3	0.781	1.485				
	INT4	0.808	1.505				
Perceived Risk (PR)	PR1	0.796	1.526	0.743	0.752	0.838	0.565
	PR2	0.740	1.484				
	PR3	0.783	1.450				
	PR4	0.682	1.259				
Perceived Regulatory Effectiveness (PRE)	PRE1	0.728	1.368	0.710	0.720	0.803	0.505
	PRE2	0.736	1.461				
	PRE3	0.723	1.326				
	PRE4	0.654	1.171				
Surveillance Deterrence (SD)	SD1	0.708	1.325	0.787	0.792	0.854	0.540
	SD2	0.681	1.282				
	SD3	0.794	1.407				
	SD4	0.698	1.247				
	SD5	0.708	1.325				

Table 3: Discriminant validity: Heterotrait-Monotrait (HTMT) ratio and Fornell-Larcker criterion

Constructs	CB	FLIP	INT	PR	PRE	SD
Cognitive bias (CB)	<b>0.734</b>	0.279	0.557	0.511	0.357	0.389
Financial literacy of investment protection (FLIP)	0.220	<b>0.745</b>	0.529	0.331	0.463	0.455
Behavioural intention (INT)	0.404	0.406	<b>0.732</b>	0.687	0.448	0.683
Perceived Risk (PR)	0.378	0.261	0.504	<b>0.752</b>	0.336	0.567
Perceived regulatory effectiveness (PRE)	0.257	0.345	0.316	0.243	<b>0.711</b>	0.55
Surveillance deterrence (SD)	0.284	0.345	0.482	0.418	0.378	<b>0.722</b>

Elements with bold font on the diagonal indicate  $\sqrt{AVE}$  of latent variable. The HTMT ratio appears above  $\sqrt{AVE}$ , and the Fornell-Larcker criterion is listed below

**Table 4: Direct and indirect bootstrap analysis data -hypothesis test data**

Path	Hypothesis	Coefficient	T -statistics	P-values	Confidence interval bias corrected		Inference
					2.5%	97.5%	
PRE -> CB	H1a	0.148	2.89	0.004	0.044	0.244	Rejected
PRE -> INT	H1b	0.047	1.264	0.206	-0.027	0.12	Rejected
PRE -> PR	H1c	0.07	1.521	0.128	-0.026	0.156	Rejected
SD -> CB	H2a	0.193	3.863	0.000	0.089	0.286	Rejected
SD -> INT	H2b	0.229	5.109	0.000	0.138	0.314	Accepted
SD -> PR	H2c	0.352	7.103	0.000	0.249	0.443	Rejected
FLIP -> CB	H3a	0.103	1.972	0.049	-0.002	0.202	Rejected
FLIP -> INT	H3b	0.199	4.427	0.000	0.11	0.285	Accepted
FLIP -> PR	H3c	0.116	2.362	0.018	0.02	0.212	Rejected
CB -> INT	H4	0.178	4.349	0.000	0.098	0.259	Accepted
PR -> INT	H5	0.278	5.891	0.000	0.183	0.369	Accepted
Mediation analysis							
PRE -> PR -> INT	H6a	0.019	1.454	0.083	-0.006	0.047	Rejected
PRE -> CB -> INT	H6b	0.026	2.341	0.146	0.008	0.052	Rejected
SD -> PR -> INT	H7a	0.098	4.635	0.019	0.014	0.063	Accepted
SD -> CB -> INT	H7b	0.034	2.755	0.000	0.060	0.143	Accepted
FLIP -> PR -> INT	H8a	0.032	2.09	0.006	0.006	0.067	Accepted
FLIP -> CB -> INT	H8b	0.018	1.734	0.037	0.001	0.043	Accepted

behavioral intentions (INT), thus confirming the acceptance of H4 and H5.

#### 4.1. Mediation analysis

Analysis of mediation examines the extent to which mediating factors, or intervening variables, can be accounted for in relationship between two variables. It determines whether a third variable mediates the influence of an independent variable on the dependent variable. With the help of this study, suitable intervention or modification can be found as well as the methods in which an independent variable affects a formed dependent variable.

The indirect effect of Perceived Regulatory Effectiveness (PRE) on behavioral intention (INT) shows a statistically non-significant result leading to rejection of H6a; when mediated through Perceived risk (PR). When mediated through CB, shows a statistically non-significant result leading to rejection of H6b.

The indirect effect of surveillance deterrence (SD) on behavioral intentions (INT) through perceived risk (PR). shows partial mediation thus confirming the acceptance of H7a and with cognitive biases (CB) shows partial mediation thus confirming the acceptance of H7b.

The indirect effect of Financial Literacy for Investor Protection (FLIP) impacting behavioral intentions (INT) through Perceived Risk (PR) shows partial mediation thus confirming the acceptance of H8a. The indirect effect of Financial Literacy for Investment Protection (FLIP) through Cognitive Bias (CB) to behavioral intention (INT) shows partial mediation too, thus confirming hypothesis H8b.

The mediation analysis shows that the relationships between the independent variables and dependent variables are partially mediated by the respective mediator variables. These findings are insightful into explaining the underlying mechanisms between the variables, and can be used to devise interventions or treatments

which are aimed at improving cognitive biases & perceived risks. The statistically significant mediation effects suggest that the proposed mediation models are plausible and supported by the empirical data.

#### 4.2. PLSpredict

The Q<sup>2</sup> Values and prediction errors derived from the PLSpredict process in SmartPLS 4 were used to examine the model’s out-of-sample predictive power. One of the main benefits of employing PLS-SEM based causal-predictive models is thought to be out-of-sample prediction via PLSpredict (Chin et al., 2020). Table 5 displays the PLSpredict results. Q<sup>2</sup> values for all measured and latent variables are above zero, confirming the model’s out-of-sample predictive power. The comparison of prediction errors between the PLS-SEM model used for the study and a naïve benchmark linear model also reveals that the PLS model has lower errors for all measured variables, indicating medium predictive power. (Shmueli et al., 2016). The evaluation of the values obtained from PLS-SEM and LM shows promising results in totality. The indicators demonstrate lower values in PLS-SEM compared to LM, indicating a strong predictive power of the model.

### 5. DISCUSSION

The study has applied PLS-SEM to examine the impact of investor protection measures on GenZ investors behavioral intentions, through the mediating roles of cognitive bias and perceived risk. Our findings confirm that perceived regulatory effectiveness, surveillance deterrence, and financial literacy for investor protection play crucial roles in shaping behavioral intentions. Study results emphasize the significance of a strong regulatory environment in fostering investor confidence and encouraging investment activities, consistent with the observations of Chhabra et al., (2009). Surveillance deterrence is vital in deterring fraudulent activities and enhancing market integrity, leading to heightened behavioral intentions. Integrating surveillance mechanisms within the regulatory framework can further bolster

**Table 5: PLSpredict results**

Measured variable	Q <sup>2</sup> predict	Prediction error comparison			
		PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
CB1	0.055	0.865	0.723	0.88	0.731
CB2	0.043	0.854	0.721	0.863	0.719
CB3	0.022	0.816	0.684	0.824	0.695
CB4	0.083	0.807	0.672	0.82	0.674
INT1	0.176	0.658	0.527	0.672	0.538
INT2	0.085	0.735	0.606	0.752	0.616
INT3	0.178	0.602	0.476	0.615	0.482
INT4	0.175	0.59	0.459	0.597	0.464
PR1	0.12	0.681	0.533	0.695	0.537
PR2	0.063	0.78	0.619	0.799	0.633
PR3	0.133	0.733	0.574	0.746	0.578
PR4	0.08	0.728	0.547	0.74	0.562
Latent variable					
Construct	Q <sup>2</sup> Predict		RMSE	MAE	
CB	0.098		0.955	0.771	
INT	0.287		0.849	0.673	
PR	0.178		0.912	0.728	

investor protection and confidence. Educational initiatives can directly improve behavioral intentions in the capital markets which align with studies by Özen and Ersoy (2019).

The direct, positive effect of surveillance deterrence, and financial literacy for investor protection on perceived risk indicate that robust regulatory frameworks increase the risk perception. Which is contrary to Anantanasuwong et al. (2019) study, which highlights the critical role of regulatory bodies in creating a stable and trustworthy investment environment. Market surveillance provides investors with a sense of security, knowing that fraudulent activities are being monitored and addressed in real time. As highlighted by Trang and Tho (2017), perceived risk can significantly enhance investment intentions. Financial literacy enables investors to better assess and manage the risks associated with financial investments, aligning with studies by Prasad et al. (2020). Comprehensive financial education programs are needed to equip investors with the necessary knowledge to navigate financial market risks effectively, covering essential topics such as risk assessment, portfolio diversification, and the impact of market volatility (Lusardi, 2008).

Perceived regulatory effectiveness, surveillance deterrence, and financial literacy for investor protection have shown a statistically significant positive effect on cognitive bias. Contrary to Hirshleifer and Teoh, (2009), effective regulations have led to an increase in cognitive biases, suggesting that regulatory reforms aimed at increasing transparency and fairness should aim to mitigate irrational biases. This underscores the importance of including specific components in financial literacy programs that not only raise awareness of cognitive biases but also equip individuals with strategies to reduce these biases effectively (Nugraha et al., 2022). Simply increasing knowledge about finance and one's biases without tools to manage them might not lead to optimal behavioral intentions. These findings challenge existing theories that heavily emphasize financial literacy as a standalone prime solution and suggest a more integrated approach that includes addressing cognitive biases.

Quantitative findings reveal that cognitive bias has a significant impact on the behavioral intention, indicating a pivotal role in shaping investor decisions. This finding aligns with the study by Charles and Kasilingam, (2016). Behavioral finance theory suggests that cognitive biases often lead to irrational investment behaviors. Investors influenced by cognitive biases may make decisions based on heuristics or emotional responses rather than rational analysis (Zhang et al., 2022). Therefore, addressing cognitive biases is crucial for promoting rational investment decisions among investors. To keep cognitive biases in check, financial advisors and educators can implement training programs that teach investors about different types of biases and how to recognize and counteract them (Sahi, 2017). Workshops simulating real-life investment scenarios can help investors practice making decisions without falling prey to biases during different market phases.

The direct statistically significant effect of perceived risk on behavioral intention further highlights the importance of addressing investors' risk perceptions. Existing literature, typically suggests that higher perceived risk discourages investment intentions (Ishfaq et al., 2020; Singh and Bhattacharjee, 2019). This relationship may point to several unique contextual and psychological factors specific to our study's sample and market. Hence, effective risk communication should include detailed risk assessments, transparent reporting, and educational seminars that help demystify complex financial products.

The mediation analysis revealed that cognitive bias partially mediates the relationship between surveillance deterrence, and behavioral intention. This indicates that behavioral intentions are influenced by psychological factors even when protections are in place. Similarly, the partial mediation of perceived risk is seen in the relationship between surveillance deterrence, financial literacy for investment protection, and behavioral intentions. This highlights the need for complementary strategies to address perceived risks, such as enhancing risk communication and providing targeted investor education on risk management. Such



strategies could support investors in making informed decisions and potentially reduce the impact of cognitive biases and perceived risks on investment intentions.

### 5.1. Theoretical Implications

This research makes significant theoretical contributions by integrating behavioral finance theory with regulatory frameworks, revealing that internal cognitive factors and external regulatory factors are crucial in shaping behavioral intention. The research introduces and validates the construct of Investment Protection as a multi-dimensional concept encompassing financial literacy for investor protection (FLIP) and surveillance deterrence (SD). This conceptualization enriches the theoretical discourse by providing a structured approach to studying how various regulatory and educational initiatives can collectively influence investor behavioral intentions. The research contributes to the literature on emerging markets by providing insights into how cultural, economic, and regulatory contexts in emerging markets differ from those in developed markets. This necessitates a tailored approach to investor protection and education.

Our findings reveal the dual nature of perceived risk and cognitive biases. While cognitive biases can lead to irrational decisions, they can also drive investors' behavioral intentions under certain conditions. This challenges the prevailing view of cognitive biases as purely negative and opens new avenues for exploring their complex role in behavioral finance. Perceived risk expands existing theoretical models, suggesting that risk perception may not solely inhibit investment behaviors but could also drive proactive investment intentions among certain investor profiles. By offering these theoretical contributions, the research advances academic knowledge in the fields of behavioral finance and regulatory economics, also provides a solid foundation for future studies aimed at understanding and improving behavioral intentions in emerging markets.

### 5.2. Practical Implications

The research outcomes suggest several practical implications that stress the need for balanced strategies and comprehensive investor protection measures that address both the technical and psychological aspects of investing. Ensuring that GenZ investors are well-informed and psychologically resilient in the face of market uncertainties. The findings hint that speculative behaviors and short-term investment preferences often seen in GenZ. Initial results can be further developed and potentially used to build on artificial intelligence driven personalized investment guidance systems, which can provide tailor made, real-time advice to investors based on their behavioral intentions, goals, and risk tolerance. Helping them reduce cognitive biases and improve decision-making. Mechanisms should be created for regular feedback from GenZ investors through surveys and advisory panels which can be used by regulatory bodies and financial institutions to enhance investor protection measures by adapting strategies and policies to meet investors' needs and challenges. Neuroscience-based investor training programs can be established to help investors recognize and manage emotional biases, leading to more rational and disciplined investment behaviors. Financial advisors and regulators should prioritize these strategies to foster

a more stable and confident investment environment, promoting sustainable growth in capital market investment sector. Together, these technologies can create a more secure, transparent, and efficient investment environment.

## 6. CONCLUSION, LIMITATIONS AND FUTURE RESEARCH AGENDA

Based on the inspirational previous studies, underpinning theories and conceptual research model. Hypothesis has been developed to explore the impact of a notable investor protection measures on GenZ behavioral intentions. The quantitative outcomes of the study confirm that the behavioral intentions are positively influenced due to the underlying protection measures and also highlight the mediating role of cognitive biases and perceived risks. The study recommends financial analysts, policymakers and market participants to refine risk assessment models and risk communication to account for inherent psychological factors. Develop communication strategies to improve investor confidence and provide nuanced investment advice that considers the interplay between protection measures and investor behavioral intentions. This research suggests that the impact of investor protection measures is far from linear and invites a more sophisticated understanding of how these regulations influence investor psychology.

While Gen Z's digital and financial habits are unique, there is limited research available exploring how their distinct values, ethos, technology usage, and risk attitudes shape investment behaviors compared to other generations and type of investors. Further Research should focus on conducting comparative studies between Gen Z, Millennials, and Gen X to highlight intergenerational differences in how they respond to cognitive biases, perceived risk and regulatory measures. Additionally, the limited exploration of cultural, institutional, and historical factors shaping the development and effectiveness of investor protection policies across different countries and regions remains a critical gap which needs working. While comparative studies on investor protection regimes are increasing, more work is needed to uncover the background drivers and nuances influencing their success or failures. Future research could focus on experimental studies observing Gen Z's responses to varying levels of perceived risk, cognitive biases, and regulatory interventions in simulated environments. These studies could provide actionable insights for mitigating irrational behaviors and improving policy effectiveness globally. Another critical area requiring attention is the role of cultural and social factors in shaping investor behavior and preferences. Most existing research emphasizes legal and institutional dimensions, often neglecting how cultural and social influences affect investors' perceptions of risk and opportunities.

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## APPENDIX

### Appendix 1: Developed Scale Questionnaire

Symbol	Scale	Source
Perceived regulatory effectiveness (PRE)		
PRE1	Regulatory authorities effectively enforce compliance with investment protection laws.	(Bashir 2013), Development of the authors
PRE2	The penalties imposed for non-compliance with investment regulations are sufficient to deter violations.	
PRE3	The regulatory authority conducts its operations in a transparent manner that enhances my understanding of investment protection measures.	
PRE4	Information about investment protection actions and regulatory decisions is readily accessible and easy to understand.	
Surveillance deterrence (SD)		
SD1	The presence of regulatory surveillance makes it less likely that promoters will engage in insider trading.	(Nguyen and Nguyen 2017) Development of the authors
SD2	Surveillance by financial regulators increases the perceived risk of getting caught for market manipulation.	
SD3	Regular monitoring by regulatory authorities effectively reduces incidents of investment fraud.	
SD4	I believe that continuous surveillance deters financial misreporting by listed companies.	
Financial Literacy of Investment Protection (FLIP)		
FLIP1	I understand my legal rights as an investor.	(Arora and Marwaha 2013) Development of the authors
FLIP2	I know the protections granted to me under current investment laws.	
FLIP3	I know how to file a complaint if I suspect investment fraud or misconduct.	
FLIP4	I am aware of the process for reporting unethical behaviour by a financial advisor or broker.	
FLIP5	I am aware about the investor compensation funds available in case a broker firm fails or gets insolvent.	
Perceived risk (PR)		
PR1	I perceive high levels of risk in the current investment climate.	(Sachse et al., 2012), Development of the authors
PR2	Uncertainty in the market significantly affects my investment choices.	
PR3	The risk of regulatory changes concerns me when making investment decisions.	
PR4	What the media says about Investing, affects how I view investment risks.	
Cognitive bias (CB)		
CB1	When investment protection measures are strong, I tend to underestimate the actual risk of investments.	(Ranganathan 2006), Development of the authors
CB2	If I perceive the market as risky, I often follow the investment behaviour of others rather than my own assessment	
CB3	Successful past investments make me less sensitive to investment protection measures when making future decisions	
CB4	I am more affected by recent financial news about market risks than by long-term data.	
Intention towards investment behaviour (INT)		
INT1	Given the current investment protection measures, I intend to invest more in the market.	(Almansour and Arabyat 2017), Development of the authors
INT2	My intention to invest is not deterred by the perceived risks in the market.	
INT3	When I perceive market to be risky I plan to invest by following investment strategies of others without using my assessment.	
INT4	I am likely to make investment decisions quickly if I feel very confident about the potential returns, despite perceived risks.	