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"Influence of Behavioural Biases on Market Investment Behaviour-Mediating Role of Brand Trust"

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ABSTRACT

The rationale behind this exploratory research work is to examine the influence of behavioral biases on market investment behavior with the mediating role of brand trust. The research period was of three years (2018-2021). Data was gathered by a self-structured 27-item questionnaire adapted from 3 different scales. Data from 8100 respondents was collected from all Indian states and union territories based on purposive sampling. Meticulous data analysis processes embracing data screening, confirmatory factor analysis, and covariance-based structural equation modeling have been performed. The findings of this study revealed that behavioral biases play an influential role in affecting market investment behavior. However, when an investor develops trust in a brand, the impact of behavioral biases is reduced. Convergent validity and discriminant validity of the questionnaire have been proven along with high-reliability values. The model's originality is that it is an interdisciplinary model with a combination of behavioral biases and brand trust. The results and findings would augment the current knowledge base. The study results give investors a better grasp of behavioral biases and the role of brand trust in influencing their decision-making.

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1. Introduction

Behavioral finance examines the emotional facet of financial decision-making and elucidates the absurdity of investment behavior as it is affected by several behavioral biases. Although Investors like to self-convince that they are unbiased, in reality, they are not because they have natural barriers that affect their thoughts and influence their decision-making (Kumar and Goel, 2014; Kahneman and Tversky, 1984 Stracca, 2004). Joo and Durri (2015) concluded that understanding behavioral irregularities is a prerequisite for portfolio formation and elucidating an investor's psychological traits because profit maximization and achieving rational behavior cannot be concluded until the investor can comprehend innate biases in decision-making.

Trust in a financial brand occupies a pivotal role in affecting the financial decision of an investor, as a brand includes the consumer's complete experience with the financial product and the company. Banks (1968) found a robust affiliation between brand trust and investment decisions. The concept of branding has been studied in the context of FMCG products, primarily in the marketing domain. For behavioral biases and investor behavior, various other mediating factors have been previously studied like risk perception (Mallik et al. 2017 and Ahmad & Shah 2020), fear of missing out (Gupta and Shrivastava 2021 and Asif 2020), entrepreneurial innovations (Baig et al. 2019), risk tolerance (Raheja and Dhiman, 2019) and financial literacy (G 2019). This research is a novel effort to study the brand trust phenomenon in the context of finance and eventually in the investment management domain, as branding has a powerful psychosomatic impact on investors' memory which has a prolonged effect. Various behavioral biases repeatedly affect the investment decision of an investor and, at times, are so influential that the investor ends up making erroneous decisions. So, linking the effects of behavioral biases on market investment behavior with brand trust as a mediator between the two would be interesting. The academic investment literature has not identified the stance of brands in the role of relationship builders, as it has been argued that brands are primarily transaction catalysts (Coviello and Brondie, 2001and Coviello *et al.*, 2002). However, according to current marketing literature, buyers develop rapport with products (Saren and Tzokas, 1998; Lye, 2002), and their familiarity and sentiments regarding the brand affect the assessment of the products (Aaker and Keller, 1990; Dacin and Smith, 1994; Brown and Dacin, 1997). Progressive marketers recognize the positioning of branding concepts and integrate relationship-based notions into their strategies (Esch *et al.* 2006).

Along with branding, behavioral biases also demand the required spotlight. Regarding the current situation, a novel model that considers traditional finance, behavioral finance, and the effect of behavioral biases to provide superior information about individual investor decision-making processes under the influence of brand trust is indispensable. The model presented in this research work is an extension of the models presented by Barberis *et al.* (1998), Daniel *et al.* (1998), and Hong and Stein (1999). Thus, the core aim of this study is to assess the influence of selected behavioral biases on the investor's decision-making process under the influence of brand trust in the Indian stock market. The following research questions were catered to:

RQ1. Do Behavioural biases affect individual investors' decision-making?

RQ2. Are investors mindful of the effect of behavioral biases in the presence of brand trust in their financial choices?

Most existing literature concentrates on developed markets like North America, Europe, and Asia. The findings of Yates *et al.* (1997) served as a base for conducting this study in India. They found that Asian culture people display more behavioral biases in comparison to Western culture people. They are considering these findings. Due to its assorted demographic composition, India has been selected as a sampling frame. Here, MIB is the dependent variable, depicting the investors' decisions to purchase/ hold/sell. Behavioral Biases (comprising herding bias, anchoring bias, overreaction bias, and underreaction bias) are the independent variable, and brand trust is the mediating variable. An adapted self-structured questionnaire is used for data collection from 8,100 informed investors in India, covering all 29 states and 7 Union Territories. Data analysis is done through Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM) techniques.

The results of the study revealed that behavioral biases significantly influence investment decisions. Analysis of this research work predicts that the effect of brand trust on the investor's decision-making process is credible, and once an investor develops trust, brand behavioral biases are

less effectual. The theoretical implication of the research has a vital contribution as it will widen the range and relevance of behavioral finance, behavioral biases, stock market literature, and existing literature on marketing, primarily the brand management domain. The social implication of this work is that it can alert investors about prospective biases to help investors secure their stakes. The paper is organized into the following sections. Section 2 gives a detailed note on the literature review; section 3 mentions the gathered data and the methodology used to achieve the objectives of this study, section 4 deliberates on results; and section 5 reveals the findings, implications, limitations, and future scope of the work.

2. Conceptual Framework-Literature Review and Hypotheses Development

2.1 Conceptual Framework

According to the micro theory of behavioral finance, investors' decisions are the subject matter of either emotional or behavioral biases or cognitive errors (Sharma, 2019). The research work of Gupta (1991) argued that framing a portfolio for a client involves understanding his psyche; it is much more than selecting securities for Investment. In a study, Capon and Fitzsimons (1994) mentioned that various indications support that apart from risk and return, many more factors also affect the investment decision. In this regard, findings of the work of Sattar, Toseef, and Sattar (2020) mentioned that there is an effect of behavioral biases on investment decisions. Empirical results concluded that investment decision-making is influenced by heuristic behaviors more than prospects and personality characteristics. The work of Gurbaxani and Gupte (2021) mentioned that investment behavior did not vary with investor age. According to Kotler (1999), brand trust is derived from a seller's assurance to constantly provide a particular combination of attributes, benefits, and facilities to the buyers. Aaker (1996) mentioned that it is an attractive idea in financial markets, where it is difficult to differentiate products practically. Financial investments are tangible only to the extent of the amount of Investment, as various hidden charges, opportunity costs, and inflation interest rates remain undercover and, therefore, difficult to evaluate before Investment or even after Investment. An emerging body of literature has validated the position of brand trust in influencing investor decisions (Boon and Holmes, 1991; Deutsch, 1960). Investor behavior persuades marketing strategies of investment management companies, and thus it has attracted the interest of modern investment researchers.

2.2 Behavioural Biases

2.2.1 Overreaction Bias and Underreaction Bias

Experiential research by Keynes (1964) mentioned that in inefficient markets, investor overreaction entails an exceptionally positive response to positive information in the preliminary phase. According to De Bondt and Thaler (1985), under-reaction occurs when stock prices move slower than news justifies. In real market scenarios, securities whose share prices have been temporarily depressed by the effect of bad news about their earnings seek to take benefit of investor overreaction. Waweru *et al.* (2008) identified that overreaction to price variations is one of the decisive factors impacting investors' decisions. Barberis *et al.* (1998) framed a model on Underreaction, overreaction, and related change in market returns with selected biases. Daniel *et al.* (1998) suggested another model indicating that these biases influence financial decisions. The model by Hong and Stein (1999) focused on the background of bounded rationality: news watchers and momentum traders. Their model suggested that investors underreact (stock prices fall) due to steady information dissemination. However, investors overreact (stock prices increase) in the long run due to arbitrage factors. Researchers have agreed that over-reaction (DeBondt and Thaler, 1985) and under-reaction (Lai, 2001) to market information result in diverse market approaches and ultimately influence investors' decisions.

Investors grasp various stock market-related minute details by interacting with friends, colleagues, and financial advisors. Possibly the most common social bias is herding bias. Dewan and Dharni (2019) elucidated that herding bias makes individuals precede collectively in a group devoid of any unified direction. Asset prices are pushed away from their fundamental value due to this bias; it also leads to volatility and boosts the vulnerability of the financial market. According to Hirshleifer and Teoh (2003), the herding phenomenon in financial markets can be explained as the most frequent blunder made by investors by chasing the investment decisions taken by their kin. Individual investors,

compared with institutional investors, showed a higher inclination to chase the crowds for their investment decisions (Goodfellow *et al.*, 2009; Dewan and Dharni, 2019; Hirshleifer and Teoh, 2003). Welch (2000) mentioned that this bias initiates a "snowball effect" that is very difficult to discontinue. Patro and Kanagaraj (2012) encapsulated that herding is the most practiced bias in the Indian stock market compared to other developed nations, and investors from the same locations follow herd behavior more (Choi and Robertson, 2020). Hirshleifer and Teoh (2003) endorsed herding because people expressed greater comfort in chasing others around them.

2.2.2 Herding Bias

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2.2.3 Anchoring Bias

The notion of anchoring in financial decisions was pioneered by Slovic (1967). However, Tversky and Kahneman (1974) primarily presented the anchoring heuristics. Authors like Slovic and Lichtenstein (1971), Tversky and Kahneman (1974), and Pompian (2006) defended the hypothesis that past values dominate the decision-making of investors. These values are later modified to get current values, but these modifications are inadequate as they are inclined towards the past values. The results of the empirical study by Yuan and Zhan (2022) showed that when individual investors face investment risks, the psychological bias of their perceptions is unfavorable. Moreover, the results prove that their limited cognition influences more than 50% of them. Furnham and Boo (2011) mentioned that the anchoring effects could be elucidated through various lookouts: anchoring and adjustment, selective accessibility, and attitude changing. Due to time and resource constraints, Patra and Mohapatra (2022) mentioned that investors emphasize heuristics more than rational decision-making processes. The research concludes that every time investors go for heuristics, they generate less return on their investment, which harms the return on Investment. Research by Kaustia *et al.* (2008) and Singh (2012) elucidated that there is a considerable dissimilarity in the information processing aptitude amongst financially well-educated and less educated investors. Less financial education leads to more reliance on anchoring. The novel dimension of anchoring bias was explored by Soltani, Soroushya, and Fooladi (2021). The study aimed to examine the role of stock liquidity under the influence of anchoring bias on momentum profit. The study revealed that anchoring bias in stocks with low liquidity leads to increased momentum profit. Based on the above literature review following sub-hypothesis has been framed:

H1(a): Behavioural Biases have a positive impact on MIB.

2.3 Mediating Effect of Brand Trust

A brand is a seller's assurance to deliver a definite set of attributes, advantages, and facilities to the buyer (Kotler, 1999; Deutsch, 1958). Aaker (1996) mentions that it is an attractive idea in financial markets as it is hard to distinguish products practically. The tangibility feature in financial investments applies only to the amount of Investment because many hidden charges, opportunity costs, inflation rates, and interest rates are an implicit part of financial investments. Consequently, assessing investments holistically before or even after the transaction becomes challenging. Investor behavior influences the planning and strategies of investment management companies, and hence branding has fascinated modern investment researchers. The existing literature is deficient in appropriately identifying the role of brands as relationship creators, as brands are considered only transaction facilitators (Coviello & Brondie, 2001; Coviello *et al.*, 2002). Whereas marketing literature mentions that buyers develop relationships with the product (Lye, 2002; Andaleep & Anwar, 1996), and their knowledge and feelings about the brand impact their buying behavior (Aaker & Keller, 1990; Dacin & Smith, 1990; Butler 1991; Dacin & Smith 1994 and Brown & Dacin, 1997). Forward-looking marketers and research agencies recognize the significance of this concept and integrate relationship-based notions like brand trust (Esch *et al.* 2006). Chaudhuri and Holbrook (2001) described brand trust as "the willingness of an average consumer to rely on the ability of the brand to perform its stated function." The investment market has numerous unidentified investors, making it difficult for the financial institution to foster a personal relationship with the individual investor. Consequently, investment marketers must depend on a symbol—the brand—to form an association. Here, the brand turns out to be an alternative for human acquaintance amid the financial institution and its investors, and gradually trust is established. This importance to the concept of brand trust is overdue as once it is developed, it is not significantly affected by the impact of market or behavioral dynamics. Lewis and Weigert (1985) discussed that trust is not simply the probability, but the coincidence related to risk. The same notion has also been defended in the works of other researchers (Deutsch, 1960; Helm, 2007; Schlenker *et al.*, 1973; Boon and Holmes, 1991; Andaleep & Anwar, 1996). It is the best risk-reducing approach for financial instruments (Sheth & Parvatiyar, 1995). Based on the discussion on market investment decisions, behavioral biases, and brand trust in this section, trust in a brand has been defined as a consumer's inclination to depend on the brand as an outcome of consistent returns. This study also recommends that trust in a brand leads to final investment decisions; brand trust has been considered a perceptual phenomenon for this research, and under this framework, we theorized the mediating role of brand trust in investment behavior. Based on the above literature review following sub-hypotheses have been framed:

H1(b): Behavioural Biases positively impact Brand Trust.
H1(c): Brand Trust has a positive impact on MIB.

Based on the above literature review, the central hypothesis has been framed:

H1: Brand Trust mediates the positive relationship between Behavioural Biases and MIB.

Anchoring bias and herding bias have been used in the work of Gupta and Ahmed (2016), Kübilay & Bayrakdaroğlu (2016), Zahara (2018), Jain *et al.* (2019) and Ritika and Kishore (2020). Reaction bias and Overreaction bias have been considered in the work of Daniel *et al.* (1998), Fischer (2012), and Duxbury (2015). Herding Bias, Anchoring bias, and overreaction bias have been collectively considered in the work of Kartasova (2013). Daniel *et al.* (1998) and Hong and Stein (1999) mentioned that overreaction and underreaction bias also affect investor behavior. So, the author has combined these two groups of biases as previously used in existing literature (anchoring and herding and underreaction and overreaction) and analyzed their impact on investor behavior in the presence of brand trust. Brand trust has never been a mediator between behavioral biases and investor behavior. It is a novel contribution to this study.

This figure illustrates the research framework of the hypotheses proposed in this paper. The conceptual model (Figure 1) is supported by three primary constructs: Behavioural Biases, Brand Trust, and Market Investment Behaviour.

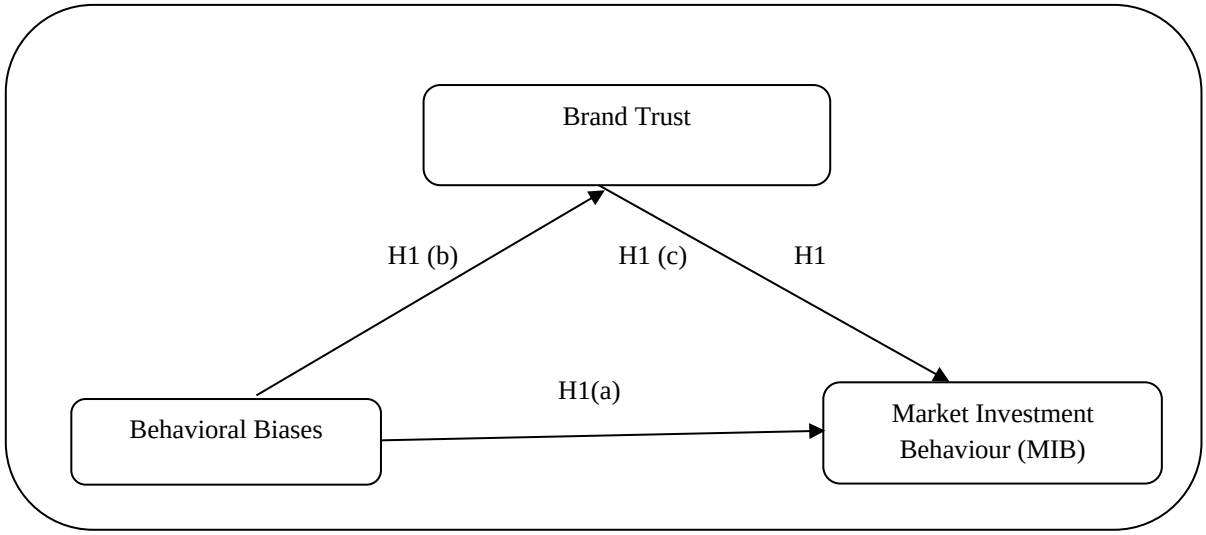

Figure 1. Conceptual Model

3. Research Methodology

Since the research had to be carried out on many dispersed investors in various locations of India and recorded their opinions and attitudes, the questionnaire-based survey was considered a suitable data collection method (Taylor *et al.* 2006). The final questionnaire consists of 29 statements related to the concept of research. These 29 statements were constructed on a 5-point Likert Scale. The Likert scale is applied to assist the respondents in selecting their options on a specific range for a series of statements. This study has been performed for over three years. In this study, Churchill's (1979) conventional scale development methodology was adopted, and a self-structured questionnaire was prepared with market investment behavior items generated from the existing literature along with behavioral biases items adapted from Waweru *et al.* (2008) and Hosp, Howell, and Hosp, (2003) and brand trust items adapted from Reast (2005) scale. The primary data is gathered through a structured questionnaire filled out by individual investors who reside in India. The universe for the study in India and the population is individual investors who invest in the capital market. Respondents' sample profile is based on two decision criteria, i.e., only informed and financially educated investors with a market experience of at least five years and aged above 30 years are selected for this study. These selection criteria have been finalized after consultation with academic and professional experts as this study has considered investor behavior and brand trust as perceptual phenomena and perceptions framed over a while with stock market experience together with a certain age will result in getting responses from mature and experienced respondents. Respondents above 30 years have been selected as they are usually in middle-level job positions and have had hands-on experience with various forms of investment avenues in the past, so they can relate to and analyze the behavioral biases they have been under the influence of and the resultant outcomes they have seen in the form of returns. It is recommended that a large sample size should be set. The larger the sample size, the better it represents the population and, subsequently, the more precise the results are (Saunders *et al.*, 2009). The size of the statistical population (individual investors above 30 years with more than five years of stock market experience) in India was around 1.91 cr. (2020 n.a.). As it is impossible to reach out to this population, various thumb rules suggested by authors have been used. Hair *et al.* (1998) and Boomsma (1982); (1985) proposed a minimum of 100 to 200 respondents to be tested through quantitative analysis to achieve models that better match the distribution of the data, Bentler & Chou (1987) and Bollen (1989), recommended 5 or 10 observations per estimated parameter and Nunnally (1967) suggested minimum 10 cases per variable. So, considering all these rules minimum suggested sample size is 200, whereas, in total, 8,700 responses are collected by the questionnaire survey. During data screening, 600 partially filled responses are eliminated, and a final sample of 8,100 respondents is used for further data analysis. For data collection, each state is divided into four zones. Each zone denoted a stratum. Here, the South Stratum is denoted by Zone 1, the North Stratum is denoted by Zone 2, West Stratum is denoted by Zone 3, and East Stratum is denoted by Zone 4. All four zones

simultaneously collect data. During the first five months, the research instrument was developed and pre-tested, and after eight more months, the final quantitative data was collected through a self-administered survey.

The mediating role of Brand Trust towards MIB helped the mediation model in concentrating on the inference of the indirect effect of Behavioural Biases on MIB. Brand Trust is placed within the Dependent variable (X) and Independent Variables (Y). The analysis of the study is done according to Hayes (2015). This is done by inspecting the mediation model, consisting of Y's direct and indirect effect on X through a mediating variable M (Y→M →X). The sampling technique selected here is purposive sampling, as a cautiously structured non-probability sampling can impart acceptable and significant results (Hair *et al.*, 2006; Cooper and Schindler, 2011). Data analysis has been primarily done by applying Confirmatory factor analysis (CFA). This statistical technique is applied when the underlying latent variable structure is known to the researcher through a literature review (Hair *et al.* 2006). Relationships between behavioral biases and MIB were known to the researcher on an a priori basis but not in the same structure used here.

Along with CFA, Structural equation modeling (SEM) has also been applied. This statistical technique is based on the hypothesis-testing approach of a structural theory on some observable fact (Hair *et al.* 2006). Here, covariance-based structural equation modeling (CB-SEM) has also been applied. CB-SEM evaluates the fit between the theoretical covariance matrix and the observed covariance matrix. Covariance-type analysis sits between the analysis of variance and regression analysis. Therefore, SEM uses the assumptions of parametric data analysis, especially assumptions for regression analysis. These characteristics have made SEM more rigorous in analyzing the data than regression.

Table 1 shows the descriptive statistics of the respondents' profiles. Only investors actively buying and selling stocks are selected for survey purposes. The figures in Table 1 indicate that most respondents are males (61.4%), whereas the majority belong to the 41-50 years (39.5%) age group. In addition, most respondents are married (53.65%), and most are graduates (48.30%). Also, a maximum of respondents have stock market experience between 5-8 years (66.79%). Table 2 depicting descriptive statistics of research variables shows that the minimum value selected by most respondents on a five-point Likert scale is 3 (Neutral) and the maximum is 5 (Strongly agree), except only two statements of Brand Trust recorded as 2 (Disagree) giving a mean value of 4.551with an average deviation of 0.038. Statistics also depict that data was negatively skewed but not highly kurtotic.

Table 1. Respondent's descriptive profile

Particulars		**Frequency**	**%**
Gender	Male	4981	61.4
	Female	3119	38.5
Age	30-40	1513	18.6
	41-50	3206	39.5
	51-60	1402	17.3
Marital Status	61 and above	1979	24.43
	Single	2572	31.75
	Married	4346	53.65
Qualification	Other	1182	14.59
	Graduate	3913	48.30
	Post Graduate	2236	27.60
	Others	1951	24.08
Market Experience (in years)	5-8	5410	66.79
	8-10	910	11.23
	10 and above	1780	21.97

Source: Author's Calculations

Note: This Table demonstrates the summary of descriptive statistics of respondents.

Table 2. Descriptive Statistics of Research Variables

	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
HB (1)	3	5	4.56	.601	-1.027	.108	.040	.217
HB (2)	3	5	4.58	.550	-.872	.108	-.296	.217
HB (3)	3	5	4.58	.568	-.965	.108	-.070	.217
HB (4)	3	5	4.57	.601	-1.053	.108	.091	.217
AB (1)	3	5	4.56	.601	-1.027	.108	.040	.217
AB (2)	3	5	4.62	.589	-1.278	.108	.611	.217
AB (3)	3	5	4.64	.537	-1.173	.108	.370	.217
AB (4)	3	5	4.64	.542	-1.177	.108	.388	.217
AB (5)	3	5	4.64	.547	-1.179	.108	.401	.217
AB (6)	3	5	4.65	.540	-1.219	.108	.498	.217
OR (1)	3	5	4.61	.604	-1.281	.108	.579	.217
OR (2)	3	5	4.87	.357	-2.739	.108	7.041	.217
OR (3)	3	5	4.66	.532	-1.270	.108	.631	.217
OR (4)	3	5	4.66	.537	-1.273	.108	.645	.217
UR (1)	3	5	4.65	.542	-1.275	.108	.655	.217
UR (2)	3	5	4.67	.498	-1.082	.108	-.076	.217
UR (3)	3	5	4.67	.495	-1.020	.108	-.282	.217
UR (4)	3	5	4.67	.496	-.999	.108	-.331	.217
BT (1)	3	5	4.67	.495	-1.020	.108	-.282	.217
BT (2)	2	5	4.47	.613	-.761	.108	-.135	.217
BT (3)	2	5	4.47	.600	-.694	.108	-.179	.217
BT (4)	3	5	4.50	.574	-.618	.108	-.606	.217
BT (5)	3	5	4.49	.577	-.615	.108	-.598	.217
MIB (1)	3	5	4.50	.581	-.657	.108	-.543	.217
MIB (2)	3	5	4.50	.584	-.682	.108	-.506	.217
MIB (3)	3	5	4.48	.594	-.643	.108	-.536	.217
MIB (4)	3	5	3.28	.609	2.031	.108	2.723	.217
MIB (5)	3	5	4.57	.584	-.976	.108	-.041	.217
MIB (6)	3	5	4.57	.534	-.655	.108	-.782	.217

4. Results

Ensuing 29 items are converted into a questionnaire and are considered for accumulating data for pilot phase purification. For pilot testing, 1080 respondents were chosen from the same populace from which the actual survey study is to be made **(**Hair *et al.,* 2006; Cooper and Schindler, 2011**).** Statistical results of the pilot study are satisfactory, but according to respondents' query and understanding, some statements are reframed, and some are repositioned for final data collection, resulting in the final 27 items.

4.1.1 Data Screening

In this study, the data screening process is meticulously followed for final data analysis. As a Likert scale data, the possibility of outliers has been outright rejected. Data normality is checked through univariate kurtosis values and critical ratio values. For this, the benchmark value given by West *et al.* (1995) (value of 7) is used. Data analysis revealed non-kurtotic data. In this analysis, the critical ratio value is like Mardia's (1970, 1974) normalized estimate of multivariate kurtosis. Here, the z-statistic value of 4.172 (the value should be less than 5 for data normality) indicated data normality. Variable Inflation Factor (VIF) has been used to check data multicollinearity. It has been checked for all the independent variables through multivariate regression. Analysis showed that VIF values are less than 3 in all the cases, which shows an absence of multicollinearity. These results showed that all the independent variables explained the only difference.

4.1.2 Exploratory Factor Analysis (EFA) of Behavioural Bias Items, Brand Trust Items, and MIB Items.

EFA was performed on all items used to measure behavioral biases, items adapted from Waweru *et al.* (2008) and Hosp, Howell, and Hosp (2003), along with brand trust items adapted from Reast's (2005) scale and MIB items. The analysis was done using the principal factor method, ordinary correlation covariance analysis, which extracted factors using the minimum average partial criterion with prior commonalities based on the squared multiple correlation method. All items were coded. The results shown in Table 3

mention that the behavioral biases construct show the minimum Eigenvalue =2.173, KMO = 0.802 (p-value = 0.000), and 67.825% of the total variance is explained. In Table 3, all the dimensions of Brand Trust taken together gave KMO value = 0.889 at a minimum Eigenvalue = 1.592; these measurement items explain 69.751% of the total variance. In Table 3, all the dimensions of MIB taken together gave KMO value =0.761 (p-value=0.00) at a minimum Eigenvalue of 1.271, and these measurement items explain 72.881% of the total variance. Moreover, all KMO values are above 0.6, and all factor loadings are more than 0.5, meaning that the items very well describe single constructs of behavioral biases, brand trust, and MIB items exclusively that the study sought to measure. However, Anchoring Bias had the strongest factor loadings among all the behavioral biases, and Market Investment Behaviour had the strongest factor loadings among all the three constructs. These indices show that factor analysis for the identified variables is appropriate and accepted. The reliability of items in the factors categorized from the exploratory factor analysis has been tested using Cronbach's Alpha. The reliability test has been separately done for all scale items, namely, behavioral biases, brand trust, and MIB. The results shown in Table III show that the measurement items used in measuring all four behavioral bias dimensions have the highest reliability as the value of Cronbach's Alpha is quite high (α = 0.825). The results in Table 3 further reveal that the measurement items used in measuring brand trust dimensions are also reliable, as the value of Cronbach's Alpha is above the recommended value of 0.60 (α = 0.761). The reliability analysis of items used in measuring MIB shows their reliability because the calculated Cronbach's Alpha value is high (α = 0.821) (Hair et al., 2006). The overall reliability of the complete scale is also good. (α = 0.873).

Table 3. Summary Statistics of Exploratory Factor Analysis

Construct	Sub- Construct	Items	Eigen Value	Factor Loading	Variance Explained
Behavioral Bias	Herding Bias (HB)	HB1	5.181	0.756	22.869
		HB2		0.729	
		HB3		0.783	
		HB4		0.838	
	Anchoring Bias (AB)	AB1	4.842	0.887	18.458
		AB2		0.717	
		AB3		0.743	
		AB4		0.618	
		AB5		0.815	
		AB6		0.886	
	Over Reaction Bias (OR)	OR1	3.861	0.682	14.801
		OR2		0.865	
		OR3		0.798	
		OR4		0.802	
	Under Reaction Bias (UR)	UR1	2.173	0.694	11.697
		UR2		0.761	
		UR3		0.798	
		UR4		0.669	
	KMO- BEHAVIOURAL BIAS SCALE				0.802
	Cronbach Alpha of BEHAVIOURAL BIAS SCALE - 18 Items				0.825
Brand Trust (BT)		BT1	1.592	0.697	69.751
		BT2		0.690	
		BT3		0.630	
		BT4		0.778	
		BT5		0.869	
	KMO- BRAND TRUST SCALE				0.889
	Cronbach Alpha of BRAND TRUST SCALE- 5 Items				0.761
Market Investment Behaviour (MIB)		MIB1	1.271	0.827	72.881
		MIB2		0.871	
		MIB3		0.759	
		MIB4		0.863	
		MIB5		0.827	
KMO- MARKET INVESTMENT BEHAVIOUR SCALE					0.761
Cronbach Alpha of MARKET INVESTMENT BEHAVIOUR SCALE - 4 Items					0.821
Cronbach Alpha of COMPLETE SCALE including Behavioural Biases (18 Items), Brand Trust (5 items), and MIB (4 Items)- 27 Items					0.873

Source: Author's Calculations.

4.2 Confirmatory Factor Analysis

Table 4 shows that goodness of fit indicators (CFI and GFI) can explain above 90% of the content of a perfect model. The badness of fit indicator (RMSEA) shows how far our model is from the perfect model. Table 4 shows that it is only 2.1 %, whereas the recommended value for the same is 6% (0.060). When both goodness and badness of fit indicators are within range, the measurement model is good and can be used for further analysis.

Table 4. Confirmatory Factor Analysis Results

Metric	Observed Value	Recommended Value
Cmin/df	1.893	Between 1 and 3
CFI	0.946	>0.900
GFI	0.907	>0.900
RMSEA	0.021	<0.060
PCLOSE	0.073	>0.050
SRMR	0.056	<0.090

Note: This Table shows the extent of closeness amid observed values and recommended values of the measurement model. The higher the closeness of observed values to recommended values, the greater will be the model fit. In this Table, recommended values have been taken from Hair *et al.* (2006).

The study also examines model specifications by checking internal reliability and convergent validity. Table 4 shows that the values of Cronbach's Alpha and Composite Reliability (CR) are more than the standard value of 0.70 and confirm internal reliability (Hair *et al.*, 2017b; 2020). However, Underreaction shows the highest Cronbach Alpha value (0.852) among all variables. The convergent validity is checked through the average variance extracted (AVE) score and is shown in Table 4. AVE values are also more than the standard value of 0.50 for all the primary constructs used for model framing (Fornell and Larcker, 1981; Hair *et al.*, 2020). The AVE value of Brand Trust is the highest (0.674), depicting the maximum amount of variance captured to the amount of variance due to measurement error. This data exhibits that all indicators are aptly placed and can define the construct they are related. Table 5 shows that Fornell and Larcker's Criterion (1981) is used to investigate discriminant validity. In Table 5, it can be observed that all the under-root values of AVEs of the constructs on the diagonal are more than their inter-item correlation values. Table 5 shows that each construct is distinct from others; thus, the study is a fit. The scale's internal consistency is based on correlations amongst items on the same scale. Table 5 illustrates that the highest correlation (r =0.769) is between herding and overreaction. These results show that investors overreact in the market under herding bias (Dewan and Dharni (2019). Another reason for this behavior is the fear of missing out on anything investors' kins are doing (Shiva *et al.*, 2020). The following correlation (r = 0.731) is between herding and MIB. Brand trust has the strongest correlation (r=0.782) with anchoring because when an investor trusts a brand, he is under the influence of anchoring bias and makes decisions accordingly (Banks,1968; Sharma, 2019). Brand trust has the following strong correlation (r=0.662) with under-reaction bias because when an investor trusts a brand, he is not affected by the temporary market volatility and prefers to hold on to the existing investments and end up not reacting to market changes.

The strongest negative correlation (r=-0.316) was observed between anchoring and overreaction because under the influence of the anchoring effect, investors strive to seize their market movements and prefer to wait for a suitable time to make their subsequent move, which substantially affects the market, although in the short term only (Kaustia *et al.* 2008 and Sharma 2019)—followed by (r = -0.403 and r =-0.489) anchoring and herding and overreaction and Underreaction respectively. As the correlations are considerably lesser than 0.80 in total values, there is no multicollinearity. However, these correlation values also indicate the relationships amongst these biases and reveal that the presence of one bias leads to another and the significant role brand trust plays.

Table 5. Discriminant Validity Assessment

	Over Reaction Bias	Herding Bias	Under Reaction Bias	Market Investment Behaviour	Anchoring Bias	Brand Trust
Over Reaction Bias	0.833					
Herding Bias	0.769	0.798				
Under Reaction Bias	-0.489	0.521	0.774			
Market Investment Behaviour	0.591	0.731	-0.677	0.768		
Anchoring Bias	-0.316	-0.403	0.648	0.598	0.730	
Brand Trust	0.213	0.591	0.662	0.529	0.782	0.861

Source: Author's Calculation

4.3 Structural Model

The association among the constructs and their analytical significance are assessed through structural models (Hair *et al.*, 2017b, 2020). The bootstrapping process with suggested 5000 bootstraps without sign change is used to get the needed p-values for the hypotheses under consideration (Hair *et al.*, 2020). The test of MIB has been examined initially based on direct effects between an independent variable (Behavioural Biases), mediating variable (Brand Trust), and dependent variable (MIB), and here we expect all the independent and mediating variables to have a substantial impact on the dependent variable.

Table 6 indicates the results of the structural model assessment and hypotheses testing. The fitted structural model demonstrated a good fit. CFI (0.971) and GFI (0.928) values in the structural model explain a perfect model above 92%. There is an increment of 2% as compared to the measurement model. In addition, RMSEA has also dropped by 0.7 % (RMSEA=0.014). This depicts that the structural model connects all the categories of variables in a more parsimonious manner. Figure 2 shows the structural model assessment results. These results reveal that Brand Trust is the most prominent factor as respondents revealed that they feel trust in a brand, and it somehow reduces the impact of behavioral biases in making investment decisions (β=0.679, $p < 0.001$), thus supporting H1(c). The second most significant impact was from Behavioural Biases on MIB, as stated by the investors during their trading decision related to stocks (β=0.561, $p < 0.001$), therefore supporting H1(a). Next, results reveal that the presence of Behavioural Biases positively influences investors' trust in a brand to make an investment decision about stock trading (β=0.498, $p < 0.001$) and consequently supports H1(b).

Table 6. Structural Model Assessments

Hypothesis	Path Relationship	Std Beta	Sample Mean (M)	t-values	Decisions
H1(a)	Behavioral Biases->MIB	0.561	0.481	10.513***	Supported
H1 (b)	Behavioral Biases-> Brand Trust	0.498	0.412	10.022***	Supported
H1 (c)	Brand Trust-> MIB	0.679	0.618	19.142***	Supported
H1	Behavioural Biases->Brand Trust-> MIB	0.358	0.518	9.813***	Supported

Source: Authors' Calculations; Path Co-efficient (***= value is significant at level 0.000.)

4.4 Hypotheses Testing

The direct and indirect effects are analyzed through a two-step process for potential testing levels of mediation amongst the study variables. First, the results in Table 7 indicated that the direct relationship between behavioral biases and brand trust had a positively significant impact on MIB ($p < 0.00$). However, the effect of brand trust is slightly higher than behavioral biases. Next, H1 analyzed the mediating role of brand trust in the relationship of behavioral biases with MIB. Results indicated that even on the introduction of a mediating variable, the direct effect is statistically significant, thus showing partial mediation.

Table 7. Direct, Indirect, and Total effects

Predecessor Constructs	Direct Effect on MIB	Indirect Effect on MIB	Total Effect on MIB	Significance of Total Effects?
Behavioral Biases	0.313 (0.001)	0.417 (0.002)	0.730	Yes
Brand Trust	0.497 (0.002)	---------	0.497	Yes

Source: Author's Calculations

5. Findings and Discussion

The main intention of the research is to depict behavioral biases' role in influencing investors' market investment behavior with brand trust as a mediating variable. The research work of Azarmi et al. (2005) compared Indian stock markets with casinos. The related rationale was that people in India still hesitate to participate in investing activities. Considering the focus point of the research work of Azarmi et al. (2005), this study tried to impart a multi-layered understanding of the various facets of human behavior involved in financial decision-making. Research presented a 3-factor validated multidimensional model. The findings of this study fulfill the research gap identified by Capon and Fitzsimons (1994) regarding the presence of various other factors apart from risk and return that affect investor behavior by identifying the influential role of behavioral biases and brand trust. This work has also filled the literature gaps identified by Coviello & Brondie (2001) and Coviello *et al.* (2002) by identifying brands as relationship creators, as these studies mentioned that existing literature is deficient in appropriately identifying the role of brand trust as a relationship creator and eventually affecting investor behavior. The study also revealed that most respondents mentioned that they try to make the best decisions based on available information and their risk-bearing capabilities. However, investors accepted, and data analysis also revealed through a correlation matrix that behavioral biases are associated with investor behavior (MIB). Although the association is both positive and negative. EFA results showed all KMO values above 0.60 and all factor loadings more than 0.5, meaning that the items very well describe single constructs of behavioral biases, brand trust, and MIB items exclusively. The reliability of items in the factors categorized from the exploratory factor analysis was tested using Cronbach's Alpha. The results showed that the measurement items used in measuring all three constructs were very reliable as all Cronbach's Alpha values were relatively high (α = 0.825-behavioral biases; α = 0.761-brand trust and α = 0.821-MIB). The overall reliability of the complete scale is also good (α = 0.873). Both internal reliability and composite reliability were found in the data. Convergent validity was also observed for all the primary constructs. The internal consistency of the scale was based on correlations amongst different items on the same scale. The highest correlation (r =0.769) was among herding and overreaction, whereas the strongest negative correlation (r=-0.316) was observed amongst anchoring and overreaction. In the structural model, CFI (0.971) and GFI (0.928) (goodness of fit indicators) values explained above 92% content of a perfect model with an increment of 2% from the measurement model whereas, RMSEA (badness of fit indicators) value dropped by 0.7 % (RMSEA=0.014). These values depicted that the structural model connects all the categories of variables more parsimoniously than the measurement model. Findings also reveal that brand trust is the most prominent factor, as respondents revealed that they feel trust in a brand, and it somehow reduces the impact of behavioral biases in investment decisions. Respondents' responses are also statistically supported through direct relationship statistics between behavioral biases and brand trust, as they showed a positive and significant impact on MIB. Results indicated that even on the introduction of a mediating variable, the direct effect is statistically significant, thus showing partial mediation.

On detailed hypotheses testing, all hypotheses have been accepted, indicating that selected behavioral biases have a substantial effect on MIB but as an investor develops brand trust, the effect of behavioral biases is considerably reduced. Investors also accepted that they know the influence of brand trust on their decision-making (Shehzad 2014). This research work has also validated the findings of Boon and Holmes (1991) and Deutsch (1960) regarding the impactful positioning of brand trust in influencing investor decisions. This work also supports the findings of Anwar et al. (2020) that access to finance improves firms' performance and growth in emerging economies. Focussing on the role of brand trust, this study also supports the findings of Kayhan and Vanessa (2020), as they mentioned that inter-firm market and brand orientation are two antecedents of marketing and financial performance. The impact of the inter-firm market on marketing and financial performance is significant when the brand orientation is favorable.

The results of this study can help investors by alerting them to the pros and cons of investment decisions to reduce the influence of biases on their investment behavior. The same is revealed by data analysis results of herding, anchoring, and MIB and associations between anchoring, Underreaction, and MIB. Respondents anchor on past experiences and returns and accordingly make decisions (Slovic and Lichtenstein, 1971; Tversky and Kahneman, 1974; and Pompian, 2006). In inefficient markets like India, investors think that they have incomplete information or others have more information

(information cascade framework), and eventually, this leads to uncertainty and anxiety and makes them go by herd behavior. Herding-related results agree with the works of Daniel *et al.* (1998), Mishra and Metilda (2015), and Narasimha and Mushinada (2018). Also, authors like Keynes (1937), Bikhchandani and Sharma (2000), and Bashir *et al.* (2014) mentioned that market inefficiency, low self-attribution, and information cascade framework result in herd behavior.

Additionally, all four behavioral biases taken together significantly affect MIB, as revealed by data analysis. The same findings have also been supported in the work of Sharma (2019), Gupta (1991), and Capon and Fitzsimons (1994). Also, brand trust may promote belongingness towards the company, leading to less inclination toward following the masses. This outcome is in sync with the works of Atkinson and Messy (2012), Setyowati *et al.* (2018), Biplob and Abdullah (2019), and Sharma (2019), as they mentioned that increased literacy would result in encouraging investors to contemplate and take decisions logically.

This study is novel in its domain area as it presents an original model for MIB based on individual investors' perspectives with consideration of brand trust. The study is based on the responses given by 8100 respondents, with most male respondents (61.4%), most respondents in the age bracket of 41-50 years (39.5%), the majority of married respondents (53.65%), and graduate (48.30%) with stock market experience between 5-8 years (66.79%). The present work describes relevant components of originality compared to existing works concerning behavioral biases. Primarily, the subject population in this paper is extensive in the field. No study has been done till today on such a vast sample.

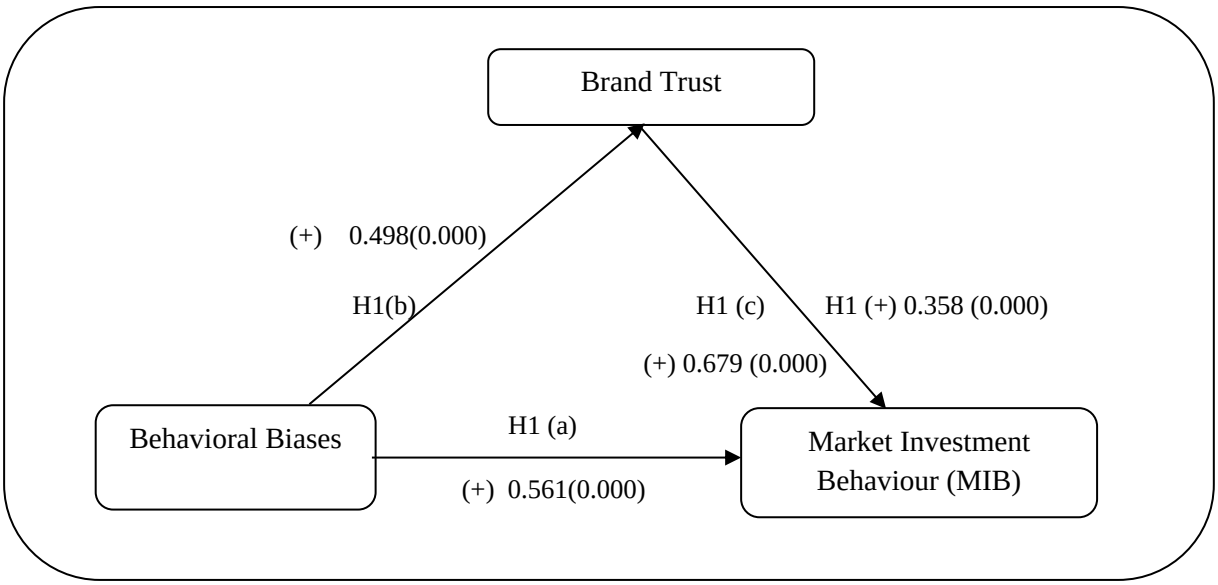

Figure 2. Structural Model Assessment

As this study was undertaken over three years (2018-2021), the impact of related market volatility and resultant behavioral changes have been exceptionally well summed up. Other advantages of this model are its ease of administration and proven validity across all Indian states and union territories. The choice of states and demographics of the samples are also strengths of the study. This model emerged because of detailed theoretical and statistical analysis and thus would add to the qualitative base of available literature. The survey findings and confirmation of the identified factors were done along with the validity check of the data. Although this research covers investors from 29 states and 7 Union territories of India, this model considered very few behavioral biases that can limit its scope in practical market scenarios. Despite these constraints, this model fulfills a vital gap as it offers future researchers a ready model for analyzing intricate relationships between behavioral biases and MIB. This model covers a big literature gap of the unavailability of behavioral finance models for measuring MIB with brand trust inclusion. The study confirms the belief that if investors trust the firms in which they are investing, they can sustain themselves in the financial market for a more extended period and will be less impacted by the effects of behavioral biases. Understanding the role of brand trust is imperative in the Indian financial market context. Personal financial and Investment advisors need to recognize the strong

influence that investors' emotions have on their investment decisions so that they can always give them proper advice to safeguard their investment funds, assets, or securities. In addition to the traditional finance and investment courses being offered by universities, it is recommended that new training courses be developed deeply rooted in behavioral finance theories and empirical research geared towards increasing individual investors' financial awareness levels. This could hopefully enable them to make better investment decisions and avoid investment disasters. Professional Bodies such as the Corporate Finance Institute and the Institute of Chartered Accountants of India (ICAI) should also design and run more professional courses on practical investment decision-making and financial awareness that are deeply rooted in behavioral finance theory and research to educate Indian investors. The government working through various public sector banks in India also needs to note that individual investors are strongly affected by their emotional elements and other people's emotional influences and their financial awareness levels regarding their investment decisions.

6. Implications and Research Opportunities

6.1 Theoretical Implications

Being a multi-disciplinary study, this comprehensive investigation of MIB would enrich and play a decisive role in enlarging the scope and application of behavioral finance, behavioral biases, stock market existing literature, and marketing literature, specifically the brand management domain, by offering an innovative perspective of the same. A new dimension of brand trust has been presented in this study and will extend the existing literature. Individual investors must understand that their investment behavior is affected by herding bias, anchoring bias, overreaction, and Underreaction, collectively or individually. Hence, it is very critical for individual investors not to rely on their self-beliefs, convictions, information, and emotional perceptions alone. They also need to consult expert financial and Investment advisors, especially those who can adequately analyze every Investment without behavioral bias. Since financial awareness appears to make investors more rational than emotional when making investment decisions, it is also recommended that investors enroll in professional or university courses in personal, corporate, behavioral finance, and investment decision-making. This activity could have far-reaching consequences in increasing their financial awareness level. Personal financial and Investment advisors need to recognize the strong influence behavioral biases have on investors' investment behavior to guide them accordingly. In addition to the traditional finance and investment courses being offered by universities, it is recommended that new training courses be developed deeply rooted in behavioral finance theories and empirical research geared towards increasing individual investors' financial awareness levels. Marketers have always given brand trust attention, but this study has focused on the relevance of this concept in financial markets, indicating that Personal financial and Investment advisors recognize the relevance of brand trust and focus on brand building.

6.2 Social Implications

This behavioral research will inform novice and expert investors about behavioral biases. People can benefit from this study as it can alert them about potential biases and the relevance of brand trust in the investment process so that they can defend their stakes. Herding and anchoring are the most frequently applied behavioral biases by individual investors, and overreaction & reaction are the resulting outcomes due to the influence of herding and anchoring. Investors need to raise their financial awareness and save themselves from making risky decisions.

6.3Managerial Implications

This study will benefit investors and portfolio managers by generating awareness about rational decision-making by considering the mentioned behavioral biases. This study will shift the focus of big business houses from profits to brand building and equity and will make them understand the farsighted effects of brand trust. Using the predictors identified in this study, regulators and practitioners can tap the local and global markets. Market practitioners can use these predictors for brand building and brand trust.

6.4 Research Opportunities

To eliminate the lack of generalisability of the model, this model can be tested in other countries to be robustly validated. Also, researchers in different nations may use other biases to incorporate biases specific to cultures, countries, and the associated investor behavior. It would be interesting to explore MIB for other investment options like personal financial planning, wealth management, and retirement planning. These prospects provide a collection of upcoming areas that can be studied shortly.

7. Conclusion

The primary idea of this study is to emphasize the role of brand trust in the investment process when investors are under the influence of behavioral biases. Using CB-SEM as the primary statistical technique for the responses collected by Indian individual investors, this paper measures the direct and indirect relationships among selected behavioral biases and MIB through brand trust as a mediating variable. The study supported all the hypothesized relationships. Out of the two antecedents of the dependent variable (MIB), the most prominent and significant construct is Brand Trust. It has a more substantial influence on individual investors' investment decision-making process. Hence, financial advisors, policymakers, and specifically the marketing industry should analytically delve deep into the facet of Brand Trust where lack of trust on the part of investors would influence the mind of individual investors to make unpredictable investment decisions.

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