BEHAVIORAL FACTORS AND INVESTMENT DECISION : A STUDY ON THE CAPITAL MARKET OF BANGLADESH

Tamanna Islam [1*]
S. M. Kalbin Salema [2]
Md. Maruf Billah [3]

Received on 01 June, 2023; Accepted on 01 February, 2024; Published on 17 February, 2024 (Online); 20 February, 2024 (Print)
DOI : https://doi.org/10.58964/JBA44N205

Abstract

The purpose of this study is to look at the influence of investors' behavioral factors on their investment decisions. This study also tries to find the moderating role of investors' past investment experience between investment decision and capital market performance. The sample was selected through a structured survey questionnaire. For this study, a total of 370 questionnaires, that were given to current capital market investors in Bangladesh, were employed. The results from the structural analysis suggest that rational and irrational behavior factors influence the investors' investment decision in capital market. Furthermore, investors' past investment experience moderates the relation between investment decision and capital market performance. The findings demonstrate that investors gather comprehensive financial data for both logical and irrational behavioral elements before making an investment decision.

Keywords : *Behavioral Factors, Investment Decision, Capital Market*

JEL Classification : *D91, F65, G11, G41*

1. INTRODUCTION

Sound capital market is an essential piece of an economy as the growth of capital market influences the increase of economic growth. Capital market development assumes a significant part in anticipating future economic development (Levine & Zervos, 1998). Economic growth and stock price fluctuation are statistically related whereas, economic activities is the primary factor in the development of the stock prices over the long run (Seyyed et al., 2010). One of the main sources of economic activities in the capital market is the proficient exchange of funds among borrowers and lenders. Both lenders and borrowers are in a better position than they would have been in the absence of the capital market as a result of the opportunities it offers.

After developing the studies of financial theories, these studies are using new models to know the rationality of investors in the capital markets. The assumption of the traditional financial theories is that, during the taking of stocks investment decisions, investors are informed, careful, and consistent; as a result, they do not face difficulty (Alquraan, Alqisie, & Shorafa, 2016).

1 Assistant Professor, Bangladesh Institute of Capital Market, Dhaka, Bangladesh
2 Lecturer, Bangladesh Institute of Capital Market, Dhaka, Bangladesh
3 Senior Principal Officer, Investment Corporation of Bangladesh, Dhaka, Bangladesh
* *Corresponding Author: Tamanna Islam, Assistant Professor, Bangladesh Institute of Capital Market, Dhaka, Bangladesh*

Capital Asset Pricing Model and Modern portfolio theory assume that the size of information provided to the investors do not make them puzzled and the behavioral finance factors do not control them. But several studies in the developed capital markets expose that many phenomena regarding stock investment decisions are not possible to explain. Out of the investors in capital market who typically take different and important decisions, the most common investors are making investment decisions for maximizing their wealth; others are looking for market timing techniques to maximize their wealth (Alquraan et al., 2016).

The investors who are more risk averse select stocks with low risk. However, investors who are accepting high risk stocks use some diversification techniques in order to control the unsystematic risks. Therefore, it is very important for the investors to study the impact of behavioral finance on stock investment decisions. So, for making stock investment decisions, investors rarely follow the assumptions of the financial theories (Alquraan et al., 2016).

However, decision-making is a mind-boggling action. It can be characterized as the way toward picking a specific option from various alternatives. It is an action that trails appropriate assessment of the relative alternatives (Mathews, 2005). Investment decision is the most critical area for the investors. Therefore, they have to develop foresight, positive vision, drive, and perseverance. In this scenario, as behavioral finance influences investors' performance, it plays an important role in the decision-making process. The investors can select investment instrument and avoid repeating errors in future through behavioral finance. This is also valid for the individual investors in the capital market of Bangladesh. This study examines the impact of behavioral factors on the decisions of individual investors of the capital market of Bangladesh. The study also wanted to know if the past investment experience, as part of that investors behavioral factors, moderated the effect of the investors' behavioral factors on the capital market performance.

2. LITERATURE REVIEW

2.1 Behavioral Finance

An investor invests in the capital market for three essential targets: to maximize wealth, upkeep liquidity, and minimize risk. This suggests that rational investors are influenced by these targets when making investment decisions. Under the worldview of traditional financial economics, investors are viewed as rational and aiming for utility maximization (Masomi & Ghayekhloo, 2011).

According to Bakar and Yi (2016), in the market, investors are not essentially rational in their decisions and that different components may influence them when they settle on their investment decisions. Behavioral finance concentrates on the effect of psychological elements on the securities exchanges.

Behavioral finance declares that psychological principles of decision-making forms the basis of investor market behavior; to clarify why individuals sell or purchase

the stocks (Al-Tamimi, 2006). The prior had clearly demonstrated that investors are not rational in their investment decisions and that their choices are influenced by specific factors. A study on UAE investors demonstrated that religious reasons is the most influencing factor that affects the investment decision and tales is the least influencing factor (Al-Tamimi & Kalli, 2009).

Mojgan and Ali (2011) examined the influence of earnings per share and cash dividend per share on investor decision-making in the Tehran securities exchange. The study discovered that two factors significantly influenced investors' decision to buy stocks. An examination on the factors influencing Pakistan investors' behavior conducted on the Karachi Stock Exchange tracked down that foreign direct investment, the earning per share, and gross domestic product growth rate have a significant effect on stock prices (Azam & Kumar, 2011). A study on factors influencing investors' decision in the Greek Stock Exchange found that investors mainly prefer condition of financial statements, expected corporate earnings, and firm status in the industry (Merikas et al., 2008). Jain and Mandot (2012) explored the impact of demographic factors on investment decisions in Rajasthan. They found that several demographic factors such as age, gender, marital status, city, occupations, income level, qualifications, and market knowledge have major influence on investment decision of investors.

Sultana and Pardhasadhi (2012) identified ten factors influencing Indian equity investors' decision-making and behavior, including individual eccentricity, risk minimization, wealth maximization, brand perception, financial expectation, government and media, social responsibility, and advocate recommendation factors. Nagy and Obenberger's (1994) study found that classical wealth maximization measures are crucial for investors, despite their use of various criteria in stock selection.

Cooray (2003), in Sri Lanka, revealed several factors influencing investment decisions, including return on investment, risk, tax consequences, liquidity, inflation, and investment term. Sharma and Gupta (2011) discovered factors influencing investment decisions in India, such as risk, peer influence, return, financial advisor recommendations, and market trends.

Lodhi's (2014) study in Karachi, Pakistan, examined the impact of financial literacy, accounting information usage, experience, financial statement analysis, and age on individual investment decisions. The study utilized correlation analysis to determine the relationship between financial literacy and accounting information, revealing that these factors significantly reduce information asymmetry and encourage investors to avoid unsafe investments. As individuals age and gain experience, their inclination towards risky investments decreases. Geetha and Vimala's (2014) analysis unearthed that demographic changes, including age, education, income, and occupation, significantly influence investment preference.

Using the multiple regression technique, Fares et al. (2011) conducted a study on "Individual Investors' Stock Trading Behavior at Amman Stock Exchange" and

found four behavioral characteristics that affected traders' choices. Age, internet use, and formal education level of the investor were all positively correlated and statistically significant (at the 1% or 5% level). The broker variable had a significant level of significance (at less than 1%).

Investment decisions in Bangladesh are influenced by factors such as company efficiency, transaction speed, inflation rate, transaction costs, access to company and industry information, quality of information, and prior knowledge of securities (Rashid & Nishat, 2009). Another study on Bangladesh found that all potential factors affecting investors' investment decisions may differ generally from investor to investor for particular segment highlights (Hossain & Nasrin, 2012). They identified the most important principal factors affecting investors decisions to be company specific attributes/ reputation, accounting information, net asset value, publicity, trading opportunity, ownership structure, influence of people, and personal finance needs.

2.2 Capital Market in Bangladesh

The capital market of Bangladesh is still exceptionally speculative and needs straightforwardness because of poor administrative system. In Bangladesh, financial area was verifiably determined by banks and the capital market had less standards to play as individuals had blended discernment about the vulnerable design in this market that generally debilitated them from contributing there. In any case, in the mid of ninetieth century, capital market began to show energetic conduct that made individuals intrigued about the stock exchanges. As the index was increasing pointedly and everybody was bringing in cash, numerous individuals began to put away their cash to the warmed market that gradually resulted in a bigger bubble; eventually, the bubble burst. In November 1996, the benchmark index was 3,600 point but in November 1997, it boiled down to 700 point (Alam, 2012). The reason behind the investors' being reluctant to invest into the capital market was, once more, loss of their money.

From that point onward, regulators had found a numerous way to balance out the market. They had introduced many new issues like central depository, circuit breaker, online trading, etc. to motivate investors. It enabled the market to grow again. Forgetting the history of 1996, the investors started to invest again with knowledge on stocks. Again, in December 2010, the bubble started to burst and many investors lost everything. At that time, the benchmark index was at the highest point of 8,918. In early February 2012, it declined to 3,616 points. A huge number of investors lost their cash and came down to the road. When the main period of the market revision finished around April 2011, Foreign Institutional Investors (FIIs) started to get back to the market from May onwards to get undervalued stocks. In 2013, foreign investments in Bangladesh's bourses topped at $930 million but in 2014, it dropped to $610 million. This was a critical indication of market recuperation and looked good for the market heading in 2016 and 2017, as the foreign portfolio investment was supposed to demonstrate lagged impact, in general (Amit, 2016).

Investors made impulsive choices to try not to lose cash for the time being, instead of focusing on a security's long-term potential. As per Shanmugsundaram and Balakrishnan (2011), capital market fluctuations often result in full-scale crashes, frequently managed by panicked investors, due to minimal adjustment. They argued that the psychological distress of losing money from investments is three times more significant than the joy of earning money.

In their exploratory study "Impact of Demographic Factors on Retail Investors' Investment Decisions", Shaikh et al. (2011) identified a number of intrinsic and extrinsic factors that influence investors' behavior and decision-making, including age, gender, marital status, income level, and educational background.

Despite the increasing recognition of the significance of behavioral factors in influencing investment decisions globally, there remains a notable research gap in understanding the specific behavioral determinants driving investment choices in Bangladesh's capital market. Existing literature predominantly focuses on developed markets, and there is a limited body of empirical evidence exploring how unique behavioral and financial factors in Bangladesh may shape investor behavior. Consequently, there is a need for a targeted investigation that not only identifies the specific behavioral factors that influence investment decisions in the Bangladeshi capital market but also analyzes their impact on market efficiency, investor outcomes, and overall financial stability. Bridging this research gap is essential for both academic advancements in the field of behavioral finance and for offering practical insights that can guide policymakers, financial institutions, and investors in Bangladesh towards more informed decision-making strategies.

3. METHODOLOGY

3.1 Type of the Study

As the study aimed to see the implication of the theory of behavioral finance in the market, it analyzed the qualitative data collected from the respondents. Though qualitative in nature, causal relationship between investor's behavioral factors and their investment decisions in capital market was examined. Hence, it was applied research.

3.2 Data Collection Method

This study has been conducted in Bangladesh and the unit of analysis was the existing capital market investors. The "ten times rule of thumb" was used to determine the sample size (Barclay et al., 1995; Hair, Jr. et al., 2013). According to the thumb rule, the sample size was 370. Data were collected from the period of October 2020 to March 2021. Around 400 questionnaires were issued to the respondents via direct contact with the clientele and a total number of 370 (92.5%) useable responses were captured which were then used for the analysis. It is important to note that some of the returned questionnaires were discarded because they were not filled properly. Out of the total 400 questionnaires returned, 30 were incomplete thus those were omitted.

The success of the study can be attributed to a convenient sampling technique, despite the majority of respondents being randomly selected. Table 1 has been used to present the demographic features of the respondent.

Table 1 : Demographic Profile of the Respondents

Demographic Variables	Demographic Characteristics	Percent
Age	Below 20	1%
	20-29	16%
	30-39	51%
	40-49	27%
	50-59	4%
	Above 60	1%
Gender	Male	92%
	Female	8%
	Others	0%
Marital status	Married	83%
	Unmarried	17%
	Others	0%
Educational Qualification	Below SSC	1%
	SSC	1%
	HSC	4%
	Graduation	21%
	Post-graduation	74%
	Beyond	1%
Religion	Non-Muslim	11%
	Muslim	89%
Occupation	Capital Market Professional	37%
	Others	63%
Monthly Income	Less than BDT 20,000	11%
	BDT 20,000 to less than BDT 40,000	26%
	BDT 40,000 to less than BDT 60,000	23%
	BDT 60,000 to less than BDT 80,000	16%
	BDT 80,000 to less than BDT 100,000	13%
	Above BDT 100,000	12%

Demographic Variables	Demographic Characteristics	Percent
Years of experience in capital market	0-3 years	35%
	3-6 years	11%
	6-9 years	14%
	9-12 years	25%
	12-15 years	7%
	More than 15 years	7 %

It is evident from Table 1 that 92 percent respondents are male; highest number of respondents are in the age group of 30-39 years (51 percent), are in the monthly income group of BDT 20,000 to less than BDT 40,000 (26 percent), and have master's degree (74 percent); 89 percent respondents are Muslim, 83 percent are married, 37 percent are working in capital market related organization, and 35 percent are investing for less than 3 years.

In the study, rational and irrational factors were unobserved variables. According to Le and Doanl (2011), 37 indicators (observed variables) were classified as rational and irrational.

Table 2 shows the definitions of the indicators and detailed information. A structured questionnaire with a 5-point Likert scale (Likert, 1972) was used where, 1= strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, and 5= strongly agree. Aside from behavior factors and investment decision-making related questions, demographic information of the respondents was collected as well.

Table 2 : Definitions of the Indicators

Construct	Definition	Indicator Variables
Rational Behaviors (Rat)		
Return Inclination (Ret_Inc)	Expected corporate earnings	Ret_Inc_1
	Expected dividends	Ret_Inc_2
	Company status in industry (company category)	Ret_Inc_3
	Past performance of stock	Ret_Inc_4
	Recent price movements in a company's stock	Ret_Inc_5
Counterpart Recommendation (Cou_Rec)	Brokerage house recommendation	Cou_Rec_1
	Opinions of the firm's majority stockholders	Cou_Rec_2
	Opinions of financial advisors and analysts	Cou_Rec_3
	Friend or coworker recommendations	Cou_Rec_4

	Family members opinion	Cou_Rec_5
	Influence of Investment Representative	Cou_Rec_6
Exposure (Exp)	Coverage in the press	Exp_1
	Environmental record	Exp_2
	Reputation of the firm	Exp_3
	Reputation of the company's Board of Directors	Exp_4
	Fluctuations in the indices of the stock exchanges	Exp_5
	Statements from politicians & Governmental officials	Exp_6
Subjective/ Personal (Sub)	Loyalty to the company product & services	Sub_1
	Get rich quick	Sub_2
	Expected losses in other investment	Sub_3
	Speculation opportunity	Sub_4
Personal Financial Need (Per_Fin)	Diversification need	Per_Fin_1
	Ease of obtaining margin	Per_Fin_2
	Tenure of the investment	Per_Fin_3
Irrational Behaviors (Irr)		
Cognitive Biases (Cog_Bia)	Confirmation bias	Cog_Bia_1
	Bandwagon effect/ Herd behavior	Cog_Bia_2
	Anchoring bias (depends too heavily on an initial piece of information offered)	Cog_Bia_3
	Overconfidence bias	Cog_Bia_4
	Representativeness heuristic bias	Cog_Bia_5
	Availability heuristic	Cog_Bia_6
Prospect Theory (Pro_The)	Certainty	Pro_The_1
	Loss aversion (tendency for people to strongly prefer avoiding losses than obtaining gains)	Pro_The_2
	Isolation effect (tendency to disregard any elements that are common to both options)	Pro_The_3
Capital Market		
Capital Market Performance (Cap_Mar)	Government Policy (Contributions, tax exemption etc.)	Cap_Mar_1

	Economic Stability	Cap_Mar_2
	Increase in Income Level	Cap_Mar_3
Market Decision	Investment Decision in capital market	Mar_Dec
Past Investment Experience	Past Investment Experience of the investors'	Pas_Inv

3.2 PLS method

In an Excel file, all the indicators and data were recorded and the file was converted into CSV format. The study utilized SmartPLS software for structural model simulation (Ringle, Wende, & Becker, 2015), utilizing the Partial Least Square (PLS) based Structural Equation Model (SEM) method (Durdyev et al., 2018). The literature indicates that PLS-SEM can be effectively utilized for small sample sizes or even with fewer observed variables (Reinartz, Haenlein, & Henseler, 2009; Sarstedt et al., 2016; Rigdon, Sarstedt, & Ringle, 2017). The method used to estimate SEM, unlike covariance-based structural equation modeling (CB-SEM), is more accurate. The PLS-SEM method does not simultaneously estimate all model parameters. It employs the bootstrapping technique, as suggested by Streukens et al. (2016), to gauge the uncertainty linked to a specific statistical method. The method involves repeated random sampling with replacement of the original sample and testing the significance of estimated coefficients in PLS-SEM (Henseler, Ringle, & Sinkovics, 2009). Davari and Rezazadeh (2013) asserted that this method does not require data normality.

3.3 Theoretical Model Estimation

The hypothetical path model was created via observing the accessible literature for variables connected with the outside factors, which were revealed as potential determinants for an individual's more feasible behavior. Using the selected indicators and latent variables or constructs (Table 2), the initial proposed model was formed and is presented in Figure 1.

The constructs were derived from prior research on the motivators for sustainable investment behavior, as per the work of Kinslin and Velmurugan (2010). The relationship between the constructs were used to form the model. Previous investment experience plays a crucial role in motivating or limiting behavior in capital market investments, depending on the necessary conditions. Poor implementation of existing guidelines has a greater negative effect than not having them at all. For this reason, we can assume that:

H_1: Investor's rational behavior significantly influences their investment decisions in the capital market

H_2: Investor's irrational behavior effect their investment decisions in the capital market

H_3: The investment decisions made in the capital market significantly impact the market's performance

H_4: Investment decision in the capital market and past investment experience are related

H_5: The performance of the capital market is significantly influenced by past investment experiences

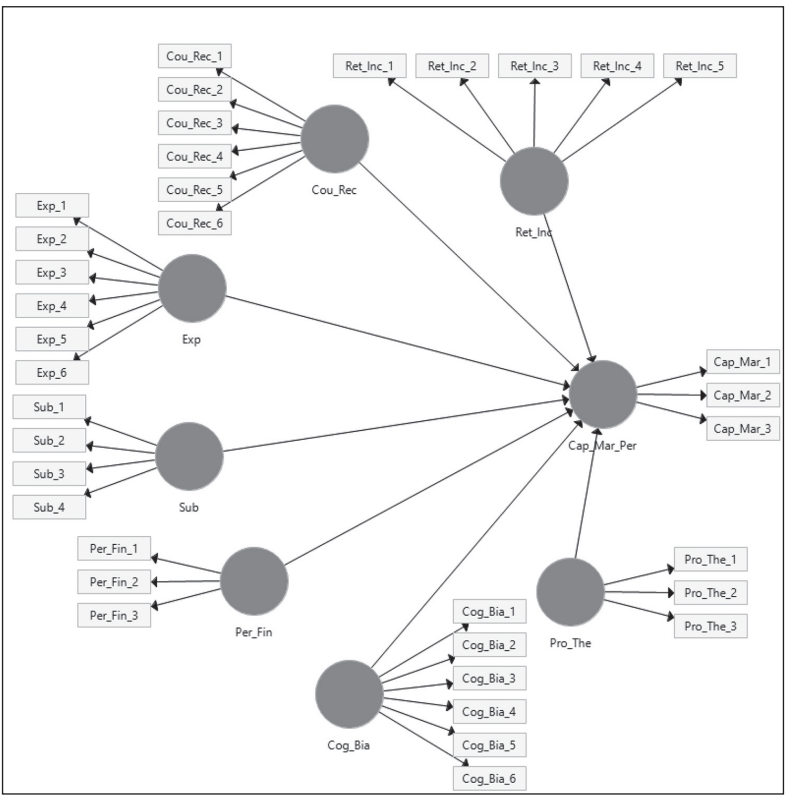

Figure 1 : Initial Proposed Theoretical Path Model

Source: Authors' own research

Note: In Figure 1, capital market performance is defined as Cap_Mar_Per but in the other places of the text it is denoted as Cap_Mar.

4. RESULTS

Figure 2 displays indicator outer loadings, path or regression coefficients for structural models' relationships, and R^2 values for latent endogenous variables. Pro_The appears to have the most grounded impact with the endogenous variable (0.282), followed by Ret_Inc (0.271). 57.9% of the variation in dependent variable can be explained by the variation in the constructs.

Significance of the relationships between constructs were measured using the size of the path coefficient. Figure 2 shows that the relationships, presented by Ret_Inc →

Cap_Mar, Cou_Rec → Cap_Mar, Exp → Cap_Mar, Per_Fin → Cap_Mar, Cog_Bia → Cap_Mar, Pro_The → Cap_Mar, are significant. The study evaluated measurement and structural models before reaching a final conclusion on the implications of coefficients and model precision.

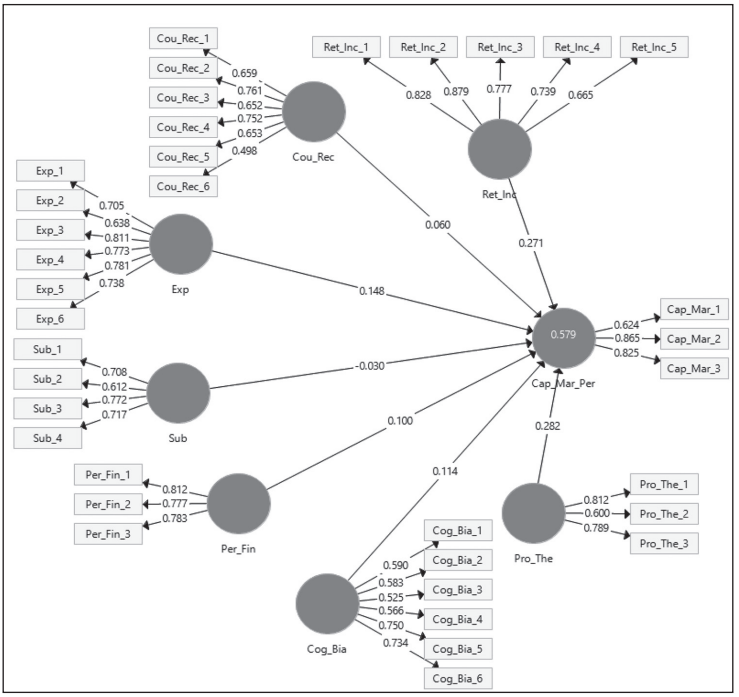

Figure 2 : PLS-SEM primary model

Source: Authors' own research

Note: In Figure 2, capital market performance is defined as Cap_Mar_Per but in the other places of the text it is denoted as Cap_Mar.

4.1 Evaluation of Measurement Models

To test the reliability and validity of the measurement models for each construct, the reflective measurement models were assessed, which effectively upheld their consideration in the path model (Hair, Jr., Sarstedt et al., 2014, Hair, Jr., Hult et al., 2017). For this purpose, the reliability of the indicator, convergent validity as measured by Average Variance Extracted (AVE), the composite reliability (CR), and the discriminant validity were performed (Table 3).

Table 3 : Measurement Items and Results of Validity and Reliability for Constructs

Construct	Variables	Factor Loadings	AVE	CR	Cronbach's Alpha
Rational Behaviors (Rat)			0.696	0.901	0.696
Return Inclination (Ret_Inc)	Ret_Inc_1	0.828	0.610	0.886	0.838
	Ret_Inc_2	0.878			
	Ret_Inc_3	0.777			
	Ret_Inc_4	0.739			
	Ret_Inc_5	0.665			
Counterpart ecommendation (Cou_Rec)	Cou_Rec_1	0.661	0.506	0.836	0.756
	Cou_Rec_2	0.785			
	Cou_Rec_3	0.672			
	Cou_Rec_4	0.757			
	Cou_Rec_5	0.666			
	Cou_Rec_6				
Exposure (Exp)	Exp_1	0.706	0.553	0.881	0.837
	Exp_2	0.639			
	Exp_3	0.810			
	Exp_4	0.773			
	Exp_5	0.781			
	Exp_6	0.738			
Subjective/ Personal	Sub_1	Dropped			
	Sub_2	Dropped			
	Sub_3	Dropped			
	Sub_4	Dropped			
Personal Financial Need (Per_Fin)	Per_Fin_1	0.812	0.626	0.834	0.701
	Per_Fin_2	0.777			
	Per_Fin_3	0.783			
Irrational Behaviors (Irr)			0.746	0.854	0.660
Cognitive biases (Cog_Bia)	Cog_Bia_1	Dropped	0.822	0.902	0.784
	Cog_Bia_2	Dropped			
	Cog_Bia_3	Dropped			
	Cog_Bia_4	Dropped			
	Cog_Bia_5	0.922			
	Cog_Bia_6	0.890			
Prospect theory (Pro_The)	Pro_The_1	0.811	0.551	0.786	0.592
	Pro_The_2	0.602			
	Pro_The_3	0.789			

Construct	Variables	Factor Loadings	AVE	CR	Cronbach's Alpha
Capital Market					
Capital Market Performance (Cap_Mar)	Cap_Mar_1 Cap_Mar_2 Cap_Mar_3	0.642 0.860 0.816	0.606	0.819	0.668
Market Decision (Mar_Dec)			0.825	0.904	0.789
Past Investment Experience (Pas_Inv)			1	1	1

In the study, the factor loadings of all the used constructs must be greater than 0.5 (Hair, Jr. et al., 2016). After running the PLS algorithm, the results showed that among 36 indicators, 8 failed to attain the level of reliability for the acceptance of the indicator and suggested to improve the initial path model. Therefore, those indicators were eliminated (as indicated in Table 3 and Figure 3).

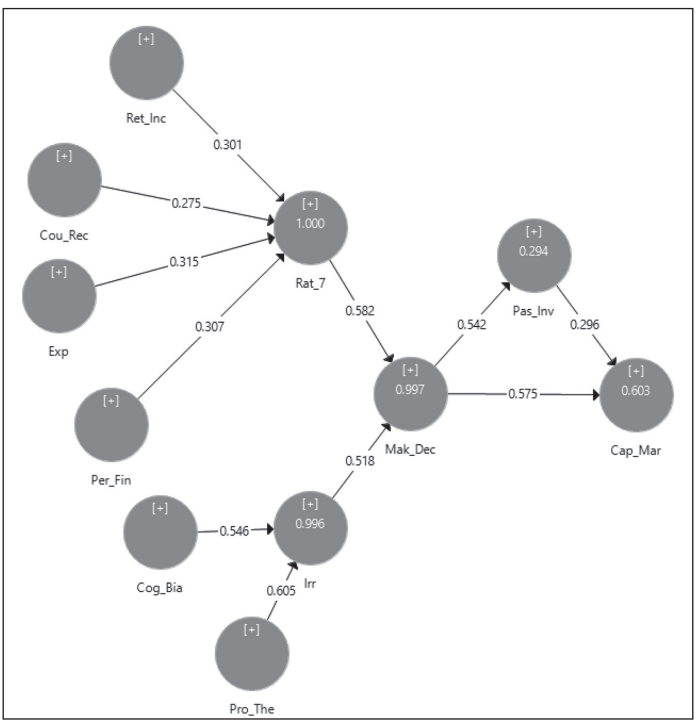

Figure 3 : PLS-SEM path model

Source: Authors' own research

For the new model, the factor loadings of all the considered constructs are greater than 0.5 (as shown in Table 3). Cog_Bia_5 has the greatest external loadings 0.922, followed by Cog_Bia_6 (0.89) and Cap_Mar_2 (0.86).

The AVE was used to find the result of convergent validity at the construct level (Table 3). The AVE values show that all the constructs have an AVE value greater than 0.50 (Bagozzi et al., 1991). The AVE values of all constructs obtained in the model are Ret_Inc (0.61), Cou_Rec (0.505), Exp (0.553), Per_Fin (0.626), Cog_Bia (0.822), Pro_Th (0.551), Cap_Mar (0.606), Irr (0.746) and Rat (0.696). The values of AVE indicate that the constructs have high levels of convergent validity.

Cronbach's Alpha and Composite Reliability (CR) were used to check reliability (Mark, 1996). Table 3 shows that the Cronbach's Alpha ranged from 0.592 to 0.838 and CR ranged from 0.786 to 0.902.

To assess the discriminant validity (Henseler, Ringle, & Sarstedt, 2014) and measure the similarity between latent variables, the Heterotrait-monotrait ratio (HTMT) criterion was used (Table 4). All values are below 0.9 (Gold, Malhotra, & Segars, 2001) and 0.85 (Kline, 2011); hence, this criterion is satisfied.

Table 4 : Discriminant Validity Assessment (HTMT)

	Cap_Mar	Cog_Bia	Cou_Rec	Exp	Irr	Mak_Dec	Pas_Inve	Per_Fin	Pro_The	Rat	Ret_Inc
Cap_Mar	-										
Cog_Bia	0.414	-									
Cou_Rec	0.493	0.447	-								
Exp	0.623	0.41	0.558	-							
Irr	0.607	0.805	0.519	0.549	-						
Mak_Dec	0.734	0.709	0.704	0.797	0.827	-					
Pas_Inve	0.609	0.256	0.348	0.443	0.421	0.541	-				
Per_Fin	0.586	0.509	0.544	0.646	0.609	0.798	0.477	-			
Pro_The	0.616	0.502	0.453	0.524	0.845	0.833	0.452	0.535	-		
Rat	0.706	0.501	0.769	0.841	0.645	0.814	0.539	0.836	0.604	-	
Ret_Inc	0.636	0.305	0.506	0.712	0.471	0.745	0.521	0.593	0.496	0.847	-

4.2 Structural Model Assessment

Before evaluating the results of the structural model, collinearity problems must be checked. After running the algorithm, the collinearity diagnostic was observed (Table 5). The results show that all VIF values are below 5, which indicates tolerance values above 0.20. Therefore, the structural model does not show collinearity.

Table 5 : VIF Tolerance Values

	Pas_Inve	Per_Fin	Pro_The	Ret_Inc
Cap_Mar	2.195			
Cog_Bia	1.609			
Cou_Rec	2.524			
Exp	1.955			
Irr		1.338		
Mak_Dec		1.338		
Pas_Inve			2.012	
Per_Fin			1.736	
Pro_The				1.415
Rat			1.428	1.415
Ret_Inc				

The values of R^2 of the dependent latent variables were observed, for assessing the predictive precision of the model. In the study, the rule of Falk and Miller (1992) was considered, i.e., the R^2 value of the endogenous constructs was greater than 0.1 (Table 6). Cap_Mar can explain 99.6% variance.

Table 6 : Variance Explained

Dependent Constructs	R Square	R Square Adjusted
Pas_Inv	1	1
Cap_Mar	0.996	0.996
Irr	0.997	0.997
Rat	0.603	0.6

Bootstrap analysis was considered to evaluate statistical significance for the path coefficient's estimates for the structural model. The values of Table 7 show that 8 path coefficients were significant under 1% level of significance.

Table 7 : The Structural Model Path Coefficient's Significance Test results

Paths	Path Coefficient	Standard Deviation (STDEV)	Confidence Intervals	
			Lower Bound	Upper Bound
Cog_Bia -> Irr	0.521	0.011	0.498	0.543
Cou_Rec -> Rat	0.264	0.009	0.248	0.285
Exp -> Rat	0.313	0.01	0.294	0.335
Irr -> Cap_Mar	0.263	0.053	0.156	0.363
Per_Fin -> Rat	0.301	0.009	0.284	0.319

Paths	Path Coefficient	Standard Deviation (STDEV)	Confidence Intervals	
			Lower Bound	Upper Bound
Pro_The -> Irr	0.622	0.02	0.588	0.665
Rat -> Cap_Mar	0.551	0.051	0.45	0.648
Ret_Inc -> Rat	0.318	0.009	0.301	0.337

4.3 Hypothesis Testing

With this information, relevant hypotheses were tested (Table 8). Here the analysis was carried on using the empirical *"t"* value and the critical value for *"t"*. All the considered hypotheses were accepted with a 99% confidence level.

Table 8 : Hypothesis Testing

Hypotheses	Path Coefficients	Sample Mean (M)	Standard Deviation (STDEV)	*t* Statistics (Bootstrap)	Decisions
Rat -> Mak_ Dec	0.582	0.582	0.011	53.988	Supported
Irr -> Mak_ Dec	0.518	0.519	0.01	49.738	Supported
Mak_Dec -> Cap_Mar	0.575	0.573	0.045	12.904	Supported
Mak_Dec -> Pas_Inv	0.542	0.541	0.053	10.144	Supported
Pas_Inv -> Cap_Mar	0.296	0.298	0.049	5.996	Supported

Note: p value< 0.01

PLS-SEM can identify significant path coefficients in the structural model as well as significant and relevant effects. Therefore, with the direct effect of one construct on another, the indirect effects produced by moderating constructs was performed. Total effect found from sum of all direct and indirect effects was calculated and presented in Table 9. The results are significant at 99% confidence interval.

Table 9 : Significance Test of the Total Effect

Path	Total Effect	Standard Error	*t* values	Confidence Intervals	
				Lower Bound	Upper Bound
Cog_Bia -> Irr	0.137	0.028	4.924	0.081	0.190
Cou_Rec -> Rat	0.521	0.011	45.601	0.498	0.543

Path	Total Effect	Standard Error	*t* values	Confidence Intervals	
				Lower Bound	Upper Bound
Exp -> Rat	0.145	0.013	11.124	0.120	0.171
Irr -> Mak_Dec	0.264	0.009	28.063	0.248	0.285
Mak_Dec -> Cap_Mar	0.172	0.016	10.945	0.141	0.203
Mak_Dec -> Pas_Inv	0.313	0.010	29.822	0.294	0.335
Pas_Inv -> Cap_Mar	0.263	0.053	4.952	0.156	0.363
Per_Fin -> Rat	0.166	0.015	11.110	0.136	0.194
Pro_The -> Irr	0.301	0.009	33.373	0.284	0.319
Rat -> Mak_Dec	0.164	0.033	4.883	0.097	0.228
Ret_Inc -> Rat	0.622	0.020	31.522	0.588	0.665

Note: p value < 0.01

4.4 Goodness-of-fit of the Model

The study used Standardized Root Mean Square Residual (SRMR), to execute the overall goodness-of-fit analysis for the model by running the PLS bootstrapping. SRMR normalizes the difference between the observed correlation and the predicted correlation.

Henseler et al. (2009) found that a lower SRMR value indicates better theoretical model adjustment. Roldán et al. (2017) said that zero SRMR represents perfect adjustment and a value less than 0.08 shows a good adjustment. Bootstrapping procedure also gives adjustment measurements- dULS and dG- where the difference between the observed correlation and the predicted correlation is expressed in terms of distributions. Unweighted least squares discrepancy and geodesic discrepancy are used to calculate these respectively (Henseler et al., 2009).

Table 10 shows the results of the goodness-of-fit for the model. It indicates that the model demonstrates an adjusted goodness-of-fit for SRMR as the original sample value is less than 0.10. The model is also significant for dG and dULS.

Table 10 : Goodness-of-fit for the Overall Model

Criteria	Original Sample (O)	Sample Mean (M)	95%	99%
SRMR				
Saturated Model	0.094	0.042	0.046	0.048
Estimated Model	0.095	0.051	0.056	0.058
d_ULS				
Saturated Model	5.911	1.183	1.418	1.524

Criteria	Original Sample (O)	Sample Mean (M)	95%	99%
Estimated Model	5.967	1.721	2.088	2.267
d_G				
Saturated Model	193.321	0.691	0.756	0.791
Estimated Model	193.442	0.742	0.816	0.855

5. DISCUSSION

The study aimed to investigate the influence of investors' behavioral factors on their investment decisions. It started by identifying the elements that give significance to the construct. After constructing an initial theoretical model to verify the relationships between exogenous variables and the endogenous variable, structural equation analysis was done using the partial least squares (PLS-SEM) modeling.

Hypothesis 1, deals with the test of the impact of the investors' rational behavior on the investment choice making in the market. The study indicates that investors' rational behavior positively impacts their investment decisions in the capital market. The situation recommends that the factors of rational behavior is the reason for which investors change the conviction to purchase, held available to be traded of shares. Rational investors gather and analyze organizations' financial statements to make informed decisions for capital market investments. Breaking down the non-financial and financial information stimulates the investors to change the speculation choice. This behavior governs investors' decision-making actions, which can analyze and interpret the information. Consequently, according to the traditional finance, we can say that rational investors ought to fundamentally examine the non-financial and financial data to take the decision of investment in light of intrinsic value of share. From this proof, the 1st hypothesis is unequivocally acknowledged.

The 2nd hypothesis concentrates on consequence of irrational behavior of investors on the process of decision-making. This shows, the choice making behavior is positively influenced by investors' irrational behavior. It recommends that the conviction or willingness of investors to purchase can be changed by factors of irrational behavioral. The conviction depended on the financial, economic, and also other information related to the natural worth of available share in the capital market. At the hour of reporting this information, the irrational behavior does not read, look at, break down, and describe information; however, they utilize short-term ways for creating speculation. The irrational behavior's outcomes result in changes in the process of investment choice making. In light of this proof, Hypothesis 2 is not rejected.

Hypothesis 3 checks whether investment decision in the capital market has a significant influence on the market performance. Test results reveal that investment choice in capital market emphatically influences the capital market performances. It implies that the investment decision significantly affects the performances of the capital market. Positive mentality can be found towards capital market performances,

since it is shaped from the past experience and information from the investor and the experiences of other people, which head in a different path because of the impact of individuals, e.g., observers, friends, and regulators. Assuming the investors' positive behavior towards capital market performances, whereas different investors or their peers do not uphold his/ her discernment, at that point, inconsistently, the investors' understanding of stock indices can be changed. Accordingly, investors' investment choice in capital market influences capital market performances. With this proof, Hypothesis 3 agreed that investment decisions in capital market are truly feasible on performances of the capital market in Bangladesh.

The 4th hypothesis is connected with the relationship between investment decision in capital market and past investment experience. In the capital market, investment investors are not getting the same experience as well as their capacity to interpret the experience is not same. This behavior additionally can alter the observations about investment decision in the capital market. With the given proof, the stated hypothesis is confirmed.

Hypothesis 5 tests whether past investment experience impacts the market execution. The experimental outcome shows that past investment experience decidedly influences the market execution. It implies that investors' past investment experience can change the insights about capital market performances. A singular investor's investment decisions would essentially follow two kinds of thinking- behavioral finance and traditional finance. These sorts of thinking can be connected with risk awareness of individuals. Behavioral finance represents subjective risk criteria while traditional finance represents the objective risk criteria. The perceptions about the stock market performances can be changed by these two measures. With this proof, Hypothesis 5 is acknowledged.

6. CONCLUSION

The primary motivation behind this study was to see the influence of different elements of investors' behavior, for e.g., investors' behavior as rational and irrational and their investment decision-making behavior on perceptions towards capital market performances. The aftereffects of the review demonstrated that capital market performances are positively affected by investors' behavior.

The finding shows that investors are somewhat rational as well as irrational on the grounds that they gather total financial information and utilize this information for investment decision-making and furthermore utilize easy routes for independent decision-making. It is recommended here that once financial investors' behavior improves, the performances of the capital market will likewise go high. Investors' behavior should be improved to select appropriate investment strategies to make safe investments and earn optimal return in the capital market.

7. RECOMMENDATIONS

Fundamentally, the investors need to consider different factors prior to picking a stock investment decision. They should consider the economic factors like GDP, inflation rate, etc., before investing as these indicate the performance of the capital market. Aside from different elements examined by the study, the investors ought to likewise think about the nature of investment avenues and their past performance in the market. Investors should invest with the aim of long-term holding rather than for short-term gains. In the early stage of investment, they can start with less risky investments, like mutual funds, for developing their knowledge. After gathering a good knowledge of stock markets, they can go for equity investments and after a certain period of time, they can diversify their investments.

8. FUTURE RESEARCH SCOPE

The future research scope of the study titled "Behavioral Factors and Investment Decision: A Study on the Capital Market of Bangladesh" could encompass several avenues for further investigation. Here are some potential directions for future research:

(a) Longitudinal Studies: Conducting longitudinal studies to track changes in investor behavior over time will provide insights into the dynamic nature of behavioral factors. Understanding how these factors evolve in response to market conditions, economic developments, and regulatory changes can contribute to a more nuanced understanding of investor decision-making.

(b) Impact of Technological Advancements: Investigating the impact of technological advancements, such as the rise of online trading platforms and the integration of artificial intelligence in financial decision-making, on behavioral factors in the Bangladeshi capital market will discover the role of technology in the decision-making process. This could include studying how technology influences investor decision processes and whether it exacerbates or mitigates certain behavioral biases.

(c) Role of Financial Education: Assessing the effectiveness of financial education initiatives in mitigating the influence of behavioral factors on investment decisions can offer interesting insights for the relevant governing bodies. Future research could explore the specific components of financial education programs that are most beneficial in the Bangladeshi context and how they contribute to improved decision-making.

(d) Behavioral Factors in Different Market Conditions: Examining how behavioral factors manifest in various market conditions, including periods of volatility, economic downturns, and bull markets. Understanding how investor behavior responds to different market environments can provide valuable insights for both academics and practitioners.

(e) Cross-Cultural Comparisons: Extending the study to include cross-cultural comparisons with other emerging markets or global financial hubs. Comparing the behavioral factors influencing investment decisions in Bangladesh with those in other countries can highlight cultural specificity and contribute to a broader understanding of behavioral finance across diverse contexts.

(f) Incorporation of Neuroscientific Methods: The interdisciplinary approach of exploring the integration of neuroscientific methods, such as neuroeconomic experiments or brain imaging, to uncover the neural basis of certain behavioral biases in investment decision-making can offer a more in-depth understanding of the cognitive processes involved in financial decision-making.

(g) Policy Interventions and their Efficacy: Evaluating the effectiveness of policy interventions aimed at influencing investor behavior. This could involve assessing the impact of regulatory measures, investor protection initiatives, and market reforms on mitigating the negative effects of behavioral biases.

(h) Behavioral Factors in Specific Investor Segments: Investigating how behavioral factors differ among various investor segments, such as retail investors, institutional investors, and foreign investors, can help comprehend the unique behavioral dynamics of different investor groups that can ultimately lead to the development of targeted interventions and educational programs.

Future research in Bangladesh's capital market can enhance the understanding of behavioral factors, providing practical insights for stakeholders, and advancing in the field of behavioral finance.

REFERENCES

Alam, S. G. S. (2012). Recent trends in capital market of Bangladesh: critical evaluation of regulation. Thesis.

Alquraan T., Alqisie A., & Shorafa A. A. (2016). Do Behavioral Finance Factors Influence Stock Investment Decisions of Individual Investors? (Evidences from Saudi Stock Market). *American International Journal of Contemporary Research, 6*(3), 159-169.

Al-Tamimi, H. A. H. (2006). Factors Influencing Individual Investors Behaviour: An Empirical study of the UAE Financial Markets. *The Business Review, Cambridge, 5*(2), 225-232.

Al-Tamimi, H. A. H., & Kalli, A. B. A. (2009). Financial literacy and investment decisions of UAE investors. *Journal of Risk Finance, 10*(5), 500-516. https://doi.org/10.1108/15265940911001402

Amit S. (2016). *Bangladesh capital markets: An overview*. The Financial Express. https://thefinancialexpress.com.bd/views/bangladesh-capital-markets-an-overview

Azam, M., & Kumar, D. (2011). Factors Influencing the Individual Investor and Stock Price Variation: Evidence from Karachi Stock Exchange. *Australian Journal of Basic and Applied Sciences, 5*(12), 3040-3043.

Baeclay, D. W., Higgins, C. A., & Thompson, R. (1995). The partial least squares approach to causal modeling: personal computer adoption and use as illustration. *Technology Studies, 2*(2), 285-309.

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991) Assessing Construct Validity. *Organizational Research Administrative Science Quarterly, 36*, 421-458. http://dx.doi.org/10.2307/2393203

Bakar, S., & Yi, A. (2016). The Impact of Psychological Factors on Investors' Decision Making in Malaysian Stock Market: A Case of Klang Valley and Pahang. *Procedia Economics and Finance, 35*, 319-328. https://doi.org/10.1016/S2212-5671(16)00040-X

Cooray, A. (2003). Factors Affecting Investments and Business confidence with Special Regard to political Stability in Sri Lanka.

Davari, A., & Rezazadeh, A. (2013). Structural equation modeling with PLS. Tehran, Iran: *Jahade University, 215*(2), 224.

Durdyev, S., Ihtiyar, A., Banaitis, A., & Thurnell, D. (2018). The construction client satisfaction model: A PLS-SEM approach. *Journal of Civil Engineering and Management, 24*(1), 31–42.

Falk, R., & Miller, N. A. (1992). *Primer for Soft Modelling* (1st ed.). Akron, OH, USA: The University of Akron Press. ISBN 0-9622628-4-6.

Fares, A. R. F., & Khamis, F. G. (2011). Individual Investors' Stock Trading Behavior at Amman Stock Exchange. *International Journal of Economics and Finance, 3*(6), 128-134.

Geetha, S. N., & Vimala, K. (2014), Perception of household individual investors towards selected financial investment avenues. *Procedia Economics and Finance, 11*, 360-374.

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information System, 18*, 185–214.

Hair, Jr., J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2013). *A primer on partial least square structural equation modeling*. Sage, thousand Oaks.

Hair, Jr., J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA, USA: Sage Publications.

Hair, Jr., J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. A. (2017). *Primer on Partial Least Squares Structural Equation Modeling* (2nd ed.). Thousand Oaks, CA, USA: Sage Publications. ISBN 978-1-4833-7744-5.

Hair, Jr., J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V.G. (2014) Partial least squares structural equation modeling (PLS-SEM). *European Business Review, 26*, 106–121.

Henseler, J., Ringle, C. M., & Sarstedt, M. A. (2014). New criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*, 115–135.

Henseler, J., Ringle, C. M., & Sinkovics, R. (2009). The Use of Partial Least Square Path Modeling in International Marketing. *Advances in International Marketing, 20*, 277–319.

Hossain, M. F., & Nasrin, S. (2012). Factors Affecting Selection of Equity Shares: The Case of Retail Investors in Bangladesh. *European Journal of Business and Management, 4*(20), 110 - 124.

Jain, D., & Mandot, N. (2012). Impact of Demographic Factors on Investment Decision of Investors in Rajasthan. *Journal of Arts, Science & Commerce, 3*(2, 3), 81-92.

Kinslin, D., & Velmurugan, V. P. (2018). Investors' Behavior and Perceptions Towards Stock Market: Structural Equation Modeling Approach. *International Journal of Engineering & Technology, 7*(4.36), 586-591.

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling*. New York, NY, USA: Guilford Press.

Le, P. L., & Doanl, T. T. H. (2011). *Behavioural factors influencing individual investor decision making and Performance, A Survey at the Ho Chi Minh Stock Exchange*. Umea School of Business, China.

Levine, R., & Zervos, S. (1998). Stock Markets, Banks, and Economic Growth. *American Economic Review, 88*(3), 537-58.

Likert, R. (1972). *Likert technique for attitude measurement, in W.S. Sahakian (ed.), Social Psychology: Experimentation, Theory, Research*. Scranton, USA: Intext Educational Publishers.

Lodhi, S. (2014). Factors influencing individual investor behaviour: An empirical study of city Karachi. *Journal of Business and Management, 16*(2), 68-76.

Mark, R. (1996). Research Made Simple: *A Handbook for Social Workers*. Thousand Oaks, CA, USA: Sage Publications, pp. 413. ISBN-0-8039-7426-4

Masomi, S. R., & Ghayekhloo, S. (2011). Consequences of human behaviors in Economic: The Effects of Behavioral Factors in Investment decision making at Tehran Stock Exchange. *International Conference on Business and Economics Research, 1*, 234-237.

Mathews J. (2005), A situation-based Decision-making process. *Journal of Organisation Behaviour, 4*(3), 19-25.

Merikas A. A., Merikas A. G., Vozikis G. S., & Prasad D. (2008). Economic factors and individual investor behavior: The case of the Greek stock exchange. *Journal of Applied Business Research, 20*(4), 93-98.

Mojgan, S., & Ali, M. (2011). Examining the Effect of Earnings per Share and Cash Dividends per Share on Investor Decision Making in Tehran Stock Exchange from the Capital Market Participants' View. *American Journal of Scientific Research, 36*, 99-106.

Rashid, M., & Nishat, M. A. (2009). Satisfaction of Retail Investors on the Structural Efficiency of the Market: Evidence from A Developing Country. *Asian Academy of Management Journal, 14*(2), 41–64

Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing, 26*(4), 332–344.

Rigdon, E. E., Sarstedt, M., & Ringle, C. M. (2017). On comparing results from CB-SEM and PLS-SEM: Five perspectives and five recommendations. *Marketing ZFP, 39*(3), 4–16.

Ringle, C., Wende, S., & Becker, J. (2015). *SmartPLS 3. Bönningstedt: SmartPLS*. Available online: http: //www.smartpls.com (accessed on 18 February 2018).

Roldán, J. L., & Cepeda, G. (2017). Modelos de Ecuaciones Estructurales basados en la Varianza: Partial Least Squares (PLS) para Investigadores en Ciencias Sociales.

Presented at *Conference PLS-SEM, Modulo 1 CFP*, Universidad de Sevilla, Sevilla, Spain.

Sarstedt, M., Hair, J. F., Ringle, C. M., Thiele, K. O., & Gudergan, S. P. (2016). Estimation issues with PLS and CBSEM: Where the bias lies! *Journal of Business Research, 69*(10), 3998–4010.

Seyyed, A. P. O. (2010). Emerging Stock Market Performance and Economic Growth. *American Journal of Applied Science, 7*(2): 265-269.

Shaikh, A. R. H., & Kalkundrikar, A. B. (2011). Impact of Demographic Factors on Retail Investors' Investment Decisions- An Exploratory Study. *Indian Journal of Finance, 5*(9), 35 – 44.

Shanmugsundaram, V., & Balakrishnan, V. (2011). Investment Decisions-Influence of Behavioural Factors. *Indian Journal of Finance, 5*(9), 25 – 34.

Sharma, M., & Gupta, S. (2011). Role of Subjective Norm in Investment Decision Making of Casual Investors. *Indian Journal of Finance, 5*(11), 39 - 46.

Streukens, S., & Leroi-Werelds, S. (2016). Bootstrapping and PLS-SEM: A step-by-step guide to get more out of your bootstrap results. *European Management Journal, 34*, 618–632.

Sultana, S. T., & Pardhasaradhi, S. (2012). An Empirical Analysis of Factors Influencing Indian Individual Equity Investors' Decision Making and Behavior. *European Journal of Business and Management, 4*(18), 50 – 61.