MEDIATION EFFECT OF FINANCIAL SELF-EFFICACY ON INVESTMENT INTENTION OF REAL ESTATE INVESTORS – USING STRUCTURAL EQUATION MODELLING

R. HEMAVATHY[1*], KIRUPA PRIYADARSINI M[2]
PSG Institute of Management,
PSG College of Technology, Coimbatore, India.
*Corresponding Author e-mail: hemafi.research@gmail.com
[2]kirupa@psgim.ac.in

Abstract

Projected theoretical model explores the mediating effect of Financial Self Efficacy (FSE) between the Perceived Behavioural Control (PBC) and individual Investment intention (INT) in Real estate sector. Using verified questionnaire, real time data were collected from the study areas. To explore the relationship among these variables, structural equation model was used to predict the path between PBC and INT. Moreover this study measure the strength of indirect effect of PBC on INT with the mediation effect of FSE. The findings reveal that investors not only act rationally, as per the assumptions of traditional finance theory, instead they make enormous irrational judgments based on their personal perceptions. This research will be more realistic and provide more substantial insight into the investment intention of individuals based on behavioural finance theory.

Introduction

Recent development in behavioural finance trigger the financial analyst dimensions to view the investment decision in different angle (Barberis and Thaler, 2003; Shefrin, 2000). Theory of Planned behaviour proves that Investment behaviour is directly influenced by the Investment intention (INT) and Perceived behavioural control (PBC). In this study investment intention is taken as outcome variable, and other two constructs i-e PBC and Financial Self-Efficacy were taken as latent variable. Real estate investments involves huge amount of money hence considering investor's FSE can be the considered as a predominant variable to analyse the investment intention. Investment refers to the periodical or occasional returns/benefits as well as capital appreciation. As per the words of Rówinska (2012) "investments constitute the basic way to increase capital". Rational factors such as price of the property, market condition, property specifications, surrounding environment were widely studied in earlier research (Hsu, 2014). Investors have the belief that the real estate investment results in capital appreciation as well as security for their investment. Individual Financial Self-Efficacy can gives clarity about their own financial capability. In this research, two behavioural factors such as perceived behavioural control and investment intention were tested to understand the strength of relationship between these two variables along with financial self-efficacy. Self-Efficacy of investor is included as the new factor and analysed whether it has an impact on investment decision.

Present scenario in India provides a wide scope for real estate investments. Indian Government has introduced new schemes such as Pradhan Mantri Awas Yojana (PMAY), creating National Urban Housing Fund and Smart City Projects to develop the real estate sector. Migration of people from rural and semi urban towards the Tier I, Tier II & Tier III cities create

the demand in the real estate sector. Available resources is not adequate for the growing population. Meeting these expanding land-use needs and laws in the most efficient way possible has pushed the decision-making process to a breaking point (Derya Ozturk et.al., 2020). To aid and promote investor to invest in re toal (retail) estate market Securities and Exchange Board of India (SEBI) launched REIT (Real Estate Investment Trust) (IBEF, 2019). Purpose of any Real estate investment is to make profit by reselling or by renting. Most of the investor think that it is a secured way of investment, there are lot of chances for capital appreciation and if investors buy their property using housing loans then it ensures tax benefits. For the past one decade (2010-2020) the price of both residential and commercial property were increased. Increasing price percentage of real estate in India shows that real estate investments will never fade.

Objectives

Primary objective of this study is to analyse the mediation effect of FSE on PBC and Investment intention. Moreover, to identify the relationship among these three variables are significant. Since these variables fetched from earlier research whether the connectivity among the PBC, FSE and Investment intention specifically in real estate investment have impact on each other.

Hypothesis Developed

Following hypotheses were developed in order to prove proposed theoretical model statistically.

H_1 – Financial Self-Efficacy has significant effect on Perceived Behavioural Control

H_2 - Financial Self-Efficacy has significant effect on Investment intention

H_3 - Perceived Behavioural Control has significant effect on Investment Intention

Literature review

Behavioural intention is the main component which connects the behaviour with psychological factors. Investment intention means whether the individual investor intends to invest in real estate in nearby days or in particular period. Perceived behavioural control is the factor which either eases or hampers a particular action. Self-confidence of an individual on their ability is otherwise called as Self-Efficacy which gives assurance to move forward. In this study financial self-efficacy i-e confidence of investor about their financial management was taken as one of the factor to understand the financial capacity of investors. Final decision on investment depends on the strength of investment intention which stimulates the investor to perform or not to perform the particular action. Sometimes people take the decision just by flipping the coin, without any loss (Mariela E. Jaffé, 2020). The investment intention of investor to invest in particular investment is based on the factors such as impel, insolence and available information. Ajzen & Fishbein (1991) analysed that the individual behaviour is stimulated by the strength of their investment intention. Previous studies revealed that action or behaviour of a person is dependent on the investment intention model (Hasbullah et. Al, 2015). Based on the theory of planned behaviour few more variables such as knowledge, reputation and religious values were added along with subjective norms, attitude, perceived behavioural control. All the above comprised variables play a significant role in investment intention to involve in green investment (Ismah Osma et. al., 2019). Investment decision in real estate is influenced more by the attitude and perceived behaviour control but subjective norms doesn't have significant effect on this decision. (Hemavathy Ramasubbian et. Al, 2018).

Tawfik (2015) studied the factors influencing the investment behaviour of real estate investors by using TPB. This study concludes that attitude of investors, importance of his family members' opinion in real estate investment decision and behavioural factors impact on their investment intention. Investment intention is not always stable. Sometimes it varies based on the time interval where there may be changes in correlation between investment intention and investment behaviour.

Perceived Behavioural Control is another TPB variable that refers to the external and internal factor which affects their decision in ease or difficult manner (Ajzen, 2002). Francis et al. (2004) states that PBC has control on individual behaviour and confidence level to execute or notion to execute particular action. Many studies revealed that PBC is the predictor of Investment intention and there is strong relationship between these two in performing the particular behaviour (Baker et al., 2007; Blanchard et al., 2008; Teo & Lee, 2010). Person's behavioural belief influences the investment intention and motivates to perform the task. Behavioural psychology refers that self-efficacy means the self-agency which every individual believes that they can accomplish the goal and cope up with the challenges (Gecas, 1989; Bandura 2006). Attitude of individuals (whether they are pessimistic or optimistic), personal behaviour, nature of accepting challenges were the elements comprising the self-efficacy (Bandura, 2006). Financial Inclusion is affected by the self-confidence of individual in financial decisions (Mindra et.,2017). Along with financial knowledge, financial self-efficacy is more importance for financial decisions (Postmus, 2011; Shim et al, 2009). There is highly positive correlation between financial well-being and financial efficacy of individuals (Vosloo et al., 2014).

Interrelationship between FSE, PBC with Investment intention

Ajzen's (1991) Theory of Planned Behaviour (TPB), assumes that people choose their own behaviours, which has been studied by social psychologists. Individuals' attitudes, perceived behavioural controls (PBC) and subjective norms, all the three variables influence their investment intentions to conduct an action when making this decision. Investment intentions and self-predictions were found to contribute for much less variance than attitudes, PBC and subjective norms. PBC, in particular, was responsible for 27% of the variation in all behaviours (Armitage & Conner, 2001).

Researcher interested to know the role of PBC in particular with investment intention, according to Ajzen (2002), investigated the situations where people do not have comprehensive volitional control over the specific behaviour. While comparing the other components of TPB, PBC is the only factor which affect performance of behaviour directly without the intervention of investment intention. Contradictorily, according to the study of Trafimow (1996) examined the theory of reasoned action (Fishbein, 1967), past behaviour, PBC and subjective norms were not significant predictors of students' investment intentions (Trafimow, 1996). The TPB employs a complicated causal logic. To put it another way, attitudes, subjective norms, and PBC are all intended to predict behavioural investment intentions. Behavioural investment intentions are thought to be the direct cause of behaviour. In the intermediate user group, PBC had substantial relationship with investment intention but moderately negative (Joy Parkinson, 2017). A PBC measure allows individuals to assess the effect whether these constructs may have the skill to carry out a particular behaviour and, as a result, their investment intention to carry out the behaviour (Ajzen, 1991). According to Ajzen, the addition of PBC enhances prediction accuracy when studying actions that are not under volitional control since it permits these dimensions to modify what would otherwise be an excessively optimistic assessment of

ability or investment intention to undertake a behaviour (Danielle & Katherine, 2006). Mathieson proved that behavioural control impact an information system user's investment intention to utilise it. Taylor and Todd's study, which looked at users in a computer resource centre, similarly discovered a positive association between PBC and investment intentions. Tan and Teo revealed that PBC variables might predict the desire to use IB services in the setting of IB. Each prejudicing factor influences behavioural investment intention in an indirect way. Behavioural investment intention is directly affected by behavioural attitude, subjective standards, and perceived behavioural control (Tsuen-ho Hsu, 2006).

Previous studies examined that there is a strong relationship between the self-efficacy and investment intention which have been empirically established. In few research they find that self-efficacy have a great impact on behavioural investment intention (Parcel et al., 1995; Terry & O'Leary, 1995; White, Terry, & Hogg, 1994). Moreover it weakens the impact of perceived behavioural control which was found that addition of self-efficacy to the research model for predicting effects of PBC on investment intention which shows low association. Even though both these constructs are influencing the investment intention, their association is in different level. While dealing with self-efficacy theory it was assumed that hierarchical program goal importance and limitations, would predict investment intention (Jeffrey.,2004). Self-efficacy (SE) of an individual highlights the prominence of understanding how grades of self-efficacy predicts how eating, healthy behaviour and physical activity helps to attain weight management goal (Joy Parkinson, 2017). Creative organization allows to predict the FC and SE which results in better prediction of behavioural investment intention and PBC. Detailed indepth analysis is required to give concrete answer about perceived control and the way it differ from self-efficacy and how both act on investment intention. Kirschs examined the phobic context by measuring the significance between the self-efficacy and investment intention (Kirsch, 1982).

Earlier self-efficacy otherwise known as perceived difficulty of a behaviour (Povey et al., 2000), his or her self-assurance to execute an action (Armitage & Conner, 1999a). Nowadays so many research discussion to study the relationship between perceived behavioural control and self-efficacy. Their studies vividly show that these constructs detailed the behaviour clearly (Armitage, 1999; Manstead & van Eekelen, 1998; Povey et al., 2000; Terry & O'Leary, 1995). Anyway this underlying beliefs were categorized by factors which indicates both were different. A high level of self-efficacy is thought to lead to a favourable customer attitude. Based on psychological characteristics such as technology fear, self-efficacy, and perceived behavioural control, the perceived convenience of biometrics in online banking will have a favourable influence (Al-Janahi N, et. al., 2021).

Perceived behavioural control is more concerned about how one can act or perform easily or difficult in the presence of skills. PBC focus more on controlling behaviour rather than skills (Ajzen, 1988). On the other hand, Self-efficacy aids to self-examining ourselves and takes the decision what one can do with those, finding those skill set more important than focusing on achieving the goals and behaviour control (Bandura, 1991). Some other understanding for both this constructs relationship reflect belief of individual about their internal factors. As per Povey et al., 2000 study self-efficacy predicts investment intention better than perceived behaviour control, and the same was predicted earlier by Terry & O'Leary (1995), but in both studies operational definition for Perceived behaviour control and self-efficacy is different hence comparing the results was meaningless. Few results indicates that personal skills is motivating which leads to behaviour atlast it can be accepted that Self-Efficacy will be another cognitive construct of Theory of Planned behaviour. Influencing factor i-e personal skills and feasible

other factors must go through perceived behaviour control to effect on behavioural investment intention. All the disposing factors have indirect effect on investment intention (Hsu, Wang, Wen, 2006). In 2002, Ajzen developed the new perception about the connection between self-efficacy and perceived behavioural control. "The overarching idea of perceived behavioural control is made of two components: 'Self-efficacy (primarily concerned with the ease or difficulty of doing a behaviour) and controllability," he explained. Eleni L. Tolma et. al., (2006) aims to examine what if the participants in this study's reactions to items about perceived behavioural control and self-efficacy represented either single or two-factor model. The findings revealed a two-component model with a basic structure. The first element was the belief in personal control, in which the behavioural outcome may be changed by external or internal factors.

Research Methodology

Developing Cities or towns provides more chances for sustainable growth due to migration of people towards city for education, jobs etc. Migrating population seeking for new investment in real estate, but they have some constraints when they think about the real estate investment such as collecting of information about properties, their expectations, budget and their feelings about investment. This study particularly targets the common people whose life time dream or achievement is purchasing a house or land for their family. Survey was carried out in 12 blocks of Coimbatore district. This study area has a wider scope for the real estate investment because it is one of the fast growing Tier 3 city in the Tamil Nadu, India. Lot of people migrated to this city for employment and educational reasons. This study includes the individual investors who have invested in the real estate. It is difficult to select the respondents who have recently invested in real estate. Hence, with the help of house brokers and real estate promoters the respondents were selected in different blocks of the city who have invested in developing areas of the city. Sample size has been determined using Cochran,'s formula, assuming p (maximum variability) at 95% confidence level and $\pm$ 5.0 percent precision. $N = Z2*(p)*(q)/(e)2$ N= $(1.96)2*(0.5)*(0.5)/(0.05)2 = 384$. Researcher approached 410 investors from the selected blocks, out of that 10 were less responded questionnaires, which were considered as invalid and finally sampling frame was concised to 400 samples. To get samples multistage sampling was adopted. Sampling area such as blocks were selected using lottery method. In the next level to choose the respondents' purposive sampling technique was adopted because the main purpose of this research work is to analyse the investment behaviour of real estate investors. Not all the common people invested in real estate hence before circulating the questionnaire it was ensured that whether they invested in property. Collected data were analysed using Excel, SPSS and PLS software.

Well-structured questionnaire was designed using validated scales. Investment intention and PBC scales were adopted from the Ajzen's (1991) study on Theory of Planned Behavioural questionnaire. Based on Schwarzer and Jerusalem (1995) self-efficacy scale, Lown had developed the FSES (Financial Self-Efficacy Scale) which was applied in this study. Totally 20 statements were considered in this study which includes Investment intention, FSE each containing six statements such as " I have ability to manage finance", "I can stick to my spending plan", Never use credit for unexpected expenses". In PBC there were eight statements which includes "I have enough opportunity, time, money, skill" etc. Finally, Investment intention consist of six statements like, "I intend to invest in upcoming months", "Intend to save for future investment". Using Five point Likert scale, all statements measured strongly agree as / to 5 and subsequently strongly disagree measured as 1. Proposed theoretical

model was built by connecting these constructs. Collected data was analysed using the Structural Equation Modelling to predict the relationship among the variables.

Projected Research Model

Fig. 1 Conceptual Framework
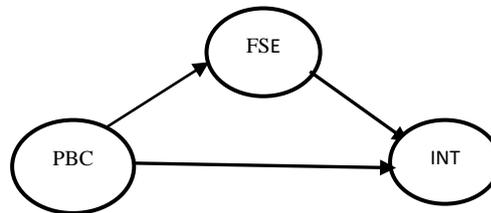
As per Hair et al. (2006) suggestions, hypothetical model was developed in order to avoid bias accompanied with statistical credentials. Above constructed Fig 4.1 is the projected hypothesis model to test the mediation effect among latent variables. Researcher conducts the pilot study in order to check the validity of questionnaire and found that the Cronbach's alpha (α) coefficients of selected items such as PBC, INT and FSE were in the range 0.857, 0.788, and 0.827. As per Nunnally (1978) reliability coefficients of constructs were prominent than its accepted value 0.70. Aim of this study is to examine whether FSE (MV) mediates the effect of PBC (IV) on Investment intention (DV). To assess the indirect effects, bootstrapping is one of the apt non-parametric method (Preacher et al., 2007) to find the interrelationship between FSE, PBC and Investment intention. Bootstrapping test was used to predict the significance of independent variable on dependent variable through mediating variable. Indirect effect was assessed by regressing FSE (MV) and PBC (IV) and subsequently regressing investment intention (DV). On the basis of available information bootstrap confidence intervals were created for the indirect effect.

Results & Discussion

Structural Model Validation

To explore variables behaviour in the hypothesized model, data was employed to statistical analysis using covariance based structural equation modelling (SEM) and was implemented by using the PLS (Partial Least Square) approach. Two step process were done to test this model. In the first phase, the casual relationship and magnitude of those variables path analysis was tested. Path analysis is the extended version of regression analysis.

In path analysis first effect where the exogenous effect on endogenous is referred as direct effect and when the effect passed through another exogenous variable no then it is indirect effect. Mediation effect can be calculated by summarizing the direct and indirect effect in order to get total effect (Hair et. al., 2013).

Fig. 2 Path Analysis
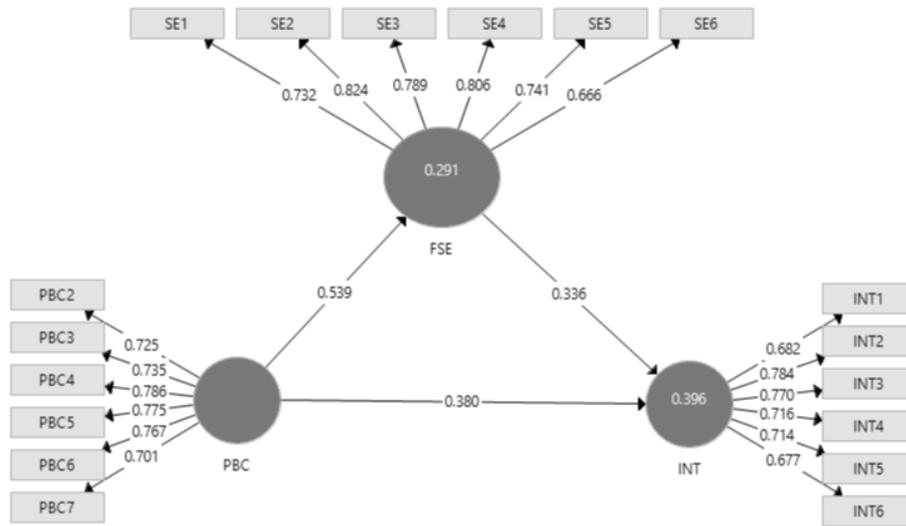
In the proposed model, path analysis is used to measure the direct and indirect effect. FSE has direct effect on investment intention as well as indirect effect from FSE to PBC to Investment intention. Direct effect otherwise called as inner model loading of FSE on investment intention path has a coefficient value of 0.246, usually path coefficient value lies between 0 to1. Value closer to zero shows the weak path. On the other hand, path coefficient between FSE and PBC shows the positive coefficient value 0.511. The indirect effect otherwise known as outer model loading of FSE towards investment intention through PBC, the path coefficient value is 0.539 (PBC to FSE) and 0.336 (FSE to Investment intention). In the above analysis R-square value of endogenous latent variable was shown inside the ellipses. Investment intention is the endogenous variable with the R-square value 0.396 which means 39% of the variance in investment intention was explained by this model.

Table 2- Direct, Indirect & Total Effect of FSE between PBC and INT

Path	Direct	Indirect	Total (Direct +Indirect)	Mediation Effect
PBC→INT	0.380	N/A	0.380	Accepted
PBC→FSE→INT	0.380	0.539*0.336=0.181	0.561	Accepted

Source: Primary Data

From the path analysis, total effect can be calculated by sum of the direct and indirect effect. PBC effect on FSE is 0.539 which is positive and higher than the total effect of another path of PBC on FSE and Investment intention which results in 0.561. In SEM, evaluation of Discriminant validity gives the clarity that latent variables or constructs are independent of each other (HAIR et al., 2014). This can be evaluated by cross loadings of each latent variable with high loadings (CHIN, 1998). If Indicators loaded well on intended variables then it is a good model and in cross loadings, most of the factors have more than 0.70 value which shows strong influence on the variable. Next, thumb rule for accepting the Cronbach's Alpha value is .70 but in this study all the constructs have more than .80 which is considered as good and

acceptable. In this study alpha value for the three constructs were 0.854, 0.843, and 0.819, which shows internal consistency of the data.

Table 3 – Factor Loading

| Construct	Variables	Standardized Loading	Cronbach's Alpha	Construct Reliability	AVE	VIF
Inv. Int	Int1	0.682				
	Int2	0.784				
	Int3	0.770	0.819	0.869	0.526	1.410
	Int4	0.716				
	Int5	0.714				
	Int6	0.677				
PBC	PBC2	0.725				
	PBC3	0.735				
	PBC4	0.786	0.843	0.884	0.561	1.000
	PBC5	0.775				
	PBC6	0.767				
	PBC7	0.701				
FSE	FSE1	0.732				
	FSE2	0.824				
	FSE3	0.789	0.854	0.892	0.580	1.410
	FSE4	0.806				
	FSE5	0.741				
	FSE6	0.666				

Next to the convergent validity, internal consistency can be observed by Cronbach's Alpha (CA) and Composite Reliability (CR). This CA and CR helps to examine the reliability of sample. According to HAIR et al. (2014) the CA values should be greater than 0.6. For exploratory analysis values are 0.6 to 0.7 or if it range lies between 0.7 to 0.9 it will be in satisfactory level. All the construct in this model CR values are FSE (0.892), PBC (0.884) and Investment intention (0.869) which means it is adequate. Next indicator is AVE, where the value should be greater than 0.50 is highly acceptable. All the constructs AVE is highly recommended in this study. In this assessment model collinearity issues has been tested by verifying the VIF (Variance Inflation Factor), VIF can be calculated for each constructs by using R2. It is common thumb rule that VIF value is less than 10 means collinearity is not in the critical ground. Since all the VIF values (Hair et al., 2017, Diamantopoulos and Siguaw, 2006) are less than threshold of 3.3 further this analysis can continue with regression, provided the in a well-fitting model structural VIF coefficients should not surpass 4.0 (G. David Garson, 2014).

Table 4 Model Fit

	Saturated Model	Estimated Model
SRMR	0.067	0.067
d_ULS	0.777	0.777
d_G	0.252	0.252
Chi-Square	580.889	580.889
NFI	0.818	0.818

Standardized Root Mean Square Residual (SRMR) ranges between 0 to 1.0. In this study SRMR value is .06 which is acceptable. Normed fit Index (NFI) value closer to 1 i-e 0.818 indicating a good fit (Hu and Bentler, 1999).

Fig.3 SEM with t tests obtained via the Bootstrapping module of the Smart PLS
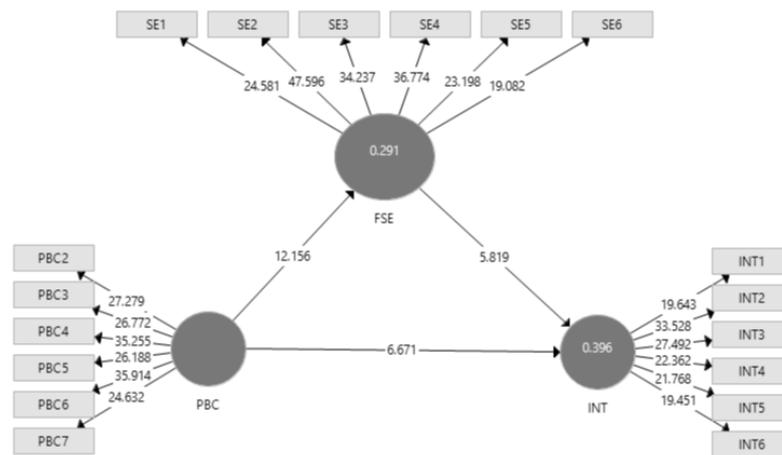
In bootstrapping every sample is resampled again. Output of this analysis gives Q square and F square values which help to understand whether the model is perfect or not. Stone-Geisser Indicator otherwise known as sample re-use technique (Q2) is the evaluation criteria for the multifaceted model using SmartPLS., if the model is perfect then the value should be more than 0 and without error, and the value of Q2=1 (Stone 1974; Geisser 1975; Chin 2010). In the path diagram Investment intention values undergo t-test for significance and it is found that t-test values are significant at 0.05 to greater than 1.96 it means all paths are more than .001 probability level. Q square found predictive relevance between endogenous variables. Next indicator is F2 i-e Cohen's indicator is obtained by including and excluding the constructs. As per HAIR et al.,(2014) if the value is 0.35 then it is considered as large one, 0.15 means medium and .02 refers as smaller one. If exogenous variable is removed then it causes changes in R square value which is denoted as F2. In this model, exogenous variable is not newly included or excluded hence the R Square value remains the same.

Table 5 Path Coefficient Analysis

No. of Hypothesis	Paths	Path Coefficient	Results
H1	PBC→FSE	12.156	Accepted
H2	FSE→INT	5.819	Accepted
H3	PBC→INT	6.671	Accepted

Direct effect of variable on another variable is indicated by path coefficient. If Path coefficients are standardized it can be estimated by correlations. Path coefficient value should be greater than 1. Above table clearly indicates that the causal relationship between the constructs i-e PBC towards FSE is 12.156 which shows the strong relationship, hence H1 is accepted and FSE towards investment intention is 5.819. It is clear that there is relationship exists between FSE and Investment intention, hence H2 is accepted and PBC also have strong relationship with Investment intention with the value of 6.671. So H3 is accepted. From the path analysis it is understood that all the variables are greater than 1 hence this proposed model is accepted statistically. Fishbein et al., 2001. Attitude, subjective norms and PBC are the three constructs which are considered as determinants of investment intentions. Generally, abundant perceived behavioural control lead to robust investment intentions to perform a particular behaviour.

Model Fit & Quality Indices

The inclusion of such controlled mediation assumptions in theory development could be beneficial since they assist to explain how the indirect effects change at different degrees of moderating circumstances. The following are some examples of how theoretical concerns may be turned into theory-based interventions: Investment intentions would be promoted using the simple mediation model as a starting point for interventions which would lead to more planning and consequently, greater productivity. Collected data is supporting the proposed research framework and the model is fit. This was supported by earlier research, Terry and O'Leary (1995) that examined the TPB and Perceived Self Efficacy data which were employed into statistical analysis by using Structural Equation Modelling and he confirmed both are different latent variable fit to the proposed model. For convergent validity, composite reliability is chosen instead of Cronbach's alpha in a reflective model. Composite reliability in this model is more than 0.7 hence it is considerably good for confirmatory research. Next indicator is AVE value of latent variable exceeding .5 (Höck & Ringle, 2006) which indicates that this factor explains more than half the variance and is an adequate model.

The current research looked at a model in which PBC impact on investment intention is significant but it is more effective in the intervention of financial self-efficacy. From the mediation process it is clear that the findings show that mediation effects vary depending on the amount of independent variables impact on investment intention (DV). Investment intention to act was influenced by many behavioural factors including PBC. This study again proved that there is strong relationship between the psychological factors which made investor to invest in ease or difficult manner and to their investment intention. Another path examined the relationship between FSE and investment intention. Conceptual work framed to predict the strength of relationship among these variables both directly and indirectly. FSE is the mediating variable where the relationship between PBC and Investment intention is stronger in direct effect even though it is very stronger in the indirect effect which go through the FSE.

Conclusions

Previous studies analysed the impact of behavioural and social factors which affect the investment decision. This study explores how the financial capabilities of investors plays key role in their investment decisions. It has been statistically proven using SEM that Financial Self-Efficacy partially effect on the relationship between PBC and investment intention. Most of the earlier studies in Personal finance examines the correlation between financial self-efficacy and behavioural outcomes (Amatucci & Crawley, 2011, Gutter, Copur, & Garrison, 2009;). Individuals financial planning and engagement were influenced by their financial self-efficacy (Neymotin, 2010). Financial management behaviour positively influenced by financial

education (Haynes-Bordas et al., 2008) and Investors financial efficacy were highly positive correlation with financial well-being (Vosloo et al., 2014).

Investors are consumers in financial markets. Financial institutions must investigate investor behaviour in order to develop appropriate strategies and sell appropriate financial goods or offer service to investors in order to better meet their demands. Investment analysis involves scrutinizing and weighing an industry or asset in order to predict future performance and choose whether particular investment is suitable for an investor. Investment analysis may also needs to explore and develop an inclusive financial strategy. Because investors' decisions are subconsciously impacted by psychological behaviour, they tend to be irrational when making financial or investment decisions. By evaluating a wide range of data and detecting deviations from normal behaviour. Behavioural analytics allows companies to identify threats and weakness. By overcoming this negative factors company can generate new strategy to tackle the investor and fulfill their needs make them comfortable in their behaviour.

Scope for Future Research

Prediction of human behaviour is complex in nature that too in investment intention because it can be influenced by both rational and irrational factors. In future studies, more psychological and social factors can be included for better results. Real estate investment is differ from other investment avenues since it requires lot of resources and in depth analysis to gain expected returns. More study is required to predict the investor behaviour because real estate investments are not only the wealth accumulation for an individual as well as it improves economy of a country.

Reference

1. Ajzen, I. (1991). The theory of planned behaviour. Organizational Behaviour and Human Decision Processes, 50: p.179
2. Ajzen, I. Constructing a Theory of Planned Behaviour Questionnaire. 2006. Available online: http://people. umass.edu/~aizen/pdf/tpb.measurement.pdf
3. Ajzen, I. (2002). Perceived behavioural control, self-efficacy, locus of control, and the theory of planned behaviour. Journal of Applied Social Psychology, 32(4), 665-683.
4. Amatucci, F. M., & Crawley, D. C. (2011). Financial self-efficacy among women entrepreneurs. International Journal of Gender and Entrepreneurship, 3(1), 23–37.
5. Armitage, C., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. British Journal of Social Psychology, 40, 471- 499.
6. Bandura, A. (1991). Social Cognitive Theory of Self-Regulation. Organiztional Behaviour and Human Decision Processes. Vol.50 (2), 248-287.
7. Bandura, A. (2006). Toward a psychology of human agency. Perspectives on Psychological Science, 1(2), 164–180.
8. Baker, E. W., Al-gahtani, S. S., &Hubona, G. S. (2007). The effects of gender and age on new technology implementation in a developing country: Testing the theory of planned behaviour (TPB). It & People, 20(4), 352-375. doi:10.1108/09593840710839798
9. Barberis, N. and R. Thaler, 2003. A survey of behavioural finance. Handbook of the Economics of Finance, 1: 1053-1128
10. Bashir, T. (2013) "An Assessment Study on Factors Influencing the Individual Investor Decisions Making Behaviour". IOSR Journal of Business & Management. 9(5): 37-44
11. Bhattacherjee & C. Sanford (2009) The investment intention–behaviour gap in technology usage: the moderating role of attitude strength, Behaviour & Information Technology, 28:4, 389-401, DOI: 10.1080/01449290802121230

12. Blanchard, C., Fisher, J., Sparling, P., Nehl, E., Rhodes, R., Courneya, K., & Baker, F. (2008). Understanding Physical Activity Behaviour in African American and Caucasian College Students: An Application of the Theory of Planned Behaviour. Journal of American College Health, 56(4), 341-347.

13. Chuda Prasad Dhaka (2019). Interpreting the Basic Outputs (SPSS) of Multiple Linear Regression. International Journal of Science and Research (IJSR). Volume 8 Issue 6.

14. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297–334.

15. Diamantopoulos, A. and Siguaw, J.A. (2006), "Formative vs reflective indicators in measure development: does the choice of indicators matter?", British Journal of Management, Vol. 13 No. 4, pp. 263-282.

16. Derya Ozturk1*, Fatmagul Kilic-Gul (2020). GIS-based multi-criteria decision analysis for parking site selection. Kuwait Journal of Science. 47 (3) pp. 2-14.

17. Danielle Broadhead-Fearn, Katherine M. White (2006). The Role of Self-Efficacy in Predicting Rule-Following Behaviours in Shelters for Homeless Youth: A Test of the Theory of Planned Behaviour. The Journal of Social Psychology, 2006, 146(3), 307–325

18. Eleni L. Tolma, Belinda M. Reininger, Alexandra Evans, John Ureda. (2006). Examining the Theory of Planned Behaviour and the Construct of Self-Efficacy to Predict Mammography Investment intention. Health Education & Behaviour, Vol. 33 (2): 233-251.

19. Fahy, J., & Jobber, D. (2012). Foundations of Marketing (4th ed.). Maidenhead, United Kingdom: McGraw-Hill Education.

20. Fishbein, M., & Ajzen, I. (1975). Attitude, investment intention, and behaviour: An introduction to theory and research. R ineading, MA: Addision-Wesley.

21. Fishbein, M., Triandis, H. C., Kanfer, F. H., Becker, M., Middlestadt, S. E., & Eichler, A. (2001). Factors influencing behaviour and behaviour change. In A. Baum, T. A. Revenson, & J. E. Singer (Eds.), Handbook of health psychology (pp. 3–16). Mahwah, NJ: Erlbaum.

22. Fishbein, M. (1967). A behaviour theory approach to the relations between beliefs about an object and attitude toward the object. In M. Fishbein (Ed.), Readings in attitude theory and measurement (pp.389-400). New York, NY: Wiley.

23. Francis, J. J., M. P. Eccles, M. Johnston, A. Walker, J. Grimshaw, R. Foy, E. F. S. Kaner, L. Smith and D. Bonetti. 2004. Constructing questionnaires based on the theory planned behaviour: A manual for health researchers. University of Newcastle, UK: Centre for Health Services Research.

24. Fornell, C.; Larcker, D.F. Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research. v.18, n. 1, p. 39-50, 1981

25. Frost, J. (2017). How to interpret R-squared in regression analysis. Retrieved fromhttp://statisticsbyjim.com/regression/interpret-r-squared-regression/ Accessed on 02 June 2020

26. G. David Garson. (2016). Partial Least Squares (PLS-SEM). Statistical Associates Publishing 2016 Edition.

27. Gecas, V. (1989). The social psychology of self-efficacy. Annual Review of Sociology, 15, 291–316.

28. Gutter, M., Copur, Z., & Garrison, S. (2009). Which students are more likely to experience financial socialization opportunities? Exploring the relationship between financial behaviours and financial well-being of college students, Working Paper No. 2009-WP-07, Networks Financial Institute, Indiana State University.

29. Hasbullah, N. A., Khairi K.F., and Aziz, M.R. (2015). Investment intention to Contribute in Corporate Waqf: Applying The Theory of Planned Behaviour. International Journal of Islamic and Civilizational Studies. Penerbit UITM Press.

30. Hair, J.F., Hollingsworth, C.L., Randolph, A.B. and Chong, A.Y.L. (2017a), "An updated and expanded assessment of PLS-SEM in information systems research", Industrial Management and Data Systems, Vol. 117 No. 3, pp. 442-458.

31. Hair, J.F.; Hult, T.M.; Ringle, C.M. e Sarstedt, M. A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Los Angeles: SAGE, 2014.

32. Haynes-Bordas, R., Kiss, D., & Yilmazer, T. (2008). Effectiveness of financial education on financial management behaviour and account usage: Evidence from a 'second chance'program. Journal of Family and Economic Issues, 29(3), 362-390.

33. Hemavathy Ramasubbian, Kirupa Priyadarsini M. Investment Decisions in Real Estate: A Theory of Planned Behaviour (TPB) Based Approach, International Journal of Pure and Applied Mathematics 119 (17): 2377-2381.

34. https://www.thehindu.com/news/national/growth-in-urbanisation/article23925543.ece

35. https://www.thehindubusinessline.com/news/real-estate/top-7-indian-cities-see-38-jump-in-property-prices-over-a-decade/article31811726.ece

36. Henseler, J.; Ringle, C. M.; Sinkovics, R. R. The use of partial least squares path modeling in international marketing. Advances in International Marketing. v. 20, p. 277-319, 2009

37. Höck, Michael & Ringle, Christian M. (2006). Strategic networks in the software industry: An empirical analysis of the value continuum. IFSAM VIIIth World Congress, Berlin 2006. Retrieved 2/22/2009 from http://www.iblunihh.de/IFSAM06.pdf

38. Hsu, L.-C. (2014). A hybrid multiple criteria decision-making model for investment decision making. Journal of Business Economics and Management, 15(3): 509-529. https://doi.org/10.3846/16111699.2012.722563

39. Hu, L.T. and Bentler, P.M. (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," Structural Equation Modeling, 6 (1), 1-55.

40. IanC.MacmillanDavid, M.KulowRoubinaKhoylian. Venture capitalists' involvement in their investments: Extent and performance, Journal of Business Venturing. Volume 4, Issue 1, January 1989, Pages 27-47, https://doi.org/10.1016/0883-9026(89)90032-3

41. Ismah Osman, Masturah Ma'in, Ruhaini Muda, Nur Syahirah Amin Husni, Sharifah Faigah Syed Alwi, Faridah Hassan. International Journal of Islamic Business. Determinants of Behavioural Investment intention Towards Green Investments: The Perspectives of Muslims, June 2019, VOL 4 ISSUE 1, Page 16-38.

42. J. F. Hair, C. M. Ringle, and M. Sarstedt, "Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance," Long Range Planning, vol. 46, pp. 1- 12, 2013.

43. Joy Parkinson, Patricia David, Sharyn Rundle-Thiele.(2017) Self-efficacy or perceived behavioural control: Which influences consumers' physical activity and healthful eating behaviour maintenance? J Consumer Behav. 2017;16:413–423.

44. Jeffery J Martin and Pamela Hodges Kulinna. (2004). Self-Efficacy Theory and Theory of Planned Behaviour: Teaching Physically Active Physical Education Classes. Research Quarterly for Exercise and Sports. 2004.

45. Kirsch, I. (1982). Efficacy expectations or response predictions: The meaning of efficacy ratings as a function of task characteristics. Journal of Personality and Social Psychology, 42, 132-136.

46. Kun Chang Lee, Namho Chung & Inwon Kang (2008) Understanding individual investor's behaviour with financial information disclosed on the web sites, Behaviour & Information Technology, 27:3, 219-227, DOI: 10.1080/01449290601138146

47. Lown, J. M. (2011). Development and validation of a financial self-efficacy scale. Journal of Financial Counseling and Planning, 22(2), 54–63.

48. Manstead, A. S. R., & van Eekelen, S. A. M. (1998). Distinguishing between perceived behavioural control and self-efficacy in the domain of academic investment intentions and behaviours. Journal of Applied Social Psychology, 28, 1375-1392.

49. Mariela E. Jaffé, Maria Douneva, Rainer Greifeneder, (2020). Solve the dilemma by spinning a penny? On using random decision-making aids. Judgment and Decision Making, Vol. 15, No. 4, July 2020, pp. 561–571

50. Merino, F. (2013). Capital structure of foreign affiliates and the investment decision: two questions to consider. Journal of Business Economics and Management, 14(1), S470-S492. https://doi.org/10.3846/16111699.2012.692704

51. Mindra, R., Moya, M., Zuze, L.T. and Kodongo, O. (2017), "Financial self-efficacy: a determinant of financial inclusion", International Journal of Bank Marketing, Vol. 35 No. 3, pp.338-353.

52. Mostafa Abd-El-Barr, Norah alJanahi, Dr. Kalim Qureshi. (2021) Evaluation and Performance Comparison of a Model for Adoption of Biometrics in online Banking. Kuwait Journal of Science.Vol.4 (2)

53. Mustakallio, M., Autio, E., & Zahra, S. A. (2002). Relational and contractual governance in family firms: Effects on strategic decision making. Family Business Review, 15(3), 205-222.

54. Neymotin, F. (2010). Linking self-esteem with the tendency to engage in financial planning. Journal of Economic Psychology, 31(2010), 996–1007.

55. Parcel, G. S., Edmundson, E., Perry, C. L., Feldman, H. A., O'Hara-Tompkins, N., Nader, P. R., et al. (1995). Measurement of self-efficacy for diet-related behaviours among elementary school children. Journal of School Health, 65, 23-27.

56. Povey, R., Conner, M., Sparks, P., James, R., & Sheperd, R. (2000). Application of the Theory of Planned Behaviour to two dietary behaviours: Roles of perceived control and self-efficacy.British Journal of Health Psychology, 5, 121-139

57. Rówi ́nska, Małgorzata. 2012. Short and Long Term Investments. In Financial Accounting Taking into Account IFRS. Warszawa: PWN, p. 67.

58. Sedigheh Moghavvemi, Noor Akma Mohd Salleh, Ainin Sulaiman & Masoud Abessi (2015) Effect of external factors on investment intention–behaviour gap, Behaviour & Information Technology, 34:12, 1171-1185, DOI: 10.1080/0144929X.2015.1055801

59. Shefrin, H., 2000. Beyond greed and fear. Boston: Harvard University Press.

60. Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), Measures in health psychology: A user's portfolio – Causal and control beliefs (pp. 35–37). UK: NFER-NELSON.

61. Tan , M .and Teo , T . S . H .(2000) Factors infl uencing the adoption of internet banking . Journal for Association of Information System 1 (5) : 1 – 42 , http://portal.acm.org/citation.cfm?id:374134

62. Tawfit Salah Al-Nahdi et.al. "Factors Affecting Purchasing Behaviour in Real Estate in Saudi Arabia", International Journal of Business and Social Science Vol. 6, No. 2; February 2015.

63. Teo, T., & Lee, C. B. (2010). Explaining the investment intention to use technology among student teachers : An application of the Theory of Planned Behaviour (TPB). Campus-wide Information Systems, 27(2), 60-67. doi:10.1108/10650741011033035

64. Terry, D., & O'Leary, J. (1995). The theory of planned behaviour: The effects of perceived control and self-efficacy. British Journal of Social Psychology, 34, 199-220.

65. Tsuen-ho Hsu, Yi-sheng Wang, Su-chan Wen (2006). Using the decomposed theory of planned behaviour to analyse consumer behavioural investment intention towards mobile text message coupons. Journal of Targeting, Measurement and Analysis for Marketing Vol. 14, 4, 309–324

66. Trafimow, D. (1996). The importance of attitudes in the prediction of college students' investment intentions to drink. Journal of Applied Social Psychology, 26, 2167-2188

67. Vosloo, W. (2014). The relationship between financial efficacy, satisfaction with remuneration and personal financial well-being. North-West University.

68. White, K., Terry, D., & Hogg, M. (1994). Safer sex behaviour: The role of attitudes, norms, and control factors. Journal of Applied Social Psychology, 24, 2164-2192.