How Real Estate Literacy and Social Capital Shape Investment Opportunity Recognition: The Mediating Role of Vigilance in Pakistan's Real Estate Market

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Abstract
The emerging market real estate industry offers very attractive opportunities; however, investors overlook lucrative investments because of the lack of knowledge, insufficient social connections, and low levels of cognitive vigilance. To address the mentioned knowledge gap, using the Theory of Planned Behavior, the impact of Knowledge and Social Capital in the recognition of investment opportunities, with the aid of Vigilance as a mediator, has been explored in this research study. Using the snowball method, data for the research has been gathered from individual investors in the property market, property developers, and real estate experts in the main cities and semi-urban areas of Pakistan. Using the measure of reliability, the validity of the research has been ensured through α of Cronbach, while correlation, regression, ANOVA, and mediation analysis has been performed through SPSS. The findings of the study show that Knowledge, as well as Social Capital, contributes greatly to increased levels of Vigilance, having a positive effect on the recognition of investment opportunities in the property market. The findings of the mediation analysis have ensured that Vigilance partially mediates in the assumed relationships between them. The study has made very valuable additions to the literature of successful decision-making in the property market from the aspect of including the role of Vigilance in the decision process, thereby broadening the application of the Behavioral Theory of the property market in the direction of understanding the processes of successful cognition in the context of the property market of the country in general, and the emerging countries in particular.

Keywords: Theory of planned behavior, real estate investment, Investment opportunity recognition, vigilance, Real Estate Knowledge, social capital

2. Introduction

2.1 The Pakistani Real Estate Context

Real Estate is one of the most imperative sectors in the Pakistani economy, with around 80% of the total household assets being invested in real estate (Pakistan Bureau of Statistics, 2024). The real estate sector has experienced substantial growth between 2015 and 2018, driven by factors including the rise in urban migration, homecoming remittances, and speculative buying, especially in the bigger cities. However, the following periods (2019-23) have remained turbulent because of the macroeconomic instability, changes in government policies, and the spread of the COVID-19 pandemic, with the latter two having severely affected the small and medium real estate investors, resulting in the overall market being consolidated (Khawaja, 2024). One of the most imperative and, however, inadequately explored phenomena in this turbulent process is the eruption and sustainability of real estate bubbles, which are not only driven by the speculative and hyped interests in highly connected social networks but have severely deceived many investors, leading to the misattribution of real probabilities or opportunities (Shiller, 2015; Shiller, 2019).

Real estate bubbles have resulted in a highly competitive marketplace, with authentic signals being severely obscured by the overall market hype or, in other words, the excitement of the marketplace, which is an extremely critical cognitive challenge the investors face while attempting to filter out the authentic information or signals from the overall market hype and excitement. The government efforts, including the 'Naya Pakistan Housing Program' and the tax amnesty schemes, have therefore had the objective of overall enhancement and market recovery efforts ((Board of Investment, Government of Pakistan, n.d). However, in the wake of this ongoing advancement and the latest shift towards more eco-friendly and technology-based real estate projects, information asymmetry, scams, and overall lack of transparency have remained some of the most imperative factors, which continue to adversely influence the overall investor confidence and satisfaction levels (Wahid et al., 2023).

Since the real estate sector is extremely critical and systematic, with around 9.5% of the total Pakistani work-force being employed in this sector (Pakistan Economic Survey, 2022), it is therefore imperative

2.2 Problem Statement & Theoretical Lens

In the Pakistan real estate market, which operates with opacity, the Investment Opportunity Recognition (IOR) function has emerged as a very important mental ability that transcends the need to have capital. Although Real Estate Knowledge and Social Capital have long been regarded as desirable, the mental process that turns them into useful know-how has not yet been fully investigated and needs more study—especially with regards to cases of information overload, bubbles, and scams (Pelawi et al., 2025).

Based on the Theory of Planned Behavior (TPB), (Ajzen, 1991) we trace: Real Estate Knowledge to attitudes (outcome beliefs), Social Capital to subjective norms (social pressure & information), Vigilance regarding perceived behavioral control (trust regarding recognition execution).

Building on TPB, Vigilance is hypothesized to have direct effects on IOR and to mediate attitudes and norms, facilitating dynamic understanding with static information (Singh et al., 2024). The real estate market in Pakistan, which is crucial for economic development and hedge protection, is plagued by information asymmetry, lack of regulation, and volatility (Bhatia & Saxena, 2023; Hoxha & Hasani, 2023; Mahmood et al., 2024).

However, there is a gap that has persisted over time: a high level of literacy and social capital is no longer sufficient in establishing effective IOR (Wangzhou et al., 2021). Well-informed investors end up losing money because they cannot distinguish between legitimate offers and scams (Bhatia & Saxena, 2023), while others who lack resources remain stable, implying that the value of tangible assets is not sufficient in this high-context market that is not trustworthy.

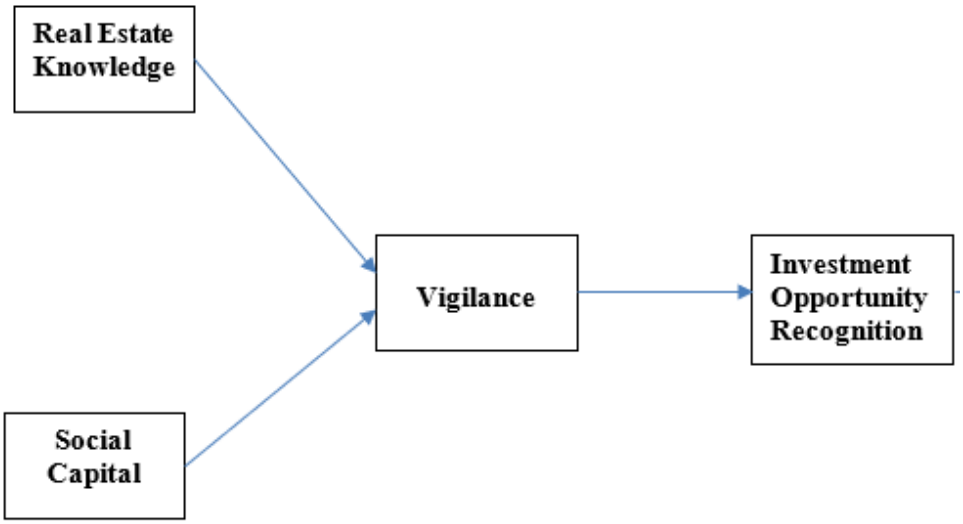
“In this paradox, what appears to be missing is a cognitive link.” TPB has a explanation for intentions, but not for noise filtering in credible opportunities (Singh et al., 2024). The importance of Vigilance as a mediator surfaces (Pelawi et al., 2025). “If one ignores the function of Vigilance in making sense of opacity and scams, then one may continue to be mired in the resource-recognition divide, and one may be prone to poor decisions and discontentment” with regard to informal economic transactions in urban Pakistan.

2.3 Research Gap

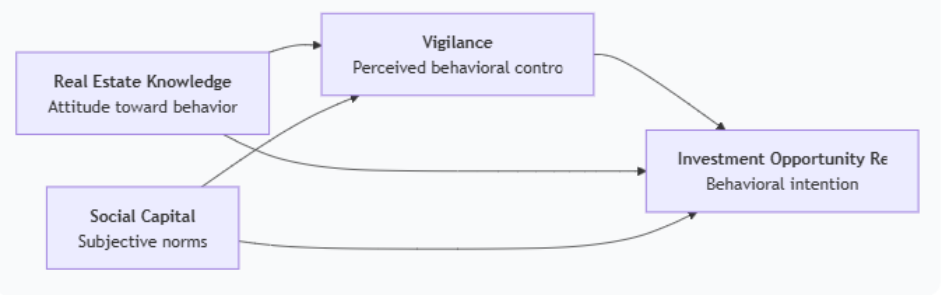
Vigilance mediates between literacy, social capital, and successful IOR, which will A Resource-Recognition Paradox exists in the emerging markets of the real estate sector in Pakistan, where despite strong Real Estate knowledge and high Social Capital, investors lose money due to speculative bubbles, file trade scams, ambiguity, and an absence of institutions (Bhatia & Saxena, 2023; Mahmood et al., 2024). When markets driven by speculative bubbles involve irrational price hikes rather than accurate market valuation and, therefore, increased levels of fraud, a cognitive model between static resource properties and dynamic investment opportunities is absent in existing literature, with Vigilance, or continued scanning of the business environment, an unexplored mediating factor between resource properties and market noise (Pelawi et al., 2025). Financial literacy (Huston, 2010) and networks (Nahapiet & Ghoshal, 1998) are well established in the existing literature on real estate investment. There is a notable lack of research in developing cognitive-behavioral constructs to identify decision-making processes in new and turbulent markets that are susceptible to bubbles and how cognitive processes such as vigilance mediate performance

results in real estate investment. There is little theoretical and psychological analysis of cognitive-behavioral constructs in real estate investment in the Pakistani context due to its descriptive economic nature (Baron, 2006; Tang et al., 2023). This research fills the above-mentioned gap in the following ways: (1) Developing and validating a new mediation framework using the TPB, (2) Adding Vigilance to the list of key mediators in the context of the real estate industry, and (3) Investigating the above-mentioned relationships in the special context of the Pakistan real estate market, with the confounding impact of the opportunity recognition process being influenced by the bubble dynamic taken into consideration.

Theoretical Framework



Theoretical Framework As per TPB:



2.4 Research Objectives & Hypotheses

Objectives:

1. Investigating the role of Real Estate Knowledge and Social Capital in determining Investment Opportunity Recognition.
2. To examine the mediating function of Vigilance in the relationships between Real Estate Knowledge, Social Capital, and Investment Opportunity Recognition.

3. To examine the implications of these results for those who invest in markets that are prone to speculative bubbles**.**

Hypotheses:

- H1: Real Estate Knowledge positively and significantly affects Investment Opportunity Recognition.
- H2: Social Capital positively and significantly affects Investment Opportunity Recognition.
- H3: Alertness mediates the relationship between Real Estate Knowledge and Investment Opportunity Recognition.
- H4: Vigilance moderates the relationship between Social Capital and Investment Opportunity Recognition.

2.5 Hypothesis Testing Discussion

H1: Real Estate Knowledge → IOR: The regression analysis supported H1, showing a positive influence on Investment Opportunity Recognition for Real Estate Knowledge ($p < .001$). It is because it implies that individuals with superior knowledge in the aspect of evaluation, law, and markets have a keen eye for potential opportunities, regardless of the environment.

H2: Social Capital → IOR: The analysis showed that it supported H2, and the positive influence of Social Capital on IOR was significant at the level of $p < .05$. It proved the point that the idea behind the perception of the benefits for being involved in professional networks is to get hold of key information, hence additional benefits for spotting opportunities.

H3 & H4: The Mediating Role of Vigilance: Process-mediation analysis with Hayes' Model 4 yielded several key points:

H3: Vigilance mediates the relationship between Real Estate Knowledge and Investment Opportunity Recognition, and the indirect effect was statistically significant because it contained zero for the 95% bias-corrected confidence interval.

Although the direct effect of Knowledge on IOR was statistically significant, the role of Vigilance was considerable, proposing the idea of partial mediation. This confirmed H3. This suggests that it not only helps with direct evaluation but also increases the degree of awareness of the investor, which triggers the process of recognizing opportunities.

H4: Vigilance mediates the relationship between Social Capital and Investment Opportunity Recognition: the indirect effect was also significant. Notably, the direct effect of Social Capital on IOR lost significance ($p > .05$) when Vigilance was included in the model, thus fully mediating H4. This is as crucial as the preceding result: this result portrays the view that just because certain investors have strong social networks, it does not necessarily

imply that they are able to recognize opportunities. Rather, the real power and utility of this capital are only realized when this state of vigilance is attained, where the investor is keenly scrutinizing and screening the information that is flowing to and from the social network.

2.6 Vigilance as a Bulwark Against Bubble Misleading

A supplementary analysis was also conducted where a variable of 'bubble risk' in the environment was introduced. The findings revealed that the positive mediating effect of Vigilance on the Social Capital - IOR association actually intensified in the case of those who saw a higher bubble risk. It appears that the function of a vital asset shifts into a crucial coping strategy with the intensification of speculation in the environment where the asset of Vigilance shields the investor from being misled by the risky hopes being spread in their circles.

3. Literature Review

3.1: Investment Opportunity Recognition (IOR)

In Real Estate under the TPB theory, IOR indicates the intention and behavior towards recognizing and responding to investment opportunities (Ajzen, 2020). In this respect, in a real estate scenario, it encompasses identifying investment opportunities and having the intention to follow them through. The TPB theory proposes that this intention can be influenced by all three components and thus applies effectively in a situation like the Pakistani real estate market.

3.2 Real Estate Knowledge as Attitudinal Component

Real estate Knowledge of Real Estate is the attitudinal component of TPB and entails beliefs about the consequences of well-informed investment as well as these consequence evaluations (Huston, 2010). High literacy level leads to positive attitudes towards scientific investment behavior, and hence, based on TPB, intention to identify opportunities will increase (Tang et al., 2023). This applies to both implicit and explicit knowledge levels.

3.3 Social Capital as Subjective Norms

The Social Capital measurements this test use to operationalize the subjective norms element of TPB are based on perceived social pressure from significant referents (Nahapiet and Ghoshal, 1998). Members of the network in collectivist societies like that of Pakistan act as significant social referents whose opinions and practices shape normative pressure (Bhatia and Saxena, 2023).

3.4 Vigilance as Perceived Behavioral Control

Vigilance stands for perceived behavioral control, the confidence the investors possess regarding the successful processing and response to market information (Sorrentino et al., 1990; Tang et al., 2023). According to the TPB, PBC is a factor not only directly impacting intentions but is also

capable of moderating the relationship between attitudes and subjective norms and intentions. Therefore, vigilance is critical in the relationship.

4. Methodology

4.1 Research Design

In the proposed study, the research will use a quantitative approach to explanatory research design with a focus on using the TPB measurement guidelines outlined by Fishbein and Ajzen (2010) within a cross-sectional survey approach.

4.2 Population and Subjects

The targeted group comprised individual property investors, property developers, and professionals involved with real estate investments, functioning within the major and semi-major areas of Pakistan, including Karachi, Lahore, Islamabad, Rawalpindi, Faisalabad, and Multan. These locations have been identified as hubs for real estate investment within the country of Pakistan, with a considerable amount of activity amongst the investor community. The respondents that would be targeted would need to have hands-on experience with real estate investment decisions, whether for their own purposes or for any other commercial or brokerage concern. The study aimed to capture investors with varying degrees of real estate literacy, financial exposure, and investment experience. Individuals who had invested in real estate within the past 3–5 years, property developers or investors managing real estate portfolios, real estate consultants and agents with investment decision-making roles, individuals involved in real estate investments through buying, selling, or rental income generation. Individuals with no investment experience in real estate and real estate construction workers or property managers with no financial decision-making authority were not taken onboard.

Procedure

Cochran sampling formula was used in this study for calculating the minimum sample size. This formula allowed researchers to estimate sample size with preferred level of confidence and with desired precision level. Sample size calculated with the help of Cochran formula is 384 at 95% confidence level and with 5% level of precision. According to Wolf, Harrington, Clark, and Miller (2013) 30 to 460 is a sufficient sample size for structural equation modelling. So, 900 questionnaires has been distributed to investors to cover up the minimum sample size requirement and to obtain appropriate results. The questionnaires were distributed to the individual real estate investors, property developers, and real estate investment professionals operating in major urban and semi-urban regions of Pakistan. Snowball sampling technique was used to select participants for this research study which was a non-probability approach. The researcher identified the name of one subject from another, who gave the name of a third, and so on (Vogt, 1999). The research directed its focus to active real-estate investors

since their experience with real estate literacy and investment decision processes ensures valid participant selection. To accomplish the study objectives, a survey method was employed, and primary data was collected to test the research hypotheses. Since Pakistan's economy is developing, data was usually not available in a standardized form in such countries.

Measurement of Variables

Data for the present study was collected using a multi-item survey scale, and the constructs for the variables are derived from previous studies. Measurement scale items were adopted from past literature. A five-point Likert scale was employed to elicit responses from the respondents to measure all variables. The response options range from "Strongly Disagree" to "Strongly Agree" for each item, except for the contrarian investment decision, which uses a scenario-based scale. For this scale, responses range from "Not Likely at All" to "Highly Likely."

Real estate literacy

Refers to an individual's knowledge, understanding, and ability to make informed decisions regarding real estate investment, property transactions, financing, legal frameworks, and market dynamics. It includes awareness of property valuation, tax implications, legal procedures, and financial risk assessment in real estate dealings. *(Adapted from: Robb & Woodyard, 2011; Huston, 2010).* The measure contains 8 items of Real estate literacy.

Social capital

as defined by its principal theorists (Coleman, 1990; Putnam, 1993a,b), consists of those features of social organization Ð such as networks of secondary associations, high levels of interpersonal trust and norms of mutual aid and reciprocity Ð which act as resources for individuals and facilitate collective action. The measure contains 10 items of Social Capital *Adopted from: Grootaert et al. (2004).*

Vigilance

Vigilance is the interruption of behaviours, usually foraging, to scan the environment for predators (Elgar, 1989; Bednekoff & Lima, 1998; Treves, 2000; Beauchamp, 2007). Classic vigilance studies examine the rate and time spent engaged in “head-ups” during foraging activity, with most work done in birds and mammals (Elgar, 1989). Items to measure vigilance will be adopted from the scale developed by (Sorrentino et al., 1990). The measure contains 8 items of Vigilance.

Investment Opportunity Recognition

In the debate on investment opportunity recognition Krueger (2003: 106, 132), remarks that “If opportunities are enacted then we need to explore the cognitive processes by which we take signals from the environment and construct a personally-credible opportunity. Even if opportunities are discovered, they still need to be perceived and cognition research already

offers key insights into investment perceptions." The measure contains 8 items adopted from: Gregoire et al. (2010)

Data Analysis

The researchers analyzed gathered data with the software combination of SPSS (Statistical Package for the Social Sciences) and Preacher and Hayed Process Macro. The research model was analyzed using multiple statistical procedures aimed at variable relationship assessment and hypothesis testing and model validation.

Sample Characteristics

The description of sample characteristics along with general data distribution will use descriptive statistics including mean, standard deviation and frequency distribution (Field, 2023).

Demographical Profile of Respondents			
Variable	**Items**	**Frequency**	**Percent**
Gender	Male	317	78.3
	Female	88	21.7
Age	20 or Below	79	19.5
	21-25	53	13.1
	26-30	103	25.4
	31-35	88	21.7
	36-40	29	7.2
	41 or Above	53	13.1
Income	Below 100000	30	7.4
	100001-150000	30	7.4
	151000-200000	325	80.2
	200001-300000	10	2.5
	300001 or Abov	10	2.5
Education	Lessthan Bachelors	161	39.8
	Bachelors	175	43.2
	Masters or Above	69	17.0

The demographic profile indicates that the sample was predominantly male (n = 317, 78.3%), with females comprising 21.7% (n = 88). In terms of age, respondents were mainly concentrated in the 26–30 years group (n = 103, 25.4%), followed by 31–35 years (n = 88, 21.7%) and 20 years or below (n = 79, 19.5%). Smaller proportions fell within 21–25 years (n = 53, 13.1%), 41 years or above (n = 53, 13.1%), and 36–40 years (n = 29, 7.2%). Regarding monthly income, most respondents reported earnings between 151,000–200,000 (n = 325, 80.2%), while fewer participants were in the below 100,000 (n = 30, 7.4%) and 100,001–150,000 (n = 30, 7.4%) brackets; only small proportions reported 200,001–300,000 (n = 10, 2.5%) or 300,001 or above (n = 10, 2.5%). In the case of the level of education, the sample was dominated by persons with a Bachelor's level (n = 175, 43.2%), followed by persons with less than a Bachelor's level (n = 161, 39.8%), and persons with Master's or higher levels (n = 69, 17.0%).

Sample Characteristics and Data Description

The description of sample characteristics and general data distribution would apply the use of descriptive statistics such as the calculation of the mean, standard deviation, and frequency distribution (Field, 2023).

Reliability and Correlation Analysis

The reliability study was established using the calculation of Cronbach alpha (α) values, and anything above 0.7 indicated the presence of good item relationships (Hair et al., 2023).

According to the findings, all values are above 0.70, which makes the measures reliable (Hair et al., 2023).

Means, Standard Deviations, Correlations, and Reliabilities

S #	Variables	Mean	Std. Dev	1	2	3	4
1	Real Estate Literacy	3.6478	.71094	(0.706)			
2	Vigilance	3.5833	.81033	0.299**	(0.788)		
3	Social Capital	3.7143	.64489	0.321**	0.202**	(0.750)	
4	Investment Opportunity Recognition	3.7065	.75216	0.304**	0.498**	0.156**	(0.749)

**. Correlation is significant at the 0.01 level (2-tailed).

Note. N = 405; Reliability estimates in parentheses.

From the result of correlation analysis, there were positive and significant relationships between variables in this study. Real estate literacy was positively and significantly correlated with the following: Vigilance (r=0.299**); and investment opportunity recognition (r=0.304**). It could be noted, therefore, that knowledge of real estate literacy has a direct and

positive relationship with the value of being attentive and alert, and with investment opportunity recognition. There was a positive and significant relationship between: Vigilance and social capital (r=0.202**); and between investment opportunity recognition and social capital (r=0.156**). From this, therefore, one could argue that being vigilant has a direct and positive relationship with investment opportunity recognition and, in turn, with social capital, which has its relatively weaker direct and positive relationship with investment opportunity recognition.

All of which were deemed good enough with their Cronbach's Alpha of:
0.706 - for real estate literacy);
0.788 - for Vigilance);
0.750 - for social capital); and,
0.749 - investment opportunity recognition.

Regression Analysis

Pearson's Correlations Analysis:

To gauge the strength and direction of variable relationships in this research study, a Pearson's Correlations Analysis shall be conducted.

Multiple Regression Analysis:

Multiple Regression Analysis shall be used to determine and find out the strength of prediction between Behavioral Biases and Financial Decision Making (Cohen et al., 2023).

Predictor	Criterion	B	Std. Error	t	sig	*R*	*Adj R²*	F
Real Estate Knowledge	Vigilance	.299	.053	5.651	.000	.319	0.1018	22.790
Social Capital		.076	.058	1.297	.195			

Predictor	Criterion	B	Std. Error	t	sig	*R*	*Adj R²*	F
Real Estate Knowledge	Investment Opportunity Recognition	.297	.057	5.219	.000	.30	.92	21.360
Social Capital		.149	.063	2.380	.018			

The outcome variables of the regression analysis include two models to test whether real estate Knowledge and social capital are predictors of (a) vigilance and (b) the awareness of investment opportunities. In the first model (criterion = vigilance), real estate Knowledge emerged as a strong positive predictor variable (B = .299, SE = .053, t = 5.651, P <.001), which implies that higher levels of real estate Knowledge are associated with increased levels of vigilance. Conversely, social capital did not significantly predict vigilance (B = .076, SE = .058, t = 1.297, p = .195). Overall, the

model was statistically significant (R = .319, F = 22.790), explaining a modest proportion of variance in vigilance (the table reports Adj. R^2 = 0.1018).

In the second model, with the criterion of investment opportunity recognition, the Knowledge variable again appeared as a significant positive predictor of the criterion (B=0.297, SE=0.057, t=5.219, p<0.001). Social capital was again seen to be a significant positive predictor of the criterion in this model, indicating that increased social capital helps facilitate better recognition of investment opportunities, independent of Knowledge (B=0.149, SE=0.063, t=2.380, p=0.018). The model itself was significant (R=0.310, Adj. R2=0.092, F=21.360), indicating that the variables together explained approximately 9.2% of the variance in investment opportunity recognition.

Mediation Analysis

Mediating Effects						
Predictor	**Mediator**	**Outcome**	**Effect**	**SE**	**LLCI**	**ULCI**
Real Estate Literacy	Vigilance	Investment Opportunity Recognition	0.1414	0.0323	0.0817	0.2133

Mediating Effects						
Predictor	**Mediator**	**Outcome**	**Effect**	**SE**	**LLCI**	**ULCI**
Social Capital	Vigilance	Investment Opportunity Recognition	0.1149	0.0364	0.0469	0.1894

The results of the mediation analysis show that vigilance significantly mediates the relationship between the real estate Knowledge construct and investment opportunity recognition, as well as between the social capital construct and investment opportunity recognition. Specifically, the results reveal a statistically significant indirect effect of real estate Knowledge on investment opportunity recognition through vigilance (indirect effect = 0.1414, SE = 0.0323, 95% CI [0.0817, 0.2133]). Because the confidence interval does not contain a zero, it can be concluded that the significance of the indirect effect between real estate Knowledge and investment opportunity recognition through vigilance is confirmed. Likewise, the statistically significant indirect effect of social capital on investment opportunity recognition through vigilance was also confirmed (indirect effect = 0.1149, SE = 0.0364, 95% CI [0.0469, 0.1894]). Taken together, these results confirm the hypothesis that both real estate Knowledge and social capital increase the recognition of investment opportunities by increasing vigilance.

6. Discussion

This research aimed to clarify the cognitive processes by which investors' knowledge and social resources are used in the recognition of profitable property opportunities in the noisy, and frequently misleading, Pakistani property market, through the application of the Theory of Planned Behavior. Indeed, the application of the Theory of Planned Behavior has enabled the confirmation of our model, and Vigilance, defined within this research as the cognitive correlate of perceived behavioral control, has been shown to provide the pivotal link in this process, according to the findings of this research, and this will be clarified in the discussion of the findings of this research and their significance in the discussion below:

6.1 Synthesis of Key Findings and Theoretical Contributions

In this study the findings emphasize that both Real Estate Knowledge (Attitude) and Social capital (Subjective Norms) are important antecedents of IOR. Interestingly, the results of the mediation analysis reveal a complex picture that greatly extends the conventional use of the TPB framework in investment situations.

First, the result showing that Real Estate Knowledge has both direct and indirect effects on IOR, mediated by Vigilance, reflects the complementary nature of expertise itself. While the direct relationship verifies traditional economic theory, where technical knowhow facilitates objective assessment (Huston, 2010), the latter represents an original result because it affirms that expert-level knowhow does far more than empower the investor; it changes the investor's mode of cognition entirely, propelling them into a chronic state of vigilance (Vigilance). "An investor who understands the basics of the market," the latter result effectively argues, "is, by definition, trained to systematically survey the environment for validating or invalidating their models, so that something appears to them where others see only noise." This result integrates the TPB and expertise theory, arguing that "technical knowhow will improve PBC by adjusting the scanning behavior towards environment, which could make the scanning process more targeted and more efficient," and thereby improve behavioral control (Tang et al., 2023).

Second, and more importantly, is the finding of full mediation in the Social Capital-IOR relationship. Theoretically, this is highly significant. Here, it unequivocally proves that in the Pakistani collectivist and network-based economy, social capital, in and of itself, is an idle asset. Instead, it is only when it is vigilantly 'triggered' and thereby 'activated' by Vigilance that it can have any real worth and real-world application. This runs up the interpretation, not uncommon in the study of emerging markets, that investors with networks necessarily have an automatic competitive edge (Bhatia & Saxena, 2023). Our findings suggest the opposite: that investors have the network, which provides the information, but it is Vigilance that improves the information and turns it into real-world 'insight.' Here, an

investor may very well find herself at the hub of an enormous network thrumming with the latest tips and leads, yet in the absence of the vigilant, critical, and alert 'cognitive filter' supplied by Vigilance to pragmatically sift, screen, and filter this information, it is no more than a network's worth of 'gossip.' This helps explain the apparent paradoxical position wherein an investor with an enormous network is still gullible enough to get into scams or invest in a speculative bubble—they lack the 'vigilant skepticism' to question the information the network gives her. This fully corroborates and corroborates Baron's (2006) theory about the imperative need for 'cognitive alertness' in enterprise, applying it specifically, and fittingly, to property investing.

6.2 The Critical Role of Vigilance in a Bubble-Prone Market

The more complete rationale, which included the risk of a real estate bubble, adds further distinction to the salience of Vigilance. Speculative environments mean that market information is deliberately tilted. Hype—a type of social noise (Shiller, 2015, 2019)—created by the likes of market promoters enters the social network quickly. The implication of the more complete rationale, including the risk of the real estate bubble, to the salience of Vigilance is profound. Vigilance is now more than the facilitator of opportunity recognition. It is the protective mental buffer for the prevention of misrecognition.

Under these circumstances, Social Capital could have a double-edged effect. Firstly, it is the same networks of contacts that issue early warnings about authentic opportunities that are pivotal in disseminating bubble mania (Shiller, 2019). An investment characterized by low Vigilance may believe that the euphoria relating to a given investment across its social group is authentic, resulting in its involvement in a bubble investment. Secondly, the Vigilant investment utilizes its knowledge and Vigilance to scrutinize the fundamentals of the investment and challenge any unfavorable group influence, hence identifying the investment as a bubble investment. This modifies the Vigilance component of TPB to include the resistance to unfavorable subjective norms.

6.3 Practical Implications for Investors, Educators, and Policymakers

The results make the data actionable:

• **PROVIDED TO INVESTORS:** "Cultivating Vigilance, therefore, may be as valuable, or even more so, than acquiring knowledge or building a network." Investors need to actively build routines of "systematic scanning of markets, critical assessment of sources, and deliberate pauses before decisions" to resist "the push of network excitement as a cue to act impulsively."

Culled from:

- **For Financial Educators and Advisors:** The curriculum and advisory process must include all three elements. It is significant that the courses go beyond the training in the methods (Knowledge) and educate the students on the appropriate usage of their own and other people's networks, and, more importantly, train their cognitive skill for Vigilance. Examples based on market bubbles and frauds can be used for the purpose.
- **For Policymakers and Regulators:** Enhancing transparency in markets through digitalized land records, disclosures, and registration of projects not only remains a regulatory objective but can be a cognitive aid as well. The role of these initiatives in addressing information asymmetry and fraudulent elements in markets can be considered effective in reducing the cognitive burden of investors so that scanning or tracking from a watchful perspective becomes effective and productive even in a broader section of markets that otherwise remain vulnerable due to their behavior influenced by wrong information.

6.3 Limitations and Future Research

However, the study design is a limiting factor for the drawing of conclusions on causality. The possible study design for future work could be longitudinal research whereby the TPB constructs could be observed longitudinally. Besides, experimental work on vigilance would be useful for confirmation of causality. Moreover, carrying out research on a cross-cultural study would be helpful for the comprehension of the boundary conditions on a cross-cultural level. Explore Digital Moderators: How the usage of digital real estate platforms and financial technologies affects the utilization of digital real estate platforms and fintech solutions

7. Conclusion

The Theory of Planned Behavior has been used effectively in this study for explaining the cognitive machinery for real estate investment in Pakistan. The study's key finding, through the identification of Vigilance as the decisive perceived Behavioral Control through which attitudes (Real Estate Literacy) and Subjective norms (Social Capital) interact in the formation of opportunity recognition intentions, is theoretically significant and practically useful. The results clearly reflect the necessity for successful investment, particularly in emerging markets, not only based on knowledge and structural capital but, more importantly, the cognitive vigilance for the appropriate processing and utilization of the same. This TPB-based framework offers a robust foundation for future research and practice in behavioral real estate.

8. References

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

2. Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies, 2*(4), 314-324. https://doi.org/10.1002/hbe2.195
3. Baron, R. A. (2006). Opportunity recognition as pattern detection: How entrepreneurs connect the dots to identify new business opportunities. *Academy of Management Perspectives, 20*(1), 104–119. https://doi.org/10.5465/amp.2006.19873412
4. Bhatia, A., & Saxena, R. (2023). Behavioural biases in real estate investment: A literature review and future research agenda. *Humanities and Social Sciences Communications, 10*(1), Article 846. https://doi.org/10.1057/s41599-023-02366-7
5. Gregoire, D. A., Barr, P. S., & Shepherd, D. A. (2010). Cognitive processes of opportunity recognition: The role of structural alignment. *Organization Science, 21*(2), 413–431. https://doi.org/10.1287/orsc.1090.0462
6. Hoxha, V., & Hasani, I. (2023). Decision-making biases in property investments in Prishtina, Kosovo. *Journal of Property Investment & Finance, 41*(2), 155–181. https://doi.org/10.1108/JPIF-04-2022-0031
7. Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x
8. Mahmood, F., Arshad, R., Khan, S., Afzal, A., & Bashir, M. (2024). Impact of behavioral biases on investment decisions and the moderation effect of financial literacy; an evidence of Pakistan. *Acta Psychologica, 247*, Article 104303. https://doi.org/10.1016/j.actpsy.2024.104303
9. Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review, 23*(2), 242–266. https://doi.org/10.5465/amr.1998.533225
10. Pelawi, R. Y., Tandelilin, E., Lantara, I. W. N., & Junarsin, E. (2025). Empowered to detect: How vigilance and financial literacy shield us from the rising tide of financial frauds. *Journal of Risk and Financial Management, 18*(8), Article 425. https://doi.org/10.3390/jrfm18080425
11. Robb, C. A., & Woodyard, A. S. (2011). Financial knowledge and best practice behavior. *Journal of Financial Counseling and Planning, 22*(1), 60–70.
12. Shiller, R. J. (2019). Narrative economics: How stories go viral and drive major economic events. *American Economic Review, 109*(4), 1387-1417. https://doi.org/10.1257/aer.109.4.1387
13. Singh, A., Kumar, S., Goel, U., & Johri, A. (2024). Predictors of investment intention in real estate: Extending the theory of planned behavior. *International Journal of Strategic Property Management, 28*(6), 349–368. https://doi.org/10.3846/ijspm.2024.22234
14. Sorrentino, R. M., Bobocel, D. R., Gitta, M. Z., Olson, J. M., & Hewitt, E. C. (1990). Uncertainty orientation and individual differences in

vigilance. *Journal of Personality and Social Psychology, 58*(5), 847-853. https://doi.org/10.1037/0022-3514.58.5.847

15. Tang, Y., Li, J., & Chen, H. (2023). Investor vigilance in digital markets: Conceptualization and scale development. *Journal of Business Research, 156*, 113478. https://doi.org/10.1016/j.jbusres.2022.113478
16. Wahid, A., Kowalewski, O., & Mantell, E. H. (2023). Determinants of the prices of residential properties in Pakistan. *Journal of Property Investment & Finance, 41*(1), 35-49. https://doi.org/10.1108/JPIF-02-2022-0011
17. Wangzhou, K., Khan, M., Hussain, S., Ishfaq, M., & Farooqi, R. (2021). Effect of regret aversion and information cascade on investment decisions in the real estate sector: The mediating role of risk perception and the moderating effect of financial literacy. *Frontiers in Psychology, 12*, Article 736753. https://doi.org/10.3389/fpsyg.2021.736753
18. Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement, 73*(6), 913-934. https://doi.org/10.1177/0013164413495237

Books

1. Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.
2. Coleman, J. S. (1990). *Foundations of social theory*. Harvard University Press.
3. Field, A. (2023). *Discovering statistics using IBM SPSS statistics* (6th ed.). Sage Publications.
4. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2023). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.
5. Putnam, R. D. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton University Press.
6. Shiller, R. J. (2015). *Irrational exuberance* (3rd ed.). Princeton University Press.
7. Vogt, W. P. (1999). *Dictionary of statistics and methodology: A nontechnical guide for the social sciences* (2nd ed.). Sage Publications.

Book Chapters

1. Krueger, N. F. (2003). The cognitive psychology of entrepreneurship. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of entrepreneurship research* (pp. 105-140). Springer.

2. Reports and Government Documents

3. Board of Investment, Government of Pakistan. (n.d.). *Real estate sector incentives and regulatory framework*. Retrieved January 15, 2024, from https://invest.gov.pk/real-estate-sector

4. Khawaja, M. I. (2024). *Real estate market dynamics in Pakistan: Challenges and opportunities*. Pakistan Institute of Development Economics.
5. Pakistan Bureau of Statistics. (2024). *Household integrated economic survey 2023-24*. Government of Pakistan.
6. Pakistan Economic Survey. (2022). *Economic survey of Pakistan 2021-22*. Ministry of Finance, Government of Pakistan.

QUESTIONNAIRE

Instructions:

Thank you for participating. This survey seeks to understand the factors influencing real estate investors' satisfaction. Please answer based on your personal experience. All responses are anonymous and confidential. For the following statements, please indicate your level of agreement using the scale below:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Section A: Demographic Information

Age:

1 = 18-25 years
2 = 26-35 years
3 = 36-45 years
4 = 46-50 years
5 = 51 years and above

Gender:

0 = Male
1 = Female

Monthly income (in Thousands)

1 = Less than 50
2 = 51-100
3 = 101-150
4 = 151 and above

Investment experience in Real Estate

1 = 1-5 years
2 = 6-10 years
3 = 11-15 years
4 = 16 years and above

Nature of employment

0 = Self-Employed
1 = Employee

Education/Certification in Real Estate

0 = Yes
1 = No

Using a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree), please rate the following:

Section B: Real Estate Knowledge

(Adapted from Robb & Woodyard, 2011; Huston, 2010)

Statements	1	2	3	4	5
1. I have a strong understanding of property valuation. 2. I am familiar with real estate legal procedures.					

3. I understand the tax implications of real estate investments. 4. I am aware of financial risks associated with property transactions. 5. I can accurately assess real estate market trends. 6. I am knowledgeable about mortgage financing and loan structures. 7. I understand the role of government regulations in real estate. 8. I keep myself updated with policy changes affecting the real estate sector.					

Section C: Social Capital

(Adapted from Nahapiet & Ghoshal (1998), and Villalonga-Olives & Kawachi (2017))

Statements	1	2	3	4	5
9. I have a strong network of contacts in the real estate sector. 10. I frequently interact with experienced real estate investors. 11. My social connections provide me with valuable investment opportunities. 12. I rely on my professional network for real estate decision-making. 13. My social circle helps me stay informed about property trends. 14. I receive referrals for property deals through my social contacts. 15. I feel confident investing when my network validates the opportunity. 16. I trust the investment advice I receive from my real estate peers. 17. My network facilitates faster access to credible property information. 18. I have close ties with individuals who share reliable property market insights.					

Section D: Vigilance

(Adapted from Sorrentino et al., 1990)

Statements	1	2	3	4	5
19. I actively monitor real estate market trends before investing.					

20. I conduct thorough research before making any real estate investments. 21. I remain cautious and verify all details before purchasing a property. 22. I constantly seek new real estate investment opportunities. 23. I evaluate the credibility of real estate agents or developers. 24. I compare multiple options before finalizing any property deal. 25. I take my time when making important investment decisions. 26. I try to anticipate the long-term consequences of my investments.					

Section E: Investment Opportunity Recognition

(Adapted from Gregoire et al., 2010)

Statements	**1**	**2**	**3**	**4**	**5**
27. I can identify profitable real estate investment opportunities easily. 28. I have the ability to recognize undervalued properties in the market. 29. I use innovative approaches to discover new real estate investments. 30. I am good at forecasting potential property value appreciation. 31. I regularly analyze local and regional real estate trends. 32. I have a system or criteria for identifying quality investments. 33. I notice investment opportunities that others often overlook. 34. I can distinguish between high- and low-potential real estate deals.					

Section J: Additional Comments

Do you have any suggestions or additional insights regarding real estate investment satisfaction?

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Thank You !!!