

RESEARCH ARTICLE

Investor psychology in virtual property investment: Risk perception and behavioural trends

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Abstract: Virtual property refers to the land that people can buy or sell in the metaverse. The paper analyses the key factors influencing investors' risk perception, and the factors that motivates to invest in the virtual property. The paper also looks into the impact of demographic elements on the risk perception of investors and whether experience in investment plays a role in Investors' herding behaviour and impulsive decision making. Employing questionnaires, 86 respondents provided the primary data and the secondary data has been obtained from research papers, publications and journals. The study used ANOVA, Chi square testing, and Percentage analysis. It found that gender and educational qualification have no significant impact on the investors' perception of risk. The findings reveal that the most significant factor influencing the investors' perception of risk seems to be market volatility. The study also finds that the key factors that motivates the investors to invest in virtual property includes potential high returns followed by peer influence, technological interest and perceived prestige. The results suggests that the herding behaviour and taking impulsive decisions are similar among investors irrespective of their experience in investments.

Keywords: *Virtual property investment, Risk perception, Herding behaviour, Impulsive decisions, Behavioural trends*

Introduction

Owning a property in virtual environment is neither defined by physical boundaries nor legal documentation but instead supported through blockchain technology, where the principal credentials are a strategic vision and a digital key. Once a distant fantasy, this world known as the Metaverse was discovered only in science fiction books. Metaverse is a shared virtual world in which people can interact and participate in various activities, where users are represented as avatars and uses technologies like Virtual and Augmented Reality. Neal Stephenson in his 1992 cyberpunk novel Snow Crash used the term "Metaverse" for the first time. His notion of a virtual universe, allowed users to escape reality by interacting with avatars through purchase of a virtual real estate. Early the decade that followed, the first traces of this vision came to reality. Second life let users to possess land, create virtual identities, and even conduct trade. But it was still very basic with grainy avatars, and lack of sense of ownership. Then the blockchain revolution came as a solution for this. In their study, Husain et al. (2025) highlighted the way innovative technologies such as AR, VR, and blockchain could impact investment decisions via enhanced engagement, security, and revenue generating opportunities in virtual environments. Platforms such as Decentraland and the Sandbox improved virtual ownership in 2017. Supported by Decentralised ledgers, virtual property turns into an

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actual asset with NFTs and smart contracts. Since there are no middlemen, no disputes and just digital permanence. The game changed entirely in 2021, when Facebook changed its name to Meta, implying that the Metaverse is the future and not merely a work of fiction. Billions of dollars flowed in as virtual property prices increased dramatically, and unexpectedly buying a plot of land in a virtual world has become as valuable as of a prime property in the real world. One important factor influencing the investor participation is perceived enjoyment, which provides information to improve customer involvement (Spais et al., 2024). The study intends to find out how gender and educational background influence the investors' risk perception. It also examines the impact of behavioural patterns on the investors' experience in investment by studying the investor psychology. Such insights can help financial advisors and policymakers in developing more customised investment strategies among diverse investors. Deep et al. (2023) studied and revealed that four crucial hidden factors such as confident value evaluation, distinct investment appeal, trusted property transactions, and effortless property commitment have a huge impact on how investors act. The investors of South Africa are highly aware on the investment in virtual real estate but the willingness to invest and people who have invested seems to be very less. This shows that there are certain factors preventing investments in virtual real estate (Akinsomi et al., 2024).

Review of Literature

The advent of investments in Virtual property in the Metaverse has transformed the Conventional understanding of Real estate, by paving a way for new dynamics in Investor psychology, behavioural factors and risk perception. Various studies have analysed these aspects, focusing the opportunities, challenges and motivations that investors face in this rapidly evolving area. Hussain et al. (2025) investigates the motivation factors such as risk tolerance, technological knowledge etc., of individual investors to purchase virtual property in the metaverse. The study investigates the role played by the advanced technologies like VR, Blockchain, and AR while making decisions on investments. It seems that younger high earning investors are dominating this space, driven by interactive digital framework and speculative growth opportunities. Ante et al. (2023) provides a data driven analysis on the ownership of digital real estate, exhibiting 4 distinct investor motivations such as social and community aspects, aesthetics and identity, innovation and technology and speculation and investment. Their results signify that education and their potential for taking risks influences Investor behaviour. Furthermore, the speculative digital real estate, together with blockchain-based ownership through NFTs, differentiates it as a distinct asset class. Spais et al. (2024) digs into the marketing inferences of Consumer behaviour in the Metaverse, and reviews how purchasing decisions of investors are influenced by digital experiences. The study also proposes that virtual real estate brands should leverage immersive marketing and strategies to engage consumers that adds value. Thakur et al. (2023) reviews the Metaverse as a virtual expansion of smart cities, enhancing its position in economic development, urban governance, and privacy concerns. The study claims that even though the Metaverse introduces new investment opportunities, it also presents risks such as data security, regulatory uncertainty, and digital surveillance.

Research Methodology

This study makes use of secondary as well as primary data, a sample of 86 respondents was obtained from various retail investors who have invested in virtual property. The questionnaire has been distributed via google forms including questions relating to the demographic characteristics, factors influencing the perception of risk in virtual property investment, and motivating factors for investing in virtual property. Furthermore, it comprised questions evaluating investor psychology including herding behaviour and investment-related regret. The snowball sampling technique has been used to select the samples for the research. Chi square, One-way ANOVA, and percentage analysis are the statistical tools utilised in this study. The secondary data was obtained from publications, research papers and previous research works. SPSS is the software used for data analysis.

Results

Percentage analysis

The demographic profile reveals a slight majority of female over male, with a percentage of 55.8. The majority of respondents possess postgraduate degrees, with 45.3% specifying a well-educated respondent base. Regarding occupation, the highest proportion of 43.0% encompasses private sector employees. The sample suggests that the majority includes working professionals and young investors.

Table 1 Demographic characteristics of respondents

Gender of Respondents			
Frequency	Percent		
1	38	44.2	44.2
2	48	55.8	100.0
86	100.0	100.0	
Educational Qualification			
1	8	9.3	9.3
2	34	39.5	48.8
3	39	45.3	94.2
4	5	5.8	100.0
86	100.0	100.0	
Occupation of Respondents			
1	1.2	1.2	1.2
4	4.7	4.7	5.8
35	40.7	40.7	46.5
37	43.0	43.0	89.5
9	10.5	10.5	100.0
86	100.0	100.0	

Source: Primary data

Educational qualification and risk perception

H₀: There is no major correlation among investors' educational qualification and risk perception in virtual property investment.

H₁: There is a major correlation among investors' educational qualification and risk perception in virtual property investment.

The results state that there is no strong correlation among the education level and risk perception in virtual property investment, because the p-value is greater than the 5% standard of significance (0.809). It means that the education level does not significantly influence how risky investors perceive virtual property investments. It implies that the data does not support the hypothesis that education level leads to lower or higher risk perception.

Table 2 Educational qualification and risk perception in virtual property investment

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.282a	9	.809
Likelihood Ratio	5.740	9	.766
N of Valid Cases	86		

Source: Primary data

Herding behaviour and different levels of investment experience

H₀: There is no significant variance in herding behaviour across various levels of investment experience (Beginner, Intermediate, Expert).

H₁: There is a significant variance in herding behaviour across various levels of investment experience (Beginner, Intermediate, Expert)

Investment experience has no significant impact on the investors' herding behaviour according to the results of this data because the p value is 0.418, over the significance limit of 0.05. The results state the fact

that the Investment experience does not influence the tendency to follow other investors. The findings also reveals that the Investors irrespective of the experience of the investors, whether they are beginners, intermediaries or experts shows similar herding behaviour.

Table 3 Herding behaviour across different levels of investment experience

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.363	2	.682	.882	.418
Within Groups	64.125	83	.773		
Total	65.488	85			

Source: Primary data

Gender and risk perception

H₀: There is no major correlation between investors' gender and risk perception while investing in virtual property.

H₁: There is a major correlation between investors' gender and risk perception while investing in virtual property.

Both male and female investors perceive risks similarly in Investing in Virtual Properties, revealing that both are willing to take risks. As the p value exceeds 5% level of significance, the results reveal that there is no major correlation between investors' gender and risk perception. The findings also signifies that the gender is not an important factor in shaping risk perception.

Table 4 Gender and risk perception in virtual property investment

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.373	4	.251
Likelihood Ratio	5.518	4	.238
N of Valid Cases	86		

Source: Primary data

Impulsiveness across different levels of investment experience

H₀: There is no major variation in impulsiveness at various levels of investment experience (Beginner, Intermediate, Expert)

H₁: There is a major variation in impulsiveness at various levels of investment experience (Beginner, Intermediate, Expert)

The results of this data state that there is no major variation between impulsiveness score and various levels of investment experience of the Investors. With a p value of 0.140, the findings are over the 5% significance level. The study also suggests that irrespective of the level of experience of the investors, beginner, intermediate or expert exhibits similar impulsive behaviour in making investment decisions. It implies that the experience of investors does not have an effect on how impulsively investors make decisions on investments.

Table 5 Impulsiveness across different levels of investment experience

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.335	2	2.168	2.015	.140
Within Groups	89.304	83	1.076		
Total	93.640	85			

Source: Primary data

Discussion

Out of 86 respondents, 55.8% are female and 44.2% are male. Regarding educational qualification, 39.5% respondents fall under the category of Undergraduates and 45.3% are postgraduates making it the highest. And only the lowest of 9.3% were qualified high school level. The majority of the respondents with 40.7% and 43.0% belong to 2 and 3 categories which are self-employed and employed. 59.1% of respondents invests in Decentraland and 32.7% of respondents invests in Sandbox and 8.2% of responses invests in

other platforms. Concerning the factors influencing the risk perception of investors, majority of 87.2% of respondents have selected Market volatility, while 39.5% selects lack of regulation, 45.3% selects technology reliability and 74.4% selected speculative nature of assets. The highest proportion of 32.4% and 30.0% of respondents have chosen potential high returns and peer influence and trends as the motivating factors for investing in virtual property while 15.7% of respondents have chosen Technological interest, 11.4% long-term investment potential and 10.5% have chosen social status and ownership prestige. The chi-square tests find that the educational qualification is not significantly associated with the risk perception level of investors, suggesting that education does not significantly influence how risky investors perceive virtual property investments. Similarly, the findings reveal no major correlation between the investors' gender and risk tolerance level. Furthermore, the study does not find any major variation between the individual investors' herding behaviour and their experience in investing, which exhibits that the investors, irrespective of their experience, whether beginners, intermediaries, or experts, tend to follow the crowd. Additionally, irrespective of the level of experience of the investors, they exhibit similar impulsive behaviour in making investment decisions, implying that experience does not influence the probability of taking impulsive investment decisions. Wang et al. (2024) determined that the key factor impacting investment attitude is psychological risk and suggested that, strengthening transparency and trust mechanisms can mitigate these risks and increase investor confidence in crowdsourcing in virtual tourism.

Conclusion

This study analysed how investors perceive risks and make decisions in this developing market. It also explores risk perception, herding behaviour and impulsiveness of investors in making investment decisions in virtual property. The findings of the study signify that educational qualification and gender of the investors do not significantly have an impact on risk perception of investors, implying that demographic factors of investors are independent in assessing risk. Likewise, the level of investment experience does not significantly impact impulsiveness or herding behaviour, indicating that whether experienced or beginner, shows similar behavioural tendencies in virtual investments. Furthermore, key factors such as market volatility, lack of regulation, technology reliability and speculative nature of virtual assets play a significant role in shaping investors' risk perceptions.

Investors often tend to make impulsive investment decisions, which may lead to financial risk to investors. These findings emphasise the need for financial education to investors, strong regulatory frameworks and better tools for risk assessment. The study also recommends the investor for independent research and portfolio diversification to reduce risks. Furthermore, the study also suggests in developing risk-adjusted investment options to investors. The study suggests that independent research can be conducted by the investors to avoid following the market trends or other investors blindly. This will help in reducing the herding behaviours and the impulsive decision making of the Investors. Investors can also diversify their portfolio by considering investments in traditional assets like stocks, mutual funds, real estate. This will reduce the impact of market volatility.

Investors can also educate themselves about the blockchain security, regulatory risks etc., to avoid taking risks. Yaqoob et al. (2023) stated in their study that interoperability, security and privacy, network capabilities, law and jurisdiction, and other challenges need to be addressed before the metaverse starts in a significant way. The present digital economy, instead of users, is still managed by centralised entities like banks and large companies. This is identified as a limitation, as metaverse just cannot be created with advanced technology but also needs a reliable and trustworthy economy. Blockchain technologies are seen as a potential solution as they support decentralisation, allowing people to own and manage their virtual assets directly (Hutson et al., 2023). Governments can set up financial education programs focusing on digital investments, risks, and investor protections by collaborating with universities and financial institutions.

There are some limitations in this study which are summarised as future recommendations for research. The future research can examine additional behavioural biases such as mental accounting, anchoring, or confirmation bias. Conducting longitudinal studies helps in acquiring changes in investor behaviour over time as the market evolves rapidly. The future studies could also increase the sample size. Overall, this research improves knowledge on the investor psychology in investing in virtual property.

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