Examining the Interplay of Demographic and Behavioural Factors in Strategic Investment Decisions: A Structural Model Analysis with a Focus on IT Sector Professionals

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Abstract

This study explores the multifaceted relationships among demographic variables, behavioural factors, strategic investment factors, investment strategies, and investment decisions, with a specific focus on investors in the IT sector. The research aims to understand how demographic characteristics influence strategic investment factors, levels of awareness about investment avenues, and decision-making processes. It further analyses the direct effects of behavioural factors on strategic investment factors and decisions, alongside the mediating role of investment strategy in the relationship between strategic investment factors and investment decisions. Using a structural model approach, the study constructs and evaluates these relationships to provide actionable insights into improving savings behaviour among IT sector investors. The findings are expected to contribute to the growing field of behavioural finance, offering practical measures to enhance investment practices and strategies, ultimately fostering financial well-being and informed decision-making among professionals in the IT sector.

Keywords: Behavioural Finance, Strategic Investment Factors, Investment Strategy, Investment Decision, Demographic Variables.

Introduction

Investment is a key indicator of economic growth, contributing to GDP and wealth creation. The Indian capital market has experienced significant expansion due to economic reforms and economic opening. This study examines how savings, investment awareness, and pattern affect investors' attitudes towards investments and the advantages they receive. Factors such as age, education, income, expenses, savings, and investments are related to structural positions. Savings play a vital role in the economy, and investments in services and products can catalyse growth. Investment opportunities are abundant in the Indian financial scene. An investment is a financial activity aimed at generating income or credit by purchasing goods not consumed today but used in the future. It involves saving funds from current consumption with the hope of future benefits. Factors influencing investment include safety, return, capital growth, risk, liquidity, tax benefits, and convenience. Various investment options, such as bank deposits, stocks, mutual funds, insurance, and physical assets, are available with varying risk-reward trade-offs. Understanding these concepts helps create a portfolio that maximizes returns while minimizing risk.

Savings: Savings implies that an individual after meeting his personal obligations and all expenses keeps his money away from present consumption to get appreciation in the future.

Investment: Investment is an allocation of resources i.e., money to generate income in the future with an intention to build health and wealth. It is an activity that includes all categories of people irrespective of their occupation, status, education and family background. The main motto of investment is the commitment of the present sacrifice of funds to derive future benefits over a specific period. The sacrifice of funds is done through acquiring various assets viz., physical assets and financial assets through the purchase of bonds, stocks etc.

Investment avenues:

Investment avenues are various options for investing money, each with its own set of risks, returns, and characteristics. Common types include stocks (equities), bonds (debt securities), mutual funds (collected money from investors), real estate (property), exchange-traded funds (ETFs), commodities (raw materials), cryptocurrencies (digital currencies), peer-to-peer lending (P2P), index funds (market indexes), startups and venture capital, savings accounts or fixed deposits (FDs), gold and precious metals, collectibles, and REITs (Real Estate Investment Trusts). Each avenue offers a different set of risks, returns, and characteristics, making it essential to consider the specific risks and returns associated with each investment avenue before making a decision.

Literature Review:

The study by Bhisikar and Dhoke (2020) analyzed investment patterns of salaried employees in Nagpur City, revealing mutual funds and bank deposits as preferred investment options, with future safety and well-being being significant factors. The study by Abhinandan, Aiman AL-Asbahi, and Ebrahim Al-Gamal (2019) examines investment patterns among working women, salaried employees, and teachers, finding that bank deposits are preferred. Jyoti Kumari's 2017 thesis on retail investors in the Indian stock market found that investment behaviour is influenced by the risk involved in the investment avenues. The study by Remigius Mary S (2016) reveals that working women in Chennai City are more aware of traditional investment avenues and prefer annual income investments, often opting for equity with higher returns and tax benefits. C. M. Shinde and Priyanka Zanvar's 2015 study found significant differences in investment patterns among demographic traits like age, income, and educational qualification, affecting risk tolerance levels. The study by Umamaheswari and Kumar (2013) examines investment patterns among salaried class investors in Coimbatore District, focusing on socio-economic variables like age, gender, marital status, income, education, occupation, and monthly investments.

Objectives:

- Analyze the Role of Demographic Factors
- Understand Behavioral Factors in Investment Decision-making
- Build a Structural Model of Investment Decision-making
- Examine the Impact of Risk Tolerance on IT Sector Investments

- Determine the Influence of Market Sentiment and Media on Investment Choices

Scope of the study:

The study aims to understand the investment patterns and behaviour of IT sector employees, which can inform stakeholders about financial dynamics and guide strategies for optimizing financial well-being. These habits impact personal economic stability, economic growth, and market motion. Studying these employees can provide insights for boosting savings and investments.

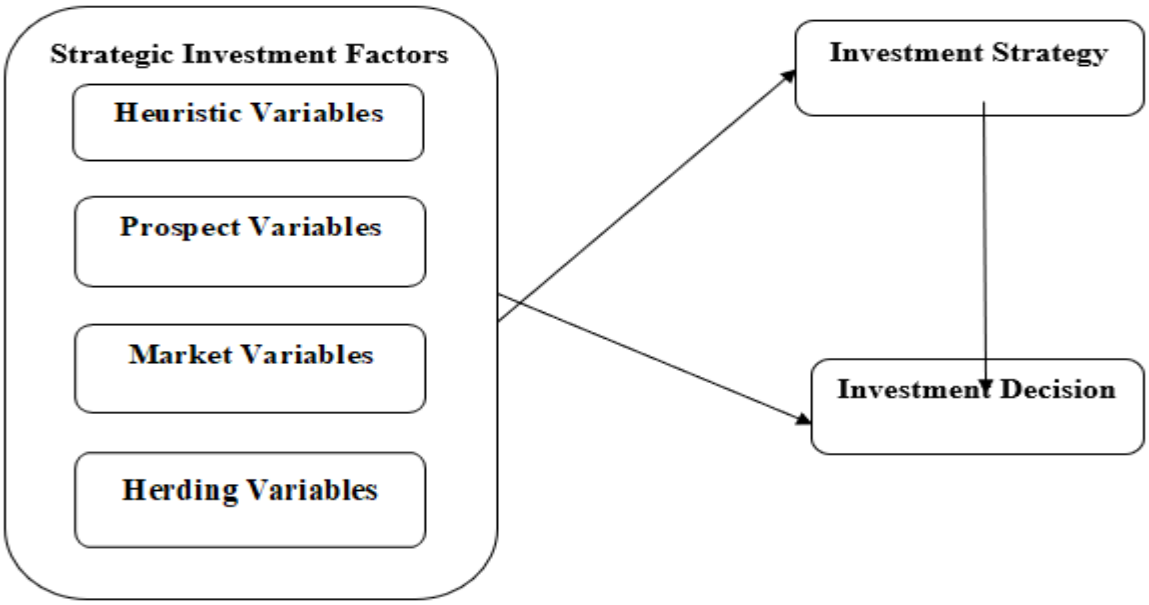
Hypotheses of The Study:

H1: Investors' age significantly influences their IT sector investment preferences, with younger investors tending to invest in high-growth, tech-oriented companies more than older investors.

H2: Higher education levels are linked to increased investment in the IT sector, as educated investors are better informed about the potential of technology companies.

H3: Income levels significantly influence the allocation of capital to the IT sector, with higher-income individuals investing more in tech stocks or startups.

Research Model:



The model explains how demographic factors, behavioral factors, and market variables influence investment decisions. It highlights the relationship between age, income, risk tolerance, overconfidence, loss aversion, herding behavior, and anchoring bias. Market factors, such as market sentiment and media influence, can also moderate the relationship between demographic factors and investment decisions.

Research Methodology:

The study uses the data sources to identify the Strategic behavioural factors that affect investing choices. Diagnostic, descriptive, exploratory, survey, pure, applied, historical, and case study are some of the research methods. Through the use of first-hand information and a structured questionnaire, data collecting, and the deployment of suitable sample techniques, the descriptive survey approach gathers information on variables.

Sources of Data:

- Primary data: Through Questionnaire
- Secondary data: various journals, website on e -journals etc.

The researcher studied for a Doctor of Philosophy degree in Hyderabad, focusing on IT professionals from over 1500 companies, with a sample size of 550.

Reliability statistics for Research variables / (reliability test):

The study analyzed strategic investment behaviour of IT professionals in Hyderabad using a structured questionnaire. The variables included 30 questions, measuring investment strategy, decision, and behavioural factors. The reliability statistics ranged from.768 to.935, demonstrating the indicators' reliability.

Factor	No. of Statements	Sample Size	Cronbach's Alpha
Heuristic variables (HV)	5	550	.935
Prospect variables (PV)	5	550	.768
Market variables (MV)	5	550	.911
Herding variables (H)	5	550	.867
investment strategy (IS)	5	550	.878
Investment Decision (ID)	5	550	.849

Reliability: All the factors demonstrate acceptable to excellent reliability, with Cronbach's Alpha values ranging from 0.768 to 0.935. Factors with values above 0.8 (like HV, MV, H, IS, and ID) are considered to be very reliable. The Prospect Variables (PV), while still acceptable, show a slightly lower internal consistency (0.768), which could indicate that the items related to prospect theory may not be as tightly related or might require further refinement. The internal consistency of the factors suggests that the items under each factor measure the same construct, and that the factors themselves are likely to be stable and replicable in future research.

Measurement scale: The study aims to explore the influence of demographic and behavioural factors on strategic investment decisions in the IT sector. A robust measurement scale is proposed, which can be divided into different categories based on key factors such as age, gender, education level, income level, years of experience, and investment strategy. Behavioral factors include risk tolerance, overconfidence, loss aversion, herding behavior, anchoring bias, and over-optimism. Investment strategies employed by IT professionals include short-term vs. long-term, growth vs. value investing, diversification, speculation vs. stability, and overall investment decisions. Market variables measure how external conditions in the IT sector influence investment decisions, such as market sentiment, media influence, and economic indicators. The questionnaire structure includes sections on demographic information, behavioral factors, investment strategies, and actual investment decisions. By combining these scales and applying statistical techniques like Structural Equation Modeling

(SEM), insights can be gained into how IT sector professionals make investment decisions, considering both demographic characteristics and psychological/behavioral biases.

Data Analysis and Interpretation:

ANOVA TEST:

Once estimation of the differences exists among the means, range tests identify homogeneous subsets of means that are not different from each other. Pair-wise multiple comparisons test the difference between each pair of means and yield a matrix where asterisks indicate significantly different group means at an alpha level of 0.05.

Test Statistics of ANOVA for Heuristic variables across the Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.680	3	.227	.331	.803
Within Groups	374.303	546	.686		
Total	374.984	549			

The ANOVA test found no significant relationship between age and heuristic variables, indicating a significant difference in respondents' opinions based on their age group. Therefore, the alternative hypothesis of not equal variance was accepted, indicating no significant relationship between age and heuristic variables.

Test Statistics of ANOVA for Heuristic variables across the educational qualification

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.680	3	.227	.331	.803
Within Groups	374.303	546	.686		
Total	374.984	549			

The ANOVA test found no significant relationship between age and heuristic variables, indicating a significant difference in respondents' opinions based on their age group. Therefore, the alternative hypothesis of not equal variance was accepted, indicating no significant relationship between age and heuristic variables.

Test Statistics of ANOVA for Prospect variables across the Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.173	3	.058	.241	.867
Within Groups	130.171	546	.238		
Total	130.344	549			

The one-way analysis of variance test found no significant relationship between age group and prospect variables, indicating a significant difference in respondents' opinions regarding prospect variables based on their age group. Therefore, the alternative hypothesis of not equal variance was accepted.

validation of the hypothesized conceptual model

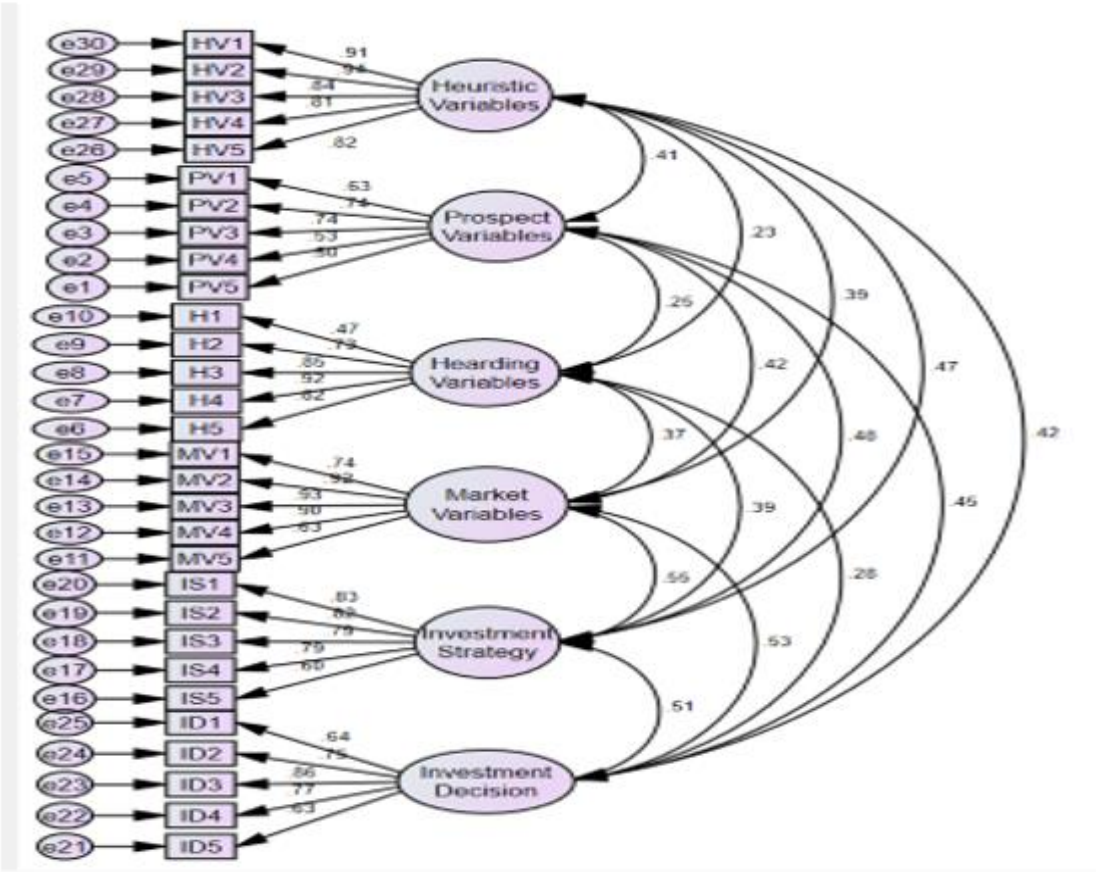
Anderson and Gerbing's two-step approach for structural equation modeling involves determining the relevance of the measurement model and testing the structural model. Evaluator factor analysis (EFA) is conducted to minimize attributes and refine the statistical power of the hypothesized conceptual model. The structural model is tested, and thirty indicators are selected with commonalities over.5, factors loadings greater than.5, and no cross-loading.

The study used EFA to explore thirty indicators, selecting thirty with commonalities over.5, factors loadings greater than.5, and no cross-loading in other components.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.893
Bartlett's Test of Sphericity	Approx. Chi-Square	11029.022
	df	435
	Sig.	.000

The study used a confirmatory factor analysis to test the relationship between observed and unobserved variables in a measurement model. The model contained six latent constructs and thirty statements, with each statement having only one path. The model fit was verified using various indices, including absolute, goodness of fit, incremental, and parsimony fit measures. A good fit was defined as a $\chi 2$ /df value between 5 and 1, RMSEA less than 0.08, GFI, TLI, and CFI values above 0.9, and AGFI and PCFI values closer to the GFI and CFI values.

Standardized CFA output for the Measurement Model



Convergent validity measures the variance in a construct's items, measured by factor loadings, average variance extracted (AVE), and composite reliability (CR). Standardized loadings ≥.05 are acceptable, while $\lambda \geq .70$ are considered well. AVE and CR scores should be larger than.5,.7, and.5, respectively. Table 4.93 shows that each item significantly impacted the construct, with AVE and CR values exceeding the cut-off value.

Discriminant Validity Discriminant validity measures the difference between constructs, with the square root of Average Variance Extracted (AVE) higher than intermediate-construct correlations. This indicates constructs with more variance than shared values. Table 4.95 shows AVE diagonally, indicating adequate discriminant validity.

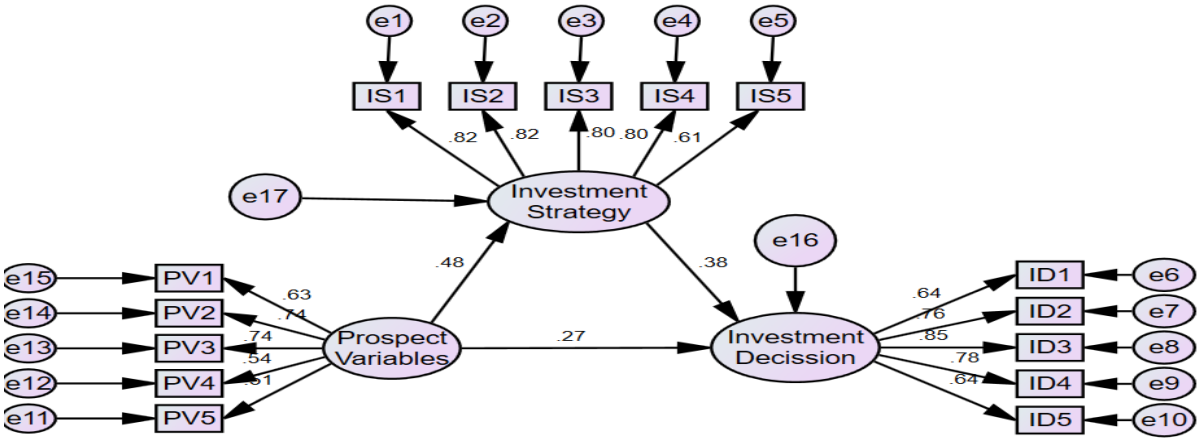
Structural Model

The research uses a structural model to test hypothesized relationships between strategic investment factors and investment strategy. The model is developed in four stages: initial verification, association testing, examination of strategy-investment decision relationship, and mediation analysis, with investment strategy acting as a mediator among study variables.

Relationship between strategic investment factors and IS

The model tested the relationship between strategic investment factors (HV, PV, H, MV) and IS, revealing a good fit with fit indices, as explained in Table 4.66.

Model Linkage between strategic investment factors and IS



The third model suggests that IS acts as a mediator between H and ID, with a fine fit index. The direct and indirect effects suggest partial mediation of IS, with significant path coefficients.

Findings and Suggestions:

The study found a significant positive relationship between age, educational qualification, occupational status, family members, annual income, percentage of savings, investment strategy, and family members in the study area. The ANOVA test showed that market variables had a significant difference with respect to age, educational qualification, occupational status, family members, and annual income. Investment strategy had a significant difference with respect to educational qualification, occupational status, family members, and annual income. The study concluded that investment strategy and family members had a positive relationship in the study area.

Recommendations:

The research suggests that strategic investment factors significantly impact investment strategy and decision-making. Government reforms to increase investor alertness and awareness about heuristic biases can help investors make informed choices. Technological solutions and financial literacy programs should be prepared to explain how heuristic biases shape strategic investment behavior. Educational programs should focus on prospect theory, integrating factors like dependence and loss aversion into investment analysis tools. Transparency in financial product offerings and collaboration with regulatory agencies can help investors make better decisions. Implementation strategies to alleviate herding behavior, such as real-time data and independent thinking, can help investors make informed decisions. Comprehensive risk assessments, educational materials, asset class diversification, and ESG considerations can also help align investments with ethical and sustainable values.

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