

SPECIMEN FORMAT FOR THESES OF MONTH

Faculty : School of Commerce and Management Studies

Department : Commerce

Branch/ Area: : Financial Management

Sub Subject Heading: : Investment Management

Candidate's Name : Rathi K N

Candidate's Address with email : Hari Vihar
Nellikattu mana
Ottapalam P.O
Palakkad Dt.
Kerala
679101

Title of the thesis : Investment Behaviour of Government Employees in Kerala

(i) In Roman Script -

(ii) In roman Script -

Nomenclature of Degree: : Ph.D

Month & Year of Enrolment: : July 2018

Month & Year of Registration: : July 2018

Month & Year of Submission: : November 2023

Month & Year of Award : January 2025

Name of Supervisor : Dr. D. Geetha

Designation of Supervisor : Professor and Head (Retd.)

Centre/department/school in which research was conducted : Department of Commerce
School of Commerce and Management

University's Name & Address : Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore

Abstract within 300 words:

The Indian economy is growing rapidly, and wise investments are crucial for economic development. This study analyses the investment behaviour of government employees in Kerala, focusing on their intellectual and behavioural aspects. Previous studies have explored investment decision-making, risk tolerance, emotional intelligence, and behavioural biases. However, few studies have examined the relationship between investors' intelligence, personality, and investment behaviour. The study identifies a research gap in understanding investors' intelligence and personality traits concerning their investment behaviour. The major objectives of the study are to Investigate the impact of intelligence and personality on investment behaviour. the specific objectives are to study investment patterns, Investment Preferences and Investment Decision Making in relation to intelligence and personality, to analyse investment decision-making behaviour (rational and irrational) and examine demographic influences on investment behaviour. The study employed a descriptive and analytical research design, surveying 384 Grade II government employees in Kerala. Sample are selected using Proportionate Stratified Random Sampling Technique. For studying investment intelligence, here used Multiple intelligences based on the Multiple Intelligence theory of Howard Gardener and the study used Big Five Personality Traits to measure investor personality. Data were collected using s structured questionnaire and tools for data analysis are Descriptive statistics, ANOVA, t test, Multiple Regression, Canonical Correlation and Structural Equation Model. The study found that Investors' Intelligence and Personality; especially Multiple intelligence and big five personality traits influence investment behaviour. As studied Investment Decision making of Government Employees, Irrational behaviour is slightly more prevalent than rational behaviour. Bank deposits, insurance, and chit funds are favoured investment avenues and Safety, return, liquidity, and marketability are primary factors influencing Investment Behaviour. The study proposes a conceptual framework incorporating cognitive and behavioural aspects to explain investment behaviour. The findings suggest that government employees exhibit both rational and irrational behaviour, influenced by intelligence, personality, and demographic factors. Applying these findings can enhance wise

investments, contributing to financial stability and national economic growth. Financial advisors should consider clients' psychological aspects when offering advice. Future research should explore other demographic segments and investment avenues.

Theoretical Implications of the study include: Cognitive abilities and personality traits significantly impact investment decisions; Multiple intelligences and Big Five personality traits influence both rational and irrational decision-making; Behavioural biases, such as representative bias and overconfidence, prominently affect investment choices among investors. Practical Implications: Employer-sponsored programs and financial literacy initiatives can enhance employees' financial well-being; Financial planning should be personalized, considering individual cognitive strengths, personality traits, and biases; Investment products can be tailored to cater to diverse risk perceptions and investor profiles. This study's focus on salaried investors warrants exploration of non-salaried investors, institutions, and mutual fund managers. Future research can incorporate additional variables (e.g., economic conditions, financial literacy) and investigate individual intelligences. Longitudinal studies and cross-country comparisons of investment behaviour and economic influences are also recommended.

i) Major objectives :

The study aims to analyse the investment behaviour of Government employees in relation to their cognitive and behavioural aspects like intelligence and personality. The objectives specifically placed for analysis:

1. To study the Investment Pattern in relation to the intelligence and personality of select Government employees in Kerala
2. To find out Investment Preferences of select Government employees in Kerala concerning their intelligence and personality
3. To identify the Investment Decision Making behaviour of select Government employees in Kerala (Rational and irrational behaviour)
4. To assess the influence of the demographic profile of the select Government employees on investment behaviour and

5. To examine the effect of intelligence and personality of Government employees on their investment behaviour

ii) Hypothesis:

1. H0: There is no significant relationship between select Government employees' intelligence and investment pattern
2. H0: There is no significant relationship between select Government employees' personality and investment pattern
3. H0: There is no significant relationship between the intelligence and personality of select Government employees and their investment preferences
4. H0: There is no significant relationship between select Government employees' intelligence and their investment decision-making
5. H0: There is no significant relationship between select Government employees' personality and their investment decision-making
6. H0: There is no significant relationship between the investment pattern and investment preferences
7. H0: There is no significant relationship between investment preferences and Investment decision making
8. H0: There is no significant relationship between the investment pattern and investment decision-making
9. H0: There is no significant difference in investment behaviour among government employees according to their demographic profile like gender, age, marital status, income level and volume of savings
10. H0: There is no significant inter effect of intelligence and personality on the investment pattern, preferences and decision-making

iii) Methodology :

The descriptive research design is used in the study. Primary data have collected from Grade II Government employees in Kerala State government. The Proportionate Stratified Random Sampling technique is used for the study. A Research Instrument with three parts like

Investment Behaviour Questionnaire, Multiple Intelligence Inventory and Big Five Personality Traits Inventory are used for collecting data. ANOVA, Independent sample t-test, Pearson's Coefficient of Correlation, Multiple Regression, Canonical Correlation, Factor Analysis and Structural Equation Model are used for data **analysis**.

iv) Findings:

Investment Pattern

- In the case of Factors perceived, safety has the highest mean value, 4.14 (Rank I). Return is the Factor next to it with a mean value of 4.09 (Rank II). For liquidity and marketability (Rank III & IV), the mean value is 3.77, 3.71 each.
- In the case of Objectives of investment, Good return has the highest mean value, 3.94 and Future safety is the next highest mean value, 4.06. Children's career is next to it, with a mean value of 3.94, and for liquidity, the mean value is 3.84.
- Actual investments made by those government employees are studied and found that the Bank Deposit is the favourite investment avenue (Rank I) and 71.09% of respondents invested.
- The debt market is the least used by only 5.73 percent of them (Last Rank, XIV). Commodity (13.28%) and NBFC (16.15%) are next to it (Ranks XIII & XII).
- The correlation coefficient of Investors' intelligence and primary factors (Return, Safety, Liquidity and Marketability) are significant at 0.05 level.
- The primary factors and personality were found to be significant at 0.01 level. The correlation coefficient of intelligence and other factors is also significant at a 0.01 level.
- However, R-value is not found to be significant for personality and other factors. Thus, the personality and intelligence of the respondents are related to the primary perceived factors, and the intelligence is only significantly related to other factors perceived (Tax saving, Diversification, Simplicity and Affordability).
- The correlation coefficient of Investors' intelligence and primary objectives are significant at the 0.01 level All other R values are not significant.

The intelligence is only significantly related to Primary objectives, whereas the personality and intelligence of the respondents are not related to the other objectives.

Investment patterns are significantly influenced by investors' intelligence, affecting primary objectives, factors, and investment choices. Personality traits impact perceived factors and risk perception. These findings align with Arora and Kumari (2020) and support existing research (Lam & Kirby, 2002; Hollander, 2012; Von Stumm, 2013) on intelligence's role in financial decision-making.

Investment Preferences

- The highest mean value and the lowest standard deviation are for Bank deposit preferences, 4.08 and 0.904 (Rank I).
- Insurance, Chit funds, Post office deposits and Treasury savings are the avenues with higher mean values like 3.91, 3.82, 3.75 and 3.74 (Rank II, III, IV & V).
- Debt market, Commodity, and Mutual funds are the least preferred avenues as the mean value are 2.56, 2.90 and 3.01 (Rank XIV, XIII & XII).
- All the other avenues like the Cooperative sector, Real estate, Tax savings scheme, NBFC, Precious metals and Stock market indicate the medium preferences of 3.59, 3.43, 3.41, 3.30, 3.22, and 3.11 (Rank VI, VII, VIII, IX, X & XI).
- The preferences of avenues like Bank deposit, Chit funds, NBFCs, Cooperative sector, Real estate, Commodity, Stock market, Mutual fund, and Debt market indicate a highly significant ($p < 0.01$) negative correlation coefficient with their risk level perception. Preferences for Insurance and Tax saving schemes display a significant negative correlation ($p < 0.05$). Post office savings and Precious metals have negative, and Treasury savings has positive correlation, which are not significant ($p > 0.05$). Thus, it is inferred that the Government employees are risk averse investors.

Four Canonical correlation techniques were done to test the relationship of Investment preference with (a). Intelligence and Personality (b). Rational and Irrational behaviour in Investment decision making (c). Factors perceived and (d). Objectives.

- Model fit of all the four Canonical Correlation analyses evidenced all the p values of the three tests. The Pillai's criterion, Hotellings' trace and Wilks' test were less at a .01 level of significance.

- In the case of factors perceived as both primary and other factors, the F value is 3.87041. In the case of Objectives, both primary and other objectives F is 15.22661. The F value of Investors' intelligence and Investors' personality is 3.07392. The Investment decision making, both Rational and Irrational behaviour, is 4.81312. the degree of freedom for all the analyses is (8, 758), and all are significant at a 0.01 level, $p < 0.01$.
- This indicated that investment preferences are significantly related to factors perceived, objectives, intelligence, personality, and rational and irrational behaviour in investment decision-making. Hence, it is concluded, Investment preferences have relationship with investors' intelligence, investors' personality, investment pattern and investment decision making.

This study validates the relationship between intelligence, personality, and investment preferences, aligning with prior research (Stanovich et al., 2013; Jabeen et al., 2018; Arora & Kumari, 2020; Showndhariya & Kavitha, 2018; De Bortoli et al., 2019) that establishes cognitive ability, intelligence, and personality as significant factors in shaping investment preferences.

Investment Decision Making

- All the dimensions in Prudence like Return, Economic consideration, influencing persons, Information dependence, Social consideration, Risk, Evaluation, and Sustainability have a similar mean ranging from 3.62 to 3.33. Return and Information dependence are most influencing factors because they have a high mean; that is 3.62 and 3.60. Influencing persons and Economic consideration shows a low score like 3.33 and 3.42 which indicate the less influence.
- The Behavioural biases data are analysed. Representative bias, overconfidence, mental accounting, regret aversion and availability bias are most incurred biases because they show higher mean scores like 10.90, 10.89, 10.88, 10.86 and 10.84.
- Intelligence accounts for 4.6% ($p < 0.05$) of the rational decision-making variance and 1.6% ($p < 0.05$) of the Irrational decision-making. Investors' intelligence significantly influences rational and irrational decision making.
- Among the Multiple Intelligences, Verbal, Logical, Spatial, Musical and Interpersonal intelligence positively influences rational decisions, and Intrapersonal, Naturalistic and Existential have a negative influence while Kinesthetic has no influence. Biases like

Herding, gamblers' fallacy and anchoring show mean scores of 10.69, 10.46 and 10.31. Gamblers' fallacy and anchoring bias have high scores of standard deviations of 3.03 and 2.957. All the other biases show a variation between 2.875 to 2.661.

- Among the Multiple Intelligences, Verbal, Logical, Spatial, Musical, Intrapersonal, Naturalistic and Existential intelligence slightly positively influences irrational decisions. Kinesthetic and Interpersonal have a little negative impact.
- In case of Personality traits, the value of the F – ratio is equal to 2.68 ($p < 0.05$) in rational decision making and 3.55 ($p < 0.05$) in Irrational decision making. Then personality traits are proved as an influencing factor in investment decision making behaviour both rational and irrational.
- R square is 0.03 which indicates 3 percent of variation of Rational Investment Decision making can be explained with the help of Big Five Personality Traits. Among the personality variables, Openness, Extroversion, and Agreeableness have a positive influence and Conscientiousness, and Neuroticism has a negative influence on rational decision making.
- R square is 0.05 which indicates 5 percent of variation of Irrational Investment Decision making can be explained with the help of Big Five Personality Traits. Among the personality variables, Openness, Conscientiousness, and Neuroticism have a positive influence and Extroversion and Agreeableness have a negative effect on rational decision making.
- Perceived factors show that the model is a good fit, and 1.528 ($p > 0.05$) for objectives shows that the model is not fit. As per the results, Factors perceived on investment account for below 1 percent of the variance in rational decision making and Irrational decision making. Nevertheless, the objectives of investment do not influence both variables.
- Behavioural biases account for 21% ($p > 0.05$) of the rational decision-making variance. Among the behavioural biases, Mental accounting only has a negative influence, and all other biases positively impact rational decision making.

In conclusion, this study identifies investors' personality, investors' intelligence, and perceived primary factors as significant influencers of investment decision-making. These findings align with previous research (Sarwar & Afaf, 2016; Woods et al., 2017; Jabeen et al., 2018)

highlighting the relationship between cognitive mental factors, intellectual ability, and rational decision-making. However, the results diverge from existing studies. The Prudence account for 21.9% ($p > 0.05$) of the variance in Irrational decision making. Among the dimensions of Prudence, influencing persons has a negative influence, and all other dimensions positively influence Irrational decision-making. However, the results diverge from existing studies (Raheja & Dhiman, 2019; Arora & Kumari, 2020) that established a link between intelligence and irrational behaviour or biases in investment decision-making, suggesting that the relationship between intelligence and irrational decision-making may be more complex.

Influence of Demographic Profile of Select Government Employees on their Investment Behaviour

- Demographic, social and economic factors are described in the study concerning investment behaviour. The factors like gender, age, category of employment, marital status, income level and Volume of savings are taken for the analysis.
- In case of gender, investment pattern and investment preferences are differing between the groups. At the same time, investment decision making, investors' intelligence and investors' personality are similar between male and female. Suriyamurithi et al. (2012), Varghese (2015) and Lall (2018) proved the difference between males and females in investment preferences. Pandian and Thangadurai (2013) and Kumar and Kumar (2020) reported the gender differences in investment preferences and decision making. Kandregula et al. (2020) have reported a significant difference in investment decision-making according to investors' gender.
- As far as age is considered, investment preferences and irrational decision making are influenced. But investment pattern, investors' intelligence and investors' personality are not much influenced by age of investor. Research by Pandian & Thangadurai (2013), Lall (2018), Kumar & Kumar (2020), and Kandregula et al. (2020) reveals age-based differences in investment preferences. Conversely, Panwar (2021) finds no age-related differences in investment patterns.
- Marital status influence only the investment preferences. Investment pattern, decision making, investors' intelligence and investors' personality do not differ between different

status group. Pandian and Thangadurai (2013) and Kumar and Kumar (2020) have reported the same result regarding investment preferences. Investors' intelligence of different income level are differing significantly. Investment preferences and management decision making are influenced by income level. Investment pattern and investors' personality are not influenced by income level.

- The category of employees had influenced the Investment preferences only.
- All other variables like investment pattern, decision making, investors' intelligence and investors' personality are not differing with different categories like a and b. Thangadurai (2013) and Kumar and Kumar (2020) have reported the same result regarding investment preferences. Saving volume of investors influence investment preferences and decision making only. Investment pattern, investors' intelligence and personality are not much influenced.

Inter Effect of Intelligence and Personality of Select Government Employees on their Investment Behaviour

A conceptual model is developed in the study after reviewing several studies in the field. The model has established relationship of investors' intelligence and investors' personality on investment behaviour like investment pattern, preferences and decision making.

- The model shows an overall acceptable fit as RMSEA is 0.013 and is well below the recommended limit of 0.05, and Root Mean Square Residual (RMSR) 0.011 is also well below the recommended limit of 0.02 at 0.011. The model is an identified model.
- The confirmatory factor analysis showed an acceptable overall model fit, and hence, the theoretical model fits well with the observed data. It can be concluded that the hypothesised factors CFA model fits the sample data very well.
- These two statistical methods effectively confirm that a hypothesised model provides a good fit for collected data and investigates whether a set of nonobserved or latent variables can significantly predict an outcome measure. The procedures outlined in this analysis show that intelligence and personality have the analytic capabilities to affect investment behaviour.

- Thus, it is proved that intelligence and personality have a causal relationship with investment patterns, preferences and decision making.
- The path coefficients of personality with investment pattern, preferences and decision making are 0.71, 0.74 and 0.73 respectively and that of intelligence are 0.67, 0.71 and 0.69 respectively. Thus, the personality traits are more influence on investment behaviour of Government employees.

Investors' Intelligence and Personality on Investment behaviour

Multiple Intelligences and Investment Behaviour

In relation to investment pattern, primary factors and other factors perceived are influenced by investors' intelligence. Primary objectives of investment also influenced by investors' intelligence. Actual selection of investment avenues is influenced by intelligence. Investor's intelligence is not influencing much on investment preferences of medium risk investment avenues as per analysis. Investors' intelligence influences the preferences of all other avenues like low risk avenues, risky avenues and high risk avenues. In case of Investment decision making, Rational decision making is influenced by Multiple Intelligences especially Verbal, Logical, and Spatial intelligences. Irrational investment decision making is not much influenced by Multiple Intelligences. Existing literature on Multiple Intelligence and investment behaviour is scarce. This study pioneers an exploration of this relationship in the context of Government Employees' investment behaviour.

Big five Personality Traits and Investment Behaviour

In relation to investment pattern, primary factors perceived on investment are influenced by investors' personality. Other factors perceived are not influenced by investors' personality. Actual selection of investment avenues and risk level perception also not influenced by personality traits. Preferences of all the investment avenues irrespective of risk associated like Low, Medium, Risky and High risky avenues are influenced by personality. Both rational and irrational decision making are influenced by investors' personality. While Openness influence positively, Neuroticism influence negatively in relation to Rational decision making. Openness and Neuroticism influence positively and Extroversion and Agreeableness influence negatively in Irrational decision making.

The study confirms the influential role of investors' intelligence and personality on investment behaviour dimensions. This outcome supports earlier research findings (Raheja, 2018; Ahmad, 2018; Sashikala & Chitramani, 2019) highlighting the interconnectedness of cognitive and non-cognitive factors in investment decisions.

Examiners

Internal Examiner : Dr. Sonia Chawla,
Professor, Humanities and Management,
Dr. B R Ambedkar National Institute of Technology,
Jalandhar, Punjab.

External Examiner : Dr. Lingesiya Kangatharan
Professor & Head
Dept. of Financial Management
University of Jaffna
Sri Lanka