

Personality traits and investment decision

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Abstract

This study aims at examining the relationship between personality traits and investment decision. The study used empirical research methodology using primary sources of information collected using structure questionnaire. Multiple linear regression was used to analyze the linear relationship between the personality dimensions and investment decision-making. The personality traits considered for the study are extraversion, agreeableness, conscientiousness, neuroticism, and openness. The study provided empirical evidence that the personality trait of conscientiousness and extroversion have a significant positive influence on the investment decision making process of retail investors. Similar, neuroticism has positive effect on investment decision of investor and statistically significant at 10 percent level of significance. The results of the study could help investors better understand their investment decision-making in terms of the influence of their personality. Financial advisors could also benefit from this study as it would allow them to correlate their clients' personalities and decision-making tools and suggest the most appropriate investment strategies.

Keywords: Personality traits, Investment decision, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness to experience

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Introduction

The investment decision is important for investors to invest their funds to earn a higher profit on their investment. A number of factors involve in decision-making on the investment. Traditional finance theories propose that people behave rationally and their behaviors can be predicted (Fama, 1970; Lintner, 1965; Sharpe, 1964). The underlying assumption of these traditional finance theories is that market information about investment is perfectly and readily available to all investors. However, recent empirical research has indicated that it is difficult to justify investors' behaviors via conventional rational theories including the capital asset pricing model (Sharpe, 1964), which shows how investors choose their portfolios on the efficiency frontier, given their preferences and tradeoffs between expected return and risk and the efficient market hypothesis (Fama, 1970), which states the capital market is efficient if security prices accurately reflected all relevant information in determining those prices, because market participants in the real world often behaved unpredictably (Barber & Odean, 2000; Barberis & Thaler, 2003; Kahneman & Tversky, 1979). Investor maximizes the return by making rational investment decision which is based on the expected utility theory. But behavioral finance contradicts and explains an investor's decision affected by a number of behavioral factors like cognitive and psychological factors which move them to act as irrationally (Kahneman & Tversky, 1979; Fama, 1970; Ritter, 2003). Behavioral finance deemed how psychological and personality traits differentiate individuals from acting as advisors, portfolio managers, analysts and investors. Behavioral finance deals with both external and internal elements affecting the investor's investment decisions. Investors make investment decision based on their personality traits (Raheja & Dhiman, 2017, Sadi et al. 2011; Mayfield et al. 2008, Brown & Taylor, 2014). Overarching hypothesis that is persistent differences in investment decisions are related to persistent differences in personality traits. Personality plays a prominent role in decision-making under uncertain circumstances (Isidore & Arun, 2022). Moreover, prospect theory states that subjects (investors) are always guided by their persistent biases that come from their psychological factors, thus affecting their choices (investment decisions) especially under conditions of uncertainty (Ricciardi & Simon, 2000). Personality influences the kind of information decision-makers acquires under conditions of uncertainty, and this in turn influences their final choice (Fr chet, Schotter, & Trevino, 2017, cited in Isidore & Arun, 2022).

Personality encompasses an individual's socio-psychological features; hence, there is a link between personality and the tendency to behave in specific ways and make decisions. Among various personality traits, extraversion, agreeableness, conscientiousness, neuroticism, and openness which is known as Big Five Personality Traits are the most significant (Goldberg, 1981; McCrae & Costa, 1987; Rathinasamy & Ramasubbian, 2020; Ahmad & Maochun, 2019). Thus, investors' decisions are influenced by their personalities (Krishnan & Beena, 2009).

Several studies have been made on personality traits and how it relates to financial and investment decision-making in an effort to understand the phenomena of investments (Kapoor & Prosad, 2017). However, the studies made the

effect of personality traits on investment decision of investors are concentrated in foreign market only. There is dearth of study relating to problem under study in the Nepalese context. Thus, this study aims to investigate the impact of investor's personality traits such as Extroversion, Agreeableness, Conscientiousness, Neuroticism and Openness as defined by Goldberg (1981) over their investment decisions.

Theoretical consideration

Conventional financial theory

The classic financial theory assumes that investors are rational when they are making investment decisions. Investment rationality refers to using unbiased valid reasoning to buy or sell assets and build portfolios (Chandra, 2008). This unbiased reasoning is viewed in the trade-off between risk and return. Risk and return are the main factors in investment decision (Sharpe, 1964). Accordingly, the portfolio will be more efficient if it offers the highest return given a specific risk or the minimum risk given a specific return (Markowitz, 1952).

Behavioral theory

The premise of behavioral finance is that conventional financial theory ignores how real people make decisions and that people make a difference. The Efficient Markets Hypothesis (EMH) supports the opinion that actual prices reflect fundamental values. According to EMH, although not all investors are rational, the markets are assumed to be rational. Being different from this theory, behavioral finance believes that sometimes, financial markets do not have informational efficiency (Ritter, 2003). Behavioral theory argues that people are not nearly as rational as traditional finance theory makes out. It explores the influence of psychological and cognitive factors on financial decision-making and market outcomes (Kahneman & Tversky, 1979). Many economists have come to interpret the anomalies literature as consistent with several irrationalities individuals exhibit when making complicated decisions. It seeks to find how investors' emotions and psychology affect investment decisions. It is the study of how people in general and investors in particular make common errors in their financial decision due to their emotions. It is nothing but the study of why otherwise rational people take some real thumbs investment decisions. With the emergence of the field of behavioral finance it has been widely observed that investment decisions of individual investors are highly likely to be affected by both psychological and emotional factors.

The five-factor model

Different studies have proposed different personality traits however; "Big five factor model" is the most commonly used classification developed by Allport and Odbert (1936); Rizvi and Fatima (2015). Big five factors model (FFM) is deemed to be capturing major dimensions of personality common to most personality scales (Nirmali & Buvanendra, 2021). FFM describes personality in five dimensions extraversion (active person), neuroticism (emotional & moody person), agreeableness (social person), conscientiousness (dependable, responsible & organized person), and openness to Experience (creative person), (Weller & Thulin, 2012; Dhiman & Raheja, 2018).

Extrovert individuals are interactive with people and they always try to involve in any events. By nature they are talkative, sociable and assertive (Poudyal & Pradhan, 2020). Meanwhile, introvert individuals are reserved in nature and they do not want to involve in any events. By nature they are quiet, shy, and cautions. Neuroticism is related with emotional instability, projection in-capabilities, depression, and lack of convincing power, self-centeredness, theoretical comprehension and basic reasoning skills as explained (Pak & Mahmood, 2015). Agreeableness shows a person's ability to get along with others. Agreeable persons tend to be good in nature, co-operative, and trusting. They always belief on others and want maintain trustworthy relation with them. They always think for wellbeing and prosperity of other people (Poudyal & Pradhan, 2020). A conscientious person would be depicting characteristics of competence, organization, achievement striving, self-discipline, and deliberation (John & Srivastava, 1999). Openness as a personality trait symbolizes the difference between open thought and conventional thought (Zhang et al., 2014). They have curiosity to learn new concept, idea, experience, knowledge and technology. They are flexible and have attitude to work in new environment. They tend to give emphasis for creativity and innovation.

Empirical review

Various researchers in the past had examined the personality traits elements that affect investment decisions. The Big Five personality dimensions of extraversion, openness, neuroticism, agreeableness, and conscientiousness also influence investors' attitudes towards stock market investment (Rizvi & Fatima, 2015). Using structural equation modeling (SEM) Mayfield, Perdue and Wooten (2008) provided evidence that individuals who are more extraverted intend to engage in short-term investing, while those who are higher in neuroticism and/or risk aversion avoid this activity and Individuals who are more open to experience are inclined to engage in long-term investing; however, openness did not predict short-term investing. Priyadharsini (2020) provided empirical evidence that the personality trait of conscientiousness has a significant influence on the investment decision making process of retail investors.

Among five personality traits effect of Neuroticism, Extraversion and openness on investment decision is significant (Hidayah & Kustina, 2020; Awan & Sahar, 2021). Their results indicated that individuals who are more extraverted intend to engage in short-term investing, while those who are higher neuroticism avoid short term activity and go for the long term investment. Extraverted individual investors prefer stock investment. Roger et al (2013) argued that extraverted investors are more open to greater risk. Hence, high level of risk tolerance leads to the success of investment decisions since higher risks come up with higher return. In contrast, the individual who possesses sympathy toward others, helpfulness, and personal warmth tend to follow others' advice, and those agreeable investors negatively impact stock investment decisions at Colombo Stock Exchange (Nirmali & Buvanendra, 2021). Conscientiousness and Openness to Experience, and Agreeableness were directly influenced an Investment Performance (Gowri & Kallarakal, 2018). Extraversion has significant positive impact on investment decisions (Sadiq & Amna, 2019; Czerwonka, 2019). Lin and Lu (2015) argued that extroversion financial specialists have the higher risk resilience as well. Person who scores high extroversion will be assessed as a risk taking financial specialist. The findings show that there was significant relationship between extroversion and risk taking. Individuals possessing a high openness to experience are adjustable and tend to take a high risk (Mayfield, Perdue, & Wootan, 2008). Similarly, Zeb et al. (2020) found Neuroticism and Extraversion have significant effect on investment decision. Sachdeva and Lehal (2023) revealed that extraversion, agreeableness, conscientiousness and neuroticism significantly influence investment decision-making Among the traits, prior studies mainly explained that extraversion and openness to experience positively affect making risky investment decisions as contrasting to neuroticism, agreeableness, and consciousness (Mayfield et al., 2008; McCrae & Costa, 1997). Conscientiousness and Openness to Experience and Extraversion were directly impacted the positive mood; then Agreeableness and Neuroticism were directly impacted a negative mood (Phung, Mai & Nguyen, 2016). Using Factor Analysis, Andreas, Stefan, Florian and Matthias (2018) showed all Big Five Personality Traits influenced the Investment Decision of an Investors in the stock market. Thus, empirical studies have shown that personality traits could predict numerous scopes of human behaviors, preferences, and effects.

Research methods

The study adopted the descriptive research design and causal comparative research design. People having the DMAT account who invest in the stock market are the population of the study. This study has determined the sample following the

This study determined the sample size of 142 through convenience sampling techniques following Roscoe (1975) which suggested the sample size between 30 to 500 cases for quantitative analysis. In addition, Kent (2001) has also suggested a minimum number of 100 cases for any kind of quantitative study. Primary data were used which was collected using structured questionnaire from the individual investors of Nepal Stock Exchange.

Table 1 summarizes the demographic profile of the survey respondents. The analysis of demographic profile of the respondents was made to understand nature and type of respondents from whom data is collected. The table shows that majority of respondents are male which 56.3 percent and majority number of respondents i.e. 57 percent belonged to the age group of below 25 years. Similarly, academic qualification of majority of respondents is bachelor. Besides, 88 percent of respondents are private employees whereas maximum respondents are married (Table 1).

Table 1
Demographic Profile of Respondents

Basis		N	Percent
Gender	Male	80	56.3
	female	62	46.7
Age group	Below 25 years	81	57.0
	26 years to 40 years	21	14.8
	41 years to 60 years	40	28.2
Academic qualification	High school	10	7
	Bachelor	60	42.3
	master	70	49.3
	Above master	2	1.4
Marital status	Single	34	23.9
	married	108	76.1
Occupation	Entrepreneur	10	7
	Government employee	14	9.9
	Private employee	88	62
	Other	30	21.2

This study used online Google Survey Form distributed using social media like messenger, viber, facebook etc. To measure the personality traits, this study used Big Five Personality Traits as defined by Power and Pluess (2015) which includes extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The study used instruments adapted from Rathinasamy and Ramasubbian (2020) which comprises 25 questions, five questions represent each of the five chosen personality traits following the 5 point Likert scale. This study uses the following model:

$$ID = \beta_0 + \beta_1 EXT + \beta_2 AGR + \beta_3 CON + \beta_4 OPE + \beta_5 NEU + \epsilon$$

Where,

ID=Investment Decision, β_0 = constant term, β_1 = Beta Coefficient, EXT=Extroversion, AGR=Agreeableness, CON=Conscientiousness, OPE=Openness to Experience, NEU=Neuroticisms, ϵ =error term

To evaluate the inter-item consistency of items, the study used Cronbach's alpha coefficient.

Table 2

Reliability Test and validity test

Variables	No of Items	Cronbach's Alpha	Average Variance Extracted (AVE)	Composite Reliability
EXT	5	0.796	0.673	0.911
CON	5	0.857	0.511	0.836
AGR	5	0.868	0.511	0.836
OPE	5	0.781	0.651	0.899
NEU	5	0.857	0.508	0.822
ID	5	0.491	0.423	0.783

The results shown in table 2 show that Cronbach's alpha for extroversion factor ($\alpha = 0.802$), conscientiousness factor ($\alpha = 0.858$), agreeableness factor ($\alpha = 0.873$), openness to experience factor ($\alpha = 0.785$), neuroticism factor ($\alpha = 0.846$) and investment decision ($\alpha = 0.662$). The composite reliability results between 0.70 and 0.95 represent a level of internal consistency is satisfactory (Sarstedt, Ringle, & Hair, 2017). For convergent validity, all variables with AVE > 0.50 are considered valid (Hair et al., 2011). As shown in table 2, the measurement instruments are valid with respect to internal consistency and convergent validity except with investment decision making which is slightly lower than threshold.

Results and analysis

Relationship of the big five personality traits between investment decision-making

Correlation analysis was used to examine the relationship of the big five personality traits (agreeableness, extroversion, Conscientious, neuroticism, and openness to experience) with investment decision-making of individual investors. Table 3 shows that all the dimensions of personality traits i.e. agreeableness ($r = 0.210$), extroversion ($r = 0.371$), Conscientious ($r = 0.406$), neuroticism ($r = 0.131$), and openness to experience ($r = 0.229$) has positive relationship with the investment Decision of individual investors. All of the relationship except neuroticism is statistically significant at 5 percent level of significance whereas, neuroticism is statistically significant at 10 percent level of significance.

Table 3

Correlation Coefficient

Variables	AGR	OPE	NEU	CON	EXT	ID
AGR	1					
OPE	0.439	1				
NEU	-0.023	0.051	1			
CON	0.565	0.486	-0.036	1		
EXT	0.303	0.230	-0.096	0.478	1	
ID	0.210	0.229	0.131	0.406	0.371	1
	0.003	0.001	0.062	0.000	0.000	

Note. The table presents correlation coefficient between personality traits and investment decision. EXT stands for extroversion. CON represents conscientiousness. AGR stands for agreeableness. OPE represents the openness to experience. NEU represents the Neuroticism. ID stands for investment decision of retail investors. Correlation coefficient is presented in the first row whereas p-value is presented in the second row in each cell.

Effect of the big five personality traits on investment decision-making

Table 4 exhibits that agreeable has negative effect on investment decision implying that the change in agreeableness bring a reciprocal change in investment decision, hence both moves in opposite directions. However, the results are statistically insignificant at 5% level of significant. The results of regression in Table 3 reveal that the individuals with personality traits Extraversion ($=0.207$), Openness to experience ($=0.045$), Neuroticism ($=0.076$), and Conscientious ($=0.298$) has positive impact on investment decision. Effect of conscientious and extraversion is statistically significant at 5% level of significant and effect of neuroticism is statistically significant at 10% level of significant and effect of openness to experience is statically insignificant. Openness as the determinant of personality trait has a positive impact on investment decision. However, the relationship is statistically insignificant. Finally, the value of DW statistic is 2.078 that there is no problem of severe autocorrelation with the data.

Table 4

Regression results

Variables	Constant	EXT	AGR	OPE	NEU	CON	R ²	F-Stat	Durbin-Watson
B	1.316	0.207	-0.119	0.045	0.076	0.298	0.230	11.907	2.078
P-value		0.000	0.104	0.523	0.093	0.000		0.000	

Note. The table presents regression results of effect of personality trait on investment decision. EXT stands for extroversion. AGR stands for agreeableness. OPE represents the openness to experience. NEU represents the Neuroticism. CON represents conscientiousness. ID stands for investment decision. Figure in the first row and second row in each cell represents regression coefficient and P-value respectively.

Discussion

The results of the study presented the preceding section show that variable agreeableness has negative effect on investment decision. The negative relationship indicates that the change in agreeableness cause a reciprocal change in investment decision of individual investors. Hence, they move in opposite directions. However, the result is statistically insignificant at 5 percent level of significance. This finding is in consistent with the studies made by Pak and Mahmood (2015) and Costa & McCrae (1992) but contrary with the study by Sadiq and Khan (2019). The results of regression also reveal that the individuals with personality traits Extraversion, Openness to experience, Neuroticism, and Conscientious have positive impact on investment decision. Positive effect of extroversion on investment decision is consistent with the studies by Sadiq & Khan (2019); Zhang et al. 2014 and Pak & Mahmood (2015).

The extravert investors are sociable and talkative in nature and they are willing to invest in every condition (Zeb, Iqbal, Zeb & Khan, 2020). Such investors gather a lot of information before investing, and then decide whether to invest. Further, extraverted investors are more open to greater risk (De Bortoli, da Costa, Goulart & Campara, 2019). Hence, high level of risk tolerance leads to the success of investment decisions. Because such investors assumed higher risks come up with higher return (Rogers et al., 2013). Likewise, Mayfield, Perdue, and Wooten (2008) also argued that the neuroticism has significant relationship with investment decision of investors and the neurotic individuals intend to make the long term investment. The effect of openness to experience another determinant of personality trait on investment decision is positive, hence, the result of the study is similar to the results of previous studies. The result is consistent with the results of (Sadiq & Khan, 2019). Positive relationship between Conscientiousness and investment decision is also proved by other prior studies like Zhang et al (2014), Sadiq & Khan (2019), and Pak & Mahmood (2015).

Conclusion and implications

The study provides empirical evidence about the effect of personality trait on the investment decision of investors. Results of analysis shows that conscientiousness and extroversion is found to have the most significant effect on the investment decisions of investors in the context of Nepal followed by neuroticism. This study also provide the empirical evidence that other two personality traits namely agreeableness and openness have negative and positive relationship respectively on the investment decisions but statistically insignificant. This study provided significant contribution to the behavioral finance literature by providing empirically evidence particularly personality traits and investment decision, in the context of emerging markets and important implications to individual investors in Nepal.

The results of the study are an empirical indicator to the various professional in the investment management industry. The investment managers and individual investors can design the right and optimal investment portfolio with the help of analysis and understanding of the personality trait. An ideal and optimal portfolio is one that bridges the gap between the sources of funds and their uses, which results in a healthy level of economic activity. Further, the findings of study may also assist investors in understanding the role that personality plays in their investment decision-making. Financial advisors can could also be benefited from the results of study as it would allow them to correlate their clients' personalities and decision-making tools. Further, they can recommend the most appropriate investment strategies based on the personality traits of their clients.

Limitations and further studies

While interpreting the findings of the current study, it is important to take into account the study's limitations. Firstly, the present study has collected the data from the Nepalese investors using online platform only. Future study should consider that there are significant numbers of investors who are not update with digital platform which may influence the findings. So, it is very important to carefully generalize the finding the study. Second, apart from the personality traits, other factors such as demographic traits and psychological factors might also have significant effect on investment decision of investors. Findings could be different if study is conducted considering all demographic traits and psychological factors that affect the investment decision. Third, the study has small sample size of 142 may not be sufficiently large enough. Future study should not only conduct with larger the sample size, but also try to collect the data from with wide geographical region which hopefully will help to generalize of the findings in broader way. In spite of these limitations, it is expected that the study will contribute significantly to our understanding of how personality traits affect investment choices.

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