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The Effects of Red Flags of Financial Statement Fraud, Risky Investment Intention, Fantasy, Trust and Self-Confidence on Investment Decisions

Musa ÖZÇELİK *(https://orcid.org/0000-0002-2175-3605), Tarsus University, Türkiye; musaozcelik@tarsus.edu.tr*

Finansal Tablo Hile Kırmızı Bayrakları, Riskli Yatırım Niyeti, Fantezi, Güven ve Kendine Güvenin Yatırım Kararlarına Etkisi

Abstract

Awareness of red flags might prevent individuals from being fraud by impacting their investment decisions, and these decisions might also be affected by unconscious factors. The study aims to investigate the impacts of awareness of red flags of financial statement fraud, risky investment intention, fantasy, trust, and self-confidence of individuals on their investment decisions on new and unknown investment alternatives. Results show that investment decisions on new and unknown alternatives are negatively affected by awareness of red flags of financial statement fraud, while they are positively affected by fantasy and risky investment intention, and trust has no significant effects on investment decisions.

Keywords : Fraud Audit, Fraud Awareness, Financial Decision, Emotions, New and Unknown Investment Instruments.

JEL Classification Codes : M42, M48, G41, G28.

Öz

Bireylerin kırmızı bayrak farkındalıkları yatırım kararlarını etkileyerek hileden korunmalarını sağlayabilir. Ancak bireylerin yatırım kararları bilinçdışı faktörlerden de etkilenebilmektedir. Çalışmanın amacı finansal tablo hile kırmızı bayrakları, riskli yatırım niyeti, fantezi, güven ve kendine güven değişkenlerinin bireylerin yeni ve bilinmeyen yatırım alternatiflerine yatırım niyetleri üzerindeki etkisini araştırmaktır. Bulgulara göre yeni ve bilinmeyen yatırım alternatiflerine yatırım niyetini; finansal tablolarda hile kırmızı bayrak farkındalığının olumsuz, fantezi ve riskli yatırım niyetinin olumlu etkilediği söylenebilir. Kendine güvenin ise önemli bir etkisinin olmadığı görülmüştür. Duygusal faktörlerde göz önünde bulundurularak bireylerin hile farkındalıklarının artırılmasına yönelik çalışmalar hile kaynaklı kayıpları azaltabilir.

Anahtar Sözcükler : Hile Denetimi, Hile Farkındalığı, Finansal Karar, Duygular, Yeni ve Bilinmeyen Yatırım Araçları.

1. Introduction

The term fraud is defined by the "International Federation of Accountants [IFAC]" (2009) as a deliberate act of deceiving or misrepresenting information, carried out by one or more individuals, including management, those in governance roles, employees or external parties, with the intention of getting an unfair or unlawful benefit. Fraud is fundamentally categorised into three groups as corruption, financial statement fraud and misappropriation of assets (ACFE, 2018: 11). Within this context, financial statement fraud is defined as the intentional manipulation of financial statements usually by management or with the knowledge and permission of management (Kaya & Uzay, 2018). Financial statement fraud is the kind of fraud that is the least common but has the highest cost (ACFE, 2024).

Red flags (RF) are among the most significant factors in detecting fraud (Singleton & Singleton, 2010). The majority of fraud in the past has occurred just after the signals or indications called red flags (Dzamba, 2004: 12). A study by ACFE (2024) shows that in 84% of fraud cases, at least one red flag was observed before the fraud, thanks to red flags. The red flags of financial statement fraud (RFFS) are also highlighted in "The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements" in "ISA 240" that categorises these RF into three as opportunity, incentive and rationalisation, as the elements of the fraud triangle. According to "ISA 240", the RF might indicate financial statement fraud, but not clear evidence of fraud (IFAC, 2009). Focusing on RF can contribute to the decrease in the losses caused by fraud by detecting fraud at early stages (Crain et al., 2019).

As it is common sense that auditors need to detect fraud (Dorminey et al., 2012), the RFFS are used mainly by auditors. However, the auditors have a narrow range of authority in detecting and preventing fraud, so it is thought that the conventional and standard audit procedures are insufficient to reveal fraud (Sharma & Panigrahi, 2012). A report by ACFE (2024) shows that the independent audit performed with the traditional auditing standards is inadequate to detect fraud. That report stated that only 3% of fraud cases were detected by independent auditors in an independent auditing process. Additionally, regulatory and supervisory practices in the history such as early biometrics, The Laws of Hammurabi Codes, and Laws of the Twelve Tables, show that fraud has been endured since the start of trade (Woodward et al., 2003; Özçelik & Kurt, 2024), but it has been observed that audits and regulations aimed at preventing fraud often fail (Johnson, 2010: 3). On the other hand, new and unknown investment instruments, which emerged with the developing technology in our era, make already complex audits and regulations even more difficult.

In recent years, there have been fraud cases globally, such as Enron, WorldCom, Theranos, FTX and Waste Management, as well as fraud cases in Türkiye, such as Çiftlikbank, Turcoin and Thodex, which have caused significant losses to investors. When these cases are examined, it is seen that fraud has been carried out through new and unknown investment alternatives such as crypto assets and technology-based investment instruments in recent years. Such cases cause economic losses and indirectly hinder the development of financial markets by undermining investors' confidence. New and unknown investment

instruments can lead to fear and excitement in individual investors (Aren & Nayman-Hamamcı, 2023d). These emotions may lead investors to own or avoid the relevant investment instrument (Uğur & Tosun, 2023). Different interest groups may use these unconscious emotions to manipulate investors, negatively affecting individuals and society. (Aren & Nayman-Hamamcı, 2023d). Thus, some regulatory authorities (i.e., the U.S. Securities and Exchange Commission (SEC)) are now making regulations to protect individual investors against fraud.

According to Brandeis (1913), it is essential to disclose fraud to prevent it. He highlighted the similarity between disclosure and streetlights by claiming that streetlights may protect people from danger on the streets, and disclosures about fraud can protect individual investors from fraud. It is not sufficient for the authorised institutions to make disclosures regarding fraud. It is also essential for individual investors to understand these disclosures. Therefore, investors may need to increase their fraud awareness and understand the RF. Despite the increasing number of fraud cases and their high costs, the decision-making process of individual investors regarding fraud has not been sufficiently examined in the current conditions, where regulatory and supervisory institutions alone are inadequate.

Previous studies stated that the RF of financial statements require good finance and accounting knowledge and expertise, so they used the RF of investment fraud, which is easier to understand for individual investors (Brazel et al., 2021: 2; Özçelik & Kurt, 2024). Nevertheless, it might also be essential to understand the RF of financial statements and investigate their effects on investment decisions to avoid losses caused by fraud. Along with the conscious factors which may affect investment decisions in new and unknown investments, unconscious factors may also affect them. Based on this, the present study aims to investigate the effects of variables such as the RF of financial statements, which are one of the conscious factors, and risky investment intention (RI), fantasy, trust, and self-confidence, which are unconscious factors, on individuals' intention to invest in new and unknown investment alternatives (IINU). Thus, policy recommendations can be made to protect individuals from losses and increase the efficiency of financial markets by observing the effects of the RF of financial statements on individuals' investment decisions. In addition, as Özçelik and Kurt (2024) stated, revealing the need to increase individual investors' fraud perceptions can provide a new perspective on auditing. Investigating fraud perception from different perspectives by measuring fraud awareness of investors through the RFFS can contribute to this goal. On the other hand, according to Jureviciene and Jermakova (2012), the main reason individuals refrain from investing is their insufficient financial knowledge. Financial knowledge can also increase individuals' wealth (Lusardi & Mitchell, 2014). Therefore, increasing fraud perception can protect investors against fraud-related losses and grow their wealth by making the right investment decisions.

In the scope of this research, data were gathered through a survey method from individuals who were expected to have accounting and finance knowledge to understand the RFFS. The survey consists of RFFS, RI, fantasy, trust, self-confidence, and IINU scales. The compiled valid data were subjected to "Partial Least Squares-Variance Based Structural

Equation Modelling (PLS-SEM)" analysis, in which the effects of RFFS, RI, fantasy, trust and self-confidence on IINU were tested.

The literature and hypotheses are first presented in the subsequent sections of the study. Then, the reliability and validity results of the methods and scales used in the study are presented. Finally, the findings regarding the test of the research model and the conclusion and discussion sections are given.

2. Literature Review

This section includes literature and hypotheses on the effects of RFFS, RI, fantasy, trust, and self-confidence on IINU.

2.1. The Red Flags of Financial Statement Fraud

According to Brazel et al. (2021), understanding the RFFS requires expertise in accounting and finance. These RF are prepared for accountants, auditors, and professionals. The existing literature in the field has limited studies investigating the effects of RF on investment intentions. The research by Brazel et al. (2015) claimed that investors are more willing to make their own fraud risk assessments when they believe that fraudulent reporting is standard or when they trust financial reports more than other sources of information. These kinds of investors utilise RF to shield themselves against fraud cases. Investors also rely on late-stage RF, which is more evident than early-stage RF. Brazel et al. (2015; 2021: 26-29) recommend that early-stage RF be more transparent and that regulators train individual investors in more advanced red flag analysis. Brazel et al. (2021) used non-financial RF, such as the quantity of retail locations, patents, products, and employees. They found that individual investors were less likely to invest when these RF were available and information about the invested company was obvious. In contrast, when the present reporting was not obvious, investors interpreted the RF as the company's efficiency, increasing their investment possibilities. It was also observed that the effect of transparency on the investment level increased in investors with more investment experience. Besides, it was found that openness did not affect investment levels when there were no RF.

Another study on RF is by Özçelik and Kurt (2024), in which they used RF of investment fraud, which can be more easily perceived by individual investors, compared to RFFS in measuring fraud perception. The study showed that the more perceived investment fraud in particular investors, the more they are averse to risk and the less they intend to invest in crypto assets. It also showed that risk-averse individuals are less likely to invest in crypto assets. The researchers found that risk aversion partially mediates the relationship between fraud perception and investment intention in crypto assets. This result claims that individual investors, being risk-averse, aim to safeguard against fraud, which consequently affects their willingness to invest in crypto assets in negative ways (Özçelik & Kurt, 2024).

Being aware of RF, classified as specialised expertise such as financial literacy in individuals, can also positively influence their IINU. Contrary to studies indicating that

financial literacy impacts RI in a negative way (Mohta & Shunmugasundaram, 2024), several studies demonstrate that financial literacy reduces risk aversion and increases investments in risky assets (Efendioğlu, 2022; Jain et al., 2023). In addition to this, Aren and Nayman-Hamamcı (2023a) claim that subjective financial literacy leads investors to prefer unknown and new investment instruments. Additionally, according to Sun et al. (2020), innovative individuals may be more willing to try an investment rather than gather information about investment instruments they do not know of to avoid losing investment opportunities. However, considering the studies in the literature directly related to RF (Brazel et al., 2015; Brazel et al., 2021; Özçelik & Kurt, 2024), the awareness of RF in individual investors is thought to affect their IINU negatively. In this context, one of the research hypotheses is formed as follows.

Hypothesis 1: Awareness of RFFS negatively affects individuals' IINU.

2.2. Risky Investment Intention

Risk is perceived as a significant factor in investment behaviour (Kiev, 2003). Dinç Aydemir and Aren (2017) define risky investments as financial assets with a high potential for loss or volatility, while the intended course of action to invest in these assets is risky investment intention. Individuals' risk-avoidance or risk-taking behaviours depend on the individual's general risk knowledge, risk preferences, and risk perception (Albrecht et al., 2021). According to Sabri (2016), individuals with high financial literacy are eager to invest in risky investments, and it is significant to state that the lack of financial knowledge may also cause individuals to stay away from investments (Jureviciene & Jermakova, 2012). According to the modern portfolio theory, investors can opt for higher risks in pursuit of higher profits (Ricciardi & Rice, 2014: 327). For this reason, the higher the risk individual investors perceive when making investments, the more satisfied they may be with their investment decisions or the more they intend to invest. On the other hand, making high-risk investments may be better than playing gambling games whose results depend entirely on chance (Trang & Tho, 2017). Innovative individuals may prefer to learn by trying, by investing instead of gathering information about investment instruments to avoid losing investment opportunities (Sun et al., 2020). To avoid losing investment opportunities, innovative individuals may prefer to learn by trying out investments rather than gathering information about investment instruments (Sun et al., 2020).

Investment preferences can be affected by individuals' RI. In support of this, many studies have revealed that risk attitude, perceived risk, and risk tolerance are associated with investment intention (Wärneryd, 1996; Keller & Siegrist, 2006; Poeteri et al., 2021). Various studies have reported a positive relationship between high-risk tolerance and risky asset and stock purchases (Hariharan et al., 2000; Corter & Chen, 2006; Aren & Zengin, 2016). Investors with a low-risk attitude prefer holding cash, depositing money in deposit accounts, and investing in bonds (Grable & Lytton, 2003), while investors with a high-risk attitude prefer trading in derivatives and investing in stocks (Wood & Zaichkowsky, 2004). Similarly, according to Aren and Nayman-Hamamcı (2023a), RI pushes investors into

unknown and new investment instruments. Contrary to these findings, Aren and Aydemir (2014) did not detect any association between risk-taking and preferred investment.

According to the literature findings, RI affects investors' investment preferences. This research suggests that individuals with RI will prefer unknown and new investment instruments. In this context, one of the study's hypotheses is as follows.

Hypothesis 2: RI among individual investors positively affects the IINU.

2.3. Fantasy

Most mental activities occur unconsciously (Bargh & Chantrand, 1999; Turnbull & Solms, 2008). Unconscious mind activities precede conscious mind activities (Bargh & Morsella, 2008). The subconscious mind plays a central role in how people deal with the world. Subconscious fantasies, needs, and desires influence investment decisions and markets, demonstrating the importance of subconscious mental processes in finance (Taffler, 2018; Aren & Nayman-Hamamcı, 2023b) and individuals' self-regulatory processes.

Fantasy is an unconscious desire and belief from infancy and develops over time (Taffler & Tuckett, 2010). Individual cultural values, a personality trait, may affect risk preferences and feed fantasies (Aren & Nayman-Hamamcı, 2023b). Aren and Nayman-Hamamcı (2023b) found that, except for uncertainty avoidance, four other dimensions (masculinity, power distance, collectivism, and long-term orientation) from individual cultural value dimensions positively correlate with fantasy. The mental representation of fantasy that meets the individual's wishes and desires to have what they want when they want it is called a fantasy object (Taffler, 2018). Fantasy objects activate emotions by relieving doubt or anxiety (Tuckett & Taffler, 2008; Tuckett, 2011; Tuckett et al., 2014). A fantasy object creates the sense of an all-powerful superhero in its owner (Tuckett & Taffler, 2008).

Fantasy affects individuals' preferences and behaviours without them realising it (Taffler, 2014; Dumanlı & Aren, 2021). According to Taffler and Tuckett (2003), while individuals ignore normal accounting facts during financial bubble periods, investors increasingly rely on unrealistic theses. Those who express their doubts about these investment instruments are ridiculed. Taffler and Tuckett attribute this situation to the mental representation of investment instruments as fantastic (childish) objects in investments made on the internet. Tuckett and Taffler (2008) suggest that financial bubbles that economic theories cannot explain can be explained by unconscious mental activities such as fantasy. However, the role that people's unconscious activities, fantasies and impulses play in their financial decisions has been the subject of very few studies.

Taffler (2014) emphasised that fantasy is the main reason for turning to unknown and new investment instruments. In parallel, the studies conducted by Aren and Nayman Hamamcı (2021a) and Aren and Nayman Hamamcı (2023a) determined that fantasy is a variable that directs investors to prefer unknown and new investment instruments. Similarly,

Aren and Nayman-Hamamcı (2023b) claim that there is a positive relationship between fantasy and RI.

The study conducted by Aren and Nayman Hamamcı (2023c) determined that fantasy positively affects motivation and financial risk tolerance. According to the study, motivation mediates between fantasy and financial risk tolerance. A positive relationship was found between coping strategies and fantasy in another survey conducted by Aren and Nayman-Hamamcı (2024). Meanwhile, narrative has a mediating effect on the connection between coping strategies and fantasy. Besides, it is claimed that fantasy has a mediating effect on the connection between coping strategies and RI.

According to the literature's information and findings, fantasy affects investors' IINU. It is thought that individuals with a greater sense of fantasy will have an increased IINU. One of the study's hypotheses is formed in this context.

Hypothesis 3: Fantasy positively affects the IINU in individual investors.

2.4. Trust

The Cambridge Dictionary defines trust as "to believe that someone is good and honest and will not harm you, or that something is safe and reliable." Trust develops over time and is influenced by personality traits or social experiences (Hupcey, 2001). Consistency, communication, shared values, investors' perceived benefits, and subjective financial literacy positively affect trust (Covey & Merrill, 2008; Yang et al., 2019; Aren & Nayman-Hamamcı, 2023a).

There are many studies investigating the effects of trust on investment intention. Some studies imply no significant impact of trust on investment intention (Yang et al., 2019; Md Husin et al., 2023). On the other hand, studies show that trust positively affects investment intention (Sipangkar & Wijaya, 2020; Alharbey & Van Hemmen, 2021; Md Husin et al., 2023; Amalia, 2024). Adil et al. (2023) claim that trust is the most significant factor which increases investors' investment intention in the event of uncertainty. Nayman Hamamcı and Aren (2023) found that trust fully mediates the effect of social groups that individuals join to obtain financial information on RI. The authors also state that trust has a mediating role in the impact of narrative creation, one of the sub-dimensions of narrative defined as how people express themselves in logical harmony, on RI, and that trust does not have a mediating effect in the relationship with the dimension of believing in narratives.

Pellinen et al. (2015) claim that trust is essential for traditional investments but not online ones. Various studies in the literature also investigate the effect of trust on IINU. According to Efendioğlu (2022), individual investors' trust in brokerage firms and cryptocurrencies increases their intention to invest in crypto assets. Kang et al. (2016) claim that trust indirectly affects investment intention in crowdfunding investments. Many studies in the literature claim that trust increases investment intention in peer-to-peer (P2P) lending investments (Li et al., 2016; Yang et al., 2017; Zhang et al., 2017; Poeteri et al., 2021; Soeta

et al., 2023). According to Li et al. (2016) and Yang et al. (2017), trust in the platform reduces the perceived risk and positively affects the investment intention in P2P investments. Confidence increases investors' investment intentions by reducing their concerns about losing money. Similarly, Zhang et al. (2017) claim that trust positively affects profit expectation and negatively affects perceived credit risk. Contrary to these findings, Aren and Nayman Hamamcı (2023a) stated that trust weakens investors' preference for unknown and new investment instruments.

According to the literature's information and findings, trust affects investors' IINU. It is thought that individuals with a greater sense of confidence will have an increased IINU. In this context, one of the study's hypotheses is as follows.

Hypothesis 4: Trust among individual investors positively affects the IINU.

2.5. Self-Confidence

Confidence is a person's positive feelings about the outcome of their decision, and the subjective belief that a positive result will occur (Bayat et al., 2019; Campbell et al., 2004). In other words, it is the feeling of knowing that accompanies making decisions (Navajas et al., 2017). According to Lim and Qi (2023), the subjective financial knowledge of individuals prevails over their objective financial knowledge, and individuals' investment tendencies are affected by their perceived knowledge and confidence. Therefore, those with higher subjective knowledge are generally less confused and more self-assured in their choices. People with high subjective financial knowledge may feel that they do not need more information, that investments are not hard to manage, and that they are confident and satisfied with their choices. On the contrary, objective financial knowledge is essential when making complicated financial choices (Lusardi & Mitchell, 2014). Objective financial knowledge allows individuals to maximise returns by balancing risk and return on investments (Chu et al. 2017). For this reason, investment decisions made by individuals with greater subjective financial knowledge could be less effective. In this case, the investment intentions of individuals without previous investment experience may be influenced by their perceived knowledge instead of their actual financial knowledge, causing them to unknowingly take investment risks (Lim & Qi, 2013).

Several studies in the literature examine the influences of self-confidence on investment intentions. Perceived behavioural control associated with self-confidence was not found to significantly affect investment intention in stocks (Nugraha & Rahadi, 2021). In contrast, Sobaih and Elshaer (2023) found that perceived behavioural control positively affects RI. On the other hand, according to Jain et al. (2023), self-confidence positively affects investment intention. Dayı and Çulha (2024) claim that individuals' overconfidence in themselves increases their RI, while individuals' overconfidence in their investment information decreases their RI. Aren and Nayman-Hamamcı (2023a) found that self-confidence leads individual investors to IINU.

According to the literature's information and findings, self-confidence affects investors' IINU. People who are more confident in themselves may be willing to invest in new and unknown investment instruments they do not know. One of the study's hypotheses is formed in this context.

Hypothesis 5: Self-confidence in individual investors positively affects the IINU.

3. Methodology

This section explains the study's scope and limitations, data collection method and process, scales, and reliability and validity analyses of variables and methods.

3.1. The Scope and Limitations of the Study

Previous studies claimed that the RFFS require expertise and a good knowledge of accounting and finance (Brazel et al., 2021: 2; Özçelik & Kurt, 2024). These RFFS were mainly prepared for auditors, accountants, and professionals. Therefore, related studies used RF of investment fraud instead of RFFS while investigating the behaviours of investors. Unlike these studies, RFFS was used in this research to fill this gap. For this reason, the intended population for this study comprises individuals over 18 years old who have expertise and good knowledge of accounting and finance. However, as it is impossible to confirm the expertise and knowledge of all individuals, it is also impossible to receive objective answers from them. To mitigate this study limitation, the survey was applied to 400 undergraduate students studying accounting and finance at a state university in Türkiye through convenience sampling. The reliance on convenience sampling and the exclusive focus on students represent the study's limitations.

3.2. Data Collection Method and the Process

In the scope of this study, data were obtained via a survey with closed-ended questions, a "5-point Likert Scale (1=Strongly Disagree, 5=Strongly Agree)".

For a population of 400, the minimum acceptable sample size was calculated as 197 at a 95% confidence level and assuming 50% p and q values. In October 2024, 207 people responded to the survey using a convenience sampling. The researcher took part in collecting the surveys. Participants voluntarily participated in the study and were allowed all the time they needed to complete the survey. Before the survey was distributed, participants were informed about financial statement fraud, and then forms were distributed to them in a way that ensured anonymity.

3.3. Scales

Table 1 demonstrates the scales used in the present study. The survey included 53 questions.

Table: 1
Variables and Scales Used in the Study

Variables	Items	Scales
Red Flags of Financial Statement Fraud (RFFS)	29	It was developed as a formative scale within the scope of the study (see Appendix 1).
Fantasy (F)	6	Aren and Nayman Hamamcı (2021)
Confidence (C)	5	Aren and Nayman Hamamcı (2023a)
Trust (T)	5	Aren and Nayman Hamamcı (2023a)
Risky Investment Intention (RI)	4	The adapted version by Dinç Dinç Aydemir and Aren (2017) of the scale "Willingness to Buy Indicators" developed by Dodds et al. (1991).
Intention to Invest in New and Unknown Investment Alternatives (IINU)	4	The "Willingness to Buy Indicators" scale developed by Dodds et al. (1991) was adapted.

The RFFS scale consists of the red flags of financial statement fraud in "ISA 240" (IFAC, 2009). It is a formative scale developed within the study's scope. The high scores given by the participants to the scale items indicate that they are highly aware of RFFS. The other scales used in the study are reflective.

3.4. Reliability and Validity Analyses in Formative Variables

The RFFS variable is a "formative" variable. The "SmartPLS program", which can test models containing formative variables, was used in this variable's validity and reliability analysis. As a first condition for validity in formative variables, "Outer VIF (Variance Inflation Factor) Values" are expected to be less than 5 for the external model variance increasing factor values and "Outer Weights P Values" are expected to be less than 0.05 for the external model factor weights (Hair et al., 2017; Yıldız, 2021: 192-193). Table 2 shows the "VIF coefficients" of the items belonging to the RFFS variable.

Table: 2
VIF Coefficients

Item	VIF
RFFS10	1,077
RFFS22	1,167
RFFS25	1,513
RFFS26	1,595

The "VIF coefficients" of the items in Table 2 are observed as below 5. These items meet the first condition required for validity. The second condition for validity is the factor weights of the indicators measuring the RFFS variable. If the p-value of the factor weights is less than 0.05, the second condition for validity is met. The "Bootsrapping" resampling analysis was run by selecting the subsample number as 5,000 and the "factor weights" of the indicators were calculated and shown in Table 3.

Table: 3
Factor Weights

Item	Beta Value	Standard Deviation	t Value	p Value
RFFS10	-0,661	0,254	2,601	0,009
RFFS22	0,664	0,232	2,867	0,004
RFFS25	0,396	0,221	1,795	0,073
RFFS26	0,171	0,252	0,679	0,497

Table 3 shows that the p-value of the "factor weights" of the RFFS10 and RFFS22 indicators is less than 0.05. The conditions for validity for these indicators are met. It is seen that the p-value of the "factor weights" of the RFFS25 and RFFS26 indicators is greater than 0.05. In this case, the "factor loadings" of the relevant indicators and the p-value of the "factor loadings" are checked. The "factor loadings" of the relevant indicators are shown in Table 4.

Table: 4
Factor Loadings

Item	Beta Value	Standard Deviation	t Value	p Value
RFFS25	0,526	0,181	2,902	0,004
RFFS26	0,524	0,197	2,658	0,008

When the data in Table 4 is examined, it is seen that the factor loadings of the RFFS25 and RFFS26 indicators are >0.50, and the p-value is $p<0.05$. The conditions for validity are met for the RFFS10, RFFS22, RFFS25 and RFFS26 indicators. The other items in the RFFS scale were not added to the final scale pool as they did not meet the conditions for validity.

3.5. Reliability and Validity Analyses in Reflective Variables

The research model's analysis began with reliability and validity studies on the structures involved. Table 5 shows the "Cronbach Alpha," composite reliability, and average variance explained results of the reflective variables used in the research. The F1 indicator was removed from the model based on the analysis since its factor load is below 0.4.

Table: 5
Results of Measuring Model

Variable	Statement	Factor Loading	Cronbach Alpha	AVE	CR
Confidence (C)	C1	0,824	0,879	0,666	0,909
	C2	0,862			
	C3	0,776			
	C4	0,810			
	C5	0,808			
Fantasy (F)	F2	0,750	0,805	0,564	0,865
	F3	0,847			
	F4	0,712			
	F5	0,801			
	F6	0,624			
Risky Investment Intention (RI)	RI1	0,909	0,926	0,817	0,947
	RI2	0,899			
	RI3	0,923			
	RI4	0,884			
Trust (T)	T1	0,807	0,822	0,583	0,874
	T2	0,831			
	T3	0,752			
	T4	0,799			
	T5	0,608			
Intention to Invest in New and Unknown Investment Alternatives (IINU)	IINU1	0,841	0,891	0,754	0,925
	IINU2	0,862			
	IINU3	0,881			
	IINU4	0,888			

Hair et al. (2017) say the factor loadings should be ≥0.708. When the values in Table 5 are examined, the factor loadings are above the threshold value, between 0.608 and 0.923.

On the other hand, it is seen that the F6 and T5 expressions are below this threshold value. Nevertheless, Hair et al. (2017) recommend considering AVE and CR values if factor loadings are less than 0.70 but greater than 0.40.

The results showed that the "Cronbach Alpha" and "CR coefficient" calculated for the fantasy and confidence variables, which include the relevant statements, are ≥0.70 (Hair et al., 2010; 2017); and the AVE coefficient is ≥0.50 (Chin, 1998). For this reason, the F6 and T5 statements, whose factor loadings are below 0.708, were not removed from the measurement model. The fact that the structure's factor loadings and AVE coefficients are above the determined threshold values indicates that convergent validity is achieved.

According to Hair et al. (2010; 2017), "Cronbach Alpha and CR coefficients should be ≥0.70" for internal consistency reliability. The structures' Cronbach Alpha coefficients are in the range of 0.805-0.926, and the CR coefficients are in the range of 0.865-0.947, which may indicate that internal consistency reliability is achieved. The discriminant validity results of the variables used in the study are presented in Tables 6 and 7.

Table: 6
Discriminant Validity Results: "HTMT Coefficients"

	C	F	IINU	RI	T
C					
F	0,124				
IINU	0,306	0,536			
RI	0,406	0,165	0,407		
T	0,547	0,338	0,306	0,366	

Table: 7
Discriminant Validity Results: "Fornell-Larcker Criterion"

	C	F	RFFS	IINU	RI	T
C	**0,816**					
F	0,112	**0,751**				
RFFS	-0,132	-0,277	*			
IINU	0,289	0,465	-0,338	**0,869**		
RI	0,371	0,157	-0,138	0,376	**0,904**	
T	0,479	0,275	-0,115	0,275	0,335	**0,764**

** Since the RFFS variable is formative, intersection values are not calculated.*

To determine the discriminant validity, the "HTMT coefficients" suggested by Henseler et al. (2015) and the criterion proposed by "Fornell and Larcker" (1981) were used. Henseler et al. (2015) stated, "if the structures being measured are theoretically close to each other, the HTMT coefficient should be below 0.90; and if the structures are theoretically far from each other, it should be below 0.85." It is observed that the HTMT coefficients shown in Table 6 are below 0.85.

According to the "Fornell and Larcker" (1981) criterion, "the square root of the AVE values of the structures included in the model must be greater than the correlation coefficients between the relevant structures". Table 7 presents the analysis results according to the Fornell and Larcker criterion, and the values in parentheses consist of the square root

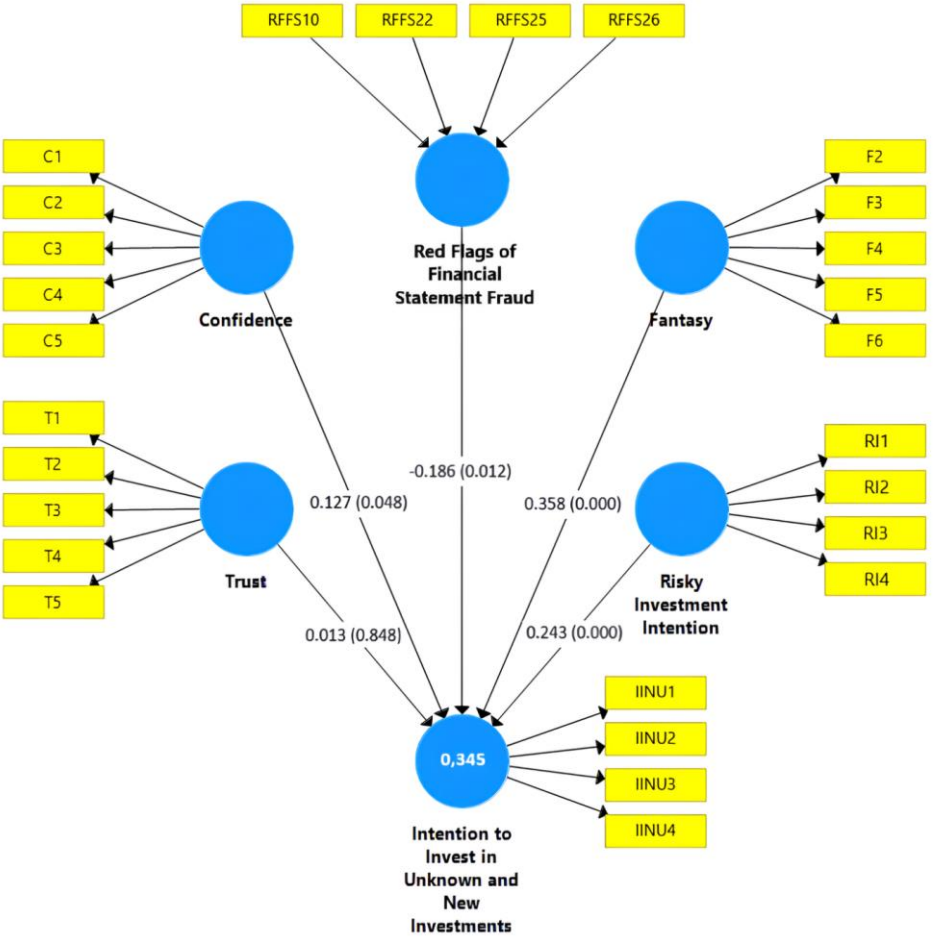
values of "AVE". According to the table's values, each structure's AVE square root value is higher than the correlation coefficients with other structures.

Based on the findings in Tables 6-7, the discriminant validity is provided per these explanations.

4. Results

This section includes the results of the research model test. The study's design was causally structured, and the structural equation model was created, as shown in Figure 1.

Figure: 1
Structural Equation Model



The valid responses gathered from the survey were subjected to "Partial Least Squares-Variance Based Structural Equation Modelling (PLS-SEM) analysis" in line with the recommendations of Hair et al. (2017). The model includes the variable RFFS, which has a formative structure. Therefore, the "SmartPLS program" was used in the analysis.

In the research model, blindfolding analysis was run to calculate the predictive power (Q^2), and the PLS algorithm was run to calculate linearity, path coefficients, R^2, and effect size (f^2). T-values were calculated by taking 5000 sub-samples from the sample with bootstrapping to evaluate the significance of PLS path coefficients. Findings regarding the research results are presented in Tables 8 and 9.

Table: 8
Coefficients of the Research Model

Variables		VIF	R^2	f^2	Q^2
C	**IINU**	1,399	0,345	0,018	0,259
F	**IINU**	1,165	0,345	0,172	0,259
T	**IINU**	1,428	0,345	0,000	0,259
RFFS	**IINU**	1,101	0,345	0,049	0,259
RI	**IINU**	1,218	0,345	0,076	0,259

Table 8 shows that there is no linearity problem between the variables (Hair et al., 2017) as the "VIF (Variance Inflation Factor) values" between the variables are below the threshold value of 5. Examining the R^2 values of the model, it was determined that the IINU was explained by 35%.

"The effect size coefficient (f^2) of 0.02 and above is considered low; 0.15 and above is considered medium; and 0.35 and above is considered high" (Cohen, 1988). It is also stated that it is impossible to mention an effect when the coefficient is below 0.02 (Sarstedt et al., 2017). When the effect size coefficients (f^2) are examined, it is seen that fantasy has a medium effect size, RFFS and RI have a low effect size on the IINU. On the other hand, it is seen that self-confidence and trust do not have a significant effect on the IINU.

"The fact that the predictive power coefficients (Q^2) calculated for endogenous variables are greater than zero indicates that the research model has the predictive power of endogenous variables" (Hair et al., 2017). The fact that the Q^2 values in the table are greater than zero indicates that the research model has the predictive power of the IINU variable.

The VIF values in Table 8. Therefore, according to Kock (2015), there is no concern about common method bias. The hypothesis test results are presented in Table 9.

Table: 9
The Research Model Effect Coefficients

Hypothesis	Variables	Beta Value	Standard Deviation	p-value	Result
H1	C -> IINU	0,127	0,064	0,048	Supported
H2	F -> IINU	0,358	0,063	0,000	Supported
H3	T -> IINU	0,013	0,070	0,848	Not Supported
H4	RFFS -> IINU	-0,186	0,074	0,012	Supported
H5	RI -> IINU	0,243	0,061	0,000	Supported

According to the hypothesis test results, it was seen that self-confidence (β=0.127; $p<0.05$), fantasy (β=0.358; $p<0.05$), and RI (β=0.243; $p<0.05$) had a positive effect on the IINU. On the other hand, it was seen that RFFS (β=-0.186; $p<0.05$) had an adverse impact on the IINU. Finally, no significant effect was found on the IINU with the confidence variable. Within the scope of these results, hypotheses 1, 2, 4 and 5 of the research were supported, while hypothesis 3 was not supported.

5. Conclusion and Discussion

In accounting, fraud in financial statements can lead to severe losses for financial information users. Considering that fraud has existed since the beginning of commerce, it is seen that the regulations and inspections made to prevent it are inadequate. Especially with the development of technology, it is challenging to inspect and regulate new and unknown investment alternatives that have emerged in recent years. For this reason, in recent years, in addition to fraud cases such as Enron, WorldCom, Theranos, FTX and Waste Management on a global scale, there have been fraud cases in Türkiye, such as Çiftlikbank, Turcoin and Thodex, which have caused significant losses to investors. These fraud cases not only cause substantial economic losses but also hinder the development of financial markets. New and unknown investment alternatives can also be good investment instruments that contribute to financial markets. What is important here is that the individual investor can choose the right investment alternative. In this period when inspections and regulations are inadequate, it is essential to increase the fraud awareness of individual investors and thus enable them to perform their own self-control to reduce losses caused by fraud.

RFFS can be fraud indicators, and focusing on them can help protect against fraud. However, many psychological factors can also affect individuals' investment decisions. This study examined perceptual and psychological factors influencing individual investors' IINU. In this context, the effects of awareness of RFFS, fantasy, trust, self-confidence and RI variables on individual investors' investment decisions were investigated.

According to the study, awareness of RFFS negatively affects the IINU. However, the low effect size indicates that this effect is limited or weak. The RFFS require good accounting and finance knowledge. This situation was also considered when selecting the data set, and the survey questions were answered by people thought to have accounting and finance knowledge. However, these people's knowledge, awareness, and capacity to perceive financial statement fraud may be limited. On the other hand, new and unknown investment alternatives may be attractive to individual investors. All these may have caused the effect size to be low. The relevant result generally shows that individuals' red flag awareness can affect investment decisions. However, individuals may need to be guided or informed about financial statement fraud to increase this effect. This finding is consistent with the findings of Brazel et al. (2021) and Özçelik and Kurt (2024) and is supported by Prospect Theory, Ambiguity Aversion and Representativeness Heuristic theories.

Other findings of the study are related to psychological factors. According to the findings, self-confidence, fantasy, and RI positively affect the IINU. Although a significant effect is mentioned for the self-confidence variable, it is seen that there is no significant effect according to the effect size coefficient. Investors' lack of information and perceived risk level may have limited this effect. This finding is supported by studies in the literature (Aren & Nayman-Hamamcı, 2023a; Sobaih & Elshaer, 2023; Jain et al., 2023). On the other hand, according to Dayı and Çulha (2024), individuals' overconfidence in themselves increases RI, while individuals' overconfidence in investment information decreases RI. Whether investors trust themselves or their investment information may also be effective in this result. Another variable of the study, fantasy, is seen to impact the IINU positively. Individuals with a sense of fantasy may move away from accounting realities and turn to unrealistic theses. The expectation of obtaining high returns in the future may direct individual investors to new and unknown investment instruments. The findings of Taffler (2014), Aren and Nayman-Hamamcı (2021a) and Aren and Nayman-Hamamcı (2023a) support this finding of the study. Finally, it is seen that RI has a positive effect on the IINU. This finding is consistent with Aren and Nayman-Hamamcı's (2023a) findings. The desire to take risks may direct investors to new and unknown investment alternatives with high uncertainty and less reliability. "Modern Portfolio Theory" claims that investors risk more for higher returns (Ricciardi & Rice, 2014: 327). Investors willing to take risks and expect high returns from new and unknown investment alternatives may prefer these investment alternatives.

The study found that the trust variable did not significantly affect the IINU. Instead of directly affecting investment decisions, trust may have an indirect effect through different variables, such as the perceived risk level of individuals. Similarly, in the literature, some studies claim that trust does not affect investment decisions (Yang et al., 2019; Md Husin et al., 2023), while some studies claim that it has a weak effect on the IINU (Aren and Nayman Hamamcı, 2023a). On the other hand, Pellinen et al. (2015) claim that while trust is essential for traditional investments, it is not crucial for investments made on the internet.

When the results are evaluated in general, awareness of RFFS negatively affects the IINU, while self-confidence, fantasy and RI positively impact them. However, it was observed that RFFS had a low effect, and self-confidence did not significantly impact. New and unknown investment alternatives may be open to fraud cases and may also be useful investment tools for financial markets. Informing or training individual investors about financial statement fraud can develop a self-control mechanism and prevent fraud-related losses in such risky investments. According to the Representativeness Heuristic, individuals tend to make decisions by considering examples of the event when evaluating the probability of a particular event. Representativeness Heuristic can be provided to individual investors with education and information. However, accounting, finance or financial statement fraud information alone may not be sufficient to protect against fraud. As can be understood from the findings, the effect of emotional factors such as fantasy on investment decisions should not be ignored. While increasing the fraud awareness of individual investors, policies and training can be developed by considering emotional factors.

Future studies can contribute to the literature by focusing on a more knowledgeable group on RFFS and clarifying the effects of RF on investment decisions. In addition, different scales that test various aspects of self-confidence and the impact of other emotional factors on investment decisions can be investigated. In this way, the effects of emotional factors on investment decisions can be further clarified.

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Appendix: 1
Item Pool of Red Flags of Financial Statement Fraud (RFFS)

Do you think the items below could be a sign that the companies prepared the financial statements fraudulently (in a way that does not reflect the truth)?

Rate the items on a scale of 1 to 5.

(1) I completely disagree.
(2) I disagree.
(3) I neither agree nor disagree
(4) I agree.
(5) I completely agree.

Code	Items
RFFS1	High degree of competition or market saturation with decreasing profit margins
RFFS2	The business's high sensitivity to rapid changes, such as changes in technology, product obsolescence or interest rates
RFFS3	Significant declines in customer demand and increasing failure of the business, both in the sector and in the general economy
RFFS4	Signals of bankruptcy or foreclosure of the business
RFFS5	The business's inability to generate cash flow
RFFS6	Faster growth or unusually high profitability, especially when compared to other businesses in the same industry
RFFS7	New legal or regulatory requirements
RFFS8	Profitability or growth expectations of investment analysts, institutional investors, major creditors or other third parties (especially overly aggressive or unrealistic expectations)
RFFS9	The need to obtain additional debt and equity financing to remain competitive
RFFS10	Pressures to meet listing requirements, debt repayments or other debt contractual requirements
RFFS11	Negative effects of reporting poor financial results on significant pending transactions, such as business combinations or contract awards.
RFFS12	Significant financial interests in the business
RFFS13	Significant portions of their compensation (for example, bonuses, stock options, and earn-out arrangements) are contingent upon achieving aggressive targets for stock price, operating results, financial position, or cash flow.
RFFS14	Personal guarantees for the company's debts
RFFS15	Related party transactions that are not in the normal course of business or are not audited
RFFS16	A strong financial asset or the ability to dominate a particular industry sector that allows the business to dictate terms or conditions to suppliers or customers.
RFFS17	Assets, liabilities, revenues, or expenses based on significant estimates that involve subjective judgments or uncertainties that are difficult to corroborate
RFFS18	Complex transactions, especially those close to period end
RFFS19	Significant operations located or conducted across international borders.
RFFS20	Use of business intermediaries for which there appears to be no clear business justification
RFFS21	Significant bank accounts or subsidiary or branch operations in tax-haven jurisdictions for which there appears to be no clear business justification
RFFS22	Domination of management by a single person or small group (in a non-owner-managed business) without compensating controls
RFFS23	Oversight by those charged with governance over the financial reporting process and internal control is ineffective.
RFFS24	Difficulty in determining the organisation or individuals that have a controlling interest in the entity
RFFS25	Overly complex organisational structure
RFFS26	High turnover of those charged with governance
RFFS27	Inadequate monitoring of controls, including automated controls and controls over interim financial reporting (where external reporting is required)
RFFS28	High turnover of staff in accounting, information technology, or the internal audit function that is not effective
RFFS29	Inadequate auditing of interim financial reports