ISSN 1816-6075 (Print), 1818-0523 (Online)
Journal of System and Management Sciences
Vol. 14 (2024) No. 4, pp. 437-447
DOI:10.33168/JSMS.2024.0428

Investor Sentiment Effects on Cryptocurrency Judgments

Sung Ho In [1], Seon Hei Hwang [2], Sang Cheol Jeong[2]

[1] Department of Airline Management, Changsin University

[2] Department of Real Estate, Changsin University, South Korea

ericin@hanmail.net, h578338@hanmail.net, scjeong@cs.ac.kr

Abstract. Since 2009, there has been a lot of debate over whether digital money can function as an alternative currency. Such digital currency is a currency in which monetary value is stored in electronic form according to a digital algorithm created by the issuer in advance. In some cases, digital currency is intended to be used instead of actual legal currency. In particular, many investors are psychologically aware of the double-sided phenomenon of great risk and great profit as an investment in digital currency investment, and the main psychological effect on investors in this situation is investor sentiment. In order to succeed in investing in digital currency, rational thinking that is not influenced by collective investment psychology is required. Therefore, this study conducted an empirical analysis to find out the effect of real estate investor sentiment on investment performance and reinvestment intention. Data collection in this study was conducted in a self-reported manner for 30 days from March 2, 2023 to April 1, 2023, targeting those who invested in digital currency at least twice. A total of 250 questionnaires were distributed and a total of 202responses verified. The survey analysis wasdone with SPSS 21.0 and AMOS 21.0 programs, and path analysis was conducted to proceed with the hypothesis verification of this paper, and the verification results are summarized as follows. First, as a result of analyzing the hypothesis that investment psychology factors (optimistic psychology, self-confidence, crowd psychology) of digital currency will affect investment performance, all factors such as optimistic psychology and self-confidence have a positive (+) effect on investment performance. Second, as a result of analyzing the hypothesis that in as a result of analyzing the hypothesis that investment performance in digital currency will affect investors' intention to reinvest in digital currency, investment performance has a positive (+) effect on reinvestment intention. In particular, this study has limitations, as it is a study using data that may have a risk of error in measurement data. Therefore, this study investigated how investor sentiment impacts investment performance and reinvestment intentions for digital currencies using Bitcoin as an exemplar. An online survey of 202 cryptocurrency investors examined three facets of sentiment - optimism, self-confidence, and crowd psychology. Path analysis revealed self-confidence exerted the strongest positive influence on performance. In turn, performance significantly predicted reinvestment intent. Although sentiment facets uniformly bolstered performance assessments, realizing the full potential of digital currencies necessitates mitigating biases and grounding decisions in objective indicators. Further inquiry into sentiment’s nuanced, contextual impacts is warranted.

Keywords: investment psychology, investment, performance, optimism, self-confidence, crowd psychology, reinvestment intention

1. Introduction

The subprime mortgage crisis that occurred in 2007 and the global financial crisis that followed dealt a blow to confidence in the traditional dollar reserve currency order (Raphael and Rainer, 2020). Subsequently, Blockchain technology emerged as a new information technology and virtual currency based on it appeared, and in response to these series of changes in the financial ecosystem, countries are reviewing or preparing to introduce central bank digital currency.Central bank digital currency can be defined as electronic fiat currency issued and circulated by the central bank. According to the International Settlement Bank in 2021, as of 2020, over 0% of central banks in 66 countries responded they were conducting research related to central bank digital currencies (Raphael and Rainer, 2020; Koshksaray et al., 2022; Baklouti et al., 2022). If it is like this, it seems that the policy interest and introduction of the central bank digital currency of each country's central government is clear. Money is a generally accepted means of payment and refers to all social means for currency. The essential function of currency is to be a medium or medium of exchange, and in this case (Jeong, 2022), money becomes a representative medium or medium in such exchange. In the modern monetary economy society and the recent credit economy society, money is important in that it is used as a means of convenient payment for purchase by anyone, overcoming the limitations that arise in the process when purchasing various goods or services. However, with the globalization of finance and economy, the development of information and communication technology, and market-led competition, rapid changes have begun in the economic aspect around the world. With this, deterritorialization appeared. This means that the currency that was legally used in the space where the sovereignty of the state is exercised transcends these spatial boundaries through the transaction network and is traded and exchanged. This currency is the ‘digital currency’ that has received the most heated attention worldwide in recent year (Jeong, 2022). This digital currency, born in 2009, is an example of an innovation that will lead the 4th industrial revolution along with artificial intelligence. It is a digital currency with the characteristics of cash. In particular, these digital currencies can maintain stability as a currency because payment means are distributed and used by users through decentralization, which is the core of blockchain technology. In addition, the greatest attraction is that it can be distributed worldwide through the Internet, unlike legal tender that is only used in limited regions or countries. A representative phenomenon of the deterritorialization of currency is the appearance of a unique private currency called virtual currency as a rebellion against the legal currency system that is exclusively controlled by the central bank led by the state. Digital currency refers to money in which monetary value is stored in electronic form according to a digital algorithm created in advance by the issuer. Since it has a monetary value, it can be used in place of actual legal currency in some cases. Unlike traditional currencies, virtual currency is not based on a centralized system because there is no government agency or central bank that separately manages or is in charge of issuance and distribution. Instead, distributed ledger technology is used to distribute and store transaction ledgers in a P2P network, and all participants jointly perform recording and approval. In addition, in relation to issuance of currency, the amount of currency issued and its value are determined according to the rules set by the first entity issuing currency and the demand and supply of currency according to transactions without a separate registration and approval process. Due to these many features, digital currency is evaluated as having pioneered a new paradigm of future technology in that it can safely protect data from the risk of hacking such as an attack on a central server. In particular, as digital currency is attracting attention from the world, interest is leading to whether digital currency can replace the current legal currency, that is, cash in the future. Currently, there are more than 1,600 types of virtual currencies, such as Ethereum, Ripple, and Monero, including Bitcoin. Cryptocurrency has spread to a significant part of human economic activity and is growing at a rapid pace, and the market capitalization of virtual currency worldwide is estimated to reach about 430 billion dollars. Therefore, the useful structure and research objectives of digital currency, which is the purpose of this study, are as follows. Investor sentiment influence perceived performance of crypto currency investments. Investment performance predicts reinvestment intent for

crypto currencies.

2. Theoretical Background

2.1. Digital currency research

It is important to understand Bitcoin before researching digital currency. Bitcoin came into the world in 2009 when a computer programmer named Satoshi Nakamoto published a thesis related to Bitcoin in 2008. Bitcoin is based on the belief that individuals can play the role of countries and central banks through cryptocurrency technology and network-based trust between users (Kang et al., 2021). Bitcoin is a global digital virtual currency, which is distinguished from real money that has been used so far because users become the subject of supply and demand. Bitcoin is crypto graphy-based electronic money that can be easily transacted worldwide and is a decentralized financial network, and is actively used in online and offline stores around the world. In recent years, as the value of Bitcoin has risen rapidly, it is drawing attention as a means of investment. Bitcoin can be safely and quickly traded between individuals online, and unlike real money that has been used so far, it has a currency issuance structure that does not involve or control the central government, specific banks, or financial institutions. Bitcoin is similar to existing cyber money or electronic money in that it does not have a physical substance unlike existing banknotes or coins, but it differs from the existing ones in that issuance and transactions are carried out without the intervention of a third party such as a financial institution. It is different from real money. In Korea, cyber money such as Cyworld's Acorn and Naver Cash is a cash system operated by a specific company or individual. In addition, existing electronic money systems, such as PayPal and credit cards, can be transacted only when approved by a third party. However, Bitcoin is real money and can be exchanged with real money through exchanges such as stocks, unlike virtual currencies so far that have not been free to exchange. The reason Bitcoin has received worldwide attention is because of the bank run crisis in Cyprus. Cyprus is a small country on the Mediterranean Sea, famous as a tax haven. In the past, central banks responded to financial crises with quantitative easing, but after the Cyprus bank run in 2013. Eurozone people began to recognize bitcoin as an alternative to fiat currency out of fear that banks could go bankrupt. As a result, the demand for Bitcoin soared, and the price of Bitcoin, which was $45 on March 18, 2013, soared to $147 on April 3of that same year. At that time, Germany, Venezuela, Argentina, and Zimbabwe began to recognize Bitcoin as a means of storing value rather than their own currency, and in August 2013, the German Ministry of Finance recognized Bitcoin as a private currency for the first time. Bitcoin is also called a public ledger using Block chain technology. It uses technology to prevent hacking that can occur when trading in commercial currency. In the case of existing financial companies, transaction records are stored in a centralized server, whereas Bitcoin sends transaction details to all users participating in transactions, and uses a method to prevent data forgery by comparing them whenever a transaction occurs. Raphael and Rainer (2020) argued. Bitcoin has the following functions and characteristics. First, unlike existing currencies, fast and safe transactions between individuals are possible without the intervention of the government, central bank, or financial institution, and circulation is limited like gold. Second, Bitcoin transactions are protected by military-grade cryptography. Bitcoin offers users a high level of control over the money they own and security ready against many types of illicit activities. Third, Bitcoin can be transferred from Africa to Canada in just 10 minutes (Kang et al., 2021). There is no slow processing, high fees, or stoppages like banks do. Fourth, Bitcoin does not have a credit card number that a malicious person can steal to impersonate the user. It is possible to make payments without revealing your identity unlike with cash. Fifth, Bitcoin includes a multi-signature feature so that Bitcoin can be used when subgroups of people authenticate transactions. Sixth, companies are required to prepare accounting documents for business-related activities. Since Bitcoin provides information on account balances and transactions to members of companies, it provides the highest level of transparency for transaction records.

2.2. Investor sentiment

In order to understand investor psychology, the monopolistic advantage theory for understanding investment is the theory that a foreign company has a unique advantage compared to business activities in its own country when entering a host country. However, it is characterized by the advantage that these local companies do not have, which allows them to gain a local advantage for a considerable period. Unlike existing economic theories, this theory only analyzed foreign direct investment and provided the theoretical basis for the FDI theory. The theory of monopolistic advantage is based on the theory of industrial organization and on the instability of the market (Ryu, 2019). A foreign company has a capability that a local company does not possess, but since there is no market for selling that capability to the local company, it uses foreign direct investment to achieve its goal by utilizing that capability. The monopolistic advantages of a foreign company are the excellent knowledge and management capabilities accumulated within the company, and these skills, marketing, production, and capital procurement capabilities are unique to the company. As local companies need significant investment to acquire such knowledge, companies with a monopoly advantage can use this knowledge to possess higher corporate competitiveness, such as product differentiation, and thus achieve higher sales and profits (Ryu, 2019). It argued that technology, production, marketing, and capital procurement were the unique advantages possessed by foreign companies entering the local market. However, this theory also has limitations. First, it is difficult to apply it to local direct investment for facilitating sales in the local market by overcoming trade barriers or acquiring strategic assets in the local market, even if the investment company does not have a monopoly advantage over the local company. This kind of foreign direct investment can be seen in investment advances of advanced countries such as the United States and Europe. In addition, since monopolistic advantages are found only in the knowledge or management capabilities of local investment companies, there is a lack of explanatory power for foreign direct investment that utilizes external advantages, that is, the characteristics of the country concerned. This is the case when a company that imports raw and subsidiary materials and produces them domestically makes foreign direct investment to secure production resources (Huang et al., 2023). On the other hand, a company's unique advantage factor can also be operated as export or licensing, but it can be said that the monopoly advantage factor alone does not explain why overseas direct investment is necessary.

On the other hand, investor psychology refers to cognitive biases, such as false beliefs and specific preferences held by investors. Unlike the rational investors assumed by the efficient market hypothesis, investors participating in the actual market sometimes make decisions based on fragmentary or inaccurate information rather than complete information. Heuristics that affect trading behavior and investor decision-making are summarized and explained. Heuristic is a decision-making method referred to in psychology, and investors are greatly influenced by heuristics under uncertainty. Heuristics work usefully in simplifying the complicated process of evaluating probabilities and reaching decision-making, but they have a problem of causing serious systematic errors (Thirupathi 2019).

Looking at this, first, the representativeness heuristic is a heuristic that people rely on when making judgments about probabilistic situations. This might be missing some important details. However, in practice, representativeness does not affect probability judgments, so judgments that rely on representation can lead to errors. A typical error caused by the representativeness heuristic is insensitivity to the underlying probability that occurs when the probability is judged by not considering the underlying probability that affects it (Hong and Ryu, 2019). Representativeness heuristic is insensitivity to sample size. Insensitivity to sample size refers to the error that occurs when deriving a specific result from a sample drawn from a specific population when an event is equally probable. This error occurs because the expected value of a relatively small sample is greater than that of a relatively large sample, but it is assumed that the sample has the same representativeness of the population without considering the sample size. Because samples of different sizes have different distributions, the expected probabilities are also different, so judging the probability without considering the size of the

sample can cause errors. Another error caused by the representativeness heuristic is to mistakenly believe that the random process represents the probability even though the random process was not sufficiently performed when judging the probability of a certain series of events occurring by the random process. That is, parts of the local process, rather than the whole process, fully implemented, represent the essential characteristics of the whole process. In probability, in general, deviations in one direction appear to go through a self-correcting process that regresses in the opposite direction, but in reality, the deviations are not corrected.

2.3. Investment performance

Evaluation of investment performance can be said to have begun with studies neither by Dietz, Jensen, Sharpe, and Trey nor in the late 1960s. In the case of the United States, along with the rapid growth of corporate pension assets, a social consensus has been reached that it is desirable to be in charge of objective monitoring of fund management by an independent institution. Performance evaluation in the early days was limited to measuring accounting profits, and until the late 1970s, performance was measured mainly with value-weighted returns based on modern financial theories. The concept of time-weighted return was used in the 1980s, and as performance measurement using benchmarks began in the late 1980s, the modern concept of performance evaluation began. In the 1990s, the awareness that risk is a cost spread, and performance began to be measured by the excess return against risk. In the 2000s, the recognition of pension fund performance went beyond a simple rate of return to the level of risk management, and the global trend of performance evaluation is shifting toward management of risk rather than rate of return (Hong and Ryu, 2019). Performance indicators considering absolute risk include the neither Sharpe index, Trey nor index, and Value-at-Risk (VaR) means the maximum amount of loss that can occur during the target period under normal market conditions within a certain confidence interval. Since these risk-adjusted performance indicators focused on the problem of determining the ranking of portfolios with absolute performance, they could not measure performance in the standard desired by investors, and relative risk-adjusted performance indicators were introduced to address this shortcoming. In particular, many researchers have shown interest in performance indicators based on higher-order moments, such as downside risk, skewness, and kurtosis. This is because a method of evaluating the performance of a portfolio with a high-order rate distribution was devised to overcome the limitation of CAPM's assumption that the return distribution follows a normal distribution (Kang and Nam, 1997). Performance evaluation methods that do not depend on the market model have also been introduced. This includes developing a model to evaluate whether the manager's market timing judgment was correctly determined, and when the past return data is short; it is judged that it is inappropriate to evaluate using the traditional method. It was to propose a qualitative measurement method to measure the holding capacity of an asset.

2.4. Reinvestment intention

Investors consider two factors when making investment decisions: risk and return. Therefore, in order to diversify the risk, investors do not invest the amount of investment they can invest in just one asset, but invest in a portfolio such as real estate, stocks, and deposits. However, if there is an investment target that can expect a higher rate of return, it can be said that a larger investment amount is invested. This is because the higher the percentage of investment, the higher rate of return can be expected. In addition, the larger the total investment size, the more time and effort will be invested to increase the return on investment (Shim et al., 2006). Therefore, depending on the size of the investment, there may be a different relationship between the influencing factors affecting the satisfaction level of investors and the level on satisfaction. Reinvestment intention is a psychological phenomenon in which a general consumer or investor has a strong tendency to purchase or use a product or service when the product or service gives them some satisfaction when they purchase a product or receive a service. In other words, satisfaction through purchasing a product or using a service affects future repurchase or reuse. Reinvestment can also be said in the same context. When you invest in stocks or real estate and are

satisfied with the rate of return, there is a tendency to invest again or to maintain the investment continuously. When it comes to independent investment, it refers to new technology development and public works as investments made regardless of income level or interest rate. In addition, reinvestment intention was divided into pre-investment and post-investment. Pre-investment can be referred to as intentional investment according to the plan as the investor considers the original investment, and post-investment is referred to as investment made regardless of the presence or absence of a plan (Lee et al., 2020).

2.5. Investment sentiment, investment performance, and reinvestment intention

When there is a discrepancy between the investors' expectations of future profits and the expectations based on their own inside information, managers voluntarily disclose forecast information, claiming that they make efforts to adjust market expectations to managers' inside information. The results showed that market expectations also change depending on the information included in the disclosure. In addition, Baginski, Hassel, and Kimbrough (2004) also support the market expectation theory by showing that there is an incentive to adjust expectations through the provision of forecast information when a negative impact on future stock prices is expected because the market's expectations are higher than the manager's expectations. Meanwhile, in the field of behavioral finance, research is being conducted that applies more realistic assumptions, such as investment psychology by relaxing the traditional rationality assumption. They mainly analyze the movement of stock prices in the stock market and report the results that investor sentiment is related to stock returns. However, there are still only a few studies that have demonstrated the relationship between investment psychology and corporate disclosure policies directly related to this study, and they are introduced as follows. Lee & Kim (2020) looked at companies' strategic disclosure behavior according to investor sentiment. As a result of the analysis, the frequency of voluntary disclosure by companies increased during periods of low investor sentiment and the frequency of announcing long-term earnings forecasts at a level higher than the analyst consensus was high, while this behavior decreased during periods of high investor sentiment. In response to this, it was seen that companies are taking strategic disclosures to instigate (maintain) investors' optimistic expectations during periods when investor sentiment is low (high). Contrary to this, in the short term, it was found that investors reported lower forecasts than analysts' consensus during periods of high investor sentiment, which was seen as managers' reluctance to lower performance than market expectations and to avoid negative effects from it. Lee & Kim (2020) found that when investor sentiment is high (low), managers disclose more optimistic (pessimistic) pro-forma forecasts, and the provisional pro-forma presented by managers when investor sentiment is high is based on GAAP. Results are presented that tend to exceed the actual values. Regarding the results, they reported that investment sentiment influences managers' predictive behavior, and that not only does investment sentiment affect managers' optimism (pessimism), but there is also a possibility that managers may use investment sentiment opportunistically. Recently, Lee & Kim (2020) used the consumer sentiment index to examine the effect of investor sentiment on the bias of manager forecast information. The analysis results revealed that the higher the investor sentiment, the greater the optimistic bias of manager forecast information. In particular, by dividing investor sentiment into quintiles, it was found that the group with the lowest (highest) was significantly under predicted (over predicted) compared to the average group. Regarding the result, it was interpreted that the manager under predicted under the influence of investor sentiment rather than using investment sentiment opportunistically. In this study, the investment psychology for digital currency is a thesis that studies the effect on investment performance and reinvestment intention. Therefore, the following hypotheses were inferred, as it is expected that the factors of investor sentiment will further enhance trust and intimacy in investing in digital currency.

H 1: The investment psychology of digital currency (optimistic psychology, self-confidence, crowd psychology) will have a significant positive (+) effect on investment performance.

H 2: Investment performance will have a significant positive (+) effect on reinvestment intention.
H 3: The investment psychology of digital currency (optimistic psychology, self-confidence, crowd psychology) will have a significant positive (+) effect on the reinvestment intention of investors.

3. Research Method

3.1. Research model

As the sub-factors of investors' investment sentiment for digital currency, optimistic psychology, self-confidence, and crowd psychology were analyzed respectively for their effects on investor performance and reinvestment intention. To this end, the research model shown in Figure 1 was constructed by configuring investment sentiment as antecedent variable and investment performance and reinvestment intention as lagging variables.

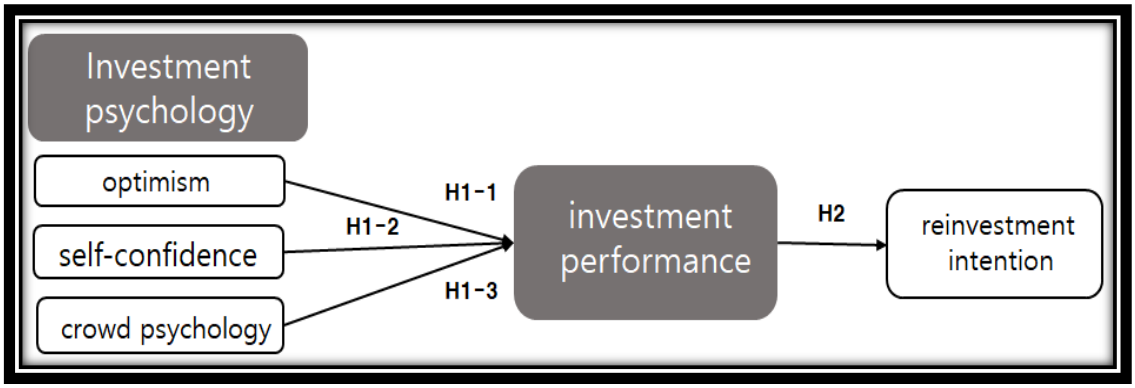

Fig. 1: Research model

3.2. Survey design and analysis method

For the research design of this study, a questionnaire was prepared to analyze the influence of the causal relationship of investment psychological factors on investors' investment performance and reinvestment intention, targeting those who had invested in digital currency at least twice For the contents of the questionnaire were adapted from previous research materials. This study was modified and supplemented to suit the purpose of this study. For each variable, the average value of the component dimensions was measured on a5-point Likert scale. As for the spatial scope of the survey, it was conducted in a self-response format for those who lived in the Republic of Korea and invested in digital currency at least twice. In order to convey accurately the expression of the contents of the questionnaire, a pre-test was conducted by distributing 30 copies of the first questionnaire by easily interpreting the technical terms of each term from January 5 to February 4, 2023. Sentences were supplemented based on the survey results, and it was developed in a self-written manner for 30 days from March 2, 2023 to April 1, 2023. A total of 250 questionnaires were distributed and a total of 202 were verified. Survey analysis was donewith SPSS 21.0 and AMOS 21.0 programs, and path analysis was conducted to proceed with hypothesis verification of this paper.

4. Research Results

4.1. General characteristics of the sample

As for the demographic characteristics of the respondents, there were 152 females (75.2%) and 50males (24.8%). As for marital status, 133 (65.8%) were single, while 69 (34.2%). %) were married.

In terms of residence, 108 people (53.5%) reside in Busan, 66 people (32.7%) in Seoul, 8 people (4.0%) in Jeju, and 20 people (10.8%) from Daegu, Gyeon gju, Incheon, etc. In terms of assets, 87 people (43.1%) have more than 1 billion won. 98 people (48.5%) worked for 1 year to 5 years, and 79

people (39.1%) worked less than 1 year.

Table 1: Demographic characteristic of respondents (N=202)

Item		N (%)			Item		N(%)	
Gender	Male	50	(24.8%)		Place of living	Seoul	66	(32.7%)
	Female	152	(75.2%)			Busan	108	(53.5%)
Marital status	Married	69	(34.2%)			Jeju	8	(4.0%)
	Single	133	(65.8%)			Others (Daegu, Gyeongju, Incheon, etc.)	20	(10.8%)
Education	Junior college graduate (2 years) or less	114	(56.4%)		Asst	1 billion won or more	87	(43.1%)
	College graduate (4 years)	87	(43.1%)			500 million won ~ 1 billion won	71	(35.1%)
	Graduate school or higher	1	(0.5%)			less than 500 million won	44	(21.8%)
Type of employment	Full-time	152	(75.2%)					
	Temporary worker	50	(24.8%)		Total		202	(100%)

4.2. Reliability and validity of measurement tools

As a result of the confirmatory factor analysis of this study according to the construct concept, a significant statistical value was shown as χ^2 (280)=535.693 (p<.001), and the significance probability according to χ^2 of the measurement item used in this study was $\chi^2/df = 2.314$, which is smaller than 3, so it can be considered suitable. RMSEA=.075 (.08 or less), CFI=.947 (.9 or more), NFI=.915 (.9 or more), which are levels that meet the general standard values (Hair, Black, Babin, & Anderson, 2010) in the fitness index), and TLI=.938 (more than .9), the fit index for the measured variables is judged to be good. In particular, due to the conceptual validity of the measurement model for latent variables, the factor loading was higher than .6 in all items, showing non-significant values, and the average variance extraction (AVE) was. 681~.783 (more than .6), and the conceptual reliability (CR) was verified as .756~.916 (more than .7), so the intensive validity of the measurement model was analyzed to be generally excellent. Reliability analysis results using Cronbach's space also showed. 7 or more in all factors in the range of .779 to .926 (standard value .7 or more). AVE, which shows the mean variance extraction value, shows a value of 0.681 to 0.783, which is higher than the standard of 0.6, so it seems that there is no problem with the internal consistency of this measurement model. In addition, the square value of the correlation coefficient is generally higher than the AVE (Average Variance Extracted) value, so it is judged that there is no abnormality in discriminant validity.

Table 2: Confirmation factor analysis and reliability analysis

Factor	item	Factor loading(t-value)	S.E	AVE	CR	Cronbach's α	Correlations among study variable (square correlations between constructs)				
							OP	SC	CP	IP	RI
OP	Pl1 Pl2 Pl3	869(-) .843(23.090)*** .851(22.967)***	-.045 .043	.733	.859	.861	1.000				
SC	St1 St2 St3	.836(-) .879(17.998)***	-.065	.750	.886	.877	.701*** (.491)	1.000			

		.896(18.357)***	.060								
CP	PEQ1 PEQ2 PEQ3	.865(-) .898(25.242)*** .860(22.967)***	-.044 .047	.761	.907	.926	.698** (.489)	.818** (.669)	1.000		
IP	DA1 DA2 DA3	.877(-) .892(25.767)*** .883(25.393)***	-.030 .045	.783	.916	.895	.372** (.138)	.394** (.155)	.394** (.155)	.334** (.112)	1.000
RI	DL1 DL2 DL3 DL4	.860(-) .898(25.242)*** .860(22.967)*** .864(23.114)***	-.045 .045 .040	.761	.906	.896	.505** (.255)	.460** (.212)	.436** (.190)	.499** (.249)	. 1.000
MEAN							3.98	4.03	4.155	3.873	4.599
SD							1.277	1.259	1.249	1.310	1.095

χ^2= 535.693(df=280, p=.000), χ^2/df = 2.314, GFI 0.904, NFI 0.893, CFI 0.901, TLI 0.898, RMSEA 0.048
*p < .05, **p < .01, ***p < .001*
Note; IP: investment performance, OP: optimism, SC: self-confidence, CP: crowd psychology, RI: reinvestment intention

5. Hypothesis Testing

The causal relationship between the variables of the structural model for hypothesis verification is as follows. First, in the relation of the influence of investment psychology (optimistic psychology, self-confidence, crowd psychology) on investment performance (H1-1, H1-2, H1-3), all factors of optimism, self-confidence, and crowd psychology affect investment trust and had a significant effect. The explanatory power for this was 47.3%, indicating support to the hypotheses (H1-1, H1-2, H1-3). Second, in the relationship between investment trust and reinvestment intention (H2), investment trust has a significant positive (+) effect on reinvestment intention, and the explanatory power for this was 50.4%, indicating that hypothesis H2 was supported.

Table 3: Structural model test result (N=202)

Path		Standardized path coefficient	T-value	Result
H1-1	optimism→ investment performance	.295	3.028***	support
H1-2	self-confidence→ investment performance	.511	6.493***	support
H1-3	crowd psychology → investment performance	.205	2.296**	support
H2	investment performance→ reinvestment intention	.467	5.358***	support

Note 1. χ^2(84)□=159.001(p<.001), χ^2/df=1.781, RMR=.044, NFI=.901, TLI=.888, CFI=.875, RMSEA=.048.
*Note 2. *p<.05, **p<.01, ***p<.001.*

6. Conclusion

In this paper, the influence of the causal relationship between investment psychological factors for digital currency on investors' investment performance and reinvestment intention by using the consideration of previous studies was analyzed. The analysis results are as follows. As for the demographic characteristics of the respondents as follows, 152 females and 50males. As for marital status, 65.8% were single, while 34.2% were married. In terms of residence, 108 people reside in Busan, 66 people in Seoul, 8 people (4.0%) in Jeju, and 20 people (10.8%) from Daegu, Gyeongju, Incheon, etc. In terms of assets, 87 people (43.1%) have more than 1 billion won. 98 people (48.5%) worked for 1 year to 5 years, and 79 people (39.1%) worked less than 1 year. Also, the causal relationship between the variables of the structural model for hypothesis verification is as follows. First, in the relation of the influence of investment psychology (optimistic psychology, self-confidence, crowd psychology) on investment performance (H1-1, H1-2, H1-3), all factors of optimism, self-confidence, and crowd psychology affect investment trust and had a significant effect. The explanatory power for this was 47.3%, indicating support to the hypotheses (H1-1, H1-2, H1-3). Second, in the relationship between investment trust and reinvestment intention (H2), investment trust has a significant positive (+) effect on reinvestment intention, and the explanatory power for this was 50.4%, indicating that hypothesis H2 was supported. The verification results of this study are summarized as follows. First, as a result of analyzing the hypotheses (H1-1, H-2, H-3) that investment psychology factors (optimistic psychology, self-confidence, crowd psychology) of digital currency will affect investment performance, optimism, self-confidence, etc. It was found that all factors had a positive (+) effect on investment performance. Second, as a result of analyzing the hypothesis (H2) that investment performance in digital currency will affect investors' intention to reinvest in digital currency, investment performance had a positive (+) effect on reinvestment intention. Therefore, the results of this study suggest some implications that can be, some implications that can be applied in practice. First, it was found that the self-confidence factor, which analyzed the hypothesis that investment sentiment for digital currency would affect investment performance was high, indicating that self-confidence is the most important factor among investment psychology factors affecting investment performance. In other words, self-confidence is believing that one's judgment is correct, and thinking that one has more ability and luck than others. In this sense, this simply means that the higher the confidence in oneself, the higher the tendency to evaluate the investment performance. Second, as a result of analyzing the hypothesis that investment performance in digital currency will affect reinvestment intention, it was confirmed that investment performance affects reinvestment intention. This is because the higher the value, the higher the satisfaction and the higher the intention to reinvest. In particular, since digital currency investment may differ from other investments in investment size depending on the case, it is important to experience and that the investment performance of the initial investment is high even in order to create an investment model of a virtuous cycle of digital currency. This study was able to present contributions and implications from a practical point of view academic research on digital currency is still insufficient in Korea. As Bitcoin appeared in the world by Satoshi Nakamoto in 2008, interest in digital currency was very high locally and globally. In particular, in Korea, in late 2017 and early 2018, it attracted a great deal of social attention. At the time, governments and social groups had many negative views on virtual currencies, including Bitcoin. However, as much as the negative views of the government and social groups, the general public has emerged as a matter of great interest, judging virtual currency as an investment target that has not been experienced in the past. In this situation, this study is judged to have academic value in that it analyzed the intentions of ordinary investors for digital currency through empirical research. This study used a questionnaire as its primary data gathering instrument. Therefore, research was conducted focusing on the subjective content felt by individuals rather than based on accurate information, such as accounting information or investment returns. This study has limitations as it is a study using data that may have a risk of error in measurement data. It is necessary to consider a more systematic overcoming these limitations to further develop the results of this study more systematic

study overcoming these limitations will be needed to further develop the results of this study., Also, Further research should explore nuanced, contextual impacts of sentiment across cryptocurrency markets. Surmounting methodological limitations through more robust sampling and sentiment measurement is also needed.

References

Baklouti, N., Elbaz A. & El Khamlichi, A. (2022). Comparison of bank profitability: Evidence from Morocco and Tunisia. *International Journal of Smart Business and Technology,* 10, 23-34.

Hong, S. H. & Ryu, H. W. (2019). Environmental violations and financial performance of firms in Korea: Empirical evidence. *Asia-pacific Journal of Convergent Research Interchange*, 5, 75-82.

Huang, X., Kim, J. H., & Kwak, J. Y. (2023). Outward foreign direct investment drive and the subsidy effects on private-owned enterprise in China. *Asia-pacific Journal of Convergent Research Interchange*. 9, 89-98.

Jeong, K. Y. (2022). Introduction of central bank digital currency (CBDC), electronic financial transaction law. *Financial Law Research*, 19, 77-119.

Kang, H. S., & Nam, M. S. (1997). Empirical study on the usefulness of EVA as an investment performance indicator. *Financial Management Research*, 14, 1-21.

Kang, J. K., Yoon, K. K., & Sim, M. H. (2021). Retail investor sentiment and stock returns. *Financial Management Research.* 30, 35-68.

Koshksaray, A. A., Soleimani, M., Keivani, S. B., Karkhaneh, M. & Ahmadsaraei, M. S. (2022). A study of the impact of banking self-service technologies extension on return on equity. *International Journal of Smart Business and Technology*, 10, 131-144.

Lee, K. J. & Kim, J. T. (2020). An empirical study on the factors affecting investment satisfaction and reinvestment intent in the redevelopment and reconstruction investment products in SEOUL: Focused on the intermediation experiences of licensed real estate agents, residential environment. *Korea Housing Environment Society,* 47, 79-101.

Raphael, A. & Rainer, B. (2020). The technology of retail central bank digital currency. *BIS Quarterly Review, 18,* 85-100.

Ryu, H. W. (2019). Dynamics of SEIR investment model in brokerage business. *Asia-pacific Journal of Convergent Research Interchange,* 5, 69-77.

Shim, K. Y., Lee, S. H., & Kim, Y. M. (2006). A study on real stators' behavioral factors affecting investment satisfaction, trust in investment firms and reinvestment intention. Korean Academy of Marketing Science Spring International Conference. *Korean Academy Of Marketing Science,* 41, 527 – 557.

Thirupathi R. (2019). Performance evaluation of optimized tandem communication network model. *Asia-pacific Journal of Convergent Research Interchange.* 5, 211-220.