# The Influence of Digital Literacy, Emotional Motivation, and Information Access on Cryptocurrency and Forex Investment Decisions

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**Abstract**

The objective of this study is the examination of the impact of knowledge and emotional motivation on the investment decisions that Gen Z make as to Cryptocurrency and forex trading, which social impact and the presence of information as moderating variables are concerned. The key topic discussed in this report is the participation of Gen Z in digital stocks instruments which are seen as the main focus of this group since they possess some unique psychological traits that predispose them in making the right decisions, such as emotional attachment and reliance on information that was taken from social media and online communities. This research is trying to get the data through a quantitative method using a survey of Gen Z students who are very active in their investing training and who have chosen between the two of the most famous cryptocurrencies and have also tried forex.

The multiple regression model was used to determine both the relationship between the independent variables and investment decisions and which among the effects is direct. The findings reveal that in fact knowledge is a good factor to better investment decisions. This means that the more a person knows, the higher will be the quality of the decisions made. Also, people with higher motivation are more volatile risk-takers. Besides, social influence and information access strengthen the relationship between motivation and investment decisions, which is to say, students who are more influenced by social recommendations and who have quicker access to information tend to be more active investors.

**Keywords:** Cryptocurrency, Forex, Digital Literacy, Emotional Motivation, Investment Decisions, Information Access

## 1. Introduction

The rapid development of technology has had a considerable impact, especially on the web industry which then gave rise to the web 3.0 industry and industry 4.0 which has undergone a major transformation in the world of technology characterized by the development of big data, artificial intelligence (AI), blockchain, and financial technology (fintech). Cryptocurrency or digital currency is increasingly widespread lately. Especially during the Covid 19 pandemic, the world media was enlivened by the rise of digital currency, namely bitcoin, which made many people wonder "What is bitcoin? And how is the bitcoin system run?". This raises many questions from the public about the development of bitcoin and how cryptocurrency or digital finance works. Many people finally jumped in to invest their money into the world of cryptocurrency. However, not a few are still wondering about the cryptocurrency system and how it works, causing a lot of polemics in the community. Therefore, I bring up the topic of cryptocurrency and what are the causes and impacts on society.

Cryptocurrency (as well as its adoption, practical applications, technology and security) is a popular new topic that is still being studied. Cryptocurrencies have attracted widespread attention from many parties, especially investors, researchers, financial institutions, and policymakers. After bitcoin was introduced worldwide following the economic crisis in 2008 by the pseudonymous Satoshi Nakamoto, many cryptocurrencies were created following the bitcoin smart contract standard. A smart contract is usually defined as a program implemented in a low-level code script that runs on the blockchain platform and is executed automatically by connected computers (nodes) on the network. The main goal of bitcoin is to eliminate the need for a central controller, allowing the entire financial system to be controlled through a peer-to-peer electronic money system. This peer-to-peer system allows online transactions to be sent directly from one party to another without going through a financial institution (decentralized digital payment system).

In today's digital era, cryptocurrencies and forex are becoming increasingly attractive investment instruments due to their high profit potential. However, these instruments also carry considerable

risk, so investment decisions in them are not simple. A number of factors such as digital literacy, emotional motivation and access to information are thought to influence how investors make decisions in these investments. Factors such as the level of digital literacy may influence one's understanding of the risks and opportunities involved in cryptocurrency and forex investments. In addition, other factors such as one's emotional motivation to get rich in a short period of time or fear of losing assets also play a role in shaping investment behavior, especially in the highly fluctuating cryptocurrency and forex markets. Factors such as access to accurate information are also important in determining whether one will decide to use their money to invest in the crypto and forex markets.

This study is based on the author's curiosity to find out how much influence factors such as digital literacy, emotional motivation, and access to information have on a person's decision to invest in the crypto and forex markets. This study was also conducted to test whether risk perception, which is a mediating variable, also mediates the relationship between the three factors (Digital Literacy, Emotional Motivation, and Information Access) as independent variables on crypto and forex investment decisions.

## 2. Literatur Review

### 2.1 Digital Literacy

According to a study by Macdonald et al. (2021), digital literacy refers to an individual's interest, attitude, also capability to utilise digital technologies and communication tools for accessing, managing, integrating, analysing, and evaluating information. It also involves building new knowledge, creating content, and effectively communicating with others within society. On the other hand, Canchola-Gonzalez et al. (2020) argue that digital literacy is not inherently a standalone concept in the literature. Instead, it is described as a combination of cultural and historical practices and understandings related to the use of information, mediated through digital technologies, in various aspects of everyday life.

Both studies refer to the meaning of digital literacy as the use of digital media to find information based on one's interests, attitudes and abilities related to everyday human life. Given

that trends, social networks, and media contribute significantly to cryptocurrency and forex markets. So everyone who wants to invest in the cryptocurrency and forex market must also have digital literacy and a high understanding of any applicable trends and changes.

### 2.2 Emotional Motivation

Motivation and emotions are two things that are linked in everyday decision-making. In their study, Tappolet et al. (2016). found that emotions can drive motivation through 'action readiness', whereby a person's emotional state triggers the desire to engage or withdraw from a particular situation. This 'readiness to act' describes how emotions such as excitement or fear directly influence one's goals and efforts to achieve them. This means that emotions can directly influence a person's motivation, be they positive or negative emotions.

In a study on investment motivation conducted by Wang et al. (2021), it was found that the main motivation for investing in cryptocurrencies is often triggered by the desire for quick profits, which leads to risky decisions. When cryptocurrency prices rise, emotions such as euphoria and optimism encourage investors to continue buying, whereas when prices fall, fear and panic arise, which can lead to impulsive selling. The highly volatile nature of the cryptocurrency and forex markets means that they carry a high level of risk. This can cause people to be anxious about investing. However, this also means that it can be a motivation for someone who has a desire to get rich instantly as described.

### 2.3 Information Access

In addition to the two aspects described above, access to information also plays an important role for someone to invest in the cryptocurrency and forex markets. Van Dijk (2005) defines digital access in four stages: Motivational Internet access, Material Internet Access, Internet Skills Access, Internet Usage Access. Van Dijk mentions that without sufficient skills to utilise digital information, access to devices alone will not have a significant impact. The four stages are interconnected, which means that one must have skills and understanding in all four stages in order to get information and then be able to apply the information. Especially in the

cryptocurrency market, these stages are important to prevent poor investment decisions due to a lack of technological understanding and accurate information.

### 2.4 Investment Decision

Cryptocurrencies and Forex are two different things, however, both have similarities, namely, they are linked by their volatile nature and are held by only a few parties. Often times, people remain hesitant and anxious about making investment decisions in these two areas. An investment decision is an action chosen to save some of the income that a person currently enjoys in the hope of making a profit from the increase in the value of the asset in the future (Novianggie and Asandimitra, 2019). The definition of cryptocurrency was put forward by Hoda and Hanbali (2020). Cryptocurrency is a currency that acts as a virtual medium of exchange used in transactions and has the advantage of being free of service fees. In a study conducted by Olvia (2018), forex is traded in currencies of two countries whose values differ longitudinally. Forex money trading reflects the volume of liquid commodities trading, and trading cannot be controlled by a few parties with large capital. He also explained that there are still problems emerging in the community, namely that there are still many new clients who complain about investing in this field. This shows that newcomers should really understand the techniques of making investments, so that they can reduce the risk of failure due to the lure of immediate big profits.

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### 2.5 Perception

According to Sonia (2020), perception is a complex process of observation that involves receiving and interpreting information from the surrounding environment through the senses. For some individuals, investing in the cryptocurrency and forex markets is seen as a promising endeavour due to its volatile nature, which has the potential to yield substantial profits. This volatility motivates certain individuals to participate in crypto and forex markets. However, it is also important to acknowledge that behind these significant gains lies a high level of risk. This inherent risk deters some people from investing in these markets, as they fear losing their money in an instant.

Risk perception refers to an individual's assessment of a risky situation, which varies depending on each person's character (Zulfikar & Wicaksono, 2019). In volatile markets such as cryptocurrency and forex, this perception is influenced by emotional responses to market fluctuations. While the prospect of high rewards may appear appealing, it simultaneously evokes fear due to the possibility of losses (Ritter, 2020). Perception plays a pivotal role in shaping individual decisions within the environment, especially in the highly volatile cryptocurrency market. High-risk markets tend to attract those with a greater risk tolerance, whereas individuals with lower risk tolerance often find them intimidating and unpredictable.

## 3. Material and Method

This study used a quantitative approach to examine how digital literacy, emotional motivation, and information access influence perceptions and decision-making in cryptocurrency investments. The data were collected through a structured questionnaire using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

### Sample and Sampling

The sample consisted of 300 participants chosen by:

1. Actively investing in cryptocurrency for at least six months.
2. Familiarity with digital platforms through internet access.
3. A minimum age of 18 years old.

### Data Analysis

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to analyse the data and assess:

1. **Measurement Model:** Reliability (CR, CA) and validity (AVE, Fornell-Larcker Criterion).
2. **Structural Model:** Path coefficients, R-squared values, and bootstrapping (5,000 resamples) to test hypotheses.

**Ethical Considerations**

Participants gave their consent, and their privacy was safeguarded. The research received approval from an ethics committee.

This approach allowed for an in-depth understanding of the factors influencing cryptocurrency investment decisions.

## 3.1 Design Study

This study examines how digital literacy, emotional motivation, and information access influence perceptions and decision-making in cryptocurrency investments. A quantitative approach was used to collect data through a Likert-scale (1-5) questionnaire from 300 respondents selected purposively. The respondents had to meet specific criteria: at least six months of cryptocurrency investment experience, access to the internet, and a minimum age of 18 years. The research model includes digital literacy, emotional motivation, and information access as predictors; perception as a mediating factor; and decision-making as the outcome variable.

The results aim to enhance understanding of what drives cryptocurrency investment decisions and provide actionable strategies to strengthen digital literacy and emotional management for better decision-making outcomes.

## 3.2 Data Analysis

We conducted an analysis using the PLS-SEM approach with the help of the SmartPLS 4 platform. The analysis was carried out through several key stages, starting with the Testing of Reliability and Construct Validity. This step aimed to ensure that each construct (latent variable) in the model demonstrated high measurement quality. **Internal Consistency Reliability** was assessed using Cronbach's Alpha, rho_a, and rho_c to evaluate the extent to which indicators associated with each construct consistently measured the same concept. The results showed that all constructs exhibited good reliability, as most of the values were greater than 0.7.

We further tested **Convergent Validity** using the Average Variance Extracted (AVE) to determine whether each construct explained more than 50% of the variance of its indicators. The results revealed that all constructs had AVE values greater than 0.5, thereby meeting the convergent validity criteria. We also assessed **Discriminant Validity** using the Fornell-Larcker Criterion to ensure that each construct was truly distinct from other constructs, which is crucial to demonstrate that each construct measures a unique concept.

Finally, we evaluated the model's **Predictive Ability** using R-square analysis. Both $R^2$ and Adjusted $R^2$ were employed to Assess the degree to which the variation in the dependent variable constructs could be explained by the independent constructs in the model. The Adjusted $R^2$ value accounted for the number of predictors in the model, providing a more conservative estimate.

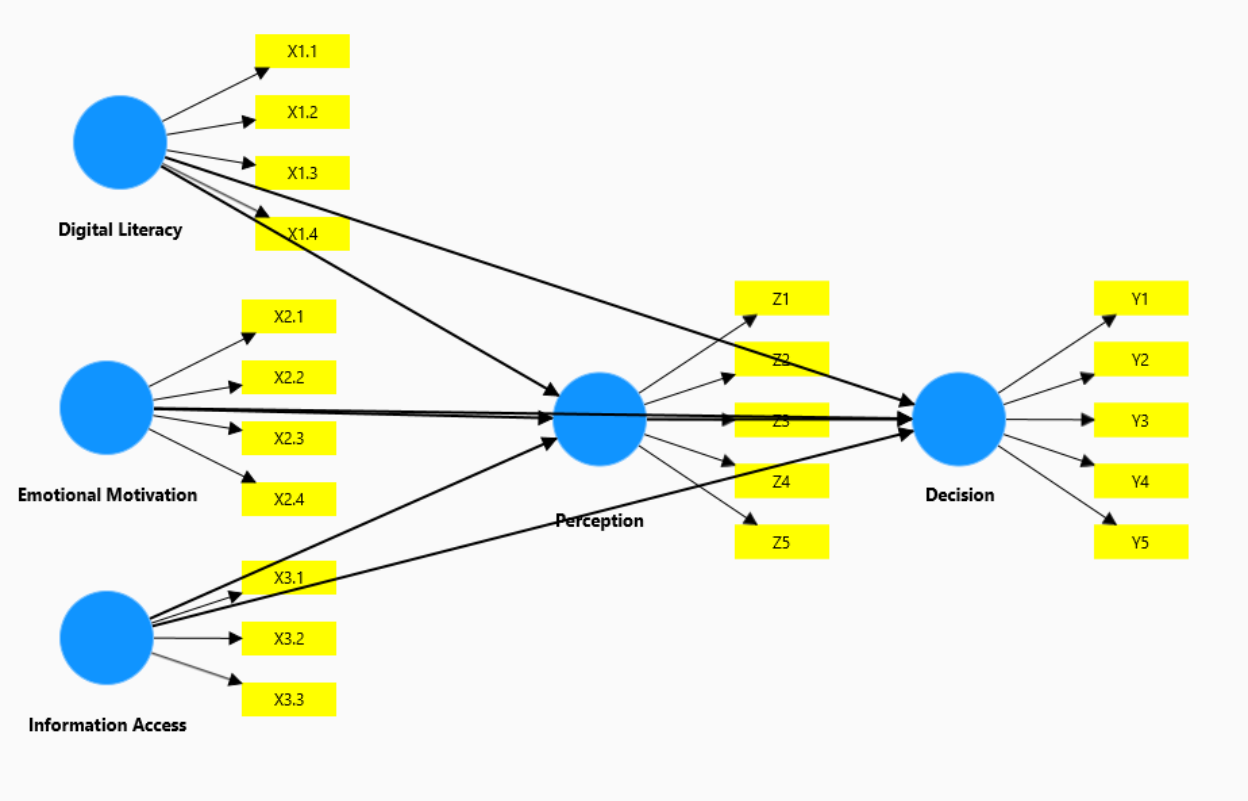


**Figure 1.** Research Model

## 4. Result

This study utilised a questionnaire distributed to cryptocurrency and forex users from Generation Z, with 100 participants completing the survey. Respondents were categorised based on age,

gender, and education level. The results showed that 95% of respondents were over 21 years old, while 5% were under 21. Male participants comprised 54% of the sample, with females making up the remaining 46%. In terms of education, 57% of respondents held a bachelor's degree, 19% had a diploma, 17% possessed a master's or doctoral degree, and 7% had completed secondary education. On average, respondents had over two years of investment experience.

**Table 1.** Fornell-Larcker Criterion

| | **Decision** | **Digital Literacy** | **Emotional Motivation** | **Information Access** | **Perception** |
|---|---|---|---|---|---|
| **Decision** | 0.732 | | | | |
| **Digital Literacy** | -0.144 | 0.828 | | | |
| **Emotional Motivation** | 0.296 | -0.140 | 0.888 | | |
| **Information Access** | 0.355 | -0.029 | 0.351 | 0.812 | |
| **Perception** | 0.220 | 0.063 | 0.432 | 0.286 | 0.745 |

The **Decision** construct has a square root of AVE (0.732) that surpasses its correlations with other constructs, such as **Digital Literacy** (-0.144) and **Emotional Motivation** (0.296), indicating that discriminant validity for **Decision** is achieved. Similarly, the **Digital Literacy** construct shows a square root of AVE (0.828) greater than all other correlation values in its respective row or column, confirming discriminant validity. The same holds true for **Emotional Motivation** (0.888), **Information Access** (0.812), and **Perception** (0.745). Therefore, all constructs satisfy the discriminant validity criteria.

**Table 2.** Construct Reliability and Validity

| | CA | CR (rho_a) | CR (rho_c) | (AVE) |
|---|---|---|---|---|
| **Decision** | 0.790 | 0.799 | 0.851 | 0.536 |
| **Digital Literacy** | 0.880 | 1.653 | 0.896 | 0.686 |
| **Emotional Motivation** | 0.910 | 0.912 | 0.937 | 0.788 |
| **Information Access** | 0.741 | 0.759 | 0.852 | 0.659 |
| **Perception** | 0.805 | 0.825 | 0.862 | 0.555 |

The table indicates that most constructs have values exceeding 0.7, signifying that the indicators within these constructs consistently measure the same concept. The **Digital Literacy** construct has a Cronbach's Alpha value of 0.790, indicating high reliability. The rho_c values for all constructs are also above the 0.7 threshold, with some constructs, such as **Emotional Motivation** (0.937), displaying exceptionally high values. This confirms excellent reliability. However, excessively high values (>0.95), such as **Digital Literacy** (1.653), suggest potential redundancy among the indicators.

**Table 3.** R Square

| | R-square | R-square adjusted |
|---|---|---|
| **Decision** | **0.177** | **0.142** |
| **Perception** | **0.222** | **0.198** |

The Decision construct has an $R^2$ value of 0.177, indicating that 17.7% of its variance is explained by other variables, reflecting weak predictive ability. The Perception construct has an $R^2$ value of 0.222, suggesting moderate predictive ability. The adjusted $R^2$ values for both constructs are slightly lower, at 0.142 for Decision and 0.198 for Perception, accounting for the number of predictors in the model.

## 5. Discussion

This analysis reveals that the constructs in this study are significantly distinct and clearly measure different concepts. The relationship between **Information Access** and **Decision** demonstrates a significant influence, indicating that good information access enhances the quality of decision-making. **Emotional Motivation** also shows a meaningful positive correlation with both **Decision** and **Information Access**, highlighting its crucial role in strengthening decision-making and access to information.

However, **Digital Literacy** exhibits a weak or even negative relationship with other constructs, such as **Decision** and **Emotional Motivation**. This suggests that digital literacy may not be a dominant factor in this study or that other variables might be influencing these relationships. The strong connection between **Information Access** and **Decision** supports the notion that high-quality information access is a critical factor for effective decision-making. The moderate correlations between **Emotional Motivation** and the other constructs indicate the supportive role of emotions in this model. The negative relationship between **Digital Literacy** and other constructs warrants further investigation to better understand the context or constraints affecting these findings.

## 6. Conclusion, Implication, and Recommendation

This research establishes that all constructs satisfy the criteria for discriminant validity, indicating that each construct captures a distinct concept. The practical implications suggest that improving information access and addressing emotional motivation are critical for enhancing decision-making processes. Technological advancements and better resources for information access could contribute to more effective decision-making. The findings underscore the importance of integrating emotional factors into strategies to improve decision-making and information access. The weak and negative association between digital literacy and emotional motivation suggests the need for more tailored approaches to enhance digital literacy's relevance and impact. Further research is recommended to explore the negative correlation between digital literacy and other constructs, as well as to investigate broader contexts to generalise these results.

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