



# Factors that Affect Bitcoin Investment and Trading in Thailand

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## Abstract

Due to the needs of investors and rapidly changing technology in asset management and financial activities, this research aims to study the factors affecting the investment and trading of Bitcoin in Thailand. To do so, an online questionnaire was sent to 400 bitcoin investors in Thailand, then SPSS and AMOS were used for collected data processing. Structural Equation Modelling (SEM) was also performed to further analyze the data and prove the hypotheses.

The result revealed that the Perceived risk, Trust, and Social influence are significant factors to the intention to invest and trade Bitcoin in Thailand. With these factors in mind, related financial institutions should provide sufficient information and analysis to ensure that all the risks are exposed to their investors. In term of Trust, operations and performance of the institutions should be transparent and accessible. Finally, Social influence could be an important factor in marketing campaign.

**Keywords:** Bitcoin, Investment, Trading, Risks

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## ปัจจัยที่มีผลต่อการลงทุนและซื้อขายสินทรัพย์ ด้วยบิตคอยน์ในประเทศไทย

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### บทคัดย่อ

การเปลี่ยนแปลงอย่างรวดเร็วในกิจกรรมทางการเงินและการจัดการสินทรัพย์ รวมทั้งความต้องการของนักลงทุนในสินทรัพย์ใหม่ ๆ เช่น บิตคอยน์ ทำให้เกิดการศึกษาปัจจัยที่มีผลต่อการลงทุนและซื้อขายสินทรัพย์ด้วยบิตคอยน์ในประเทศไทยขึ้น โดยการใช้แบบสอบถามออนไลน์กับนักลงทุน 400 คน และประมวลผลด้วย SPSS และ AMOS โดยใช้ ตัวแบบสมการโครงสร้างเพื่อวิเคราะห์และพิสูจน์สมมติฐาน

ผลการศึกษา พบร้า การรับรู้ความเสี่ยง ความไว้วางใจ และอิทธิพลทางสังคม เป็นปัจจัยที่มีผลอย่างมีนัยสำคัญต่อความตั้งใจในการลงทุนและการใช้บิตคอยน์ในการซื้อขายสินทรัพย์ในประเทศไทย ด้วยผลการศึกษานี้ สถาบันทางการเงินที่เกี่ยวข้องควรจะดำเนินการให้นักลงทุนมั่นใจว่า ข้อมูลและการวิเคราะห์ต่าง ๆ ได้ถูกเปิดเผยอย่างเพียงพอที่นักลงทุนจะสามารถตัดสินใจโดยตระหนักรถึงความเสี่ยงต่าง ๆ และ ในส่วนของความไว้วางใจ การดำเนินการที่โปร่งใสและผลกระทบจากการน่าจะสามารถสร้างความมั่นใจให้นักลงทุนได้ ในด้านของอิทธิพลทางสังคม สามารถนำไปใช้เป็นปัจจัยหนึ่งของโครงการรณรงค์ทางการตลาดได้

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## Introduction

The topic of the financial news attracting people's interest for the past many years both in and outside the country has been the Crypto Currency called "Bitcoin."

Bitcoin is virtual currency. It is the digital currency that uses the Decentralized System without the central bank or the system supervisor involved. Bitcoin is designed by using the Blockchain technology. It is the public account that records the bitcoin trading. Bitcoin is a peer to peer network. At present, in other countries, bitcoin is widely used for trading. As a result, the economic and technological trends are better. The aim is to facilitate financial transaction leading to exchange without needing support from financial institutions. Bitcoin is one of the digital currencies attracting a lot of interest both in and outside the country. In particular, from the end of 2020 to the beginning of 2021, the trading prices of bitcoin increased tremendously (CoinDesk 2010-2021). Using digital currency in financial transaction based on anonymity makes it difficult to investigate the number of trading relevant to bitcoin in Thailand. As there is either little research on bitcoin in Thailand which may lead to the risk of usage or investment, the use of bitcoin for trading of objects, houses, or cars in Thailand are not recognized or exchanged.

Therefore, this research was conducted to seek information and perspectives of the use of bitcoin currency as virtual currency in the digital world and its direction of the usage to ensure that investors and related financial institutions acknowledge the factors significantly affecting Bitcoin investment in Thailand.

## Objectives

1. To study the factors affecting the current use of Bitcoin in Thailand
2. To serve as information and guideline of investment and asset trading for people in the future

## Literature Review

Awareness (Shahzad, Xiu et al., 2018): Awareness is perception of anything that is a key factor to understand the perceptions of technology and the benefit of the use of technology, as well as perception of the concept of technology creating interest and change to decide to use technology. It also changes the concept and decision-making (Saif Almuraqab

2020). Everyone should be aware of the digital currency, its benefits, and methods of usage prior to real usage. In other words, awareness is the first condition before real usage. It is the indirect factor in usage resulting in the assumption of H1: Awareness is in correlation to the usage of bitcoin.

Perceived Risk (Mendoza-Tello, Mora et al., 2019): Risk means uncertainty in something. Risks derive from numerous factors such as the risk from attack when the dangerous attacker can make use of the ability to modify the system size and attack while refusing to provide service of payment, or the risk from the delay in receiving information, as well as the risk from fast changing price fluctuations. It renders the risk of digital currency significantly higher than the traditional currency. The risk will lead to speculation and the fluctuation leads to serious changes in trading (Folkinshteyn and Lennon 2016). Risk come from many factors such as:

#### *Business risk factors*

As bitcoin is the software that reveals the principle or source of origin, the development of digital currency may cause the risk of non-acceptance or the compensation that may not worth the loss.

#### *Safety risk factors*

As the computer security system is important for bitcoin and as bitcoin is a valuable asset like money, security is crucial for those who possess it or those who pay with bitcoin. The insecure system may lead to tremendous loss of resources.

#### *Risk factors from errors in encryption*

Exchange of digital currency or bitcoin must operate through electronic wallet with the risk of possible errors in application and security. If it is the case, the spenders of the digital wallet can lose the digital money.

#### *Risk factors from uncertainties of rules and regulations*

As bitcoin trading cannot be controlled, the trading is independent. But the risks may derive from the uncertainties of rules and regulations by the government of each country who may issue rules and regulations to control the trading measures. But each country has its own rules which make rules and regulations uncertain. Therefore, the concept leads to the hypothesis H2: Perception of risks has a correlation to the use of bitcoin.

Trust (Shahzad, Xiu et al., 2018): Trust means the belief that the trustee will render support in response to the expectations of the person who trusts. Trust from accountability is the result of the attitude of the trustee, system, belief, and trading power. Trust is an important factor to create good attitude to use the system or technology (Lee, Hong et al., 2018). Trust is a key factor for economic transaction with high volatility. Bitcoin is technology with the structure of dispersion system, without center, and with credibility that the connection points of various systems are reliable, unlike the old monetary system or e-money system requiring the central system. Bitcoin does not rely on any point but is recognized that all points as correct. Only investors with confidence in the dispersion system decide to invest in bitcoin. Therefore, it is possible to set the hypothesis of H3: Trust has a correlation to the use of bitcoin, and H6: Trust has a correlation to the perception of risks in the use of bitcoin.

Anonymity (Murko and Vrhovec, 2019): Anonymity is a key feature of cash banknote compared with money (such as money in bank account). As cash does not have Transaction specifying the source of the money, it is difficult to trace it similarly to Bitcoin which is the currency with anonymity as well. It might lead to the use of new technologies in the future and to the hypothesis H4: Anonymity has a correlation to the use of bitcoin.

Social influence (Putra and Darma, 2019): Social influence means the levels of opinions and interests of an individual on reliable technology or recommended by others for the use of new technology (Saif Almuraqab, 2020). In the perspective of social influence, those not familiar with the digital currency will have confidence in families, or friends. The study results reveal that social influence will affect the use of technology and lead to the hypothesis H5: Social influence has a correlation to the use of bitcoin.

## Conceptual Framework

Based on the literature review and the study of factors relevant to the factors and influences affecting investment in and trading of asset with bitcoin in Thailand, the research conceptual framework is proposed as shown in Figure 1.

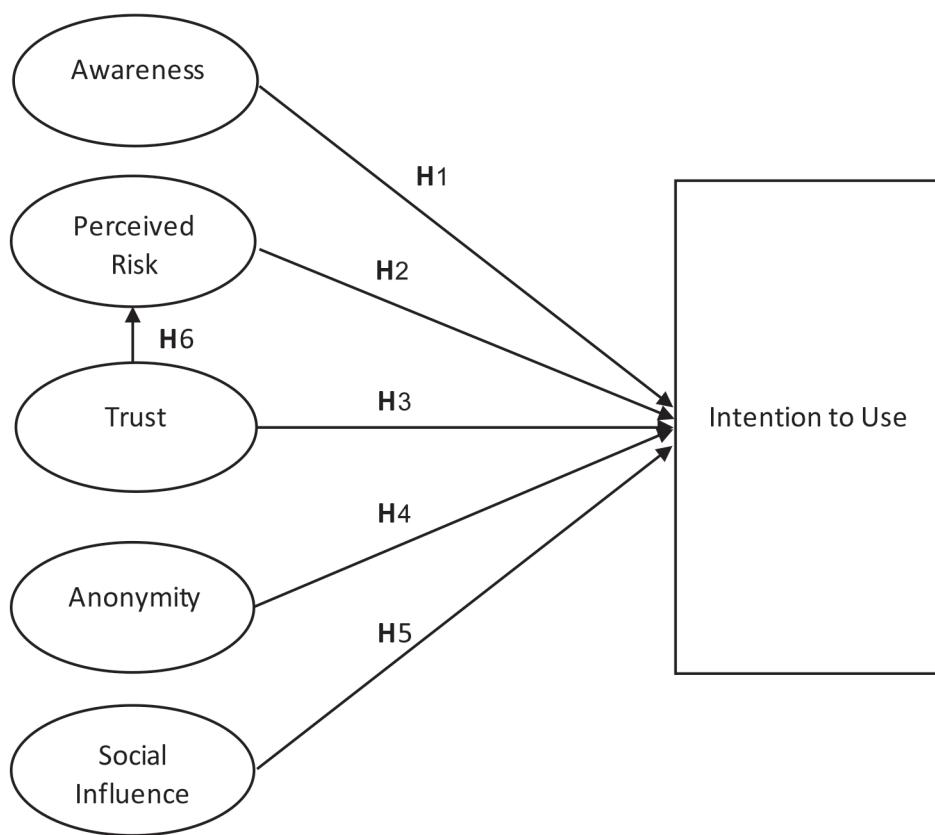


Figure 1: Research Conceptual Framework

## Methodology

This research was quantitative research. An online survey was created and distributed using Google Form to collect the data from the sample between 11 June-11 July 2021. The population consisted of 400 samples, calculated by W.G. Cochran's formula, of those who had invested in bitcoin. Those samples are used to find the result of the research objectives. Another 30 samples were collected to measure the precision. The samples were constituted the group of people who used the internet through smartphone, computer, tablet, or laptop. With this online survey, data was easily collected and accessed by the target group without constraints of location or time.

After data collection, the Content Validity of the questionnaire was verified by experts as the questionnaire assessors. Once the validity was approved, the Reliability Analysis, based on Cronbach's Alpha Coefficient, from 30 copies of the questionnaire was conducted. The analytical results is shown in Table 1.

**Table 1:** Cronbach's Alpha Coefficient

| Variables        | Number (questions) | Cronbach's Alpha Coefficient |
|------------------|--------------------|------------------------------|
| Awareness        | 5                  | 0.746                        |
| Perceived risk   | 6                  | 0.728                        |
| Trust            | 5                  | 0.720                        |
| Anonymity        | 5                  | 0.771                        |
| Social influence | 5                  | 0.813                        |
| Intention to use | 5                  | 0.888                        |

Because the Cronbach's Alpha Coefficient of each variable was between 0.70 and 1.0, it meant that the questionnaire was reliable enough to use in the research.

In terms of the testing hypotheses, Path Analysis was used based on the Simple Regression using IBM SPSS and AMOS statistical tools for an analysis of the influence of the independent variables, dependent variables, and intervening variables. Before doing that, consistency testing between the data and the research framework was performed. As a result, some questions were removed to improve the data consistency with the research framework. The remaining questions consisted of the following: Questionnaire used to assess awareness with 4 questions, questionnaire on perceived risks with 4 questions, questionnaire on trust with 3 questions, questionnaire on anonymity with 3 questions, and questionnaire on social influence with 3 questions. The results of the modified model consistent with the data were in Table 2.

**Table 2:** The Assessment of Congruence with Empirical Data of the Model

| Statistical Value | Standard Criteria | Acquired Value | Results           |
|-------------------|-------------------|----------------|-------------------|
| P-Value           | Over 0.05         | 0.254          | Meet the criteria |
| CMIN/DF           | Below 5           | 1.075          | Meet the criteria |
| GFI               | Over 0.95         | 0.964          | Meet the criteria |
| AGFI              | Over 0.90         | 0.943          | Meet the criteria |
| NFI               | Over 0.95         | 0.950          | Meet the criteria |
| TLI               | Over 0.95         | 0.995          | Meet the criteria |
| CFI               | Over 0.90         | 0.996          | Meet the criteria |
| RMSE              | Below 0.08        | 0.014          | Meet the criteria |

## Research Results

The results of the data collection of the investors in bitcoin constituted 203 males (50.75%) and 197 females (49.25%), most aged between 31-40 years old or 205 persons (51.25%), followed by those aged between 21-30 years old or 142 persons (35.50%), those with B.A. degrees or 357 persons (89.25%), followed by those with higher than B.A. degrees or 36 persons (9.00%), those with profession of company employees or 205 persons (51.25%), followed by government officials/state enterprise employees or 104 persons (26.00%), with monthly income between 15,001-30,000 baht with 183 persons (45.75%), followed by those who lower income or equal to 15,000 baht with 163 persons (40.75%). The researchers used the improved analytical results of the model to explain the correlation of each variable as in Figure 2 and Table 3, respectively.

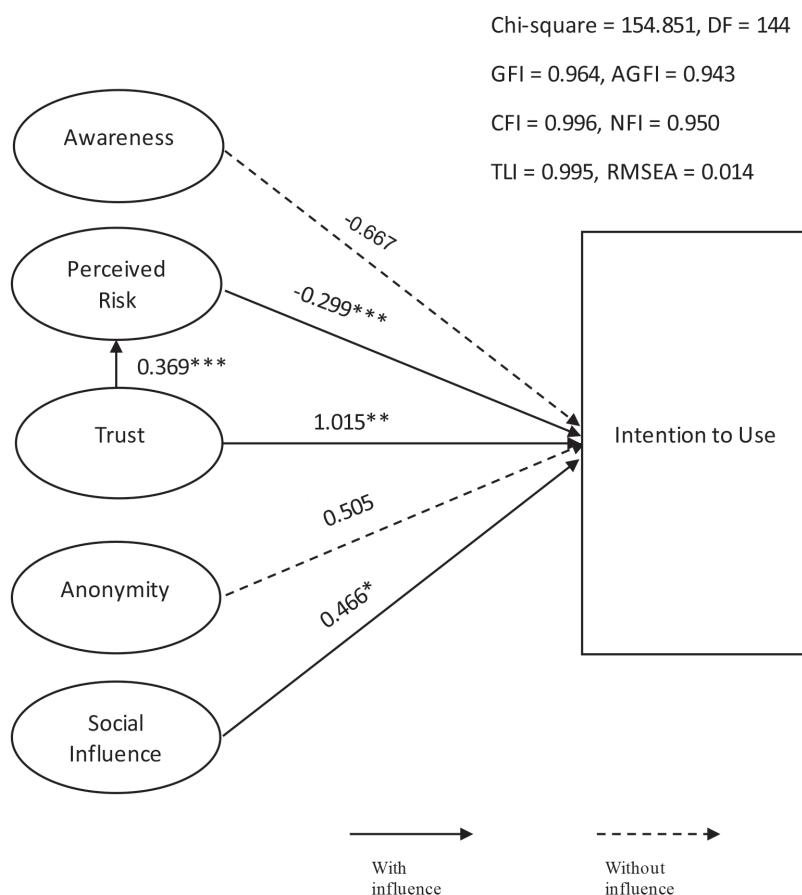


Figure 2: Path Coefficient of the Model

**Table 3:** Analytical Results of Each Factor

| Dependent Variables | Influence | Independent Variables |                |          |           |                  |
|---------------------|-----------|-----------------------|----------------|----------|-----------|------------------|
|                     |           | Awareness             | Perceived Risk | Trust    | Anonymity | Social Influence |
| Perceived Risk      | Direct    | -                     | -              | 0.369*** | -         | -                |
|                     | Indirect  | -                     | -              | -        | -         | -                |
| Intention to Use    | Direct    | -0.667                | -0.299***      | 1.015**  | 0.505     | 0.466*           |
|                     | Indirect  | -                     | -              | -0.110   | -         | -                |

**Remark** \*p <= 0.05, \*\* p < 0.01, \*\*\* p-value < 0.001

**Table 4:** Summary of Analytical Results of the Hypothesis

| Research Hypothesis  | Research Results | Conclusion  |
|--|------------------|---|
| H1: Awareness had a correlation to the use of bitcoin                | Refusal          | Awareness did not affect the intention to use with P equaled to 0.238 which was higher than the significant level of 0.05             |
| H2: Perceived risks had a correlation to the use of bitcoin          | Acceptance       | Perceived risks affected the intention to use with the statistical significance at the level lower than 0.001                         |
| H3: Trust had a correlation to the use of bitcoin                    | Acceptance       | Trust affected the intention to use with the statistical significance at the level lower than 0.010 with P equaled to 0.010           |
| H4: Anonymity had a correlation to the use of bitcoin                | Refusal          | Anonymity did not affect the intention to use with P equaled to 0.204 which was higher than the significant level of 0.05             |
| H5: Social influence had a correlation to the use of bitcoin         | Acceptance       | Social influence affected the intention to use with the statistical significance at the level lower than 0.05 with P equaled to 0.046 |
| H6: Trust had a correlation to perceived risks in the use of bitcoin | Acceptance       | Trust affected perceived risks with the statistical significance at the level lower than 0.001  |

## Conclusions and Discussions

The results of the hypothesis testing according to the research conceptual framework are shown in Table 4. The factors significantly affecting Bitcoin investment and asset trading using Bitcoin are Perceived Risk, Trust, and Social influence. In contrast, Awareness and Anonymity were not the factors. Note here that, no indirect factors were detected as an influence one.

The result of the data processing could answer the research question that risk factors significantly affected the use of bitcoin in asset trading in Thailand. This was in accordance with the research of Mendoza-Tello, Mora et al. (2019). Moreover, the trust factor was consistent with the research of Shahzad, Xiu et al. (2018) and the social influence factor was consistent with the research of Putra and Darma (2019). These factors significantly affected the use of bitcoin. These were consistent with the set hypothesis as these factors were the factors that the investors in bitcoin should have or accept prior to investment in bitcoin trading. The anonymity factor did not affect the use as it might be viewed as insignificant in the use of bitcoin which was in accordance with the research of Murko and Vrhovec (2019). The awareness factor did not significantly affect the use of bitcoin which was contrary to the research of Shahzad, Xiu et al. (2018) who stated that awareness would bring about perception of the methods of use and affect the intention to use. But the results were consistent with the research of Saif Almuraqab (2020) who stated that awareness would not directly affect the intention to use.

## Recommendations

### *Recommendations for the utilization of the research results*

The study of the factors that affect bitcoin investment and trading in Thailand considered the factors that made investors turn to study or take interest in bitcoin investment in order to provide information to the public or financial institutions to adapt themselves or develop technology in a par with the present era, as well as marketing for people to turn to digital currency more. This was because the use of digital currency such as bitcoin had lower fees than financial institutions, and transaction could be undertaken faster than financial institutions as well.

*Recommendations for future research*

For this research, the researchers studied the overall sample of investors without classifying into general investors and professional investors. Consequently, there lacked specific information and perspectives of the investors. If we set the hypothesis that divided general investors from professional investors, the result would be different from the overall investment. As general investors and professional investors might have different perspectives, therefore the study should be conducted on the specific form that could use the different analytical results in order to study and analyze for more precise results and diverse perspectives for better utilization and adaptation.

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