A STUDY OF THE PERCEPTION OF THAI CRYPTOCURRENCY INVESTORS TOWARDS DIGITAL CURRENCY MARKET

BY

MISS NATNICHA TANGWATTANARAT

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE PROGRAM IN MARKETING
(INTERNATIONAL PROGRAM)
FACULTY OF COMMERCE AND ACCOUNTANCY
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2017

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ENTITLED

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was approved as partial fulfillment of the requirements for
the degree of Master of Science Program in Marketing (International Program)

on 10 MAY 2018

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ABSTRACT

Because of the popularity of cryptocurrency and blockchain in social media, in financial industry, manufacturing industry, legal and regulators and also in general publicity, people have been starting investing in cryptocurrency as the financial asset with anticipating the substantial returns. The study of "The perception of Thai cryptocurrency investors toward digital currency market" has been decided to be the independent study which is related to technology aspect focusing on Thailand market. This study is a contemporary topic in applied marketing.

The objectives of this study are to understand overall market situation and the perception of investors toward investing in cryptocurrency and digital currency market, and to determine investors profile by demographic and their financial behavior. This study will be useful for the cryptocurrency investor to understand the attitudes, perceptions and behaviors of market participants and help them to decide the investment strategy in speculative market. In addition, this study will help financial institution to seek out the opportunities on cryptocurrency.

The methodology of this study was qualitative research method. The secondary data was gathered from the literature reviews by using and reviewing academic journals, published articles, reports, news in order to gather information and design semi-structure questions for in-depth interview.

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In-depth interviews were conducted with recruited 25 respondents who were investing in cryptocurrency during February 2017 to February 2018. In-depth interview were separated into two phrases according to the market price change in order to gain the better insights and investment behavior change.

The key findings were found that cryptocurrency market in Thailand is speculative market because the main factors that influence investor to invest are positive news and referral person. The majority of investors are short-term traders. They are also prefer the market volatility and have high risk exposure. For the investment strategy, the investors use psychological approach to make the investment decision.

Keywords: Cryptocurrency, Investment, Perceptions, Speculative Market

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LIST OF ABBREVIATIONS

Symbols/Abbreviations	Terms
BTC	Bitcoin
ETH	Ethereum
XRP	Ripple
BCH	Bitcoin Cash
LTC	Litecoin
THB	Thai Baht
ICOs	Initial Coin Offerings
BOT	Bank of Thailand
AMLO	Anti-Money Laundering Office of Thailand
KYC	Know Your Customer
CDD	Customer Due Diligencce

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CHAPTER 1
INTRODUCTION

1.1 Introduction

Because of the booming of cryptocurrency and blockchain technology, people anticipate the future coming of these innovations. In 2017, digital currencies have been an attractive topic and have drawn huge attention from social media. The upward trend of market price of digital currencies are broadly spoken in financial industry, manufacturing industry, legal and regulators and also in general publicity. This contributes to the market thriving and new high price almost every week during 2017. Therefore, people traded cryptocurrency as the asset for speculation.

At the beginning of 2017, total cryptocurrency market capitalizations value was $17,736 million US dollar. After that, the market capitalization tremendously surged to the highest point at $828,537 million US dollar on 8 January 2018 which is increased by 46.17 times within 1 year. Nowadays, cryptocurrency market capitalizations as at 11 March 2018 is $363,738 million US dollar whereby Bitcoin is accounted for 41.2% of total market value. Comparing to the peak point on 8 January 2018, its value significantly dropped to 49.3% within 2 months. (Coinmarketcap, 2018)

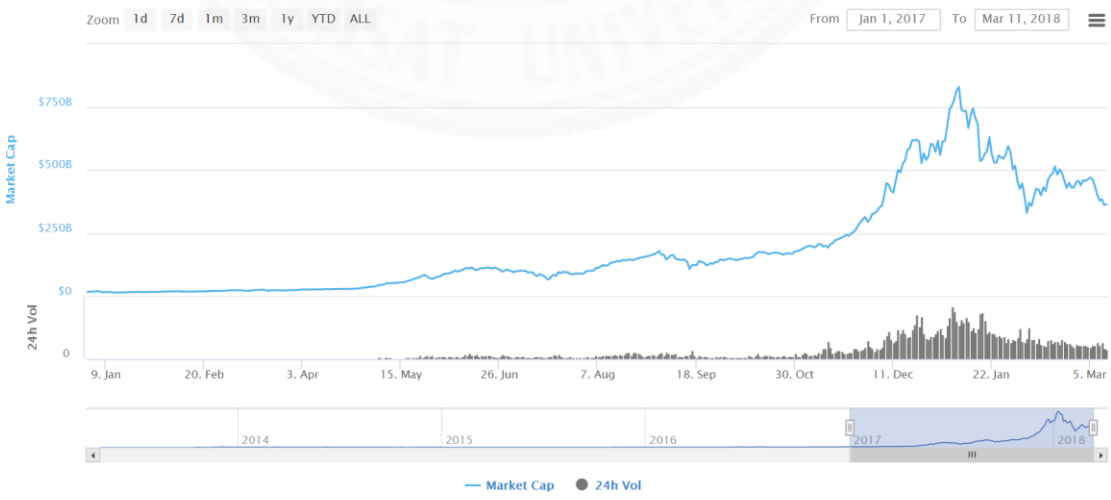

Figure 1.1: Market capitalization of cryptocurrency during January 2017 – March 2018

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Figure 1.2: Market capitalization of bitcoin during January 2017 – March 2018

For the market capitalization of cryptocurrencies as at 11 March 2018, the top 5 currencies which are traded globally including of Bitcoin (BTC), Ethereum (ETH), Ripple (XRP), Bitcoin Cash (BCH), and Litecoin (LTC), respectively. (Coinmarketcap, 2018)

Table 1: Market capitalization of top 5 cryptocurrency as at 11 March 2018

Name	Market Cap	Price
Bitcoin (BTC)	$147,603,681,230	$8,727.51
Ethereum (ETH)	$67,607,136,827	$689.04
Ripple (XRP)	$31,026,074,187	$0.793669
Bitcoin Cash (BCH)	$16,924,263,737	$994.87
Litecoin (LTC)	$9,935,052,429	$178.76

In Thailand, cryptocurrencies have been traded since 2013 with trading website - bx.in.th. Since then, there are many trading websites which allow traders to exchange Thai Baht (THB) to cryptocurrencies such as coins.in.th and tdax.com.

Regarding to the tremendous price surging in 2017 and many people in the market are able to make lucrative gains, many criticisms from financial analysists, economists and regulators warned people who are investing or trading in

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cryptocurrency market to beware of risks. Because of the rampant growth in cryptocurrencies, it leads to market volatility and instability.

This study is contemporary topic in applied marketing in topic of technology area which help investors, traders and financial sectors such as trading websites and financial institutions in Thailand to have better understanding in cryptocurrency market circumstance.

1.2 Objectives of study

This study focused on the current perception of Thai cryptocurrency investors during 17 December 2017 to 13 February 2018 toward the digital currency market. The objectives and sub-objectives of this study will be set as follows;

1. To understand overall market situation in trading exchange industry of cryptocurrency.
    - 1.1 To understand current market trend in Thailand of trading and investing in cryptocurrency.
    - 1.2 To understand the market place of investing and trading cryptocurrency.
2. To understand the perception of investors toward investing in cryptocurrency and digital currency market.
    - 2.1 To understand the current perception of investors toward the benefits of trading and investing in cryptocurrency.
    - 2.2 To understand the current perception of investors toward the risks of trading and investing in cryptocurrency.
    - 2.3 To understand financial behavior of current investor in trading and investing in cryptocurrency.
    - 2.4 To identify the key factors or insights which drive investors investing in cryptocurrency.
3. To determine investors profile by demographic and their financial behavior
    - 3.1 Demographic: measured by age, gender, education, occupation and income.

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3.2 Financial behavior: measured by financial management and current investment portfolio management.

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CHAPTER 2
REVIEW OF LITERATURE

To understand the landscape of cryptocurrency market and conceptual framework about investment decision making process, the literature reviews are conducted by using and reviewing academic journals, published articles, reports, news in order to gather information and design semi-structure questions for in-depth interview.

Because of complexity of finance and investment in cryptocurrency, this section begins with the relevant definitions of the technical terms including of investment, cryptocurrency and blockchain. In the following part, there are the literature reviews of market landscape and conceptual framework.

2.1 Definitions

Cryptocurrency: Cryptocurrency is a virtual currency or digital currency which is designed to be "a medium of exchange" that operates similar to a currency in some environments, but does not have all the attributes as real currency. (U.S. Department of Treasury, 2013). Cryptocurrency is operated by using cryptographic proofs for confirmation of transactions. The confirmation does not required the central authority which is "decentralized control" which disrupt and revolutionized centralized electronic money and central bank system. Cryptocurrency can be operated though blockchain system.

Blockchain: Blockchain is the system which validate the cryptocurrency transactions between two parties; sender and receiver. Blockchain is the disruptive technology in many business industries because it has transparency and traceability, cost effectiveness etc. (DBS group research, 2016)

Bitcoin: Bitcoin is the decentralized currency which is the most successful after launching in 2009. It is commonly referred to with terms like digital currency, virtual currency, or cryptocurrency. Its price rapidly increased and plunged for several times. The value of bitcoin is appreciated higher than S&P market, gold and US dollar. Therefore, in recent year, many people started trading and investing in bitcoin and cryptocurrencies to gain profit.

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Investment: Investment is the activities of purchasing assets or items with expecting of incremental value of purchased assets in future. In term of finance, it means the purchased assets will provide cash flow or can be sold in the higher price. (Investopedia, 2018) The investment decision is typically based on fundamental analysis. The holding period mostly in long term. The associated finance risk is relatively low to moderate with the moderate of returns. The investors expect in return from asset value increment. Moreover, the source of fund comes from the investor's fund. (Surbhi, 2016)

Speculation: Speculation is the activities which trader conducts the risky transactions with expecting of substantial profit. The decisions are relying on hearsay, technical tools and market psychology. The investment period is short-term from minutes to months. The investment risks is relatively high to very high. The expectation of investment is change in price rather than change in value. (Surbhi, 2016)

Financial risk: The associated risk which there is the possibility of investment loss. (Investopedia, 2018)

Risk tolerance: The level of deviation in the return of investment which investors are willing. (Investopedia, 2018)

Financial exposure: The range of acceptable loss amount in investment outlay. Investors have to set investment strategy to minimize financial exposure. (Investopedia, 2018)

Investor and trader: Investor aims to get the profit by investing in asset to gradually build the wealth over the period of time which is mostly in long-term. On the contrary, trader intends to gain profit in very short-term and frequently makes buy and sell transactions. (Surbhi, 2016)

Volatility and deviation: volatility is the deviation of market price. Volatility is positively correlated to degree of risks in the particular market.

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2.2 Market landscape

In 2017, cryptocurrencies have started gaining a massive intention from social media, academics both economic and finance aspects, and business industry when price significantly went up. Among over 1,500 cryptocurrencies in the market as at December 2017, bitcoin was the most mentioned and its price went up higher than other digital currencies. (Coinmarketcap, 2018) In past few years, the UK government have been paid attention in cryptocurrencies by putting money on research and fostering IT businesses. Meanwhile in East Asia, Chinese excessively and extensively invested in cryptocurrencies to seek for the return of investment. By overall, many countries have concerned coming of cryptocurrencies in many terms such as taxation, ICOs, speculation controls, fraud, scamming and Ponzi scheme. Also, particularly in Thailand, Bank of Thailand (BOT) required cooperation from financial institution to refrain any activities related to cryptocurrencies. Moreover, BOT announced to control amount of investment in ICOs and not to legalize cryptocurrency as a legal tender yet. In addition, as at 31 March 2018, the Thai government cabinet just approved the law to regulate on ICOs and taxation on capital gain by charging 7% vat payment and also additional on top with 15% withholding tax on capital gains or return from investment. (Kevin Helms, 2018)

In term of price, comparing to S&P 500 Index daily return, the study (Elbeck, 2014) examines the factors which drive Bitcoin market returns and test the market volatility. The study is collected the Bitcoin data since July 2010 to February 2014 from www.bitcoincharts.com as a daily price in USD and collected fundamental economic data from the Federal Reserve Bank of St. Louis. These variables include the consumer price index, industrial production, real personal consumption expenditures, S&P 500 index, 10year Treasury note, euro exchange rate and the national average unemployment rate. The finding from the reach is monthly changes in the spread between daily high and low price is statistically significant which means Bitcoin price is driven by internal market participants; seller and buyer, not because of external factors such as competitors or economic situation. From the historical data of market price of Bitcoin, the statistic shows that Bitcoin are 26 times more volatile

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than S&P 500 index. Therefore, it might be concluded that Bitcoin market has high volatility and speculative market.

2.3 Risks and Benefits from investing in cryptocurrency

Because of the unique concept of blockchain and cryptocurrency, there are the different characteristics between digital currency and other financial assets. Comparing to the traditional asset classes, cryptocurrency has high probability to fit with gold, currencies, and fine arts. Whilst, there is a characteristic which does not match because cryptocurrency is stored in intangible form. (Frederik Gregaard, 2017)

	CAPITAL ASSETS "Ongoing source of something of value…valued on the basis of net present value of its expected returns."	CONSUMABLE/ TRANSFORMABLE ASSETS "You can consume it. You can transform it into another asset. It has economic value. But it does not yield an ongoing stream of value."	STORE OF VALUE ASSETS "Cannot be consumed; nor can it generate income. Nevertheless, it has value; it is a store of value asset."
EQUITIES	X		
BONDS	X		
INCOME-PRODUCING REAL ESTATE	X		
PHYSICAL COMMODITIES (e.g., grains or energy products)		X	
PRECIOUS METALS (e.g., Gold)		X	X
CURRENCY			X
FINE ART			X

Figure 3: Traditional asset class comparison

Consequently, there are risks and benefits of investment in cryptocurrency as following; (Chuiko, 2017)

2.3.1 Risks

(1) No physical back up as real currency or gold. Therefore, if the system is errored or hacked, the assets might be disappeared.

(2) High volatility

(3) Risk from cyber hacker.

2.3.2 Benefits

(1) Secured transaction from peer-to-peer and lower transaction cost.

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(2) The consensus transactions which is transparent and traceable.

2.4 Conceptual framework

2.4.1 Behavioral economic

In conventional theory of investment behavior, decision making process in investment are believed that particular investors are rational and unbiased. Theoretically, investment decision is depended on information and the analysis. However, practically, investor are subjective and irrational in making decision due to unpredictable market situation and informed news. To better understand judgments and decision making focusing on psychological aspects in investment. Behavioral economic has been studied to answer the covered reasons behind the irrational decision of investors. (Medical Information Science Reference, 2018) The following psychological factors include of; (1) **Beliefs** in investment based on expectation, (2) **Belief perseverance** is refusal of the factual information which is a controversy of investor's hypothesis, (3) **Confirmatory bias** occurs when investors use information to endorse their initial assumption, (4) **Overconfidence** even received a negative information or in market downward trend, (5) **Optimism with expectation of future**, (6) **Representativeness** is when people tend to determine something by the characteristics of the group or class to which it belongs, (7) **The prototype heuristics** is a broader view of the representativeness heuristic, (8) **The law of small numbers** is a bias of which investors believe that they are majority of market, (9) **Conservatism** is over-emphasized base rate, relative to sample evidence, (10)**The anchoring and adjustment bias** means people tend to estimate similar values to the initial values of uncertain quantities, close to starting points, and (11) **The availability biases** are the situation that people have to judge the probability of an event and they use their own memories and personal experiences for more information

2.4.2 Approaches to investment decision making

In investment decision making process, there are four approaches to diverse the investment strategy (Rai University, 2018)

(1) Fundamental Approach: Fundamental approach is the approach that analyze value of assets based on its intrinsic value. The intrinsic value

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comes from company performance, industry, and economic. In some point, there is the different value between intrinsic value and market value which is call either profit or loss.

(2) Psychological Approach: Psychological approach is the opposite approach of fundamental approach. The investor uses emotion to make an investment decision.

2.4.3 Behavior patterns of stock investors in Thailand

Based on the study of the behavior patterns of investors in Thailand stock by collecting data from interview 8 investors in Thailand stock market (Tran, 2017), it found that individual investors in Thailand stock market have assimilative behaviors; overconfidence, excessive confidence, psychology of risk, and herding effect.

First, overconfidence is typically seen in investor who have knowledge in specialized areas. This leads to increasing in risk tolerance which is emotional capacity to withstand losses without panicking. In addition, they are more prone to confine the stocks which they selected are better than others' picks. Second, even Thai stock market was in downward trend, investors excessively believe in potential of stock market to be back to upward trend. So, it can be implied that Thai investors are excessively confident. Third, from the research, it shows that investor has psychology of risk in different level depending on their emotions toward amount of loss. In spite of downward trend, some of investors bought more stocks since they believed to gain more capital gain when stock price goes up higher than their costs. Lastly, Thai investors have tendency to mimic with crowd actions both rational and irrational rather than the factual information.

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2.4.4 Characteristic of investment and speculation

In stock market, investment and speculation are overlapped and were used confusingly. However, there are some distinguish characteristics as in following table.

Table 2: Characteristic of investment and speculation

Basis for comparison	Investment	Speculation
Meaning	The purchase of an asset with the hope of getting returns is called investment.	Speculation is an act of conducting a risky financial transaction, in the hope of substantial profit.
Basis for decision	Fundamental factors, i.e. performance of the company.	Hearsay, technical charts and market psychology.
Time horizon	Longer term	Short term
Risk involved	Moderate risk	High risk
Intent to profit	Changes in value	Changes in prices
Expected rate of return	Modest rate of return	High rate of return
Funds	An investor uses his own funds.	A speculator uses borrowed funds.
Income	Stable	Uncertain and Erratic
Behavior of participants	Conservative and Cautious	Daring and Careless
Risk involved	Moderate risk	High risk

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CHAPTER 3
RESEARCH METHODOLOGY

3.1 Research design and research methodology

Regarding to the objectives of this study focusing on the current perception of Thai cryptocurrency investors during 17 December 2017 to 13 February 2018 toward the digital currency market. Therefore, this study is qualitative analysis which is conducted by exploratory research and qualitative research (in-depth interview).

3.1.1 Exploratory research

Exploratory research was conducted by gathering and reviewing the secondary data such as available research, academic journals, published papers and news which is relevant to the perception of investor and crypto market on the international scale.

In addition, exploratory research was performed with qualitative method by in-depth interview to gain better knowledge and understanding in perception of Thai investors toward cryptocurrency investment both benefits and risks, to understand the financial behavior of current investor, and to identify the key elements/ key factors which drive investor investing in cryptocurrency.

3.1.1.1 Secondary data

Secondary data was gathered from highly credible sources such as researches, academic journals, published papers and news. 11 literatures were reviewed and the secondary data is partially used as a guideline to support the understanding of overview market circumstance and to design the research objectives.

The relevant research objectives obtained from secondary data include:

1. To understand overall market situation in trading exchange industry of cryptocurrency. [Objective 1]

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a. To understand current market trend in Thailand of trading and investing in cryptocurrency. [Objective 1A]
b. To understand the market place of investing and trading cryptocurrency. [Objective 1B]

2. To understand the perception of investors toward investing in cryptocurrency and digital currency market. [Objective 2]
    a. To understand financial behavior of current investor in trading and investing in cryptocurrency. [Objective 2C]

3.1.1.2 In-depth interview

In-depth interview is used to obtain the deeper insights of investors about perceptions, attitudes and financial behaviors toward cryptocurrency market in Thailand.

Convenient sampling method was adopted to collect information from respondents. In-depth interviews were conducted by recruiting 25 interviewees who are actively investing in cryptocurrencies within 12 months (during February 2017 to February 2018). Investors were recruited from siamblockchain.com which is a cryptocurrency community in Facebook and acquired by using personal relationship. Interview was done by one-on-one interview with face-to-face and via phone. The time length of the interview was approximately 60 minutes which 20 minutes used for understanding background of interviewees and 40 minutes used for serving the research objectives. In-depth interview was performed with semi-structure questions.

In-depth interview was performed into two phrases due to the volatility of market. On the first phrase, the interview was conducted during 17 December 2017 to 27 December 2017 with 21 respondents. In the later phrase, during 6 February 2018 to 13 February 2018, 4 interviews were conducted with the same set of questions to figure out the different perceptions of investors toward the market situation changes.

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3.2 Target population

Criteria of interviewee is qualified as follow;

1. Investors who are
    a. Investing or trading in cryptocurrencies which had the last transaction within 2017, or
    b. Both male and female in any range of age and income who are living in Bangkok.

3.3 Data collection

In-depth interview that recruiting 25 in-depth interviewees was conducted during 17 December 2017 to 13 February 2018 by one-on-one interview with face-to-face and via telephone call. Each interview was performed approximately 60 minutes which 20 minutes for understanding background of interviewees and 40 minutes for serving the research objectives. Data is recorded and transcribed to do further analysis. Screening questions were as follow;

1. Have you traded/ invested cryptocurrency?
2. How long have you traded/ invested in cryptocurrency?
3. Are you still trading/ investing in cryptocurrency? When is your last transaction?
4. Do you trade in either Thai market or international market or both?

3.4 Data analysis

In-depth interview information is summarized and analyzed independently beneficial to figure out and investigate key insights and findings about the perception of investors toward investing in cryptocurrency and digital currency market and determine investors profile by demographic and their financial behavior.

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CHAPTER 4
RESULTS AND DISCUSSION

4.1 Data collection

In-depth interviews were conducted separately by recruiting total 25 respondents in two phrases. Regarding to the cryptocurrency market volatility, market price had been significantly changed between two phrases. Reference to market price of the largest cryptocurrency in term of volume and value, Bitcoin (BTC) price will be the benchmark for this study. This study referred the BTC price index from www.coindesk.com because this website collects the data from available trading websites around the world.

In the first phrase, 21 interviews was conducted during 17 December to 27 December 2017. The market price gap during that period was 12,148 USD - 19,695 USD which BTC market price is the highest price since the first launch in 2009. Meanwhile, during in the second phrase, 4 interviews was conducted during 6 February to 13 February 2018. The BTC market price gap was 5,947 USD – 9,059 USD which the price was dropped by 69.8% from the highest point in the first phrase of data collection. Data collection timeline is presented as below;

Table 3: In-depth interview data collection

	Phrase 1	**Phrase 2**
Period	17 – 27 December 2017	6 – 13 February 2018
Number of interviewees	21	4
Highest market price	$19,695 USD	$9,959 USD
Lowest market price	$12148 USD	$5,947 USD

4.2 Key findings from exploratory research

The key findings of 25 interviews were based on their perceptions and attitudes of cryptocurrency market in term of price, market situation, and expectation toward the future market. Interviewees are required to have trading transactions during February 2017 to February 2018.

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4.2.1 Key findings from In-depth interview

4.2.1.1 Factors influence initial investment

To identify the key factors or insights which drive investors investing in cryptocurrency. This study was recruited 25 interviewees who have been investing/trading in cryptocurrencies within past 12 months. Based on in-depth interview, there are three main driven factors, namely, referral person, positive news through social media and the researches from whitepaper.

(1) Referal person

Referral person seems to have significant influence to the initial decision making. Most of the interviewees said that they know cryptocurrencies, mostly starting with BTC, from their friends, colleagues and family members, respectively. The contents the interviewees heard from referral person mainly are the upward side of market price and the future of technology and innovation adapting by many countries and companies. Some of interviewees use BTC as the representative of cryptocurrencies. They always mention about BTC as the cryptocurrencies they are belonging to,

"First time I known about Bitcoin is from my friend, he introduce blockchain and cryptocurrencies kind of thing to me since 2017. At first time, it was very complicated to understand and I really had no idea how it is used. Then we discussed more about this in next meeting. During this time, I also keep the eyes on its price. After that, I did start to buy some of them."

"I heard it from my colleague. He always talks about the profit he made during past few months which was better than his salary. So, I was very interested what it is. At that time, BitcoinCash (BCH) was launched and he earned around 50,000 THB within a month. It was so relatively attractive for me. Then, I asked him how to buy and sell it. Which currency I should buy. I mostly believed what he suggested."

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(2) Positive news

Positive news such as the price uptrend, blockchain and cryptocurrencies adoption by many companies, cryptocurrencies legalization by some governance, and ICOs launching for business funding is spoken by most of interviewees. These positive news influences the interviewees to purchase cryptocurrencies and they anticipated the higher market price to make the returns.

Interestingly, the information sources that the interviewees received come from social media, mainly from Facebook group, such as, Siamblockchain, Cryptothaitalktrading and other related websites in which actively publish these positive news. Some of interviewees also have Line group to share and communicate about cryptocurrencies as well. In line group, they were mostly talking about market price, market situation in each countries which might affect to the global market price, regulations in each countries and ICOs launching.

"I saw news in my Facebook newsfeed almost every day, even though, I did not follow those pages. It was talking about blockchain adoption or launching company own currencies or ICOs, company's stock price incredibly went up or some counties legalized cryptocurrencies to be traded or used as the payment intermediary. Firstly, I did not interested in this but then I was curious what it is and how it use. Why many people are so keenly interested in this. Then I started reading about it and looked the market price for a while. In the same time, I also asked my friends who might know about cryptocurrencies for the rough idea and the possibility of this innovation in the future. Then I found that it is very attractive to invest some of it."

"I saw new high price for several months on Facebook pages that I am following (Siamblockchain). Then, I started to buy and sell some of it. I could make incredible capital gain if compared in a percentage with buying stock or deposit money in bank account."

(3) Researches from whitepaper

Whitepaper which is a report that informs readers concisely about concept and issues of particular cryptocurrency is mentioned by few

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interviewees that they read whitepaper before start investing. Whitepaper is the most significant source when the interviewees made an investment decision. They basically considered about business model, how the currency works, what the purposes of ICO are, how to allocate and manage fund after successfully launch ICO and who the developer members are. If all of these elements are reliable and there is the possibility of success, they will invest in this currency. However, comparing with other two factors that influence the initial investment decision, whitepaper were significant for the small group of investors who intend to invest for long-term growth and profit. These investors believed that particular currencies they were investing will be implement and developed in the future likes email or internet.

"I do not care about market price because, nowadays, market is so volatile and not stable. So, we cannot said that this price is the fundamental value and the target price should be at some point. Unlike stocks that you can analyze by using DFC or other methods, cryptocurrencies do not have financial statement and proven factors that can be accounted for valuation. I think current market price came from the expectation of demand and supply. And now, market price continuously goes up because of exceed demand and the speculation on price which the players in the market are expecting the price will go up."

"I invest in cryptocurrencies because it believe in long-term value. Therefore, I do research from whitepaper before invest in it"

4.2.1.2 Perception towards benefits and risks

To understand the current perception of investors toward the benefits and risks of trading and investing in cryptocurrency.

(1) Benefits

1. **High volatility**: Even though the market price of cryptocurrencies have been significantly swung up and down overtime, some of interviewees have positive feeling towards the price fluctuation due to the fact that it has a price gap to make profits or a chance to buy cryptocurrencies in the lower price in some point of time.

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"I do not see that price fluctuation in cryptocurrencies is a risk. Sometime it does, but without this momentum I cannot make a profit. And because of price volatility, that is very attractive to me to make short term profit."

2. **Easy to open the account**: Some of interviewees said that opening the account is easier to understand and waiting of activated account is more convenient and faster than opening account with brokerage company. To ensure the identity of customer, most of trading websites set policy and procedure to require only basic documents. This process is call "Know Your Customer: KYC". KYC is the step that requires customer to declare his/her identity with some required documentaries such as ID card, passport, selfie picture of user with his/her ID card or passport to ensure that the document is valid, and address. KYC is the fundamental rule for financial institutions to verify the potential customer identity and to ensure that the business curtails the risks from corruptions, money laundering, and criminals and terrorists' activities. Since all documents are submitted in website, the following step is the process of Customer Due Diligence: CDD. CDD is the process of identification those information from customer. During the processes of identification, customers typically wait less than an hour to be confirmed the existence and accuracy of information. When the account is activated, trader can start trading immediately.

"I does not have brokerage account because it requires too many documents and information. I have to submit some papers to brokerage company which is I think it is too cumbersome. Moreover, it requires me to pay stamp duty which is such a burden. But opening account for trading crypto is very convenient. I took some pictures of my ID card, my selfie and added my address on website and waited around half an hour. After that, it confirmed my account through Email and I started buying some on that day."

(2) Risks

1. **Uncertainty from non-regulation**: Most of interviewees said that trading websites in many countries, including in Thailand are not regulated as other financial institution and cryptocurrencies have not been legalized as the legal tender. Therefore, there are some uncertainties of holding cryptocurrencies in long-term. According to volatility of cryptocurrencies, interviewees said that they preferred

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to hold in very short-term period to make some certain profit. Some interviewees also mentioned about price trend of cryptocurrencies that price is always dropped when there are negative news from Bank of Thailand (BOT) or from central bank in any countries. Based on interview, uncertainties from non-regulation prone to have discontinuing of trading website, banning of cryptocurrencies as a medium of exchange, Ponzi scheme etc.

2. **High volatility**: Even though most of the interviewees said high volatility is beneficial to gain profit and purchase cryptocurrencies in the lower price. However, some of them said that because of market uncertainty and speculation, therefore, it has chance that they purchased in the high price and then market is immediately downfallen and stuck in bear market for several months.

3. **Market bubble**: Most of interviewees perceived that cryptocurrencies might be becoming an economic bubble because there are some cautions from economist, financial analysis saying that "cryptocurrencies have exhibited many of the characteristics of a speculative bubble" (Shiller, 2017) Some of interviewees mentioned by comparing cryptocurrency speculation to the tulip mania of seventeenth-century Holland and Dotcom bubble.

"Even I have Bitcoin and others and I did introduce crypto to my friends, colleagues and my relatives, I am also afraid that it will become an economic crisis someday. I think it is quite similar to tulip mania because even though you have BTC in secured wallet, it does not mean that it is valuable. If it is inacceptable as an exchange, it will be worthless."

4. **Cyber-risks**: More than half of interviewees said that they are relatively afraid of cyber risks such as trading website hacking and wallet hacking. Since 2009, there were the evidences that cryptocurrencies have been hacked from wallet and reliable trading websites. Therefore, some of interviewees transferred their cryptocurrencies to their secured wallet such as mobile wallet and hardware wallet.

"Because of less creditability of website compared to personal wallet, I always transfer crypto immediately to my hardware wallet since I buy it. I have never let my crypto in website because it does not successfully belong to me. Moreover, we cannot know when the website will be shut down and disappeared"

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5. **Investment loss**: Based on in-depth interview, it is surprisingly that all of interviewees perceived risk of loss from volatility and hacking prior to investment. Additionally, their tolerance range of loss is up to whole amount of their investment. Therefore, unlike other categories of investment, the most of respondents have 100% financial exposure. Nevertheless, there was only respondent sold his cryptocurrency when price plunged up to 40% of its initial investment amount. To support the level of financial exposure in cryptocurrencies investment of Thai investor, the given reasons are the following;

5.1 Cryptocurrency investment has high financial risk. Therefore, before starting investment, they were acknowledge that there is chance to lose in high percentage of initial investment.

5.2 Purpose of investment is not to make consistent profit. Unlike investment in bond, stock market and other lower volatile markets, cryptocurrency investment is speculative market which has higher risk and higher chance to loss their money within a short period of time. Because of this reason, some of interviewees revealed that according to the asset allocation of their investment, proportion of initial investment in cryptocurrencies is much lower comparing to their total assets in portfolio. The range of cryptocurrency investment is around 5-10%. Some of interviewees said the investment amount in cryptocurrencies is around a thousand to ten thousand which is tolerable if they lose all money.

4.2.1.3 Financial behaviors in cryptocurrency investment

In-depth interview is conducted in 2 phrases to determine the different financial behaviors according to the market situation change. In the first phrase, 21 interviewees were recruited during 17 December to 27 December 2017. On the second, phrase 4 interviewees were recruited during 6 February to 13 February 2018. Based on interview, interviewees can be classified into 2 main types

1.1 **Short-term trader:** Based on in-depth interview, most of respondents held cryptocurrencies in a short to medium period of time such as minutes, hours, days and months depending on the selling target price and market volatility. Most of them actively traded; buy and sell, during past three months (October 2017 – January

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2018) in order to gain profit from drastic change in price in short time period. They were basically trying to analyze and explain the market trend, the celling price and floor price, and turnaround price point to helping their investment decision making.

1.2 **Long-term investor:** On the contrary, few of interviewees said that their investment strategy is looking for the long-term return because of two mains reasons (1) Macro views of market trend: price trend since 2009 is exponentially increased even though cryptocurrencies and blockchain have not been fully implemented. (2) Belief of technology adoption: they believed that innovation and technology of cryptocurrencies and blockchain will be dispersedly adapted in many industries and commonly used like internet and email.

"I aim to gain long-term profit by investing cryptocurrencies. I believed that in next five to ten years, many companies such as banking, transportation, services industries will use blockchain and cryptocurrencies to facilitate their operations. Nowadays, many financial institutions in Thailand already implemented blockchain to facilitate the customer's interbank transactions by using Ripple (XRP) as an intermediary of information."

For long-term investors, they gradually bought cryptocurrencies and hold them in safe place such as digital wallet or hard wallet. They are not panic when price is plunged or do not invest in non-potential ICOs. They carefully pick cryptocurrencies to invest.

4.3.1.4 Perception towards cryptocurrencies market

To better understand judgments and decision making focusing on psychological aspects in investment. Behavioral economic has been studied to explain the actions and reactions toward investments. To explain perception towards cryptocurrencies market in Thailand, behavioral economic is used in this study to analyze psychological aspects in investment. Based on the study of behavior patterns of cryptocurrency investors in Thailand by collecting data from in-depth interview 25 respondents, it found that individual investors in Thailand cryptocurrencies market have assimilative behaviors; (1) belief and optimism, (2) confirmatory bias, (3) overconfidence, and (4) herding effect.

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1. **Belief and optimism**: Respondents were asked “What do you think about future of cryptocurrencies and its price?” All respondents said that they still believe in future adoption of cryptocurrencies as exchange of payment, blockchain technology and smart contract. Thereby, within five to ten years, cryptocurrency is still the upward trend market, even though current market price still has incredibly high volatility. Some of them said they believe in “something” which might create new technologies or products soon. Despite the downward of market, the respondents keep looking on the price expecting that it will break through the point of new high again in someday. This statement was mentioned based on trader’s experiences by historical chart analysis and news in social media, manly from Facebook communities. However, during the interview on the second phrase, the market price of cryptocurrencies went down by 50-60% from the highest price on October 2017. All of respondents had intensively invested during September - December 2017. Their perception towards the market situation is doubtful. There is one of respondents sold out around 40% of total initial investment to limited loss of investment with approximately 40% loss in order to prevent higher loss at that time. While others are still holding, purchasing more and waiting for turnaround period. However, they believed that it might difficult to reach the peak price as in October 2017 very soon.

“It was so incredibly crazy when Bitcoin price went up 100,000 THB or 25-30% a day and price went up for 250,000 THB within 2 days. I remember that Bx.in.th had to announce the late deposit confirmation due to very high traffic of transactions. Many people both in the market and outside the market started to discuss not only about Bitcoin but Altcoins and its phenomenon. That period, all digital currencies went up 10-30% a day, trading board was all green”

2. **Confirmatory bias**: In first phrase, the study found that some of investors invested in particular digital currency because of referral person which he claimed that he closely works with cryptocurrency’s developers. So, the respondents use the information to endorse their initial assumption.

3. **Overconfidence:** Despite the fact that, there is factual analysis for some cryptocurrencies in downward side, all respondents relatively confine with selected digital currencies they are investing due to belief and optimism and over-confidentiality towards the selected cryptocurrencies.

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4. **Herding effect:** Respondents were asked “What factors do you often decided to buy/sell particular currencies?” Most of respondents buy/sell according to the market trend and updated news. When market significantly skyrockets or dramatically declines in price, the respondents also take an action with buy and sell orders with the crowded of participants in the market. However, during the second phrase, the price significantly went down, more than half of respondents purchased more to average their cost and they believe that the situation will be recovered soon because the market was only panic. They are waiting for the turnaround period and see what will be happened next. In addition, they are not sure whether they will continue invest in cryptocurrencies or not depending on the market situation.

4.3.1.5 Investment behavior

The proportion of investment in cryptocurrencies has been varied depended on the investment period, investment duration, income/ salary per month, realized/ unrealized profit in digital currencies investment.

Most of respondents said that the approximate portion of digital currencies in term of initial investment value is accounted for 5-20% of their portfolio. Some of respondents said that they are investing in digital currencies around 20-50% of their assets. Few of respondents invest in digital currencies over 50% of their investment. Investment allocation in other assets in their portfolio are varied. Apart from holding cash in bank, some of them also invest in stock, insurance, mutual fund, LTF, RMF or buying physical gold. Size of their portfolio are in line with annual income minus their annual loan payment. The largest size of portfolio is larger than 50 MB. Whilst, the smallest portfolio is less than 50,000 THB. The smallest portion of digital currencies investment is 2,500 THB and the largest is over 10 MB.

Based on interview and some respondent’s investment revealed historical data, almost all of respondents had increased their investment portion in digital currencies around 10-30% of their asset portfolio. They changed investment strategy from large portion in cash or stock to digital currencies due to lucrative profit in period during October-December. The significant factors which influence them to invest more are positive news about cryptocurrencies and blockchain on social media

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and day-on-day market price. However, there is only one respondent sold 50% of his digital currencies because he saw abnormality in price surging (price went up 100,000 THB per BTC per day) and cash paid out is already cover his total initial investment with over 100% return. This respondent started investment in digital currencies since the mid of 2016 which price was still lower than 1,000 USD (30,000 THB). Another respondent purchased digital currencies during September-November 2017. He found out that price was going down, thereby, he sold around 40% of his initial investment with 40% loss to minimize his loss at that period.

4.3 Segmentation

Based on key findings from in-depth interview, cryptocurrency investors can be segmented into two groups – short-term trader and long-term investor – based on psychological and financial behaviors.

Table 4: Segmentation of cryptocurrency investor in Thailand

Characteristics	Short-term trader	Long-term investor
Source of information for decision	• Social media • Reference person	• Reference person • Technology-based information such as whitepaper.
Cryptocurrency holding period	• Holding cryptocurrencies in a short to medium period of time such as minutes, hours, days and months depending on the selling target price and market volatility	• Investment strategy is looking for the long-term return
Intent to profit	• Gain profit from drastic change in price in short time period	• Increase in value from macro views of market trend and technology adoption
Expected rate of return	• Expected on high return from market volatility	• High return in long-term period (over 5 years)
Behavior of participants	• Heavily invest in peak period • Buy and sell many times per day • Excessive overconfidence • 100% financial exposure	• Gradually invest overtime • Buy and sell when market trend has changed • Lower 100% financial exposure
Tools for analyze	• Technical analysis approach • Graph and trend	• Fundamental Approach • Psychological Approach based on emotion

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CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

Since the beginning of 2017, cryptocurrencies are starting to affect the global economic, financial institutions and other industries. Many people are starting to study and invest in cryptocurrencies because the expectation on price and innovation. In the future, cryptocurrencies and blockchain technology will be the key disruptor of global business processes. Many companies will use blockchain technology as a system to operate business, such as, transferring assets, information and payment channels. Furthermore, ICOs will be the significant tool to be launched as a funding resource for companies and startups. Cryptocurrencies might be used as the central currencies or acceptably be used as the medium of exchange without using paper.

Because of this global trend, investors, companies and regulators should concern cryptocurrencies in business aspects. In this study "A study of the perception of Thai cryptocurrency investors towards digital currency market", the objectives are to understanding perceptions, attitudes and investment behaviors of Thai cryptocurrency investor. Consequently, literature reviews, assembling secondary data and in-depth interview were performed and analyzed with the following conclusions.

5.1 Conclusions

5.1.1 Crypocurrency market in Thailand is speculative market

From secondary research, global cryptocurrency market is defined as speculative market and frequently compared with tulip mania and dotcom bubble. Meanwhile, based on qualitative research by conducting in-depth interview 25 Thai cryptocurrency investors, cryptocurrency market in Thailand can be within the scope of speculative market. Investors in market are short-term traders and their investment strategy is trading with high tolerance level of risk exposure to lost most or all of initial outlay, with expectation of substantial gain in short period from minute to a few months. In addition, they are also prefer the market volatility. Majority of investors

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make investment decision typically based on positive news on social media and referral person which have less creditability of source. Whilst, more reliable source of investment information such as whitepaper is rarely considered in evaluation stage to make investment decision. In addition, investors are using psychological approach to make buy and sell decision such as follow the crowded participants in market rather than using fundamental approach.

5.1.2 Thai investors have positive attitudes and perceptions toward cryptocurrencies investment

With regard to in-depth interview with 25 respondents, the perceptions and attitudes of Thai cryptocurrency investors towards the market situation are relatively highly positive. Most of interviewees believed and continued increasing investment amount in cryptocurrencies no matter how the market situation was. In addition, investors seems to be very imprudent in selected cryptocurrencies they were investing according to the technical support reasons which are mostly about technology and innovation perspectives and positive news on social media. Moreover, Thai investors also have assimilative behaviors; (1) belief and optimism, (2) confirmatory bias, and (3) overconfidence.

5.2 Recommendations

The results of this study aim to help the market participants understand attitudes, perception and investment behaviors of Thai cryptocurrency investors.

For investors, investment in cryptocurrency has relatively high level of financial exposure. Current market is speculation. Therefore, the suitable investment strategy is short-term investment. To make the positive profits, investor should monitor the price from time to time. Moreover, before investing or invest more on any digital currency, investors should be aware of the creditability of information, study the market before investing, set investment strategies to limit financial risks, such as, build a less volatile portfolio by increasing investment proportion to lower risk financial asset, protective stop loss strategy, and long-term investment strategy.

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With the current laws and regulations in Thailand that are not legalized cryptocurrency as a legal tender and trading in cryptocurrency is still not regulated as stock, bond, and other financial assets. Therefore, investment advisors are not allowed to give and advices on trading in cryptocurrency. However, investment advisors should provide useful information to any investors who are interested to invest in cryptocurrency in advantages and disadvantages of trading, holding and selling cryptocurrency. They should basically provide the general information of assets profile of cryptocurrency such as high volatility, speculative market, very high risk high return, technology application requirements, tech security and so on.j

In perspective of financial institution, there is the opportunities to launch financial product including cryptocurrency investment offering to high-risk tolerant investors such as cryptocurrency futures when cryptocurrency is legalized by bank of Thailand (BOT) and The Securities and Exchange Commission, Thailand (SEC Thailand).

Since the exploded popularity in cryptocurrencies investment, there were many people invested their money with expectation of massive returns in short-period. This causes to Ponzi schemes and pyramid schemes such as MLM in which are trying to communicate itself as a legitimate MLM business with guaranteed return investment. Therefore, the regulators should inspect and monitor the financial activities which might relate to schemes. BOT and SEC should monitors trading websites and brokerage companies by understanding their business model, funding resource, and return of investment model. Sometimes, the regulators can have occasional inspection to audit the transparent of transactions with KYC and CDD processes. As a result of the popularity, many investors started investing and some of them invested more heavily. Consequently, the regulators should monitor the number of investors in the market by setting the trading limit on number of transactions or amount per transaction, adding cost of trading transactions such as capital gain tax, and so on. However, with these regulations and limitations, this might cause to negative feedback from current investors and this might limit the technology and financial advancement. Therefore, the regulators should be carefully balance and control the environment in the market, not too conservative but creative.

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5.3 Limitations of the study

Regarding to the original purpose of this study, the objective included of understanding the attitudes and perceptions of other related parties such as financial specialists, officers of Anti-Money Laundering Office of Thailand (AMLO) and officers of Bank of Thailand (BOT). However, there were the limitations because recruiting these person need personal relationship and, in the period of gathering information from qualitative research, BOT and AMLO were in the process of studying and introducing new legislation to control cryptocurrency investment and ICO launching. Therefore, any relevant information was confident and might lead to the conflicts.

With convenient sampling method using in this research, the respondents were recruited relying on a personal relationship. The respondents are relatively in the same level of education, age and occupation. Therefore, the data from in-depth interview might tend to have homogenous behaviors and perceptions toward cryptocurrency market.

In addition, with the different number of respondents between two phases - 21 respondents in first phrase 4 respondents in second phrase, the data from the second phrase might not be able to generalize the whole population’s perceptions and investment behaviors toward the fall shot market situation.

Last but not least, the results of this research were from in-depth interviews with 25 respondents who are trading in Thai market which was the minimal sample size and research is used with convenience sampling method. Therefore, the findings and results might not be represent the entire investors and traders in the cryptocurrency trading market in Thailand. However, this research will be useful for any students to conduct a quantitative research about perceptions and attitudes of investors toward cryptocurrency market.

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APPENDICES

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APPENDIX A
IN-DEPTH INTERVIEW QUESTION GUIDE

Table A.1: In-depth interview questionnaire

Screening questions
1. Have you traded/ invested cryptocurrency?
2. How long have you traded/ invested in cryptocurrency?
3. Are you still trading/ investing in cryptocurrency? When is your last transaction?
4. Do you trade in either Thai market or international market or both?
Semi-structure questions for in-depth interview
1. Where, when and how did you start investing in cryptocurrency?
2. Why did you start investing in cryptocurrency?
3. What are risks and benefits of investing in cryptocurrency?
4. What do you think about market situation nowadays?
5. What do you think about future of cryptocurrencies and its price?
6. How often do you invest/trade cryptocurrency in past 3 months?
7. What factors do you often decided to buy/sell particular currencies?
8. What is your investment objectives? (e.g. day-on-day profit, short-term investment, long-term investment)
9. Which type of financial products you are invested in?
10. What is your asset portfolio size? (*ranges are classified in thousands, 10-50 thousands, 51-100 thousands, 101-500 thousands and over 500 thousands)*
11. How many percentage of initial investment in cryptocurrency compared to total investment amount in your investment portfolio in past 3 months?
12. How many percentage of initial investment in cryptocurrency compared to total investment amount in your investment portfolio today?
13. What is your investment strategy when market price significantly

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plunged? (e.g. stop loss strategy, weighted-average strategy, investing in lower risk assets)
14. What is the acceptable percentage of loss on initial investment on cryptocurrency?
15. Please describe your demographic profile e.g. age, gender, education, occupation, and annual income)

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APPENDIX B
RESPONDENTS PROFILE

Table C.1: Respondent's demographic profile (n=25)

Respondent's Demographic Profile	Frequency	Percentage
Gender	25	100
Male	19	76.00
Female	6	24.00
Age	25	100
21 - 25 years old	4	16.00
26 - 30 years old	15	60.00
30 - 35 years old	6	24.00
Occupation	25	100
Employee	20	80.00
Business owner	5	20.00
Level of education attainment	25	100
Bachelor's Degree	15	60.00
Master's Degree	10	40.00
Employee annual income (n=20)		
250,001 - 500,00 Baht	5	25.00
500,001 - 750,000 Baht	9	45.00
750,001 - 1,000,000 Baht	4	20.00
1,000,0001 - 1,250,000 Baht	2	10.00

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Table C.2: Investment profile (n=25)

Respondent's Investment Profile	Frequency	Percentage
Investment in cryptocurrency compared to total assets in portfolio	25	100
Less than 5%	0	0.00
5% - 20%	14	56.00
20% - 50%	8	32.00
Over 50%	3	12.00
Portfolio Size	25	100
Less than 50,000 Baht	1	4.00
50,000-100,000 Baht	6	24.00
100,001-500,000 Baht	7	28.00
500,001-1,000,000 Baht	4	16.00
1,000,001-5,000,000 Baht	4	16.00
5,000,001-10,000,000 Baht	2	8.00
Over 10,000,000 Baht	1	4.00

Table C.3 Respondent's financial objectives (n=25)

Respondent's Financial Objectives	Frequency	Percentage
Short-term objectives	21	84.00
Long-term objectives	4	16.00

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BIOGRAPHY

Name	Miss Natnicha Tangwattanarat
Date of Birth	February 18, 1993
Educational Attainment	2018-2016: Master's Degree Program in Marketing (MIM), Thammasat University
	2015-2011: Bachelor of Accounting (Integrative Approach), Thammasat University
Work Position	Senior Consultant
	KPMG Phoomchai Business Advisory Ltd
Scholarship	Year 2015: KBANK Scholarship
Work Experiences	Present-2017: Senior Consultant
	KPMG Phoomchai Business Advisory Ltd
	2017: Consultant
	Deloitte Touche Tohmatsu Jaiyos Co., Ltd
	2015-2016: Senior Auditor
	Deloitte Touche Tohmatsu Jaiyos Co., Ltd

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