

Bitcoin Investment Behavior in Thailand

Aungsudhorn Srikanjanasorn* and Pachitjanut Siripanich**

Received: September, 19, 2019 Revised: February, 02, 2020 Accepted: March, 11, 2020

Abstract

This study investigates Thai investors who invest in Bitcoin via questionnaires responded to by 389 Bitcoin investors as well as quota sampling. The research found that more than 70% of male and female investors have speculation and revenue as their investment objective. Investors with the main purpose of investing in Bitcoin for fun and entertainment were mostly found to be aged less than 23 years old. When considering occupation, it was found that these were students. On the other hand, investors over 40 years old most likely invested in Bitcoin to diversify their investments. Interestingly, no more than 10% of investors invest using only mining, while more than half invest for speculation only. Regarding those who influence the decisions of investors, most male and female investors invested by themselves followed by considering advice from analysts, reviews, and various media. Moreover, we found that the investors with different occupations have different investment behavior in terms of investment experience in Bitcoin, the amount of Bitcoin that has the most possession, and the current amount of Bitcoin remaining.

Keywords: Thai Investor, Investment Behavior, Bitcoin

* Graduate School of Applied Statistics, National Institute of Development Administration
118 Moo 3, Serithai Road, Khlong Chan, Bangkapi, Bangkok 10240, THAILAND.
E-mail: molodypalma@hotmail.com

** Graduate School of Applied Statistics, National Institute of Development Administration
118 Moo 3, Serithai Road, Khlong Chan, Bangkapi, Bangkok 10240, THAILAND.
E-mail: siripanich52@gmail.com

พฤติกรรมการลงทุนใน Bitcoin ของนักลงทุนชาวไทย

อังศูร ศรีกาญจนสอน* และ พาชิตชนัต ศิริพานิช**

รับวันที่ 19 กันยายน 2562 ส่งแก้ไขวันที่ 02 กุมภาพันธ์ 2563 ตอบรับตีพิมพ์วันที่ 11 มีนาคม 2563

บทคัดย่อ

งานวิจัยนี้วิเคราะห์เพื่อศึกษาผู้ลงทุนไทยตามพฤติกรรมการลงทุนใน Bitcoin โดยอาศัยข้อมูลจากการเก็บรวบรวมแบบสอบถามจากผู้ที่ลงทุนใน Bitcoin จำนวน 389 ราย และใช้วิธีการสุ่มตัวอย่างแบบ quota (Quota Sampling) ผลการศึกษาพบว่า ผู้ลงทุนไทยที่ลงทุนใน Bitcoin ทั้งขายและหุ้น มากกว่าร้อยละ 70 มีวัตถุประสงค์หลักของการลงทุนเพื่อเก็บกำไรและเป็นโอกาสเพิ่มรายได้ นักลงทุนที่มีวัตถุประสงค์ในการลงทุนเพื่อความสนุก บันเทิง ส่วนใหญ่จะพนันในนักลงทุนที่มีอายุน้อยกว่า 23 ปี เมื่อพิจารณาตามอาชีพ พบว่า เป็นผู้ลงทุนที่มีอาชีพนิสิต/นักศึกษา ในขณะที่ผู้ลงทุนที่มีอายุ 40 ปีขึ้นไปมีสัดส่วนของวัตถุประสงค์เพื่อกระจายการลงทุนมากกว่ากลุ่มอายุอื่น มีนักลงทุนไม่ถึงร้อยละ 10 ที่ลงทุนโดยใช้วิธีการขุดอย่างเดียว และมากกว่าครึ่งลงทุนโดยการซื้อขายเพื่อเก็บกำไรอย่างเดียว สำหรับผู้ที่มีอิทธิพลต่อการตัดสินใจของผู้ลงทุน พบว่า ในภาพรวมทั้งผู้ลงทุนชายและหญิงส่วนใหญ่ลงทุนโดยเชื่อตนเอง รองลงมา คือ พิจารณาจากนักวิเคราะห์/บทวิเคราะห์/สื่อต่าง ๆ อีกทั้ง ยังพบว่า ผู้ลงทุนที่มีอาชีพต่างกันจะมีพฤติกรรมการลงทุนต่างกันในด้านของประสบการณ์การลงทุนใน Bitcoin จำนวน Bitcoin ที่เคยครอบครองสูงสุด และจำนวน Bitcoin คงเหลือในปัจจุบัน

คำสำคัญ: นักลงทุนไทย พฤติกรรมการลงทุน บิทคอยน์

* คณะสถิติประยุกต์ สถาบันบัณฑิตพัฒนบริหารศาสตร์
เลขที่ 118 หมู่ 3 ถนนเสรีไทย แขวงคลองจั่น เขตบางกะปิ กรุงเทพมหานคร 10240

อีเมล: molodypalm@hotmail.com

** คณะสถิติประยุกต์ สถาบันบัณฑิตพัฒนบริหารศาสตร์
เลขที่ 118 หมู่ 3 ถนนเสรีไทย แขวงคลองจั่น เขตบางกะปิ กรุงเทพมหานคร 10240
อีเมล: siripanich52@gmail.com

1. Introduction

Investing in financial assets in the form currency exchange or speculation in currency trading is very popular because they are alternative financial tools for those who have savings to invest in order to receive returns or benefits higher than savings with commercial banks or financial institutions. The exchange of other currencies and baht is in accordance with the exchange control laws and measures to prevent the speculation of the Thai baht in order to reduce volatility and firmly maintain the exchange rate of baht (Bank of Thailand, 2015). Due to rapid financial technological development new currencies have appeared known as digital currencies or cryptocurrencies such as Bitcoin, Ethereum, and Ripple which are currencies designed to be delivered all over the world (Nakamoto, 2008) and which do not depend on any fiat currency. Also, there is no central control as with local fiat currencies that are controlled by banks and international financial institutions (Barber et al., 2012) which is responsible for checking actions and tracking users. As a result, digital currencies have gained attention quickly. Interestingly, the most popular digital currency is Bitcoin and it considered the world's first digital currency used for trading, exchanging products and services widely in many countries (Gangwal, 2016). For example, in U.S., Amagi Metals is a large gold trader who pays salaries to employees using Bitcoin instead of money. It is also testing a gold trading system where gold trading services can be paid for with a digital currency. Currently, customers have paid for approximately 40-60% of the company's products and services in digital currency (Wass, 2015). In October 2013, Canada launched the world's first Bitcoin ATM in Vancouver which can exchange Bitcoin for cash or exchange cash for Bitcoin (Bangkokbiznews, 2013). In Asia, many governments have announced that Bitcoin can be used to pay according to the law, especially Japan (Pollock, 2018).

However, although the use of Bitcoin in Thailand does not have any prohibition or exclusion, it is not yet recognized as a legitimate asset. There are only laws regarding taxation and the framework for operating digital assets (Startupthailand, 2018). Moreover, the BoT cannot control the amount of money in the system for stability. Therefore, the risk of digital currency is high because the currency fluctuates highly depending on demand (Bank of Thailand, 2014). In practice, Bitcoin is traded for different purposes by individuals through various websites such as BX.in.th. Bitcoin is seen as a financial asset rather than a currency and it can be used to manage risk (Klabbers, 2018). Additionally, it looks like

a stock in terms of profits that depend on the value of the asset (Security Bank Finance, 2017). Therefore, Bitcoin has become more popular and continues to attract investors both locally and internationally, resulting the price of Bitcoin rising over past seven years. Even though the price of Bitcoin price had a precipitous fall (buybitcoinworldwide, n.d.), it has continued to receive interest from society and investors (Urquhart, 2017).

Based on the literature review, there are a large number of studies of Bitcoin. Most research focused has on technology related to Bitcoin rather than Bitcoin investment behavior. However, Glaser et al., (2014) found that the behavior of the investors in Bitcoin is more for speculation rather than to buy products and services. There are also a large number of studies of investment behavior in Thailand, however there has been no investigation of investment behavior in Bitcoin. For this reason, we are interested in studying the investment behavior of Thai investors in Bitcoin. The research results will be useful to those who are interested in investing in Bitcoin as well as providing information that may be of use to related agencies.

2. Concepts, Theories and Literature Review

2.1 Information Concerning Bitcoin

Bitcoin was created by a person named Satoshi Nakamoto using a decentralized system (Longtunman, 2018: 20). It is a financial system that is not controlled by a bank or international financial institutions and it can be sent freely around the world and has a transfer fee lower than banks. Bitcoin is not dependent on any fiat currency but is a form of money designed to work on a technology called Blockchain which is a distributed system technology that records transactions from the first transaction to the present. When a transaction is completed and amount is verified, group of transactions will be placed in a box to be placed together. The information contained in each box is always referenced and cannot be edited. Editing data in one box will cause the data to conflict with the data in another box. Verification of transactions in Bitcoin uses Public Key Cryptography, consisting of private keys that the owner must keep secret and public keys that others can know. Regarding Bitcoin storage, it will be stored in a Bitcoin wallet that contains the remaining balance, transaction history, and the address of the transaction. However, will not reveal user information and users do not have to identify themselves when using the service. Moreover, it can be installed on a computer and various portable

devices or deposited with an Internet service provider before use to exchange for products and services. In general, Bitcoin can be owned via two main channels as follows:

1. Bitcoin Mining is confirming the transaction or transferring Bitcoin because there is no central or systems for Bitcoin which can confirm transactions such as banking systems. Therefore, it requires a group of users called Miner who have the ability to confirm the transaction instead. The first person who confirms a transaction will receive Bitcoin as a return.

2. Buying Bitcoin from trading boards on both Thai and foreign websites that provide Bitcoin and other digital currency trading services. The buyer is able to exchange local currency and almost all currencies are accepted. For the average person, buying and selling Bitcoin in such a way is the easiest means for exchanging bitcoin for investment.

2.2 Factors influencing investment behavior

Experts define the meaning of consumer behavior variously, but most define it in the same way. For example, Moven and Minor (1998: 5) define consumer behavior as the unit of purchase and exchange process related to acquisition, consumption and disposal of products or services, experiences and idea. Moreover, Noel (2009: 11) said that consumer behavior is the processes related to acquisition, consumption and disposal of goods, services, activities and concepts to meet needs and desires in which the acquisition of product or good is not limited to buying only but includes bartering, leasing, and borrowing in order to obtain the products or services. This definition focuses on the process of deciding to buy, using and discarding products without specifying factors or other elements related to consumer behavior causing lack of breadth of consumer behavior.

From the meaning of consumer behavior related above, we found that the acquisition, consumption and disposal of products, activities and ideas may mean acquiring Bitcoin, investment targets in Bitcoin and includes various investment ideas. For this reason, it can be said that investing in Bitcoin is considered a form of consumption with the product as Bitcoin. Therefore, if there are various factors that influence consumers, it will result in consumers having different behaviors. In general, the factors influencing consumer behavior are internal factors which are factors that directly affect consumer decisions (Loudon and Bitta, 1988) such as motivation, personality, perception and learning which make each person wish or be aroused to do thing to achieve

satisfaction. For example, if consumers have different investment needs they will have different investment behaviors. External factors are external conditions that influence consumer consumption behavior such as the influence of family and influence of society. These factors cause differences in consumer responses (Samithikrai, 2013). Solomon (2013: 35-37) stated that age, gender, family structure, social class, income, ethnicity, geography and lifestyle are external factors. These are geographic factors that make consumers behave differently. In addition, Khumsap (2001: 6) identified the factors that cause investors or consumers have different investment behavior as follows:

1. The age of the investor: The investors aged under 40 years old are interested in investing in securities that have potential to make money for the return on principle. For investors aged between 40-60 years old will have a family burden and often invest in securities that provide regular income. For investors aged 60 years old or over will be satisfied to invest in securities that generate a certain income.
2. Marital status and family responsibilities: The investor who has a family responsibilities such as providing education for children. Because of this, it is very necessary to invest in securities that are stable and provide certain income benefits. Those without obligations can invest in risky securities.
3. The health of investors: The health problems of investors effect investment policy of investors. Investors with health problems tend to invest in securities that provide current income rather than future income.
4. Personal habit: Investors who are thrifty do not need income from investments therefore they invest in businesses that have higher returns.
5. Willingness to accept the risks of investment: The investor who has studied the potential risks before investing and then decided to invest with readiness and confidence in risky securities such as business risks, market risk and interest rate risk, etc.
6. Investor's needs: The investor's needs may be different such as financial needs, feeling and mental state. The most important factor that encourages or drives investment is profit to collect for spending in the future or for education.

2.3 Literature Review

2.3.1 Relationship between personal factors and investment behavior

Investors have different investment behaviors as a result of different factors that influence them. Previous research found that personal factors are one of the factors related to investment behavior such as age and gender (Kabra et al., 2010), ethnicity, education and social class (Riaz et al., 2012) occupation, marital status and monthly income (Tosantikun and Gulid, 2013).

2.3.2 Factors influence investment decisions

Apart from personal factors that affect the investment behavior of investors, Lin and Lee (2004) found that the investors search for information from various sources such as the Internet, media, research, friends, family and financial experts which is consistent with Payulert and Poommipanit (2014) in Thailand who found that the reason for deciding to buy securities are information from the Internet, economic conditions, political conditions and risks. Furthermore, Poonniead (2015) found that investors consider investment advertising in various media such as television, radio and print media including the speed of service and having modern facilities to buy investment units.

2.3.3 Investment behavior

Thanyakittikul (2012) and Treetanon and Chantuk (2016) found that most investors invest for speculation and decide to invest on their own. The ratio of capital to assets is 10%-30% and accepting losses of 10%-20%. In addition, investors also monitor the performance or the status of the fund on the website of the investment company. Payulert and Poommipanit (2014) found that investors need a return that is higher than the interest rate and wish to trade securities by themselves. Moreover, Srinuan (2016) found that the source of money for investment is savings, with investors holding 3-5 securities and having an investment motivation which is the wish to increase revenue.

Moreover, the researchers divided the age range of the samples by generation, namely Generation Z: less than 23 years; Generation Y: 23-39 years; and Generation X and Baby boomers: more than 40 years.

3. Methodology

Bitcoin is a digital currency that has no legal rules to support debt payments, including trading and mining. Therefore, it is impossible to know the exact number of Thai investors who invest in Bitcoin. However, from an initial search, it was found that Bitcoin Center Thailand (<https://bitcoin.co.th/>) is an official organization with the objective of becoming a community that has teaching and training activities in digital currency (Cryptocurrency) both for Bitcoin and other areas such as stock, start up and so on. Therefore, this organization is an organization that collects Thai investors who invest in Bitcoin and it has as of 30 May 2018 a total of 12,880 members (Bitcoin Center Thailand). In addition to being supplied information about Bitcoin trading, the researchers were given access to the website of Bitcoin Center Thailand (<https://www.facebook.com/BitcoinCenterThailand/>) to post the questionnaire and invite members to complete it. The questionnaire was developed by the researcher through an examination of the validity and reliability. This research used the online survey method via the Bitcoin Center Thailand website under the Quota Sampling technique, with approximately two-thirds of the sample being male as this is the gender of most investors. When calculating the sample size (n) the error of population estimation with sample proportions not exceeding $e = 0.05$ with $1-\alpha = 0.95$ by statistical formula

$$n \geq \frac{NZ^2_{\alpha/2}}{4Ne^2 + Z^2_{\alpha/2}}$$

When N is the population size ($N=12,228$)

$Z_{\alpha/2}$ is the percentile $(1 - \alpha/2)100$ of standard normal distribution with
 $1 - \alpha = 0.95$ then $Z_{\alpha/2} = 1.96$

So,

$$n \geq \frac{NZ^2_{\alpha/2}}{4Ne^2 + Z^2_{\alpha/2}} = \frac{12228 \times (1.96)^2}{4 \times 12228 \times (0.05)^2 + (1.96)^2} \approx 373 \text{ คน}$$

it is found that the minimum sample size is 373 and men in the sample is at least 249 (= 2 in 3 of 373 people).

It took approximately two months to conduct the survey, between September 4, 2018 and October 31, 2018. The results showed that a total of 389 Thai investors who

invested in Bitcoin responded to the survey, including 249 male investors and 140 female investors.

4. Results

4.1 Characteristic of Sample

Thai investors in Bitcoin are divided into 249 male and 140 female investors, a total of 389 or 64% and 36% respectively. Investors were aged between 23-39 years at 75.58%. Married accounted for 27.51% and 71.47% were single. Moreover, 59.64% has graduated with a bachelor's degree, with 20.31% being undergraduates. Interestingly, 38.56% were investor/business owner followed by officer at 24.68%. Most investors had an income less than 30,000 baht per month, 21.34% of investors had an income less than 15,000 baht per month, and 32.90% had an income range between 15,001-30,000 baht per month. 58.87% of investors had investment experience, 27.21% had investment experience in gold, and 26.98% had investment experience in mutual fund with an average investment experience of approximately 2.38 years. Most investors lived in Bangkok vicinity at 52.44%, and 47.56% lived in countryside, mostly in the east of Thailand.

4.2 Research Result of Investment Behavior in Bitcoin

4.2.1 Investment behavior in Bitcoin

72.75% of investors have investment objective of speculation and incremental revenue, and 57.58% have only one Bitcoin address. Moreover, they invest in Bitcoin by trading only at 58.35%, followed by mining and trading at 32.90%, and mining only at 8.74%. The top three Bitcoin wallet that are used to store Bitcoin are Web wallet, Mobile wallet and Hardware wallet (32.01%, 27.59% and 16.77%, respectively). 48.59% of investors decided to invest based on self-confidence and more than half (71.49%) invested without co-investor. Before investing in Bitcoin, investors study moderately the risk and return (48.59%). With 38.05% of investors, the proportion of initial capital used to invest compared with annual income is less than 10%. The money invested in Bitcoin for the first time is a new capital (54.76%) and the main source of capital is savings (85.35%). Investors (46.53%) expect an investment return of more than 50% and they (33.93%) can accept losses of less than 10%. From investment in the past 1 year, 24.68% of investors have moderate profit followed by low profits and par (21.08% and 20.05%, respectively)

and more than half of investors have invested in other digital currencies. Furthermore, most also invest in Ethereum (41.81%) and Litecoin (25.84%). 86.12% of investors decided to invest in Bitcoin after one year because they consider that investing in Bitcoin has a high return; however, others considered that the Bitcoin is very volatile. Investors have experience investing in Bitcoin at approximately 1.46 years. Most investors have traded Bitcoin once a week and are mining all day. In addition, the highest number of Bitcoins possessed was approximately 2.45 BTC and the current number remaining is approximately 0.81 BTC.

Moreover, the researcher also studied investment behavior classified by gender, age and occupation. The results are below.

4.2.2 Main objective of investing in Bitcoin

The study shows that more than 70% of both Thai male and female investors who invest in Bitcoin have the main objective of investing in Bitcoin for speculation and as an opportunity to increase revenue (see Table 1).

Table 1: Percentage of Investors in each age group classified by gender and main objective of investing in Bitcoin

Gender	Main Objective of Investing in Bitcoin	Age (Year)			Total
		< 23	23-39	≥ 40	
Male	For speculation/increase revenue	48.28	76.72	74.19	73.09
	For diversify investment	3.45	9.52	12.90	9.24
	For socialize/exchange news	10.34	6.35	0.00	6.02
	For fun/entertainment	17.24	3.17	0.00	4.42
	For buy/spend products	13.79	4.23	9.68	6.02
	Others	6.90	0.00	3.23	1.20
Female	For speculation/increase revenue	60.00	78.10	52.00	72.14
	For diversify investment	20.00	7.62	16.00	10.00
	For socialize/exchange news	0.00	8.57	20.11	10.00
	For fun/entertainment	20.00	0.95	0.00	2.14
	For buy/spend products	0.00	4.76	4.00	4.29
	Others	0.00	0.00	8.00	1.43
Total	For speculation/increase revenue	51.28	77.21	64.29	72.75
	For diversify investment	7.69	8.84	14.29	9.51
	For socialize/exchange news	7.69	7.14	8.93	7.46
	For fun/entertainment	17.95	2.38	0.00	3.60
	For buy/spend products	10.26	4.42	7.14	5.40
	Others	5.13	0.00	5.36	1.29

It was found that investors of all ages were motivated by speculation and the opportunity to increase revenue as the main objectives of investing in Bitcoin with investor aged between 23-39 years old at 77.21%, following by aged over 40 years old at 64.29%, and less than 23 years old at 51.28%. Interestingly, 17.95% of young investors aged not over 23 years have entertainment as the main objective of this investment, which is the highest proportion compared to other age groups who had the main purpose of diversifying investment, which is most common among people older than 40 years (14.29%).

48.28% of male investors under the age of 23 years have the main objective of investing in Bitcoin for speculation and as an opportunity to increase revenue. Also,

51.72% have different objectives, the top three of which are for fun or entertainment (17.24%), for expenditure (13.79%), and to socialize and exchange news about Bitcoin (10.34%). As for other age groups, speculation and the opportunity to increase revenue are the main objectives. In contrast, female investors at all ages had the main objectives of investing in Bitcoin because of speculation and as an opportunity to increase revenue as shown in Table 1.

Table 2: Percentage of Investors in Each Occupation Classified by Gender and Main Objective of Investing in Bitcoin

Gender	Main Objective of Investing in Bitcoin	Occupation					Total
		Student	Bureaucrat /State Enterprise	Officer	Investor/ Business Owner	Retired and Others	
Male	For speculation/increase revenue	51.61	83.72	69.70	76.47	79.17	73.09
		12.90	0.00	15.15	10.59	0.00	9.24
	For diversify investment	6.45	16.28	7.58	0.00	4.17	6.02
	For socialize/exchange news	16.13	0.00	0.00	4.71	8.33	4.42
	For fun/entertainment	6.45	0.00	7.58	7.06	8.33	6.02
	For buy/spend products	6.45	0.00	0.00	1.18	0.00	1.20
	Others						
Female	For speculation/increase revenue	70.59	85.71	73.33	75.38	57.14	72.14
		11.76	0.00	6.67	9.23	19.05	10.00
	For diversify investment	0.00	14.29	10.00	7.69	23.81	10.00
	For socialize/exchange news	17.56	0.00	0.00	0.00	0.00	2.14
	For fun/entertainment	0.00	0.00	10.00	4.62	0.00	4.29
	For buy/spend products	0.00	0.00	0.00	3.08	0.00	1.43
	Others						
Total	For speculation/increase revenue	58.33	84.00	70.83	76.00	68.89	72.75
		12.50	0.00	12.50	10.00	8.89	9.51
	For diversify investment	4.17	16.00	8.33	3.33	13.33	7.46
	For socialize/exchange news	16.67	0.00	0.00	2.67	4.44	3.60
	For fun/entertainment	4.17	0.00	8.33	6.00	4.44	5.40
	For buy/spend products	4.17	0.00	0.00	2.00	0.00	1.29
	Others						

When considering the main objective of investing in Bitcoin according to the investor's career, most investors in all careers invest in Bitcoin for speculation and increasing revenue. Noticeably, the investment in Bitcoin for fun and entertainment is most common among investors who are students (16.67%), which is the highest proportion compared to other occupations. While investing in Bitcoin for socialize and exchange Bitcoin news is most common in bureaucrat and state enterprise (16.00%). See Table 2.

4.2.3 The Method Used to Invest in Bitcoin

There are three ways to invest in Bitcoin: mining only, trading for speculation only and both mining and trading for speculation. The results of the study show that less than 10% of investors were only mining and more than half (58.35%) traded for speculation only as shown in Table 3.

Table 3: Percentage of Investors in Each Age Group Classified by Gender and the Method Used to Invest in Bitcoin

Gender	The Method Used to Invest in Bitcoin	Age (Year)			Total
		< 23	23-39	≥ 40	
Male	Mining	3.45	12.70	9.68	11.24
	Trading	62.07	42.86	54.84	46.59
	Mining and Trading	34.48	44.44	35.48	42.17
Female	Mining	10.00	2.86	8.00	4.29
	Trading	80.00	77.14	88.00	79.29
	Mining and Trading	10.00	20.00	8.00	16.43
Total	Mining	5.13	9.18	8.93	8.74
	Trading	66.67	55.10	69.64	58.35
	Mining and Trading	28.21	35.71	21.43	32.90

The percentage of female investor who invested in Bitcoin by mining only is less than 5%. However, almost 80% invest in Bitcoin because of trading for speculation. Moreover, 46.59% of male investors trade for speculation only, followed by 42.17% of male investors mining and trading for speculation, and 11.24% male investors who invest by mining only. It was found that more than 70% of female investors of all ages invest by trading only. In contrast, although male investors aged less than 23 years old

mostly invest in Bitcoin by trading for speculation at 62.07%, male investors ranged between 23-39 years old and 40 years old or more invest by trading for speculation only in a proportion that is slightly different from invest by both mining and trading for speculation (Table 3).

When considered by occupation, it was found that 16% of bureaucrat and state enterprise invested in Bitcoin by mining only, which is considered higher than other occupations. Moreover, 40% and 44% of investors invested in Bitcoin by trading for speculation only following by both mining and trading for speculation respectively. As for investors with other occupations, students, officers or private investors (64.58%, 61.46% and 57.33% respectively) invest in Bitcoin by trading for speculation only as shown in Table 4.

Table 4: Percentage of Investors in Each Occupation Classified by Gender and the Method Used to Invest in Bitcoin

Gender	The Method Used to Invest in Bitcoin	Occupation					Total
		Student	Bureaucrat/ State Enterprise	Officer	Investor/ Business Owner	Others	
Male	Mining	9.68	18.60	6.06	12.94	8.33	11.24
	Trading	54.84	34.88	54.55	43.53	45.83	46.59
	Mining and Trading	35.48	46.51	39.39	43.53	45.83	42.17
Female	Mining	11.76	0.00	0.00	6.15	0.00	4.29
	Trading	82.35	71.43	76.67	75.38	95.24	79.29
	Mining and Trading	5.88	28.57	23.33	18.46	4.76	16.43
Total	Mining	10.42	16.00	4.17	10.00	4.44	8.74
	Trading	64.58	40.00	61.46	57.33	68.89	58.35
	Mining and Trading	25.00	44.00	34.38	32.67	26.67	32.90

4.2.4 People who influence you to invest in Bitcoin

Regarding those who influenced investors' decisions, it was found that most male and female investors invested by themselves followed by analysts/media as shown in Table 5.

Table 5: Percentage of Investors in Each Age Group Classified by Gender and Influence on Investment Decisions in Bitcoin

Gender	People Who Influence You to Invest in Bitcoin	Age (Year)			Total
		< 23	23-39	≥ 40	
Male	Friend	3.45	17.99	16.13	16.06
	Myself	58.62	50.79	41.94	50.60
	Analyst/Media	37.93	29.10	35.48	30.92
	Others	0.00	2.12	6.45	2.41
Female	Friend	10.00	19.05	12.00	17.14
	Myself	30.00	45.71	48.00	45.00
	Analyst/Media	60.00	34.29	40.00	37.14
	Others	0.00	0.95	0.00	0.71
Total	Friend	5.13	18.37	14.29	16.45
	Myself	51.28	48.98	44.64	48.59
	Analyst/Media	43.59	30.95	37.50	33.16
	Others	0.00	1.70	3.57	1.80

When considering the influence of investment decisions on Bitcoin classified by age, most investors in all ages decided to invest based on self-confidence, followed by analyst/media at the same proportion. Furthermore, male investors of all ages mostly have confidence in themselves which is different from female investors who are younger than 23 years old. 60% of analysts/media can influence investment decisions while other age groups still invest by self-confidence as shown in Table 5.

Table 6: Percentage of Investors in Each Occupation Classified by Gender and Influence on Investment Decisions in Bitcoin

Gender	People Who Influence You to Invest in Bitcoin	Occupation					Total
		Student	Bureaucrat/ State Enterprise	Officer	Investor/ Business Owner	Others	
Male	Friend	19.35	11.63	31.82	3.53	20.83	16.06
	Myself	51.61	32.56	46.97	61.18	54.17	50.60
	Analyst/Media	29.03	53.49	15.15	35.29	20.83	30.92
	Others	0.00	2.33	6.06	0.00	4.17	2.41
Female	Friend	23.53	42.86	30.00	9.23	9.52	17.14
	Myself	29.41	42.86	33.33	50.77	57.14	45.00
	Analyst/Media	47.06	14.29	33.33	40.00	33.33	37.14
	Others	0.00	0.00	3.34	0.00	0.00	0.71
Total	Friend	20.83	16.00	31.25	6.00	15.56	16.45
	Myself	43.75	34.00	42.71	56.67	55.56	48.59
	Analyst/Media	35.42	48.00	20.83	37.33	26.67	33.16
	Others	0.00	2.00	5.21	0.00	2.22	1.80

When considering the influence of investment decision on Bitcoin classified by occupation it was found that bureaucrat and state enterprise consider investment based on analyst and media the most at 48% which is the highest proportion. Other occupations, whether students, officers and business owner (43.75%, 42.71% and 56.67% respectively) invested by self-confidence. The details shown in Table 6.

4.2.5 Investment experience in Bitcoin, The highest Bitcoin possessed (BTC) and Current remaining Bitcoin (BTC)

Thai investors, both male and female, have investment experience in Bitcoin approximately 1.4 years. Male investors have the highest Bitcoin average of 2.85 BTC and the current remaining Bitcoin is 0.89 BTC, which is more than female investors who have an average of 1.97 BTC and current remaining Bitcoin of 0.66 BTC as shown in Table 7.

Table 7: Mean and Standard Deviation in Each Age Group Classified by Gender and Investment Behavior

Gender	Investment Behavior	Age (Year)			total ¹
		< 23	23-39	≥ 40	
Male	Investment experience in Bitcoin (year)	1.60 (0.91)	1.44 (1.06)	1.48 (0.68)	1.47 (1.00)
	Highest Bitcoin possessed (BTC)	3.11 (4.31)	2.93 (5.67)	2.11 (2.50)	2.85 (5.22)
	Current Bitcoin remaining (BTC)	0.87 (1.05)	0.95 (2.77)	0.58 (0.91)	0.89 (2.46)
Female	Investment experience in Bitcoin (year)	1.85 (1.24)	1.44 (0.96)	1.36 (0.57)	1.45 (0.93)
	Highest Bitcoin possessed (BTC)	2.45 (3.77)	2.18 (3.96)	0.92 (1.72)	1.97 (3.67)
	Current Bitcoin remaining (BTC)	0.16 (0.31)	0.83 (2.04)	0.14 (0.60)	0.66 (1.81)
Total	Investment experience in Bitcoin (year)	1.67 (0.99)	1.44 (1.02)	1.43 (0.63)	1.46 (0.97)
	Highest Bitcoin possessed (BTC)	2.94 (4.14)	2.66 (5.13)	1.58 (2.25)	2.54 (4.74)
	Current Bitcoin remaining (BTC)	0.69 (0.99)	0.90 (2.53)	0.38 (0.81)	0.81 (2.25)

Note: Values in parentheses are standard deviation

¹ Show the hypothesis test of investment behavior compared between different ages

* p-value < 0.05 ** p-value < 0.01 *** p-value < 0.001

Overall, investors of all ages have similar investment experience in Bitcoin (1.67 years, 1.44 years and 1.43 years, respectively), while investors younger than 23 years have the highest amount of Bitcoin possession at 2.49 BTC. On the other hand, it was found that the investors aged 23-39 years had the largest amount of Bitcoin remaining today and this was the case with both males and females. However, when testing the differences in investment behavior compared between age groups, both in total and gender classification, it was found that there were no significance (Table 7).

Table 8: Mean and Standard Deviation in Each Occupation Group Classified by Gender and Investment Behavior

Gender	Investment Behavior	Occupation					Total ¹
		Student	Bureaucrat/ State Enterprise	Officer	Investor/ Business Owner	Others	
Male	Investment experience in Bitcoin (year)	1.23 (0.64)	1.16 (0.37)	1.23 (0.66)	1.88 (1.41)	1.54 (0.71)	1.47** (1.00)
	Highest Bitcoin possessed (BTC)	2.98 (4.61)	2.58 (5.19)	1.02 (1.31)	4.86 (7.08)	1.07 (1.21)	2.85 (5.22)
	Current Bitcoin remaining (BTC)	0.38 (0.53)	1.07 (2.88)	0.21 (0.34)	1.52 (3.50)	0.87 (1.12)	0.89* (2.46)
Female	Investment experience in Bitcoin (year)	1.29 (0.83)	1.57 (0.53)	1.17 (0.58)	1.50 (0.79)	1.81 (1.60)	1.45 (0.93)
	Highest Bitcoin possessed (BTC)	1.35 (2.43)	1.18 (0.83)	1.83 (3.36)	2.56 (4.47)	1.16 (2.42)	1.98 (3.67)
	Current Bitcoin remaining (BTC)	0.20 (0.30)	0.06 (0.07)	1.31 (3.12)	0.65 (1.50)	0.31 (0.57)	0.66 (1.81)
Total	Investment experience in Bitcoin (year)	1.25 (0.70)	1.22 (0.42)	1.21 (0.63)	1.71 (1.19)	1.67 (1.20)	1.46*** (0.97)
	Highest Bitcoin possessed (BTC)	2.41 (4.02)	2.38 (4.84)	1.28 (2.18)	3.86 (6.18)	1.11 (1.85)	2.54* (4.74)
	Current Bitcoin remaining (BTC)	0.32 (0.46)	0.93 (2.69)	0.55 (1.82)	1.15 (2.84)	0.61 (0.94)	0.81 (2.25)

Note: Values in parentheses are standard deviation.

¹ Show the hypothesis test of investment behavior compared between different occupation.

*p-value < 0.05 **p-value < 0.01 ***p-value < 0.001

When classified by occupation, it was found that investors with investor/business owner have experience of investing in Bitcoin, the highest amount of Bitcoin ever possessed, and the current Bitcoin remaining at average of 1.71 years, 3.86 BTC and 1.15 BTC, respectively. Moreover, investors with different occupations have different investment behavior in terms of investment experience in Bitcoin and the amount of Bitcoin that they have possessed the most. Likewise, male investors with a career as an investor/business owner have the highest average investment behavior (1.88 years, 4.86BTC and 1.52 BTC, respectively) and statistical tests found that the investment experience in Bitcoin and the current Bitcoin remaining of male investors in each profession are actually different. On the other hand, for female investors, all three investment behaviors are not different as shown in Table 8.

5. Conclusion and Discussion

In this research Thais who invest in Bitcoin are mostly single, graduated with a bachelor's degree, have a career as an investor/business owner causing more than half of them have experience in investment before investing in Bitcoin and have invested in gold and mutual funds. Most are domiciled in Bangkok and its vicinity because and can access information and exchange of goods and services with cryptocurrency more easily than those in other provinces.

Investors with the main purpose of investing in Bitcoin for fun or entertainment are often investors who are younger than 23 years old or investors who are students because this group is curious and want to do new things. Investors aged between 23-39 years old have self-confidence and are interested to invest in securities with high returns. Therefore, they are more likely to invest for speculative purposes in investments that have an opportunity to increase revenue, which corresponds to finding of Khumsap (2001) and Srinuan (2016). While investors aged more than 40 years old are most likely to invest in Bitcoin to diversify their investment because of these investors are going to retire and want to make money in order to spend in the future and not have their capital eroded by inflation. Therefore, they want to diversify investments to reduce the aforementioned risks.

Most investors invest in Bitcoin trading for speculation only because it is an easy investment method and the cost is not as high as the investment by mining, a finding

which is in accordance with Glaser et al. (2014). The investors who invest by mining are mostly male rather than female because male investors usually have more understanding of technology. Moreover, it was also found that most investors of all ages and all occupations decided to invest on their own followed by making investment decision based on analyst and media which is consistent with Lin and Lee (2004). In contrast, Payulert and Poommipanit (2014) and Poonniead (2015) found that investors pay more attention to and take into consideration advertising in various media such as television, radio and publications.

The investment experience of Bitcoin of investors in each age group is similar. Investors under the age of 23 are the group of investor that has possessed the highest amount of Bitcoin. On the other hand, investors with the largest remaining Bitcoin are investors aged 23-39 years old. When considering the career of the investor, we found that investor/business owner have the highest experience of investment in Bitcoin, the number of Bitcoin that has been possessed, and the number of current Bitcoin remaining. We also found that investors with different occupations have different investment behaviors which corresponds to Tosantikun and Gulid (2013).

6. Recommendations

Policy Suggestion

Based on these findings, the profile of Bitcoin investors such as age, gender and occupation, has an effect on Bitcoin investment, which can be used for marketing planning in Bitcoin trading activities. Moreover, Bitcoin and other Cryptocurrencies will be more important in the future and is also a currency type that has received interest from investors because it is an easy investment channel and can also help diversify investments. Although regulations have supported investment in such assets they are not fully covered, therefore the risk of investment is high. For this reason, in the long term, those involved in the public sector should study and cooperate with the private sector in order to have more understanding and take concrete measures for digital currency in order to prepare for potential impacts. Moreover, they should have more policies to promote education in finance and investment from secondary school, for example, including the subject of investment as a part of the school curriculum, so that the Thai population will have a better understanding of investment, investment risks and financial planning.

In the short term, they should promote and support organizations that provide investment and digital currency knowledge such as the Bitcoin Center Thailand to provide information and training in investment for investors. Those considering investing in Bitcoin should study the available information thoroughly before investing and invest with caution due to the volatility of the Bitcoin price and possibility of investment fraud such as schemes offering very high returns in the short time and Ponzi schemes because the damaged investor may not be protected as Bitcoin is not certified as a legitimate asset and cannot be compensated for under Thai law.

Recommendations for Further Research

1. Future research should study the clustering of Thai investors by investment behavior in Bitcoin which may specify the type of investors such as Individualistic, Methodological, Cautious and Spontaneous and study the characteristics of investors in each group to collect more clear information.
2. Questions should be added in the questionnaire about the date and time of purchasing Bitcoin in order to specify the price of Bitcoin that the respondent bought and identify investment motivation.
3. Questions about gold investment should be added to compare differences in investment behavior between the two assets.

7. References

- Bank Of Thailand. (2015). Foreign Exchange Regulations. Retrieved June 8, 2019, from <https://www.bot.or.th/Thai/FinancialMarkets/ForeignExchangeRegulations/FXRegulation/Pages/default.aspx>
- Barber, S., Boyen, X., Shi, E., & Uzun, E. (2012, February). Bitter to better—how to make bitcoin a better currency. *Financial Cryptography and Data Security*, 399-414.
- Buy Bitcoin Worldwide. (n.d.). Bitcoin Price History. Retrieved May 20, 2018, from <https://www.buybitcoinworldwide.com/th/price/>
- Gangwal, S. (2016). Analyzing the effects of adding Bitcoin to portfolio. *International Journal of Economics and Management Engineering*, 10(10), 3519-3532.

- Glaser, F., Zimmermann, K., Haferkorn, M., Weber, M. C., & Siering, M. (2014). Bitcoin-asset or currency? revealing users' hidden intentions. *Revealing Users' Hidden Intentions* (April 15, 2014). ECIS.
- Kabra, G., Mishra, P. K., & Dash, M. K. (2010). Factors influencing investment decision of generations in India: An econometric study. *Asian Journal of Management Research*, 308-326.
- Klabbers, S. (2017). Bitcoin as an investment asset: The added value of bitcoin in a global market portfolio. Master thesis Financial Economics Radboud. Universiteit Nijmegen.
- Lin, Q., & Lee, J. (2004). Consumer information search when making investment decisions. *Financial Services Review*, 13, 319-332.
- Loudon, D., & Bitta, A. J. (1988). *Consumer behavior: Concepts and applications* (3rd ed.). New York: McGraw-Hill.
- Moven, C. J., & Minor, M. (1998). *Consumer behavior* (5th ed.). New Jersey: Prentice-Hall.
- Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. Retrieved June 8, 2019, from <http://www.cryptovest.co.uk/resources/Bitcoin%20paper%20Original.pdf>
- Noel, H. (2009). *Consumer behavior*. Switzerland: AVA.
- Pollock, D. (2018). Bitcoin It's Big in Japan. Retrieved May 19, 2018, from <https://cointelegraph.com/news/bitcoin-its-big-in-japan>
- Riaz, L., Hunjra, A. I., & Azam, R. i. (2012). Impact of psychological factors on investment decision making mediating by risk perception: A conceptual study. *Middle-East Journal of Scientific Research*, 12(6), 789-795.
- Security Finance Bank. (2017). UITF vs Stocks vs Bitcoin: Which investment is for you? Retrieved June 8, 2019, from <https://www.securitybank.com/blog/uitf-vs-stocks-vs-bitcoin/>
- Solomon, M. R. (2013). *Consumer Behavior: Buying, having, and being* (10th ed.). Boston: Pearson Education.
- Startupthailand, (2018). Get to know the new royal decree to regulate cryptocurrency and digital tokens. Retrieved March 8, 2020, from <https://www.startupthailand.org/en/get-to-know-the-new-royal-decree-to-regulate-cryptocurrency-and-digital-tokens/>
- Urquhart, A. (2017). Price clustering in Bitcoin. *Economics Letters*, 159, 145-148.
- Wass, S. (2015). Gold Dealer Amagi Metals Now Pays All Staff in Bitcoin. Retrieved May 18, 2018, from <https://www.coindesk.com/gold-dealer-amagi-metals-now-pays-staff-bitcoin/>

In Thai References

- Bangkokbiznews. (2013). 'World's first' bitcoin ATM opens in Canada. Retrieved May 19, 2019, from <https://www.bangkokpost.com/tech/377194/world-first-bitcoin-atm-opens-in-canada> (In Thai)
- Bank of Thailand. (2014). *Information about Bitcoin and other electronic data units Similar*. Retrieved May 20, 2019, from <https://www.bot.or.th/Thai/PressAndSpeeches/Press/News2557/n0857t.pdf> (In Thai)
- Khumsap, P. (2001). *Principles of investment*. Edition 12. Bangkok: Thammasat University Press. (In Thai)
- Longtunman. (2018). *Longtunman 1.0*. Bangkok: SE-EDUCATION. (In Thai)
- Payulert, N., & Poommipanit, V. (2014). A Study of Investment Behavior of Employees in the Stock Exchange of Thailand. *KKU Research Journal (Graduate Studies)*, 2(2), 63-73. (In Thai)
- Poonnead, C. (2015). *Factors and Behaviors in Making the Investment Decision in Long Term Equity Funds (LTF) of the Investors in Bangkok*. Master Independent Study of Economics, Graduate School. Kasetsart University. (In Thai)
- Smithikrai, C. (2013). *Consumer behavior*. Edition 3. Bangkok: Chulalongkorn University Press. (In Thai)
- Srinuan, K. (2016). *A Study of Personal Characteristics Investment Behaviors and Investment Motivation of Thai Investors Affecting Decision Making in the Stock Exchange of Thailand*. Master Independent Study of M.B.A., Graduate School. Bangkok University. (In Thai)
- Thanyakittikul, W. (2012). *Factors that affect the decision to invest in Gold Mutual Funds via asset management companies*. Master Term paper. Thammasat University. (In Thai)
- Tosantikun, A., & Gulid N. (2013). Trends and investment behavior of Thai investors in Bangkok. *Srinakharinwirot Business Administration Journal*, 4(2), 1-17. (In Thai)
- Treetanon, S., & Chantuk T. (2016). A Study on Investment Behaviors Affecting Needs of Investors in the Market for Alternative Investment (MAI) to Receive Internet Securities Trading Services]. *Veridian e-Journal International Humanities, Social Sciences and Arts*, 9(3), 289-306. (In Thai)