

Behavioural Impact on Cryptocurrency Investment



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The new trading through cryptocurrency in India commenced an important role in inspiring individuals to make investments and earn profits. This study aims to dissect the influence of behaviour on investment decisions by futuristic generation Cryptocurrency investors. This type of research is descriptive research with a quantitative approach. This research aims to test and explain the influence of the direct association between the behavioural variables on investment decisions by cryptocurrency investors through hypothesis testing. This research has a sample size of 48 investors, achieved through circulating a G-Form questionnaire using a purposive sampling technique. This research uses the F-test with the SPSS 23 application. This research shows that investor behaviour on investment decisions is duly influenced by the Herding factors, Intrinsic Motivation factors, Macroeconomic factors and Perceived assumptions like over/under confidence in their investment choices.

Keywords: Investment Behaviour, Cryptocurrency, Bitcoin, Herding behaviour, Overconfidence Bias, Government Policies

1. Introduction

People are looking for new ways to pay that are secure, private, and take less time. Electronic transfers are becoming progressively accepted internationally. The rapid development of technology has promoted cryptocurrencies, which are accomplished and held by online communities. In recent years, governments, politicians, and practitioners worldwide have become progressively fascinated with Crypto Currencies (an electronic transaction system).

The crypto currency market first came to light in 2009 as Bitcoin was commenced as the first cryptocurrency by an unknown creator, Satoshi Nakamoto. Farrellⁱ, 2015 the market mechanism as digitalised currency with decentralised system. Currencies are transferred using cryptography to certify legitimacy and unique transactions.

Cryptocurrencies are expected to significantly alter how money is traded and offer various possible benefits, including speedy transactions, cross-border application, less transaction costs, clarity, enhanced security, secrecy, and privacy. The increasing popularity of cryptocurrencies has encouraged more research on its investment potential. People are so confused of using electronic methods.

The significance of this research is as follows: The Fourth Industrial Revolution advance, with Machine-to-Machine (M2M) payments, the Internet of Things (IoT), and distributing economy concepts, cryptocurrencies have the potential to develop business avenues. Therefore, further research into the components investor's attitudes about cryptocurrency investment. Gupta et. alⁱⁱ.(2020) has a few restrictions, such as Perceived Knowledge, Perceived Ease of Use, Emotional Intelligence, Locus of Control, Risk Aversion, Profitability, Convenience and anonymity are not taken into research. Perceived Ease of Use and Risk Aversion have been identified in this work as research gaps. McMorro and Seyedⁱⁱⁱ (2021) constitute only financial literate. Still, the respondents in the current survey will come from various backgrounds, giving researchers a broad picture of Investor's Investment profile questions, including Gender, age, marital status, education, employment and income, are suggested from Perceived Ease of use, Risk aversion, referred from Nadeem *et al*^{iv}, (2021).

The potential cryptocurrency market becomes more and recognise around the globe. Therefore, it has greatly interested policymakers, institutional investors, and individual investors. The new encrypted blockchain technology offers individual investors contemporary opportunities to invest differently to traditional means. However, the unpredictable market presents uncertainty for market partakers, creating a research gap for academics to investigate what poses these difficulties.

Purpose of the study objective is to investigate the determinants that affect investors acceptance objective of crypto currency. By integrating investment theories to comprehend investment behaviours and attitudes.

2. Literature Review

Various studies have presented that cryptocurrencies are one of the investment choices for the investors in the modern digital world.

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McMorrow and Seyed, studied the significant component which impact how people perceive and propose to use cryptocurrency. Performance and effort prospects were noticed to be the most essential factors for crypto currency adoption, don't they don't feel capable of using the cutting-edge technology.

It was examined that the adoption variables for the most well-known cryptocurrency, it is discovered that the intention to use these currency is related positively with perceived utility and perceived ease of usage. The investment experience and financial literacy were important in the crypto investment and behaviour .

Arli et al^v, (2020) examined the investor perceptions of cryptocurrencies and proven that investors are more motivated to trust and invest in cryptocurrencies if they know how they function. It is also established that if peer-to-peer transactions occur through a central authority and are governed by the governments of the individual countries, investors are more inclined to rely on cryptocurrencies and their peer-to-peer aspect.

To detail the nature of cryptocurrencies, researchers such as Delfabbro, King, and Williams^{vi} (2021) would debate that cryptocurrencies are derivatives rather than commodities. The underlying assets will vary depending on cryptocurrencies.

Regarding the above articles, this study examines People's Attitude towards investment in Cryptocurrency.

3. Theoretical Framework

Research Question: What market and individual investor determinants investors intention to adopt cryptocurrency?

The past studies identified various constituents that impact the investors' investment decisions in the cryptocurrency market. The construct of the theoretical framework for this study by integrating the relevant theories and models suitable to the research. The factors will be classified into two characteristics categories

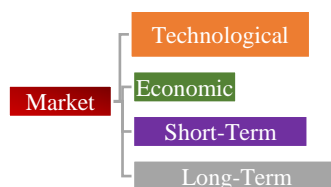


Market characteristics refer mainly to macroeconomic factors in the cryptocurrency market. Whereas, investor characteristics refer to investors profiles such as risk preferences.

4. Market Characteristics

The difficulty of assessing exact determinants influencing cryptocurrency prices is due to their complex and multi-faceted nature. As previously mentioned, the following research will consider cryptocurrencies as assets for investment purposes. Li & Wang^{vii} (2016) the challenging procedure of mining and adding nodes to blockchains come at a significant cost of electricity; hardware purchases & maintenance; and human resources .However, since cryptocurrencies are affected by commodity market and various other factors, they will thus be considered assets in this research.

For this purpose the research is divided further classification such as



- **Technological Factors**

One key factor affecting cryptocurrency prices and fluctuations within the market is the difficulty of the mining system blockchain technology is based on. Another technological aspect that fluctuates crypto prices is public recognising the investors technological acceptance.

The main observation in any market goes as follows: price is determined by demand and supply, the same notion works in the cryptocurrency market. The public recognition of consumers determines the trading volume. If they perceive the operation as valuable investors are more likely to adopt cryptocurrencies and accept its Individuals adoption intention is based on their technological perception which is further shaped by social norms and information provision.

- **Economic Factors**

Bouri et al^{viii}. (2020) one of the leading triggers of price jumps in cryptocurrency can be explained by market conditions and presented multiple factors that contribute to the price fluctuations of cryptocurrency. Namely, economic policy uncertainty, monetary policies, and macroeconomic news.

Demir et al^{ix}. (2018) further attested to the following argument by proposing price volatility of cryptocurrencies is heavily influenced by predictions in the Economic Policy Uncertainty (EPU) index Both positive and negative macroeconomic news is correlated to volatility spill over. Furthermore, the authors confirmed with empirical evidence that VRP (Variance Risk Premium) had a significant positive effect on the long-term volatility which can also be associated with high economic uncertainty.

Throughout technology development the public grows more aware of Bitcoin and its technology. Henceforth, the acceptance of cryptocurrency technology is favoured to other financial intermediaries.

- **Short-term Factors**

Chakraborty & Subramaniam^x, 2019 the most significant short-term factor that encourages investors attention, social media culture, and exploration intensity. These factors contribute to the herding trend of consumers. This would suggest that the attention span of consumers and thus, market demand provide a great deal of volatility. Investors in the cryptocurrency market are trading speculatively and do not heed the rational economic fundamentals.

- **Long-term Factors**

Nurbarani & Soepriyanto^{xi}, 2021 trust, sentiment, and public recognition, to name a few, offer network externalities that increase crypto price. Incorporating the idea of technological acceptance by consumers, as a leading cryptocurrency, investors may be more propelled to adopt Bitcoin as they are more familiar with its reputation and comfortable with its technology.

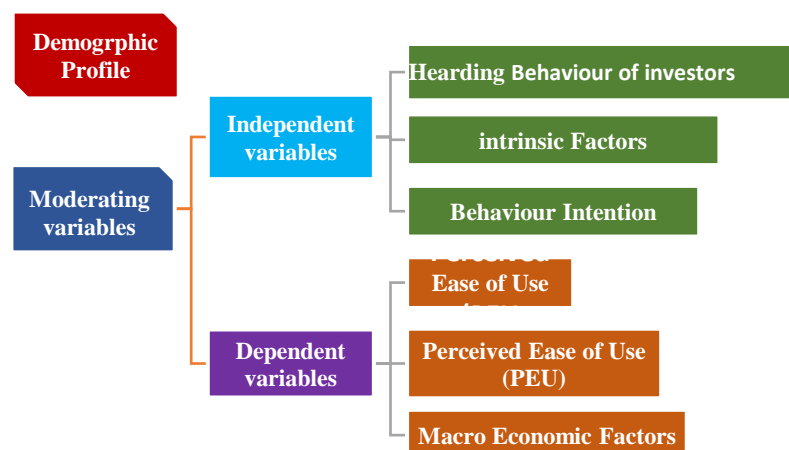
5. Investor Characteristics

Discussing and evaluating investor characteristics within the cryptocurrency market refer to investigating specific individual traits that investors possess. These could range from their preference to risk; attitude toward cryptocurrencies; behavioural responses to macroeconomic news; and personality traits such as impulsivity or novelty seeking. Henceforth, we will consider and evaluate investor characteristics through the lenses of behavioural finance theory whilst incorporating the respective investor intention to adopt cryptocurrency.

Delfabbro et al^{xii}. (2021) investigated crypto markets psychology and had intriguing remarks about investor characteristics individual investment choices. The authors propose that a majority of traders within the cryptocurrency markets are gamblers. Therefore, the research classifies the individuals participating in cryptocurrency trading with impulsivity and novelty-seeking. To elucidate, investors in the crypto market may have an illusion of control connected to one of the cognitive biases in behavioural finance.

Nurbarani and Soepriyanto, conducted a partial least square method to study behavioural factors contributes the investment decisions. With empirical evidence, they found that 46.7% of the investment decisions can be explained by the factors above. Namely, overconfidence; subjective norms; awareness; and other demographic factors such as age and education.

6. Framework



7. Hypotheses

Based on the above literature review and theoretical framework, the following hypotheses framed to investigate and analysis

H1: Behaviour intention will lead to a higher propensity to adopt the crypto by individual investors.

H2: The perception of usefulness and ease of use increases investors' likelihood of adopting crypto currency.

H3: An increase in interest rates will positive investors intention to adopt cryptocurrency.

8. Analysis

Demographic

- Out of 48 respondents, 30 were male respondents
- 42 respondents were married.
- 20 respondents responded from the age of 45-54
- From the data, 14 and 17 respondents have maximum qualifications as PG and Ph.D. respectively.
- 20 respondents were having more than Rs.1,00,000 as their monthly income.

Behaviour Analysis

Behaviour Intention to Adopt

This research is conducted to understand the investors’ intention to adopt. The finding below concerning the demographic profile of investors intention has been assessed and evaluated how much they will adopt cryptocurrency. Respectively, behavioural intention person's subjective probability that they will perform some” behaviour” (Fishbein and Ajzen, 1975^{xiii}). Behavioural Intention (BI) is dependent on three factors from various research found that the Behaviour Intention encompassed by Subjective norms, Attitude towards action and Perception of control.

With the help of social psychology, it investigates how consumers' behavioural intention can be based on their attitude (AT) and subjective norm (SN). To elaborate on consumers attitude is further dependent on two variables

1. Perceived Usefulness of the System (PUS) and
2. Perceived Ease of Use (PEU)

Perceived Ease of Use of the system (*perceived usefulness is associated with* how the technology can advance investors’ objectives. Whereas *perceived ease of use* depends on investors finding the task easy to adapt to their life.

The below findings been analysed along with PUS and PEU there are external demographic attributes such as social characteristics, training, and level of education.

The t-test been applied the findings are as below,

- **Behaviour Intention with Gender**

Gender		N	Mean	Std. Deviation	Std. Error Mean
Behavioural Intention	Male	30	18.7000	3.43561	0.62725
	Female	18	17.0000	3.91077	0.92178

Independent Samples Test										
Gender		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Behavioural Intention	Equal variances assumed	1.944	0.170	1.576	46	0.122	1.70000	1.07883	-0.47156	3.87156
	Equal variances not assumed			1.525	32.326	0.137	1.70000	1.11495	-0.57019	3.97019

From the above analysis, it is found that the Behaviour intention has a significant impact on male and female investors.

- **Behaviour Intention with Marital Status**

Marital Status		N	Mean	Std. Deviation	Std. Error Mean
Behavioural Intention	Married	42	17.9048	3.88750	0.59985
	Unmarried	6	19.1667	1.16905	0.47726

Independent Samples Test										
Marital Status		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Behavioural Intention	Equal variances assumed	5.137	0.028	-0.784	46	0.437	-1.26190	1.61059	-4.50386	1.98005
	Equal variances not assumed			-1.646	25.511	0.112	-1.26190	0.76655	-2.83905	0.31524

Hence, it is found that there is no significant difference between married, unmarried investors and their behaviour intention.

Behaviour Intention with different Age group:

The below table has been analysed among the different age group of the respondents with ANOVA tool, it is understood that the Behaviour intention has a significant impact among different age group of investors

Behaviour Intention					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	124.384	4	31.096	2.620	0.048
Within Groups	510.429	43	11.870		
Total	634.813	47			

Descriptive								
Behaviour Intention								
Age Group	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
18-24	1	20.0000					20.00	20.00
25-34	7	19.2857	1.11270	0.42056	18.2566	20.3148	18.00	21.00
35-44	10	19.9000	2.51440	0.79512	18.1013	21.6987	15.00	23.00
45-54	20	18.0000	3.35606	0.75044	16.4293	19.5707	12.00	24.00
Above 55	10	15.3000	5.07828	1.60589	11.6672	18.9328	9.00	22.00
Total	48	18.0625	3.67514	0.53046	16.9954	19.1296	9.00	24.00

Behaviour Intention with Different Income Groups

The table below has been analysed among the different income group of the respondents with ANOVA tool, it is understood that the Behaviour intention has a significant impact among different income group of investors

ANOVA					
Behaviour Intention					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	34.179	4	8.545	0.612	0.656
Within Groups	600.633	43	13.968		
Total	634.813	47			

Descriptive								
Behaviour Intention								
Monthly Income	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 40,000	3	16.6667	2.88675	1.66667	9.4956	23.8378	15.00	20.00
40,000 to 59,999	12	19.2500	2.56285	0.73983	17.6216	20.8784	16.00	23.00
60,000 to 79,999	3	19.3333	0.57735	0.33333	17.8991	20.7676	19.00	20.00
80,000 to 1,00,000	10	17.7000	5.01221	1.58500	14.1145	21.2855	9.00	22.00
Above 1,00,000	20	17.5500	3.87264	0.86595	15.7375	19.3625	11.00	24.00
Total	48	18.0625	3.67514	0.53046	16.9954	19.1296	9.00	24.00

Behaviour Intention with different Education Qualification group

The below table has been analysed among the different income group of the respondents with the ANOVA tool, and it is understood that the Behaviour intention has a significant impact on different education qualifications of investors

ANOVA					
Behaviour Intention					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	99.691	3	33.230	2.732	0.055
Within Groups	535.121	44	12.162		
Total	634.813	47			

Descriptive								
Behaviour Intention								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
UG	9	15.4444	3.90868	1.30289	12.4400	18.4489	9.00	19.00
PG	14	19.0714	2.20015	0.58801	17.8011	20.3418	15.00	23.00
Professional	8	19.7500	2.12132	0.75000	17.9765	21.5235	15.00	22.00
Ph.D.	17	17.8235	4.46144	1.08206	15.5297	20.1174	11.00	24.00
Total	48	18.0625	3.67514	0.53046	16.9954	19.1296	9.00	24.00

The correlation analysis been applied to find the relationship between the investors' intention to adopt and interest rates, the results are as below,

Correlations						
		Intrinsic	Behavioural Intention	PUS	PEU	MF
Intrinsic	Pearson Correlation	1	.571**	.883**	.786**	.615**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	48	48	48	48	48
Behavioural Intention	Pearson Correlation	.571**	1	.473**	.465**	.565**
	Sig. (2-tailed)	0.000		0.001	0.001	0.000
	N	48	48	48	48	48
PUS	Pearson Correlation	.883**	.473**	1	.852**	.598**
	Sig. (2-tailed)	0.000	0.001		0.000	0.000
	N	48	48	48	48	48
PEU	Pearson Correlation	.786**	.465**	.852**	1	.721**
	Sig. (2-tailed)	0.000	0.001	0.000		0.000
	N	48	48	48	48	48
MF	Pearson Correlation	.615**	.565**	.598**	.721**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	48	48	48	48	48

** . Correlation is significant at the 0.01 level (2-tailed).

Correlations			
		MF	Adopt Int.
MF	Pearson Correlation	1	.615**
	Sig. (2-tailed)		0.000
	N	48	48
Adopt Int.	Pearson Correlation	.615**	1
	Sig. (2-tailed)	0.000	
	N	48	48

** . Correlation is significant at the 0.01 level (2-tailed).

It is found that the an increase in interest rates will positively affect investors' intention to adopt cryptocurrency.

9. Conclusion

This study investigates whether intergroup bias, subjective norm, and self-control bias predict crypto owners' investment decisions over the past year of the declining cryptocurrency market. The empirical results indicate that intragroup bias due to the toxicity effect from the secondary group of investors' social environment, for example, religious-based groups or sports clubs, encouraged investors to invest in the cryptocurrency market even though the market is in adverse conditions. Intergroup bias behaviour that is more positive towards their group members than outside group potentially results in irrational behaviour since the trust bias toward their group influences the investment decision.

The subjective norm factor indicates the reflective system that is slow, controlled, and analytical in making investment decisions during significant cryptocurrency price declines. The different results between the influence of subjective norm, intergroup bias and behaviour intention explain that there is a dual-system perspective, reflexive and reflective, which investors experience simultaneously and influence investment decisions. When impulsive and reflexive system reacts most strongly, investors can generate irrational behaviour and make irrational investment decisions. However, the reflective perspective encourages rational behaviour.

Alternatively, this study uses internet users as the population of crypto owners. Since not all internet users are crypto owners, there is the possibility for differences between internet users and crypto owners. Second, regarding the number of crypto owners that responded to this study, it is still necessary to gather additional samples from all over Indonesia to accurately represent cryptocurrency investors. Third, this study does not distinguish between investors who make direct or indirect investments through funding. Therefore, there is a potential for investment decisions to be biased due to the influence of fund managers. Finally, the model's ability to anticipate the decision not to invest in cryptocurrency is greater than its ability to predict the decision to invest. In addition, the results of this study must be interpreted with caution due to the possibility of other factors in predicting the decision during a gloomy phase.

10. Further Study

Therefore, future studies are anticipated to enhance the predictive model by incorporating more variables affecting the choice to invest in cryptocurrencies during a gloomy phase. For future study, our research recommends developing a model including other biased behaviour and investors' demographic variables that affect vulnerable decisions by cryptocurrency investors. Future research needs to explore the other dimensions of biased behaviours, which are still extensive and should investigate the influence of biased behaviours on cryptocurrency investment decisions.

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