

Impact of Household Income on Investors Attitude towards Crypto Currency

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Abstract

The goal of this study was to look into and understand how investors' attitudes regarding cryptocurrencies change as their income rises. The questionnaire was created to gather information on cryptocurrency investors' expertise, experience, trust, and other investing criteria. This study will be useful to forthcoming or existing bitcoin businesses in estimating their future viability based on revenue. The study also sought to identify variations in household income in the areas of cryptocurrency knowledge, investment, mining, and payment. The goal of the study was to analyze the data and come to a conclusion on male and female attitudes about bitcoin depending on their capabilities. The data revealed that there are variations in how people feel about crypto currencies.

Introduction

Cryptocurrency is the name given to a system that uses cryptography to allow the secure transfer and exchange of digital tokens in a distributed and decentralized manner. These tokens can be traded at market rates for fiat currencies. The first cryptocurrency was Bitcoin, which began trading in January 2009. Since then, many other cryptocurrencies have been created employing the same innovations that Bitcoin introduced, but changing some of the specific parameters of their governing algorithms. The two major innovations that Bitcoin introduced, and which made cryptocurrencies possible, were solutions to two long-standing problems in computer science: the double-spending problem and the Byzantine Generals Problem. A cryptocurrency (or crypto currency) is a digital asset designed to work as a medium of exchange that uses cryptography to secure its transactions, to control the creation of additional units, and to verify the transfer of assets. Cryptocurrency is referred as most secure way of payment transfers and a very risky for investment purpose, but it's always said higher the risk, higher the return. Enormous price fluctuations attracted many individuals to invest in the most popular cryptocurrencies to profit from the enormous price growth. Many investment experts warn against inflating cryptocurrency price bubbles and also against investing in the initial coin offerings (ICOs) of new cryptocurrencies. Many national authorities worldwide often constrict the possibilities of crypto currency usage by laws or regulations to prevent their possible negative impacts, such as money laundering, terrorism financing, and others. Similarly, many banks often do not offer services attached to cryptocurrencies.

A block chain, originally block chain, is a continuously growing list of records, called blocks, which are linked and secured using cryptography. Each block typically contains

a cryptographic hash of the previous block, a timestamp and transaction data. By design, a blockchain is inherently resistant to modification of the data. It is "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way". For use as a distributed ledger, a blockchain is typically managed by a peer-to-peer network collectively adhering to a protocol for validating new blocks. Once recorded, the data in any given block cannot be altered retroactively without the alteration of all subsequent blocks, which requires collusion of the network majority.

Until recently, the only way to overcome the double spending problem was to employ a trusted third party intermediary. In our example, both Alice and Bob would have an account with a third party that they each trust, such as PayPal. Trusted intermediaries like PayPal keep a ledger of all account balances and transactions. When Alice wants to send \$100 to Bob, she tells PayPal, which in turn deducts the amount from her account and adds it to Bob's. The transaction reconciles to zero. Alice cannot spend the same \$100, and Bob relies on PayPal, which he trusts, to verify this. At the end of the day, all transfers among all accounts reconcile to zero. Note, however, that unlike cash, transactions that involve a third party intermediary are not final, as we have defined it, because transactions can be reversed by the third-party.

In 2008, Satoshi Nakamoto (a pseudonym) announced a way to solve the double spending problem without employing third parties (Nakamoto, 2008). His invention, Bitcoin, is essentially electronic cash. It allows for the first time the final transfer, not the mere copying, of digital assets in a way that can be verified by users without trusting other parties. This is accomplished through the clever use of public key cryptography, peer-to-peer networking and a proof-of-work

The Expansion of Digital Currency

There were numerous efforts to construct a virtual money before Bitcoin was founded. However, because e-business was still in its infancy at the time, and society had more faith in the credit card than in the virtual money system, its adoption did not survive long. Aside from that, this money was targeted by criminal gangs who utilized it to fund their operations (Hooper, 2017). At a cost of \$0.0025 per Bitcoin, Bitcoin was initially used as a means of trade in 2010. (Ammous, 2016). Bitcoin is currently worth about RM32,349 (or 7383 USD) per unit. The rise in Bitcoin's value from its creation to now has prompted many parties to create digital currencies with varying features and concepts, but all based on Bitcoin's original premise (Meera, 2018), known as altcoins (Afilipoaie & Shortis, 2015). Altcoin is a cryptocurrency based on blockchain technology, which is different from Bitcoin's (Huang et al., 2018). As a result, certain Altcoins, like as Ripple and Ethereum, are not confined to Bitcoin's primary role of being a medium of exchange; they also enable the creation of smart contracts in their blockchains (Inci & Lagasse, 2019). In 1996, Nick Szabo formally defined a smart contract as a digital agreement that includes the protocols that two parties employ to implement the agreement. This concept includes four elements: an agreement, its digital form, its implementation using certain protocols, and the parties' execution (Mukhopadhyay, 2018). A white paper including full information about the financial products, services, or instruments on sale should be prepared by any firm that intends to issue a digital asset

through a smart contract via an Initial Coin Offering (ICO). The initial coin offering (ICO) is the commencement of an online sale of cryptographic assets to support the development of a blockchain application, sell access to blockchain-based apps, or fund new crypto currencies (Crosser, 2018; Sykes, 2018; Senderowicz et al., 2018; PwC, 2019). The majority of Altcoins are designed as speculative investment vehicles, whereas Bitcoin was designed as a medium of exchange for services or online/offline goods (Huang et al., 2018; Inci & Lagasse, 2019). When compared to Bitcoin, certain Altcoins offer more appealing features, such as a greater degree of security and a quicker time for verifying each transaction, which is only a few seconds compared to Bitcoin's minimum period of 10 minutes (Afilipoaie & Shortis, 2015; Ammous, 2016; Meera, 2018). Nonetheless, Bitcoin is the primary metric by which the value of other altcoins is measured (Hayes, 2015).

OBJECTIVES

- To study the investor's behaviour towards cryptocurrencies and its on-going trend.
- To analyse the impact of various Income variable on investors' attitude towards cryptocurrency.
- To examine the level of importance of the income factors affecting the buying of cryptocurrency among the investors.

RESEARCH METHODOLOGY

Methodology is usually a the analysis of the principles of methods rules and postulates employed by a discipline.”

Primary Data

Data that has been collected from first-hand-experience is known as primary data. Primary data has not been published yet and is more reliable, authentic and objective. Primary data has not been changed or altered by human beings, therefore its validity is greater than secondary data. In this research, SPSS software is used. Anova, t-test, test has been applied for analysing the result on the basis of demographic factor annual income. Sample size is 55. Data is collected from Delhi-NCR region.

DATA ANALYSIS AND INTERPRETATION

Annual household income wise purchase intention of cryptocurrency

Table 1

		Annual household income			
		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	Total
Purchase intention on respondents	Yes	4	9	6	19
	No	9	5	3	17
	willing to invest in near future	6	12	1	19
Total		19	26	10	55

Table 1 depicts that mostly respondents of annual household income i.e. 10 lakhs to 12 lakhs

have not brought cryptocurrency followed by 6 respondents out of 19 total respondents of 10 lakhs to 15 lakhs are willing to invest in near future, whereas majority of respondents in 15lakhs to 25 lakhs group are willing to invest in near future whereas in income bracket of above 25 lakhs only 6 respondents have purchased cryptocurrency which is less than the respondent of income group of 15 to 25 lakhs.

Annual Household Income Wise Types of Cryptocurrencies They Own

Table 2

		Annual household income			Total
		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	
Types of cryptocurr ency	Bitcoin	11	7	3	21
	Ethereum	1	3	0	4
	Ripples	3	2	0	5
	Litecoin	1	1	0	2
	Ripples, litecoin	1	2	1	4
	Bitcoin, litecoin	1	2	0	3
	Ethereum, Ripples	0	2	0	2
	Ethereum, litecoin	0	4	0	4
	Bitcoin, Ripples	1	0	3	4
	Bitcoin, Ethereum	0	2	1	3
	Bitcoin, Ethereum, litecoin	0	1	0	1
	None	0	0	2	2
	Total	19	26	10	55

Table 2 depicts that majority of respondents of income group 10-15 lakhs i.e. 11 out of total 19 wants to own or owns bitcoin, followed by ripples i.e. 3 out of 19, whereas in 15-25lakhs i.e. 7 out of 26 are willing to own or owns bitcoin followed by Ethereum and Ethereum, Litecoin. There are multiple cryptocurrencies owned or respondents want to own i.e. ripples, Litecoin; bitcoin & ripples etc. whereas respondents in above 25 lakhs wants to own or owns multiple currencies, more than other income groups.

Annual Household Income Wise Number of Cryptocurrencies Respondent Own Or They Want To Own

Table 3

		Annual household income			Total
		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	
Number of cryptocurr encies	1	13	9	0	22
	2	3	11	6	20
	3	1	2	4	7
	4 or more	2	4	0	6
	Total	19	26	10	55

Table 3 depicts that majority of respondents i.e. 13 out of 19 of income group 10-15lakhs wants to own or owns 1 number of cryptocurrency. Possible explanation could be that income constraint as prices of these cryptocurrencies are high and involve high amount of investment. Whereas in income group of 15-25lakhs, 11 respondents have or willing to own 2 number of cryptocurrencies. Interestingly in category of above 25, respondents have more than 1 currency, reason could be that their income is sufficient to invest on these things.

Occupation Wise Usage of Cryptocurrency or Want To Use.

Table 4

		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	Total
ways to use cryptocurrency or want to use	To make purchases	2	1	0	3
	Online gambling	2	3	0	5
	To transfer fund	1	5	0	6
	For investment purpose	11	6	3	20
	out of preference of not wanting to use a bank	0	1	0	1
	To transfer funds (within country), For investment purpose	0	1	1	2
	Online gambling, For investment Purpose	0	2	4	6
	To make purchases, Online gambling	0	1	0	1
	To make purchases, For investment Purpose	1	2	1	4
	To make purchases, To transfer funds (within country), For investment purpose	1	1	0	2
	Online gambling, Out of preference of not wanting to use a bank	0	2	1	3
	To make purchases, To transfer funds (within country)	1	0	0	1
	Online gambling, To transfer funds (within country)	0	1	0	1
	Total	19	26	10	55

Above table 4 shows that, income group of 10 lakhs to 15 lakhs have respondents i.e. 11 out of 19 uses or willing to use for investment purpose, possible explanation can be that this income group wants to focus on future building that's why they are making investment in these things. There are few respondents who wants to use or uses for online gambling, to make purchases in income group of 15-25lakhs, also there are multiple purposes as well like in above 25 lakhs, 4 respondents want to or uses for both investment and online gambling purpose.

Annual Household Income Wise Purpose of Investing In Currency

Table 5

		Annual household income			Total
		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	
Purpose of investing in cryptocurrency	For return gain	10	11	6	27
	For transaction Purpose	2	2	0	4
	For transfer of fund	5	8	1	14
	For transfer of fund, For return gain, For transaction purpose	0	0	2	2
	For transfer of fund, For return gain	0	1	0	1
	For return gain, For transaction purpose	2	2	0	4
	For transfer of fund, For transaction purpose	0	2	1	3
	Total	19	26	10	55

Table 5 depicts that majority of respondents in income group of 10 – 15 lakhs, their purpose

for investing in cryptocurrency is to gain return whereas 11 respondents in 15-25 lakhs purpose for investing is for return gain, followed by above 25 lakhs i.e.6. There are respondents whose purpose is use it for transfer of fund i.e. 8 out of 26 in 15-25lakhs income. There are multipurpose for investing in cryptocurrency like for both return gain and for transaction purpose whereas there are very few respondents whose purpose is to invest in for transfer of fund and for transaction purpose.

Annual Household Income Wise Usage Period of Cryptocurrency

Table 6

		Annual household income			
		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	Total
Period usage of cryptocurrency	less than 1 Year	16	10	0	26
	between 1 and 2 year	3	13	5	21
	more than 2 Years	0	3	5	8
Total		19	26	10	55

Table 6 depicts that respondents in income group of 10 lakhs to 15 lakhs, 16 out of 19 respondents in that are using for less than 1 year whereas 13 respondents are using for between 1 and 2year of 15-25lakhs income group, whereas respondents in income group of above 25, there is no significant difference in terms of number of respondents using for more than 1 year. Possible explanation can be that they invest the excess money for long period on cryptocurrency.

Annual Household Income Wise Portfolio Worth More Than Respondent's Initial Investment

Table 7

		Annual household income			
		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	Total
Portfolio worth more than initial investment	Yes	3	8	4	15
	About the same	13	11	3	27
	No	3	7	3	13

Table 7 depicts that majority of respondents in annual income group of 15 lakhs to 25 lakhs i.e. 11 out of 26 had portfolio worth about same as initial investment whereas 13 respondents of 10lakhs to 15 lakhs have same worth as initial investment. Possible reason can be that when there is large amount is invested there is direct relationship between value to portfolio. Interestingly, 8 respondents of 15 lakhs to 25 lakhs have more value than their initial investment.

Annual Household Income Wise Respondent's Preference for Investment Other Than Cryptocurrencies

Table 8

		Annual household income			
		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	Total
Stock		4	12	7	

Preference for investment other than cryptocurrency	market				23
	Commodities Market	4	5	1	10
	Mutual funds	9	7	1	17
	Currency market	2	2	1	5
	Total	19	26	10	55

Table 8 depicts that in income group of 10 -15 lakhs majority of respondents i.e. 9 out of 19 prefers to invest in mutual funds as it is safer side as less risk and have less return. Whereas majority of respondents in group of 15-25lakhs prefers to invest in stock market as it involves high risk but results in high return same with above 25 lakhs respondents.

Annual Household Income Status Wise Respondents They Consider Themselves

Table 9

		Annual household income			Total
		10 lakhs to 15 lakhs	15lakhs to 25 lakhs	Above 25 lakhs	
Respondents considers themselves	Day trader	3	3	3	9
	Trader	7	13	5	25
	Holder	9	10	2	21

Table 9 depicts that majority of respondents in income group of 10 -15 lakhs considers themselves as holder, possible reason could be that this income group wants to earn return as extra income whereas respondents in group of 15 lakhs – 25 lakhs consider themselves as trader buy and selling and the difference is treated as income, whereas above 25lakhs group mostly consider themselves trader followed by day trader and holder. Interestingly, no. off respondents are equal in all 3 income groups for day trader. The number are less; reason could be that it is more riskier as it is highly volatile in nature.

Group statistics Table 10

		N	Mean	Std. Deviation	Std. Error
level of regulation	10 lakhs to 15 lakhs	19	1.58	0.769	0.176
	15 lakhs to 25 lakhs	26	2.38	1.299	0.255
	Above 25 lakhs	10	2.00	1.247	0.394
	Total	55	2.04	1.170	0.158
Level of government intervention	10 lakhs to 15 lakhs	19	2.05	0.705	0.162
	15 lakhs to 25 lakhs	26	2.62	1.134	0.222
	Above 25 lakhs	10	2.90	1.370	0.433
	Total	55	2.47	1.086	0.146
Privacy of payment	10 lakhs to 15 lakhs	19	1.74	0.733	0.168
	15 lakhs to 25 lakhs	26	2.15	1.047	0.205
	Above 25 lakhs	10	1.30	0.483	0.153
	Total	55	1.85	0.911	0.123
	15 lakhs to 25 lakhs	26	1.85	1.120	0.220
	Above 25 lakhs	10	1.50	0.850	0.269
Total	55	1.60	0.955	0.129	

Table 11

		Levene Statistic	df1	df2	Sig.
level of regulation	Based on Mean	2.149	2	52	0.127
	Based on Median	0.806	2	52	0.452
	Based on Median and with adjusted df	0.806	2	49.955	0.452
	Based on trimmed mean	1.873	2	52	0.164
Level of government intervention	Based on Mean	5.503	2	52	0.007
	Based on Median	2.925	2	52	0.063
	Based on Median and with adjusted df	2.925	2	44.194	0.064
	Based on trimmed mean	5.428	2	52	0.007
Privacy of payment	Based on Mean	4.629	2	52	0.014
	Based on Median	3.743	2	52	0.030
	Based on Median and with adjusted df	3.743	2	49.904	0.031
	Based on trimmed mean	4.330	2	52	0.018
Security of payment	Based on Mean	3.308	2	52	0.044
	Based on Median	1.815	2	52	0.173
	Based on Median and with adjusted df	1.815	2	44.300	0.175
	Based on trimmed mean	3.554	2	52	0.036

FINDINGS AND CONCLUSIONS

Study shows that both male and female investors are inclined towards cryptocurrencies. Further, various investors of different income groups have different mindset related to buying, purpose/usage, importance levels towards cryptocurrencies depending on their age. Test shows that Investors in various income groups considers using cryptocurrency mainly for return and for transaction purpose. Male investors consider security of payment as highly important. Females are also actively participating in investing cryptocurrency.

Interesting fact is that there are very less investors who uses for gambling purpose which is a good sign for country's economy. Single investors consider level of regulation, government intervention, privacy of statement, security of payment as highly important as they want their investment to be safe. On analysing the investors behaviour, study reveals that investors are more in-cling towards usage of cryptocurrency. Study depicts that investors who are having income above 25 lakhs considers privacy and security of payment as highly important. Students are more getting involve in this hot trend as it is whole new concept foe investment purpose. Besides investing in this, investors prefers to invest in stock market and mutual funds. Study depicts that investors mostly prefers to invest in bitcoin, as probable reason could be word of mouth. Investors diversifies their risk by investing in multiple number of cryptocurrencies and different currencies.

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