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INVESTORS BEHAVIOR TOWARDS INVESTMENT IN CRYPTO CURRENCY

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Abstract: **Driven by innovative information technologies the financialindustry is facing a recent disruptive fintech revolution. One emerging technology within this field is crypto currency aiming to change the future means of payment. In this paperwe study Bitcoin exchange trading and examine what factors influence the behavior of different crypto currency investor types we take into account the shapes of the related utility functions and the associated profitability weighing functionsin order to determine the returns of optimal portfolios which are created based on the aforementioned preferences and attitudes towards risk. As a result, we are trying to determine whether an investment portfolio that includes crypto currencies such as Bitcoin Ethereum etc. implies that a specific pattern attitude in an investor behavior performs better than one that contains primarily traditional assets.**

Keywords: **Cryptocurrency, Blockchain, Investors, behavior**

I. INTRODUCTION:

A crypto currency crypto currency or crypto is binary data designed to work as a medium of exchange wherein individual coin ownership records are stored in a Ledger existing in a form of a computerized database using strong cryptography to secure transaction records, to control the creation of edition coins and to verify the transfer of the coin ownership. Some crypto schemes use validators to maintain the crypto currency. In a proof of stake model, owners put up their tokens as collateral in return they get authority over the token in proportion to the amount they stake.

Crypto currency is a form of digital money which means it can be stored on a computer or phone and it can be sent to peer to peer (mean a person to person) with no bank intermediary. Today when you transfer your money like through UPI/net banking then your bank identifies your identity to make sure that the transaction is legitimate, it's a bank responsibility to keep track of every transaction that this person from this place this amount has sent to this person. But because Bitcoin works on a blockchain and technology there is one centralized Ledger on which all the activities are done. If you hold Bitcoin, you have a public key and a private key public key is like small email address, an email address which you can give it to anyone so that the person can send you the Bitcoin.

NOW WHERE DOES BITCOIN COME FROM?

New bitcoins are generated by comparative and decentralized process called mining. Mining of Bitcoin is the digital version of digging for gold. Miners are basically processing transactions and are getting rewarded by the network in Bitcoin basically miners use powerful computers to compete with each other to win bitcoin by solving math puzzles that gets harder as more and more people try to win it. And also, importantly the amount of Bitcoin miners can win decreases overtime. That's why people who hoard bitcoin, how much less the Bitcoin is available and many people keep hoard the bitcoin, through which the value of bitcoin rises. the more rise of bitcoin, more people are motivated to invest in it. Thus, driving the cycle up further.

BACKGROUND OF CRYPTOCURRENCY:

Although digital currency concept has existed since 1980s crypto currency has only utilized with the launching of Bitcoin as a decentralized crypto currency in 2009 using the blockchain technology. Blockchain was were designed with the aim of creating a decentralized environment where transaction and data are not controlled by a third party. Blockchain is a distributed database platform which preserves and increasingly growing list of data records which are verified by the mining nodes. The data is stored in a public ledger, containing information about each and every completed transaction. Blockchain is a decentralized solution that operates without the need of third-party organization involvement. Blockchain shares all the information regarding each and every transaction over conducted and makes it available to all nodes.

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II. LITERATURE REVIEW:

Foley and Lardner LLP (2018) investigated investor perceptions of crypto currencies and found thatregulation to reduce uncertainty is key for investors going forward. A survey from Encrypt provides descriptive statistics from 161 countries on the impacts of several variables on crypto currency investment, namely token exchanges, risk management, news, and social networks.

A study by **Mahomed (2017)** is the only study using inferential statistical analysis where they investigated consumer adoption of cryptocurrencies through the lens of behavioral biases. Other than the descriptive snapshots shown in there is no study about the characteristics that may play a role in cryptocurrency investments.

Fisher and Yao (2017) noted that in an efficient market, investors who take larger risks would expect higher returns. As such, investors with a higher level of risk tolerance are expected to hold assets with a significantly higher level of risk in order to obtain a higher return in the long run. As mentioned in the previous section, ICOs appear to be moving towards becoming efficient markets and consequently we assume that the literature of risk tolerance characteristics based on traditional financial markets are, to some extent, applicable to ICO and cryptocurrency markets.

Charness and Gneezy, 2012; Jacobsen, Lee, Marquering, & Zhang, 2014; **Lemaster and Strough, 2014; Neelakantan, 2010; Sung and Hanna, 1996). Deo and Sundar (2015)** confirmed this hypothesis in the investment behaviors displayed in the Indian stock market and suggested that this might be due to the different gender behaviors. They found that men are more likely to have a higher risk tolerance level because they are relatively more active investors and make more investment decisions on a daily basis.

Almenberg and Dreber (2015) argued that financial literacy could explain the significant gender gap in the stock market, suggesting that women are less likely to participate in the stock market due to a lower level of financial literacy.

People with higher incomes are willing to take more financial risks than those with lower incomes **(Carducci** and Wong, 1998; Finke and Huston, 2003; Grable, 2000; Roszkowski and Grable, 2010).

Fisher and Yao (2017) suggested that the gender gap of risk tolerance mainly comes from income uncertainties. They observed that women have less yearly income compared to men and consequently may need to keep a larger portion of money in accounts with low returns (low risk) to bare the possible negative income shocks.

III. STATEMENT OF PROBLEM:

Government regulation is inevitable. Government reactions to cryptocurrencies have range from aggressive to indifferent, with investors and speculators cautiously monitoring international developments. There have been considerable critics of crypto currency, one of them is whether it is a form of an assert currency. In its current form, having the ability to perform monetary transaction.

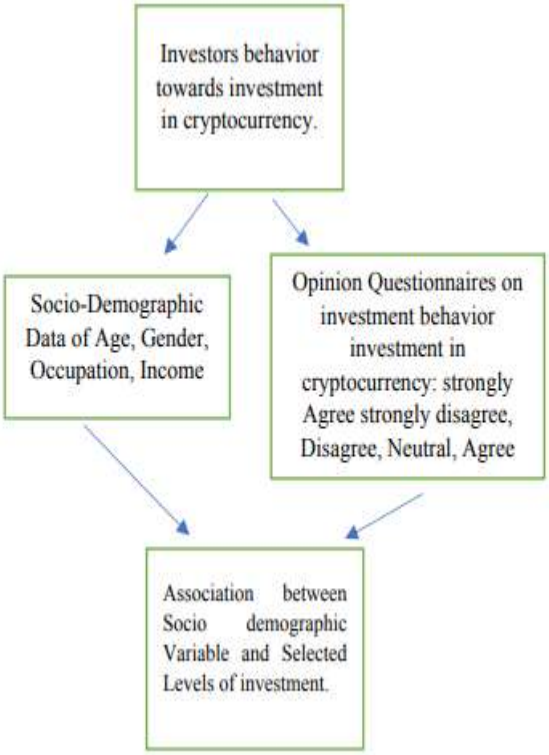
IV. NEED OF THE STUDY:

This study aims to investigate the effect of behavior finance factors on individual investors decision making in the crypto currency market. To investigate this effect a quantitative approach was used. This study carries out various statistical tools, mainly demographic analysis, descriptive statistics for all variables, and multiple regression analysis.

V. OBJECTIVES OF THE STUDY:

1. To understand the concept of Bitcoin and its functioning in regular trading.
2. To know legality and trading of Bitcoin in India.
3. To compare investment risk in between Bitcoin and gold.
4. Investigate the effect of behavioral finance factors on individual investors decision making in the cryptocurrency market.

VI. CONCEPTUAL FRAMEWORK:



VII. RESEARCH METHODOLOGY:

SCOPE OF THE STUDY

crypto currency is a virtual currency which is based on blockchain technology. This type of currency works on cryptography. It is decentralized meaning that no authority is there behind it to regulate and control it. To know the

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investors mindset towards it.

SOURCES OF DATA COLLECTION
The study comprises of both primary and secondary sources of data collection. Primary data is collected with the help of a questionnaire provided to respondents. Secondary data is collected from reputed journals, websites, reports, etc.

SAMPLE DESIGN
Samples of 70 respondents from each age group have been selected on simple random sampling design.
Sampling technique: Convenient sampling.

Target population: Individuals above 18 years of age.
Study variables:
Independent variable: Blockchain technology, cryptocurrency.
Dependent variable: Investor's behavior in crypto currency, portfolio
Socio Demographic Variables: Age, gender, qualification, income, employment status

RESEARCH HYPOTHESIS
On the basis of above-mentioned objectives, the present study aims to test the following hypothesis:
H0: The mean usage of crypto currency (investment behavior) is independent of age.
H1: The mean usage of crypto currency is not independent of age.
H2: There is a significant impact on the investment of cryptocurrency.

LIMITATIONS OF THE STUDY
1. Scalability
2. Cyber security issues
3. Price volatility and lack of inherent value.
4. Regulations

Tools for Analysis
Chi Square analysis
- Analysis of Variance - One way ANOVA (FTest)
- Regression
- Frequency tables

Opinionnaire was designed as questionnaire on 5 point Likert scale that is- Agree, Disagree, Neutral, Strongly agree, strongly disagree.

VIII. DATA ANALYSIS AND INTERPRETATION:

Data collection Process:
- The Study was conducted JULY 2021 to OCT2022
- The survey was shared via WhatsApp google form and through E mail.
- Total 70 responses were received.

Data interpretation: The data in this study is analyzed and interpreted according to the objectives of the study.

DEMOGRAPHIC PROFILE OF THESAMPLE
The first part of the data analysis includes the analysis and interpretation of the demographic profile collected through a questionnaire of the 70 samples represented in below Table: 1

Table 1: Demographic Profile of Respondents

Group Age	***No. of Respondents***	***Percentage (%)***
Under 18	0	0%
18-24	41	58.6%
25-30	23	32.9%
31-35	5	7.1%
35 Above	1	1.4%
Total	***70***	***100%***
Group gender	***No. of Respondents***	***Percentage (%)***
Male	29	41.4%
Female	41	58.6%
Total	***70***	***100%***
Group Qualification	***No. of Respondents***	***Percentage (%)***
High school degree or equivalent	0	0%

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Bachelor degree	46	65.7%
Master degree	19	27.1%
Professional	5	7.1%
Total	***70***	***100%***
Monthly Income	***No. of Respondents***	***Percentage (%)***
10000-25000	17	24.3%
26000-50000	27	38.6%
50000 Above	10	14.3%
None of the above	16	22.9%
Total	**70**	**100%**

Source: Primary Data

The demographic profile of the respondents is based on the gender, age groups, monthly income, Qualification and banks of the respondents. Based on the demographic profile, the Male gender accounted for 41.4% and females 58.6%. Age group accounting to 0% for under 18 group, 58.6% for 18-24 age group, 32.9% for 25-30 age group, 7.1% for 31-35 age group and 1.4% for 35 above age group. And for qualification High school degree or equivalent is 0%, Bachelor degree 65.7%, Master degree 27.1% and Professional 7.1%. Monthly income 10000-25000 24.3%, 26000-50000 38.6%, 50000 Above 14.3% and None of the above 22.9%.

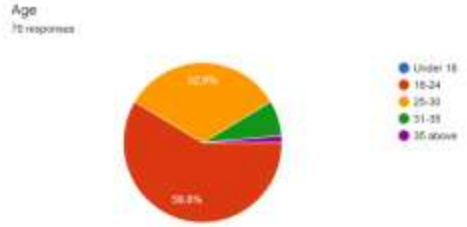


Fig1: Age wise Distribution (N=70)

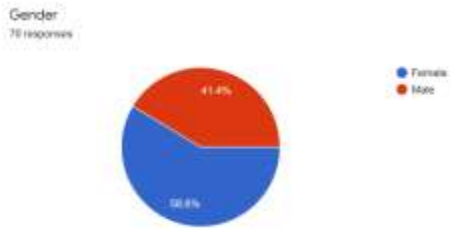


Fig2: Gender wise Distribution(N=70)

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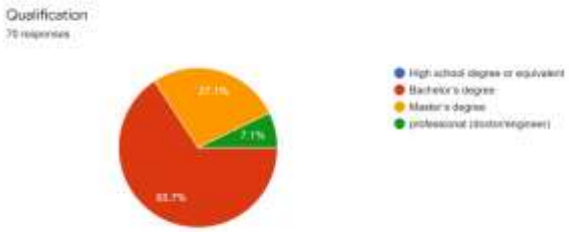


Fig3: Qualification wise Distribution(N=70)

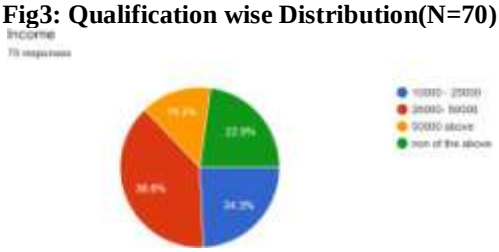


Fig4: Income wise Distribution(N=70)

Do you own a crypto currency other than bitcoin?

Options	**No. of respondents**	**Percentage**
Yes, I own a diversified portfolio	**5**	**7.1**
Yes, I own oneor two other coins	**15**	**21.4**
Go with the trend	**42**	**60**
No, but I am interested	**7**	**10**
No, and I am uninterested	**1**	**1.4**
Total	**70**	**100**

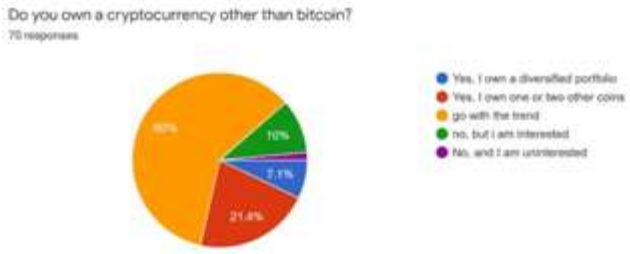


Fig5: Do you own a cryptocurrency other than bitcoin?

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TABLE 2: crypto currency other than bitcoin **Practices indifferent age groups**

Yes, I own a diversified portfolio	2	3	5	2	2	14
Yes, I own one or two other coins.	2	3	4	3	3	15
Go with the trend	3	2	3	4	1	13
No, but I am interested	2	2	4	3	2	13
No, and I am uninterested	1	5	4	3	2	15

The above Table:2 represents the practices ofcrypto currency in different age groups.
Ho: There is no difference in practices of crypto currencyin different age groups.
H1: There is a significant difference in practices ofcrypto currency in different age groups.

Anova: Two-Factor Without Replication

SUMMARY	*Count*	*Sum*	*Average*	*Variance*
Row 1	6	28	4.666667	22.26667
Row 2	6	30	5	24.4
Row 3	6	26	4.333333	19.06667
Row 4	6	26	4.333333	18.66667
Row 5	6	30	5	26
Row 6	6	140	23.33333	536.6667
Column 1	6	20	3.333333	11.06667
Column 2	6	30	5	25.2
Column 3	6	40	6.666667	43.06667
Column 4	6	30	5	24.4
Column 5	6	20	3.333333	11.06667
Column 6	6	140	23.33333	523.4667

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	**Re**
Rows	1744.889	5	348.9778	6.031648	0.000858	Re de in

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Columns	1788.889	5	357.7778	6.18374 6	0.000734	S
Error	1446.444	25	57.85778			
Total	4980.222	35				N

INTERPRETATION: The above Table 2 ANOVA Test: Two Factor without Replication that is been conducted to examine the significant difference in the practices of crypto currency in different age groups. As per the result, the null hypothesis is rejected, as the P-values between the rows and with respect to columns, ie, 0.008 and 0.007 respectively are less than 0.05. This result indicates that there is significant difference in the practices of crypto currency in different age groups.

8.3 Bitcoin is a risky investment?

Options	No. of respondents	Percentage
Strongly agree	40	57.1
Agree	16	22.9
Neutral	12	17.1
Disagree	2	2.9
Strongly disagree	0	0
Total	70	100

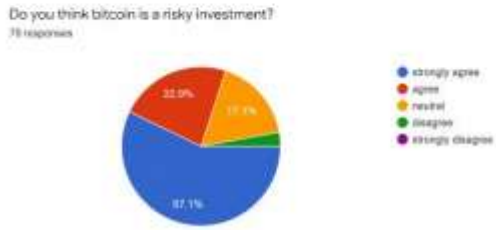


Fig 5: Bitcoin a risky investment

gression:
gression is a statistical measurement that attempts toermine the strength of the relationship between two ependent variables

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.999999
R Square	0.999997
Adjusted R Square	0.999997
Standard Error	0.029378
Observations	5

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ANOVA				
	df	*SS*	*MS*	*F*
Regression	1	1023.997	1023.997	1186494
Residual	3	0.002589	0.000863	
Total	4	1024		

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	-0.01392	0.018388	-0.75721	0.503968
Percentage	0.700696	0.000643	1089.263	1.71E-09

Since p value (0.50) is greater than 0.05 at 5 percent level of significance, we reject the alternative hypothesis and accept the null hypothesis.

IX. FINDINGS OF THE STUDY

1. The highest number of respondents are yes.
2. The highest number of respondents are Speculative asset.
3. The highest number of respondents are who strongly agree.
4. The highest number of respondents are yes.

X. SUGGESTIONS OF THE STUDY

Diversify: tempted to invest in more than one coin. Most experts believe it is a good strategy. Diversifying the portfolio reduces the risk.

XI. CONCLUSION

Blockchain, and its byproduct crypto currencies, is one of the most important technological innovation in recent times. It succeeded in developing a rapidly growing and secure financial market, counting already billions of invested dollars. Its high gains and losses initiated the idea of implementing some specific investors' behavioral patterns and observe their outcomes, provide strong support that when investors are not globally risk averse but they rather exhibit more complex behavioral patterns they succeed in obtaining significant returns.

Nevertheless, crypto currencies it still has some adoption challenges and limitations that need to be addressed. Solid research needs to be performed to address the user attitudes and behavior towards adopting crypto currency from different perspectives.

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