

# A CRITICAL ANALYSIS OF CRYPTOCURRENCY GROWTH IN INDIA

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## Abstract

Reform is the trend in a contemporary changing world, where everything is volatile, unpredictable, and sophisticated with a dollop of vagueness. As a result, major corporations must adapt to changing circumstances and stay up to date on the latest technologies. These inventions could take the form of new marketing strategies or alternative payment methods. Since ancient times, the monetary market has been categorized by transformations. Even though the operations continue to stay the same, the medium has changed. We began with the barter system and are now highly dependent on E-banking amenities to promote exchanges. Presently, we stand on the verge of the next big thing in financial markets: Cryptocurrency.

Our current actions will determine whether the cryptocurrency becomes a unicorn of the twenty-first century or not. Bitcoin (BTC) is the most well-known cryptocurrency, and it is based on blockchain technology. Ethereum and Ripple, two similar decentralized digital cash systems, have flooded the market. Keeping this in mind, the current study's goal is to examine the future of cryptocurrency as a whole. Out of various cryptocurrencies, Bitcoin and Ethereum are considered for the research study. This paper attempts to study the relationship between the year and prices of Bitcoin and Ethereum.

**Keywords:** Cryptocurrency, Virtual currency, Blockchain technology, Bitcoin, Ethereum

## INTRODUCTION

Money is regarded as one of the most important production factors. Money is essential in all aspects of life. All of the business transactions were monetary. Money has existed in human history for at least 3000 years. Money is a great accomplishment and proof of civilization. It was speeding up the pace at which business could be completed. During the prehistoric period, money was used for trading goods and later for banking transactions. Skins, weapons, gold, precious stones, pearls, coins, and paper have all evolved into paper, digital currency, and virtual currency. The currency is currently being converted to digital money. This digital currency has been used in many different ways, including Bitcoins, narrow money, broad money, and cryptocurrency. Currency has been used in a variety of ways in different countries. Money is a unit of measurement, a medium of exchange, and a repository for wealth - it can be a shell, a metal coin, or a piece of paper. It enables people to trade goods and services indirectly, to understand the price of goods, and to save for larger purchases in the future. A currency is a widely accepted form of money that is used within a country as a medium of exchange for goods and services. Traditional currency, often known as fiat currency, is a type of money that is centralized, supported, and maintained by a recognized government agency. Cryptocurrency is a digital representation of value that is built on a blockchain and is based on encryption. Unlike traditional currencies, most cryptocurrencies are completely decentralized and operate on a peer-to-peer basis. Some cryptocurrencies are controlled by a single entity and operate on private ledger systems.

## REVIEW OF LITERATURE

Bitcoin's creator, Satoshi Nakamoto, a pseudonymous person whose true identity is still unknown, first proposed the concept of cryptocurrency in 2008. On a cryptography mailing list, Nakamoto posted a paper titled Bitcoin: A Peer-to-Peer Electronic Cash System. In 2009, the Bitcoin software was made available to the general public. The valuation of Bitcoin happened the very next year.

**Kevin Maney (2014)-**

In his article titled "End of Dumb Money", He discussed how Bitcoin (BTC) was concerned with the author's assertion that Bitcoin (BTC) exemplifies the future of money, and the article concluded with the disadvantages of cash and credit cards, as well as the failure of previous attempts to create digital currencies, such as flooz.

**Seitim Aiganym (2014)-**

In his article titled “The usage of Cryptocurrency as an alternative solution of the issue of the world monetary system” He was concerned with the tropical matter of Cryptocurrency, its mechanism of emission, and its catch in the current market, and the article concluded with the information that, while traditional currencies are not as stable as they once were, Bitcoin (BTC), despite being unrecognized money, has its stock exchange, users, and carriers, and thus presents itself as a substitute solution to the current system.

**Ryan Farell (2015)-**

In his article titled “An Analysis of the Cryptocurrency Industry”, He discusses the crypto- currency industry, which is growing rapidly in terms of the number of coins currently in circulation. It went on to say that the industry is constantly coming up with new solutions to various problems. It asserts that while Bitcoin (BTC) may not dominate the industry in the long run, the industry will survive.

**Harwick Cameron (2016)-**

In his article titled “Cryptocurrency and the problem of intermediation”, He intends to investigate the prominence of Cryptocurrency as the “technological monetary system for the current international regime of central bank-issued monies,” and the article concludes with the knowledge that it may be beneficial to have a Cryptocurrency with a reliable buying power to ameliorate adoption concerns, even if the currency would not stabilize widespread growth until the regulation preventing the currency from growing is repealed.

**Richael Witkowski (2016)-**

In his article titled Issues “Warning on Virtual Currencies like Bitcoin”, In his work for the CFPB, he warns about virtual currencies such as Bitcoin (BTC) posing a significant risk to consumers, and the article concludes by saying that “government agencies had begun to collaborate on digital currency issues through informal discussions and interagency task forces concerned primarily with money laundering and other law enforcement matters.”

**Alexander D’Alfonso, Peter Langer, Zintis Vandelis (2016)-**

He forecasted some of the major cryptocurrencies over the next five years. They discovered that Bitcoin (BTC) would most likely grow at a 301 percent annual rate to a value of \$2550. Ethereum, on the other hand, is expected to grow at a 634 percent annual rate to reach the forecasted value of \$88. Both values represent incredible growth rates, owing to the dramatic growth driven by hype and adoption in the early stages of the life cycle.

**Finology Blog (2020)-**

In their article titled “Cryptocurrency in India: Everything, you need to know!”, They discussed what exactly Cryptocurrencies are, and they defined them as a digital type of currency used in trading and transactions. It is similar to paper currency, except that it is not physical. A cryptocurrency is a form of currency that is not and cannot be regulated by any government or cluster of governments. Which is primarily based on cryptographic principles (a method of protecting information and communications through the use of codes so that only those for whom the information is intended can read and process it.).

They also discussed how many cryptocurrencies are decentralized networks based on blockchain technology; it is a growing list of records. They are known as blocks, and they are what connect and secure each type of cryptocurrency. Then there’s mining, which is a single network where all the funds are kept. In other words, mining refers to the process of validating cryptocurrency. Bitcoin, Litecoin, Ethereum, and Z-cash are some of the most popular cryptocurrencies.

They also opined in the future, there is going to be a conflict between regulation and anonymity since several cryptocurrencies have been linked with terrorist attacks, the government would want to regulate how cryptocurrencies work; on the other hand, the main emphasis of cryptocurrency is to ensure that their users are kept anonymous.

**Indian Express (2021)-**

In their article titled “Cryptocurrency and India”, They talked about “catching the new tech wave” and also they discussed the growing importance of cryptocurrency around the world and hence why India needs to admit to joining the rest of the globe in the next stage of the digital age revolution. From the creation of Bitcoin in 2008 to the present day, cryptocurrencies have grown in popularity all over the world. The profits generated by this industry since its onset of the Covid-19 pandemic in January 2020 have been astonishing; the “crypto market” has grown by more than 500%. Unfortunately, the Finance Minister stated in the 2018-19 budget speech that the government does not consider cryptocurrencies to be legal tender.

Given that India was a late starter in all initiation phases of the digital revolution – when semiconductors, the internet, and smartphones made their mark – there is a need for a shift in attitudes and

acceptance for these virtual currencies, as they represent India's first step towards entering the next phase of the digital revolution. They also stated their opinion that India is on the verge of the next phase of the digital revolution, with the possibility to stream its human capital, expert knowledge, and resources into this popular uprising and arise as one of its champions. All that is required is for law making to be done correctly. Blockchain and crypto assets will be essential components of the Fourth Industrial Revolution; Indians should not be forced to ignore them.

#### **The Economic Times (2021)-**

In their article titled "Cryptocurrency in India: The past, present and uncertain future", They spoke about the ongoing cryptocurrency controversy in India. They also stated their opinion that hardly anybody knows when, but the government is likely to ban all "private" cryptocurrency in India while also announcing a constitutional digital currency sometime "soon." This is despite numerous industries appeals and a failed attempt by the Reserve Bank of India (RBI) in 2018 to sneak in a ban by prohibiting banks from dealing with cryptocurrency. Last March, the Supreme Court ruled that the ban was unconstitutional.

### **OBJECTIVES OF THE STUDY**

Following are the objectives of the research study:

- To study the concept of Cryptocurrency.
- To analyze various Cryptocurrencies.
- To identify the growth and prospects of Cryptocurrency.
- To understand the reason behind the emergence of Cryptocurrency.

### **RESEARCH METHODOLOGY**

#### **Data Collection Method:**

There are two types of data primary and secondary data. I have collected secondary data from sources like reports, journals, previously published papers, and articles duly cited in the bibliography (reference) for this study to provide insights into the research study. I have also taken insights from Youtube videos, news channel episodes called Daily News and Analysis, social media platforms like Instagram. I have also attended a demo session on cryptocurrency to get better knowledge about Cryptocurrency.

#### **Time Frame:**

The period of 2017 to 2020 was chosen to investigate and look for the growth in cryptocurrency and identify any significant growth. The study was conducted between May to June 2021.

#### **Statistical Tools used:** ANOVA

#### **Research Hypothesis:**

The following hypothesis has been framed and appropriate statistical tools have been applied for testing of hypothesis.

#### **Hypothesis 1: Ethereum**

**H0:** There is no significant difference in Ethereum prices with regard to years between 2017 to 2020.

**H1:** There is a significant difference in Ethereum prices with regard to years between 2017 to 2020.

#### **Hypothesis 2: Bitcoin**

**H0:** There is no significant difference in Bitcoin prices with regard to years between 2017 to 2020.

**H1:** There is a significant difference in Bitcoin prices with regard to years between 2017 to 2020.

### **DATA ANALYSIS & INTERPRETATION**

#### **ETHEREUM**

##### **Hypothesis 1**

**H0:** There is no significant difference in Ethereum prices with regard to years between 2017 to 2020.

**H1:** There is a significant difference in Ethereum prices with regard to years between 2017 to 2020.

### Descriptives

PRICE	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
2020	12	339.3358	183.52736	52.97979	132.86	735.94
2019	12	178.2250	55.81591	16.11266	106.71	292.21
2018	12	454.6367	305.88288	88.30078	113.77	1118.08
2017	12	251.4983	208.60989	60.22049	10.71	736.77
Total	48	305.9240	227.03891	32.77024	10.71	1118.08

### Test of Homogeneity of Variances

PRICE	df1	df2	Sig.
Levene Statistics			
4.587	3	44	0.07

From the above table, it is evident that there is a homogeneity of variance as the P-value is more than 0.05. Therefore there is a homogeneity of variance.

### ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	510011.948	3	170003.983	3.911	0.015
Within Groups	1912681.458	44	43470.033		
Total	2422693.406	47			

From the ANOVA table, the F value is 3.911 with 3 and 44 degrees of freedom and the P-value is less than 0.05. Hence H<sub>0</sub> is rejected and H<sub>1</sub> is accepted. Therefore we can conclude that there is a significant difference in Ethereum prices with regard to different years. To find the significant difference in prices with regard to years Tukey's multiple comparison Post-Hoc test is applied.

Dependent Variable: Price Tukey HSD  
Post Hoc Test Multiple Comparisons

(I) YEAR	(J) YEAR	Mean Difference (I- J)	Std. Error	Sig.
2020	2019	161.11083	85.11760	0.246
	2018	-115.30083	85.11760	0.534
	2017	87.83750	85.11760	0.732
2019	2020	-161.11083	85.11760	0.246
	2018	-276.41167*	85.11760	0.012
	2017	-73.27333	85.11760	0.825
2018	2020	115.30083	85.11760	0.534
	2019	276.41167*	85.11760	0.012
	2017	203.13833	85.11760	0.095
2017	2020	-87.83750	85.11760	0.732
	2019	73.27333	85.11760	0.825
	2018	-203.13833	85.11760	0.095

\*. The mean difference is significant at the 0.05 level.

From the Post hoc Turkey HSD table, it is evident that there is a significant difference with the Ethereum Prices between years 2019 and 2018 as the P-value is less than 0.05.

## BITCOIN

### Hypothesis 2

**H0:** There is no significant difference in Bitcoin prices with regard to years between 2017 to 2020.

**H1:** There is a significant difference in Bitcoin prices with regard to years between 2017 to 2020.

### Descriptives

PRICE	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
2020	12	12310.2500	6229.89906	1798.41695	6412.50	28949.40
2019	12	7325.8417	2569.57693	741.77297	3437.20	10818.60
2018	12	7183.1250	2082.24711	601.09297	3709.40	10333.90
2017	12	4299.7583	4012.27703	1158.24461	965.50	13850.40
Total	48	7779.7438	4887.47109	705.44569	965.50	28949.40

### Test of Homogeneity of Variances

PRICE	df1	df2	Sig.
Levene Statistics			
2.311	3	44	0.089

From the above table, it is evident that there is a homogeneity of variance as the P-value is more than 0.05. Therefore H0 is accepted and H1 is rejected.

### ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	398373196.987	3	132791065.662	8.066	0.000
Within Groups	724333366.991	44	16462121.977		
Total	1122706563.978	47			

From the ANOVA table, the F value is 8.066 with 3 and 44 degrees of freedom and the P-value is less than 0.05. Hence H0 is rejected and H1 is accepted. Therefore we can conclude that there is a significant difference in Bitcoin prices with regard to different years. To find the significant difference in prices with regard to years Tukey's multiple comparisons Post-Hoc tests are applied.

### Post Hoc Test Multiple Comparisons

(I) YEAR	(J) YEAR	Mean Difference (I-J)	Std. Error	Sig.
2020	2019	4984.40833*	1656.40786	0.022
	2018	5127.12500*	1656.40786	0.017
	2017	8010.49167*	1656.40786	0.000
2019	2020	-4984.40833*	1656.40786	0.022
	2018	142.71667	1656.40786	1.000
	2017	3026.08333	1656.40786	0.275
2018	2020	-5127.12500*	1656.40786	0.017
	2019	-142.71667	1656.40786	1.000
	2017	2883.36667	1656.40786	0.315
2017	2020	-8010.49167*	1656.40786	0.000

	2019	-3026.08333	1656.40786	0.275
	2018	-2883.36667	1656.40786	0.315

\*. The mean difference is significant at the 0.05 level.

From the above Post hoc Turkey HSD table, it is evident that there is a significant difference with the Bitcoin Prices between the year 2020 – 2019, 2020 – 2018, and 2020 - 2017 as the P- value is less than 0.05.

## FINDINGS

- The cryptocurrency market is found to be a highly volatile market.
- The major factors influencing the prices of cryptocurrencies are demand for the coins, supply of the coins, community involvement, utility of coins, scarcity of coins.
- An important factor that influences the value of cryptocurrency is Market capitalization.
- Ethereum employs the same technology as Bitcoin, a blockchain, which implements a shared, decentralized public ledger to delegate the network so that it is not controlled by a single entity.
- In India, Bitcoin and other cryptocurrencies are not illegal, but they are unregulated.
- The government also intends to introduce the "Cryptocurrency and Regulation of Official Digital Currency Bill, 2021," which is expected to definitively clarify the government's policy.

## SUGGESTIONS

- People of India must be made aware of cryptocurrency as most of them lack knowledge regarding the same.
- One must also be aware of the technology behind the transactions of cryptocurrencies.
- Different crypto trading platforms also should be made aware to the people of India.
- By establishing a regulatory body, the government can avoid or eliminate any criminal activities taking place using cryptocurrency and also avoid the funding of terror activities or digital black markets.
- Many countries have accepted cryptocurrency and there is scope for it shortly. Hence India has to catch up with the rest of the world before it's too late to do so.

## CONCLUSION

Crypto-currencies have been around for more than ten years. Overall, they remain in the shadows, as technological advancements have left legislators far behind. The majority of countries are still researching how to properly regulate crypto surveillance and money laundering. Unlike traditional currencies, cryptocurrencies are not backed by any assets like cash or gold. Changes in the economy like inflation or deflation would not affect the prices of cryptocurrencies. The change in prices is due to factors like demand and supply.

If you are a conservative saver who primarily invests in fixed deposits, PF, and insurance policies, you should avoid investing in cryptocurrencies. You must first become familiar with equity. Volatility is not your friend; you must first learn how to deal with volatility. If you are a Moderately Aggressive Investor, you should still consider it. However, given its extremely volatile nature, it's best to start with a few thousand dollars or whatever you can spare (or afford to lose completely) and get a feel for it. Learn more about the concept, which I can pretty much guarantee that it is not easy to grasp. Nonetheless, if one wants to invest more or wants to get more returns, then they must make the effort.

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