Factors That Influence the Price of Bitcoin

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Abstract: *A cryptocurrency is a form of decentralised digital money that does not rely on the verification services given by traditional financial institutions to verify monetary transfers. Traditional financial institutions provide verification services to ensure the legitimacy of monetary transactions. Because of this, cryptocurrencies are able to function independently of the verification services provided by conventional financial institutions. In the past, people of the community were looked down upon for entertaining the possibility of utilising cryptocurrencies as a legitimate method of conducting financial transactions. This was because of the stigma that surrounded cryptocurrencies at the time. This was because a lot of people had the misconception that cryptocurrencies did not provide sufficient protection to be used for dealings of this kind. The goal of this research is to determine whether or if there are discernible differences that can be found between the market capitalizations of the three unique sorts of coins. Specifically, this question will be investigated in more detail. After reaching the conclusion that the dataset did not belong to a normal distribution, this target performed the Kruskal-Wallis's test in order to further investigate the data. The findings of this study revealed that the various types of coins' market capitalizations had significantly distinct mean values, as indicated by the results of this test.*

Keywords: Bitcoin; Ethereum; Binance Coin; Kruskal-Wallis Test.

1. INTRODUCTION

A sort of digital money known as a cryptocurrency does not depend on traditional banking institutions to validate financial transactions (Khedr et al., 2021). Previously, it was considered taboo and inappropriate for members of the community to discuss the topic of accepting cryptocurrencies as a legitimate means of conducting financial transactions. In contrast to other currencies already in circulation, it was developed according to the notion of decentralized control. The fact that cryptographic algorithms are used to validate transactions is where the word 'cryptocurrency' originates (Frankenfield, 2022).

With peer-to-peer technology, anybody can send or receive money from almost any location. Cryptocurrency payments exist solely as digital records in an online database that personally details transactions and not as true physical coins that can be carried and traded. Although the concept of electronic currency dates back to the late 1980s, Bitcoin, launched in 2009 by pseudonymous (and still unidentified) developer Satoshi Nakamoto, is the first successful decentralised cryptocurrency (Farell,2015). Despite the absence of rapid growth in the first few years after its launch, Bitcoin has been growing extremely rapidly since 2017 (Charandabi & Kamyar, 2021).

As Bitcoin took the lead over other cryptocurrencies, there were more than 6,099 different cryptocurrencies with a total market capitalisation of USD 354,316 million and Bitcoin dominance of over 60% (Yatsyk, 2020). Moreover, Ethereum, often known as ETH, has surpassed Bitcoin in market valuation, making it the second-largest cryptocurrency globally. It was a cryptocurrency that did not use Bitcoin's open-source technology, instead employing its own distributed ledger and protocol. Another cryptocurrency that comes in third place is called Binance Coin, abbreviated as BNB most of the time. Binance exchange runs the Binance crypto-coin (BNB), and the trading symbol is BNB (Santosha, 2020). Binance Coin was initially issued in July 2017 and was designed to operate on the Ethereum blockchain using the token ERC-20 and it is estimated to have only a maximum. However, it later evolved into the native currency of Binance's blockchain, known as the BinanceChain. Binance coin has a maximum of 200 million BNB tokens (Santosha, 2020). Despite of the growing volume of studies on the price of cryptocurrencies, there is still a need for a full understanding of the elements that significantly impact the price of cryptocurrencies.

2. METHOD & MATERIAL

The data that was used for this study was secondary. The data had been retrieved from a cryptocurrency website that provides a real-time price which was coincodex.com. This website recorded and had the historical prices for over 6000 cryptocurrency coins that were available in the market. CoinCodex.com is a website that provides open-source data, and researchers were free to use the data as long as coincodex was credited. All historical data could be downloaded through the website, and the data in an Excel file was already provided. A total of two variables were used in this study, which were the market capitalization (market cap) and types of cryptocurrencies(coin type).

Kruskal-Wallis one-way ANOVA, a non-parametric approach in comparing the coin group independent samples was used in the study to compare the means of the three different types of crypto coins which is Bitcoin, Ethereum, and Binance coin. This technique is used instead of ANOVA since the data is not distributed normally.

3. FINDINGS

Based on the methodology described, there are two variables were selected to evaluate the significant difference in market capitalization. The analysis was carried out using SPSS.

3.1 To Determine The Significant Difference In Market Capitalization Between The Three-Coin Types (Bitcoin, Ethereum, Binance Coin).

Table 1. This is the test statistics

Kruskal-Wallis H	df	Sig.
3054.69	42	.000

As the result from table 1, the p-value is 0.000 which is less than 0.05 indicates that the p-value for these variables were less than significance level. In conclusion, Kruskal-Wallis H test showed a significant difference between the coin type for the market capitalization.

Table 2. This is the table of Pairwise Comparisons of Coin Type

Coin Type	Coin Type	Test Statistic	Std. Test Statistic	Sig.
Bitcoin	Binance Coin	-3005.464	-55.254	0.000
	Ethereum	1486.238	28.056	0.000
Ethereum	Binance Coin	-1519.226	-27.930	0.000

Based on the table, it indicates that the result of p-value for Bitcoin was significantly different from Binance Coin. Moreover, Bitcoin was also significantly different with Ethereum. Lastly, Ethereum and Binance Coin were also significantly different with each other.

4. DISCUSSION

This research has shown that there are differences in the market capitalization between Bitcoin, Ethereum, and Binance coin. Furthermore, the significant difference in market capitalization suggests that underlying factors are responsible for the divergent values of Bitcoin, Ethereum, and Binance Coin. In addition, the observed market capitalization differences highlight the existence of distinguishing factors that affect each coin type differently. It could indicate varying levels of cryptocurrency popularity, adoption, investor confidence, technological advancements, or market demand.

5. CONCLUSION

As a conclusion, understanding the significant differences in market capitalization between Bitcoin, Ethereum, and Binance Coin is essential for cryptocurrency investors, market analysts, and stakeholders. Recognising the factors that influence these variations allows for more informed decision-making and a better understanding of market trends and potential opportunities.

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