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"The Impact of Blockchain Technology on Stock Market Performance During COVID-19." A comparison of the stock markets in the United Arab Emirates and India.

Dr. Shaista Anwar
Business Administeration Department, Khawarizmi International College, Abu Dhabi, U.A.E.

Dr. Rouhi Faisal
Business Administeration Department, Khawarizmi International College, Alin, U.A.E.

Dr. NaelSayedahmed
Business Administeration Department, Khawarizmi International College, Abu Dhabi, U.A.E.

Abstract

This research paper focuses the role played by the blockchain technology duringCOVID-19 on Indian stock Market as well as UAE stock Market performance. In other words, this article analyses the impact of Blockchain Technology on stock market performance and growth during pandemic. In this regards we used Pre and Post Covid -19 situations of countries and the stock market data for analysis. In this research paper we are trying to find out the investors behavior, security and risk taking ability in both markets and their returns. In this research paper we will try to find out the sentiments of investors towards stock prices and how it affects the performance of any industry stock. Sentiments of investors' means here that some investors are not thinking rationally and they behave like noise traders.In this research paper we will try to find out the pre and post Covid market situations and weather post Covid is actually a Post Covid or not. Importance and future prospects of new technologies during this pandemic will assess and analyze in this research report.

Keywords: Stock Market, Market Sentiments, COVID-19, Recovery and Blockchain Technology.

1. Introduction

Recent research findings increasingly suggest that the stock market is not driven solely by the fundamentals, but also by the empirical and theoretical sentiments of the investors. Market position changes time to time related to systematic and unsystematic risk related to market. Pre COVID-19, the major exchange in India was about $2.16 trillion. The blue-chip companies of India during 2019 like HDFC, TCS, HDFC Bank, Hindustan Unilever, Reliance, ICICI Bank and Kotak Bank, returns were negative but in the beginning of year 2020 the market showed the highest level of recovery like BSE traded 12,362 and NSE traded 42,273 respectively. In the beginning it seems strong market condition, more than 30 companies were ready to invest in IPOs, market condition was good in the mid of January.
After the entry of COVID 19, the Indian stock markets came under uncertainty. It's a nature of systematic risk, which cannot be controlled by any Government, Nation, Company and Industry. The whole World Market crashes. The impact of World Market on BSE Sensex and Nifty was so strong that it fell from 50 to 38 percent. The stock market has impacted the sentiments this pandemic released upon the investors, weather they are domestic investors or Foreign.

Most of the Industries badly affected in India and UAE both. Companies were trying to layoffs their employees, Employees compensation have been affected resulting in negligible growth, tourism, entertainment, aviation and hospitality industries had been impacted adversely and stock of these industries had fell by more than 41% in both countries.

2. Blockchain Technology

Blockchain technology plays a vital role in stock market all over the world. Blockchain technology helps to handle the problems of the traditional Securities Exchange Market through decentralization process. The ultimate feature of the Blockchain like transparency, low transaction cost, self enforced validation, global agreement of all the transactions that helps to security exchange market to overcome from the limitations of old and traditional market system.Smart contract is used in blockchain technology, in which, node will change its status according to the results obtained after its execution. They also represent agents with functionality and state that could be activated even after the successful execution at any time. Not only this blockchain technology lower the transaction costs also by removing the mediators or agents from the transactions. It gives more transparency to the investors and requires less maintenance cost. Blockchain would incorporate automation into the necessary post trade activities. The transaction can be solved in a minute instead of days, real time settlements with a greater degree of accountability and transparency in the transactions.

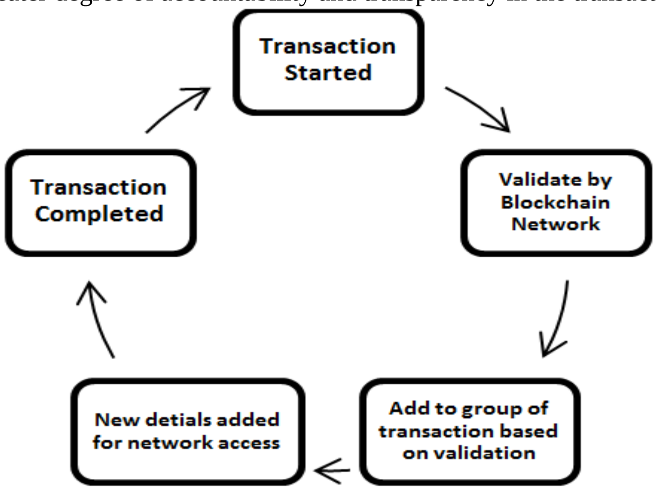

Fig 1.Adding Transaction in Blockchain Network

3. NewDevelopments of Blockchain in Stock Market

Although blockchain is a promising advancement technology, it is still in its infancy in the Securities Exchange Market. Once it is implemented, the market's current intermediaries (for example, brokers) will play a significant part in transformation and responsibilities. We'll go through some of the most current blockchain innovations in the securities market in this article:

• In 2014, NASDAQ, the world's second-largest stock exchange, launched the 'Linq' Private Equity Exchange on top of blockchain in collaboration with chain.com, the leading provider of blockchain infrastructure to financial institutions and businesses, which helped to promote the safe and secure transfer of privately-held company shares in the blockchain platform study. It was also meant to provide crucial capabilities for pre-IPO or private companies, such as the Cap table and investor relationships. The existing stock trading process in this exchange is slow and inefficient due to the involvement of several third parties. This product is exceptionally simple, effective, and traceable when compared to the traditional way.

• Counterparty is a protocol that uses traditional financial instruments to build smart contracts. These smart contracts help with contract negotiation by validating, executing, and removing the need for a physical document. It also does away with the requirement for a bank or a broker.

• Another milestone in the Securities Exchange Market will be the opening of the Australian Stock Exchange (ASX), which will incorporate Blockchain technology. The Australian Stock Exchange (ASX) invested $10 million in New York-based Digital Asset Holding in January 2016 to support blockchain research and development. After a few months, ASX stated that it has created the first iteration of a new distributed ledger to replace its current settlement system, CHESS. The technique involved working with Australian regulatory agencies and other trade parties during the implementation phase. ASX is presently in the testing phase after completing the development phase. This product is being hailed as a watershed event in the stock market for distributed ledger technology.

• Block stream is a company that specializes in the building of blockchains. Its open-source project 'Elements' is focused on side chains in order to address fragmentation, security, and other crypto currency-related challenges. Elements enables the creation of several asset types on a single blockchain, opening up a flood of new application possibilities. Bonds, stocks, and derivatives, as well as bank balances and mortgages, are all examples of prospective applications.

• Coin Setter is a Bit coin-trading site with forestry-related features established in New York. It's based on the Highline Project, which employs blockchain-based technology to settle and process financial transactions in T+10 minutes instead of the usual T+3 or T+2 days.
• In 2016, Switzerland's Securities Services post-trade market infrastructure (SIX) developed a blockchain-based system that covers the whole trading life cycle from issuance to securities settlement. The issue of bonds as smart contracts, complete with coupon payment dates, amounts, and repayment dates, was possible with this prototype. The smart contract was also linked to the chain. Digital currency buyers have the option of contributing funds to the bond. SIX Securities Services offers a single source of data for the ledger as well as significant cost savings from the elimination of reconciliation processes and operations.
• Augur is a decentralized prediction platform based on the Ethereum blockchain that allows users to purchase and sell shares in anticipation of an event with a certain outcome probability. These can also be used to rely on the "wisdom of crowds" for economic and financial predictions.

4. The Importance of Market Capitalization in Investing

It's critical to compare the market size and the price of each individual share before investing in a stock.Market capitalization provides a clear image of a company's value, the dangers it faces, and it aids in the diversification of portfolios by allowing for companies of various sizes. A company's Market Capitalization decides whether it belongs to the small capital, mid capital, or Big capital categories of publicly traded companies.
According to market capitalization, companies are often categorized into the following categories:
i) Big-capital: These are companies that are completely developed, well known, and have a market value of $10 billion or more in established industries.
ii) Mid-capital: These are well-known companies with a market value of between $2 billion and $10 billion in areas that are experiencing or are likely to experience fast growth.
iii) Small-capital: These are start-ups with a market capitalization of less than $2 billion that cater to fast-growing industries.
A market capitalization of $10 billion or additional is considered Big Capital. These are the companies that have been over for a long time and are key participants in well-known industries. Big-capital firms don't always provide high returns in a small period of time, but over time, these companies often return investors with regular increases in share value and dividend payments. These businesses are thought to be less risky because their pricing is typically steady.

Fig 2.

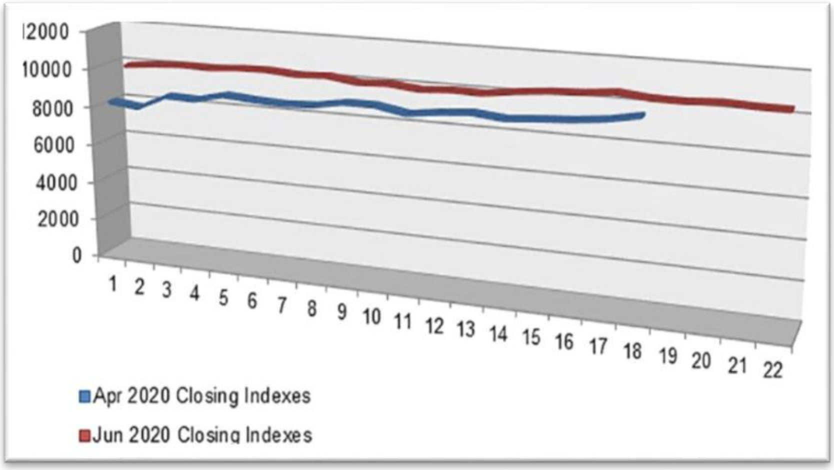

Fig 3.

5. Literature Review

Fosback V.G and Jha in their research paper second ed. Routledge; London: 2003. Macro Economics for Developing Countries."New issues are a subset of equities that aren't evaluated using traditional methods." A new issue is the first time a corporation sells stock to the general public. When a company's physical resources have been depleted and it requires new capital for expansion or other objectives, it sells its shares to the public. The need for this market, on the other hand, comes when business prospects improve and more cash is generated to satisfy these expectations. The volume of new securities offerings rises in tandem with the growth and development of a country's economy. Offers for subscription, right issue, offer for sale, and private placement are the different types of securities offered in this market.

According to Ekanem W. The NSE Market Annual; 2003. Investment Opportunities in the Capital Market. Ekanem W. The NSE Market Annual; 2003. Stimulating the Growth of Indigenous Enterprises and Jha R. second ed. Routledge; London: 2003. Macro Economics for Developing Countries, Stock markets may even be a good predictor of a country's economy, since stock prices can be a leading sign of overall economic expansion and contraction. The stock exchange's relevance stems from the fact that it promotes businesses and the economy in the following ways:

Companies and corporations can use the stock exchange to raise funds for operations, expansion, production and development. The government, which is a huge borrower, can raise money by issuing and selling government bonds and stocks on the stock exchange. The stock exchange also encourages economic investment by providing an avenue for shareholders to purchase and sell shares immediately on the floor through stock brokers who work for the exchange. Furthermore, because shares may be easily converted to cash by selling them on the exchange, investment is encouraged. The National Stock Exchange, like those in other countries, provides a financial market where investors can readily purchase and sell shares and other securities. The stock exchange gives expert assistance on investment selection and management in the country. The general population has been professionally advised on how to invest.they are encouraged and mobilized to invest and this raises living standards in the long run.

According to Ologunde, A., Elumilade, D., Saolu, T., 2006. "Stock market capitalization and interest rate in Nigeria: A time series analysis," International Research Journal of Finance and Economics, Issue 4, pp.154-67.Examined the relationships between stock market capitalization rate and interest rate. They used the ordinary least-square (OLS) regression method and they found that the prevailing interest rate exerts positive influence on stock market capitalization rate. Also, they are finding that Government development stock rate exerts negative influence on stock market capitalization rate and prevailing interest rate exerts negative influence on government development stock rate.

6. Objectives of the Research

- To gain a better understanding of how the Indian and UAE stock markets operate using Blockchain Technology, particularly in relation to pre- and post-COVID-19 equities.
- Analyze the implications of the COVID-19 spike on stock performance in India and the United Arab Emirates.
- Make clear and defensible conclusions and recommendations based on the findings.

7. Stock Market In India and UAE before Covid-19

Prior to COVID-19, the market capitalization of each of India's big exchanges was around $2.16 trillion. Within the Big-caps, the 2019 stock market rise was limited to 8–10 stocks. For the year 2019, the sensex returned roughly 14% (excluding dividends), although blue-chip corporations such as HDFC BANK, HDFC, TCS, INFOSYS, RELIANCE, HINDUSTAN UNILEVER, ICICI BANK, and Kotak Bank, without which the Sensex would have returned negative returns, dominated it. However, by the beginning of 2020, the market had recovered to the point where both the NSE and the BSE were trading at their greatest levels ever, with heights of 12,362 and 42,273 respectively. Nearly 30 companies were scheduled to file initial public offerings (IPOs) at the start of the year. Market conditions were generally positive, with record highs being reached in mid-January. In UAE between 2019-2022 original forecast revenue fro food and beverage industry CAGR 7.40% which impacted forecast revenue CAGR 5.12%.

8. COVID-19's Impact on Indian and UAE Stock Markets

Past demonstrates that occurrences occur that no one could have predicted or envisaged. These are occurrences that catch everyone off guard to the point where they cause devastation and disorder in human operations and disturb human life. These occurrences are known as black swans. This word was coined in 1697, when humans assumed that all swans were white until Dutch explorers discovered black swans for the first time in Western Australia, proving that swans could not be solely white. One such occurrence, the impact of the new corona virus (COVID-19) on the stock market, bears all the features of a black swan.

With the rise of Covid-19, the stock market around the world came collapsing. It has brought the entire world, especially the economic sector, to a halt. Markets all over the world have plummeted to levels last seen during the 2008 financial crisis. Although the world has suffered market crashes before, the impact of covid-19 is especially different since the epidemic is widespread, causing a great deal of market instability. For over three months, the country was in complete lockdown, which had a negative impact on numerous economic activities.

The closing stock indexes of the Nifty 50 in India for the months of January, April, and June 2020. It can be seen that in the month of January 2020, before the COVID-19 virus hit India, the stock market was functioning exceptionally well. It began to decline at the end of March 20 and reached a nadir in April 20 when the country was put on lockdown nationwide. As the government began to unwind the lockdown and resume economic activities at the end of May, market indices began to accelerate on the road to recovery, as evidenced by June 2020 data.

9. Findings

As a result of the significant link with global market patterns and indices, the Nifty 50 plummeted by 38%. Since the beginning of the year, the overall Market Capitalization has dropped by 27.31 percent. The stock market has done nothing but reflect investor sentiment around the world as a result of the outbreak. Companies have begun to cut back on spending, which has resulted in unemployment and layoff

Travel and transportation, the entertainment industry, and oil and gas have all been hit hard. These companies' stock prices have plummeted by more than 40%. As a result of the lockout, several companies have filed insolvency due to a non-functioning business.

The IT industry has also suffered as a result of the global freeze on technology spending, which has resulted in a decline in income for various organizations. There are, however, some industries that are unaffected by the recession and will be able to recover more quickly than other industries. Healthcare, finance, telecommunications, and retail, such as grocery, are among these industries.

In UAE it’s Real estate Industry, which recovered so fast in the beginning of 2021. Real Estate Industry, Food and Beverage Industry, Hotel and Tourism Industry was good but badly affected during Covid 19. Wholesale and retail trade was contributing around 25.2% of share of 2018 nominal GDP, which affected by Covid-19. Real Estate industry was contributing 6.6% in 2018 which fallen badly in 2020 and now started again gaining in the beginning of 2021. Accommodation and food services was 4.5% showed negative results in 2020. Some of the industries remain stable in this pandemic are Health Industry, Digital Industry and E- Commerce Industry.

10. Market Come Back

The Covid-19 epidemic is an unpleasant pandemic that has caused an economic, financial, and medical disaster in the country. These are difficult times, but humanity is recognized for its toughness, and it will emerge stronger than ever. A smart recovery plan is vital for reviving the economy and boosting business.

The government should concentrate on its Make in India initiatives, as well as the commercialization of indigenous technology, the development of a technology-driven transparent Public Distribution System (PDS), efficient rural health care delivery, import reduction, and the adoption of emerging technology domains such as AI, Machine Learning, Data Analytics, and others. Innovative products, expanded distribution, technology-driven procedures, and a sound balance sheet would help companies regain their growth momentum following the lockout. The only way to resuscitate the economy is for residents to improve their abilities and for the country to become self-sufficient**.**

The county must concentrate on recruiting international investment and minimize its reliance on imported goods. We must promote Indian-made products and support local producers. In reaction to the current circumstances and the confusion generated by the pandemic,

the RBI and the Government of India have proposed a variety of reforms, including repo rate reductions, regulatory relaxation through the extension of moratoriums, and several measures to improve liquidity in the system.
In terms of the market's outlook, we know from history that a crisis, no matter how long it lasts, does not last indefinitely. Drops in the BSE sensitive index are only transitory, and each drop allows investors to enter the market and earn a better return, particularly for those with a long-term investment view. Furthermore, the greater the volatility, the better the possibilities of receiving better profits. The world is capable of coming up with solutions to combat the pandemic. The markets will almost certainly rebound once the crisis is past.

11. Conclusion

Though a medical vaccine or other medical remedy for the Covid-19 has been discovered, it would be unrealistic to expect a quick economic recovery from the current effects of the pandemic. However, new variants of COVID from different countries appear every now and then, and there are expected to be a few more waves of COVID -19 in the near future. After the pandemic is over, we can only hope that normalcy will return to business and the economy, that the stock market will begin to move in a positive direction, and that, as in the past, recovery will be faster than expected. However, the stock market is highly volatile, and there is no guarantee of positivity.. Market again crashed on 26th of November 2021 with the news of new COVID variant from South Africa, in a day oil prices drop auto 12% and Sensex fallen 1687.94 points, or 2.87 percent to 57,107.15. the Nifty 50 declined 509.80 points, or 2.91% to 17,026.45. It was a black Friday. Indian market investors lost Rupees 7 Lakh crore in a single day.

References

- Ekanem W. The NSE Market Annual; 2003. Investment Opportunities in the Capital Market.
- Ekanem W. The NSE Market Annual; 2003. Stimulating the Growth of Indigenous Enterprises.
- Kurihara Y. The relationship between exchange rate and stock prices during the quantitative easing policy in Japan. *Int. J. Bus.* 2006;11(4):375–386.
- Jha R. second ed. Routledge; London: 2003. Macro Economics for Developing Countries.
- Fosback V.G., (1991), Stock Market Logic: A Sophisticated Approach to Profits on Wall Street, New York: Florida Dearborn Financial Publishing Incorporated.
- Ologunde, A., Elumilade, D., Saolu, T., 2006. "Stock market capitalization and interest rate in Nigeria: A time series analysis," International Research Journal of Finance and Economics, Issue 4, pp.154-67.
- Adamova, K.R., and I.E. Pokamestov. 2018. "The Digitalization of the Russian Financial Market: The Use of Technologies of the Distributed Ledger by the Institutions of Custodian Infrastructure." *Journal of Reviews on Global Economics* 7(4): 497–509.
- Avgouleas, Emilios, and AggelosKiayias. 2019a. "The Promise of Blockchain Technology for Global Securities and Derivatives Markets: The New Financial Ecosystem and the ' Holy Grail ' of Systemic Risk Containment." *European Business Organization Law Review* 20(1): 81–110. https://doi.org/10.1007/s40804-019-00133-3.
- Bansal, Gaurang et al. 2019. "Smart Stock Exchange Market: A Secure Predictive Decentralized Model." *2019 IEEE Global Communications Conference, GLOBECOM 2019 - Proceedings*: 0–5.
- Bhandarkar, Vinith V., Akshay A. Bhandarkar, and Aditya Shiva. 2019. "Digital Stocks Using Blockchain Technology the Possible Future of Stocks?" *International Journal of Management* 10(3): 44–49.
- Business,Hastings,LawJournal,LarissaLee,andLarissaLee.2016."NewKidsontheBlockchain : How Bitcoin ' s Technology Could Reinvent the Stock Market New Kids on the Blockchain : How Bitcoin ' s Technology Could Reinvent the Stock Market."12(2).
- Chen, Yan. 2018. "Blockchain Tokens and the Potential Democratization of Entrepreneurship and Innovation." *Business Horizons* 61(4): 567–75. https://doi.org/10.1016/j.bushor.2018.03.006.
- Collomb, Alexis, and KlaraSok. "Blockchain / Distributed Ledger Technology (DLT): What Impact on the Financial Sector?" : 93–111.
- Conley, John P. "Blockchain and the Economics of Crypto-Tokens And." (2017).
- Crosser,Nate.2017."InitialCoinOfferingsasInvestmentContracts :AreBlockchainUtilityTokens Securities ?":379–422.
- Dabbagh, Mohammad, Mehdi Sookhak, and Nader SohrabiSafa. 2019. "The Evolution of Blockchain: A Bibliometric Study." *IEEE Access* 7: 19212–21.
- Discussion, Canberra, and Paper Discussion. 2017. *"Blockchain and Securities Exchanges: Australian CaseStudy."*
- Frizzo-Barker, Julie et al. 2020. "Blockchain as a Disruptive Technology for Business: A Systematic Review." *International Journal of Information Management* 51(November): https://doi.org/10.1016/j.ijinfomgt.2019.10.014.
- https://www.google.ae/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjAlKTf2Lj0AhWgSfEDHdjGAsoQFnoECBEQAQ&url=https%3A%2F%2Faltios.com%2Fwp-content%2Fuploads%2F2020%2F06%2FCOVID-19-IMPACT-IN-THE-UAE-AND-GCC-REGION.pdf&usg=AOvVaw03yxSJeiTXo7dg_I0e5rSr