**Mini Project Synopsis**

On

**Crypto Trading Website**

Group No. 19

**Submitted by**

Prince Rathore(2104500100044)

Vansh K Tamta(2104500100063)

**Mini Project Guide**

Prof. (Dr.) LS Maurya

Principal

**Submitted to**

Ms. Monica Mitra

(Project in-charge)



**Department of Computer Science and Engineering**

**Shri Ram Murti Smarak of College of Engineering Technology and Research, Bareilly**

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**INTRODUCTION**

In recent years, the tendency of the number of financial institutions to include cryptocurrencies in their portfolios has accelerated. Cryptocurrencies are the first pure digital assets to be included by asset managers. Although they have some commonalities with more traditional assets, they have their own separate nature and their behaviour as an asset is still in the process of being understood. It is therefore important to summarise existing research papers and results on cryptocurrency trading, including available trading platforms, trading signals, trading strategy research and risk management. This paper provides a comprehensive survey of cryptocurrency trading research, by covering 146 research papers on various aspects of cryptocurrency trading (*e*.*g*., cryptocurrency trading systems, bubble and extreme condition, prediction of volatility and return, crypto-assets portfolio construction and crypto-assets, technical trading and others). This paper also analyses datasets, research trends and distribution among research objects (contents/properties) and technologies, concluding with some promising opportunities that remain open in cryptocurrency trading.

Cryptocurrencies have experienced broad market acceptance and fast development despite their recent conception. Many hedge funds and asset managers have begun to include cryptocurrency-related assets into their portfolios and trading strategies. The academic community has similarly spent considerable efforts in researching cryptocurrency trading. This paper seeks to provide a comprehensive survey of the research on cryptocurrency trading, by which we mean any study aimed at facilitating and building strategies to trade cryptocurrencies.

As an emerging market and research direction, cryptocurrencies and cryptocurrency trading have seen considerable progress and a notable upturn in interest and activity (Farell[2015](https://link.springer.com/article/10.1186/s40854-021-00321-6" \l "ref-CR114)). From Fig. [1](https://link.springer.com/article/10.1186/s40854-021-00321-6" \l "Fig1), we observe over 85% of papers have appeared since 2018, demonstrating the emergence of cryptocurrency trading as a new research area in financial trading. The sampling interval of this survey is from 2013 to June 2021.

**MOTIVATION**

People are motivated to engage in cryptocurrency trading for a variety of reasons. It's important to note that trading cryptocurrencies can be highly speculative and risky, and individuals should conduct thorough research and understand the associated risks before getting involved. Some common motivations for cryptocurrency trading include:

**[1]. Profit Potential**: Many traders are motivated by the potential for significant profits. Cryptocurrencies have experienced rapid price appreciation in the past, and some traders hope to capitalize on price fluctuations to make money.

**[2]. Diversification**: Cryptocurrencies can serve as a way to diversify an investment portfolio. Diversification can help reduce risk by spreading investments across different asset classes.

Speculation: Some traders enjoy the thrill of speculation and are drawn to the volatility and potential for quick gains or losses that cryptocurrencies offer.

**[3]. Decentralization** and Control: Cryptocurrencies operate on decentralized blockchain technology, which can be appealing to those who value financial independence and control over their assets.Innovation: Many traders are motivated by the innovative aspect of cryptocurrencies and blockchain technology. They see these technologies as groundbreaking and want to be a part of the movement.

**[4]. Global Access**: Cryptocurrency markets operate 24/7, and anyone with an internet connection can participate. This accessibility can be appealing to those looking to trade outside traditional market hours or across borders.

**[5]. Liquidity:** Major cryptocurrencies like Bitcoin and Ethereum are highly liquid, meaning they can be bought and sold quickly. This liquidity can make it easier to enter and exit positions.

**[6]. Technology Enthusiasm**: Many traders are motivated by their interest in blockchain technology, cryptography, and the underlying principles of cryptocurrencies. They see trading as a way to engage with and learn more about these technologies.

**PROBLEM STATEMENT**

Cryptocurrencies forever changed the idea of personal finance and doing business. Over the years, they cause controversy, are criticized, give rise to crime, are accompanied by failures, and make it possible to earn good money.

1. Malware:The first of them were created at the time of the advent of electronic payment systems. Now their counterparts are adapted to the cryptocurrency market and can be activated wherever such an opportunity arises.
2. Hackers Attack:Cyberattacks are the second largest problem and a frequent occurrence in the world of developing cryptocurrencies.
3. Bankruptcy and closure of exchanges: Over the previous 5 years, about 48% of cryptocurrency exchanges have been closed, among which quite promising were present.
4. Volatility=Volatility: The unpredictable jumps in the exchange rate are partly due to the limited release of the “king of cryptocurrencies” – 21 million bitcoins. Each of them is growing daily in price, increasing demand.
5. Spoofing payment information and phishing: As with ordinary e-money, users can be tricked into going to a phishing website where they upload their cryptowallets and enter a password.
6. Energy consumption: Bitcoin's proof-of-work consensus algorithm requires a significant amount of energy to maintain the network, raising concerns about its environmental impact.

**OBJECTIVES**

The objectives of a cryptocurrency website can vary based on the goals and focus of the platform. However, some common objectives for a cryptocurrency website include:

* **Education and Information:** Provide comprehensive and accurate information about cryptocurrencies, blockchain technology, and related topics. This can include guides, tutorials, and FAQs to help users understand the fundamentals.
* **Market Data and Analysis:** Offer real-time and historical data on cryptocurrency prices, market capitalization, trading volumes, and other relevant metrics. Additionally, provide analysis and insights into market trends.
* **Wallet Services:** If applicable, offer cryptocurrency wallet services for users to securely store and manage their digital assets. This may include both hot wallets (online) and cold wallets (offline).
* **Trading Platform:** If the website facilitates cryptocurrency trading, create a user-friendly platform with features like order placement, chart analysis, and portfolio tracking. Ensure security measures are in place to protect user funds.
* **News and Updates:** Keep users informed about the latest developments, news, and updates in the cryptocurrency space. This could include regulatory changes, technological advancements, and partnerships within the industry.
* **Community Building:** Foster a community around the website through forums, social media, or other channels. Encourage discussions, share insights, and provide a platform for users to connect.
* **Security Measures:** Emphasize and communicate the security measures in place to protect user data and assets. This can include encryption, two-factor authentication, and regular security audits.
* **Regulatory Compliance:** Stay compliant with relevant regulations and ensure that users are aware of the legal aspects of using the platform. This includes compliance with anti-money laundering (AML) and know your customer (KYC) regulations.
* **Partnerships and Integrations:** Form partnerships with other relevant businesses or integrate with third-party services to enhance the overall user experience. This could include payment processors, financial institutions, or blockchain projects.
* **User Support:** Provide excellent customer support to address user queries, troubleshoot issues, and ensure a positive user experience. This may involve having a responsive support team and comprehensive help resources.
* **Mobile Responsiveness:** Ensure that the website is optimized for mobile devices, considering the increasing number of users accessing the internet via smart phones.
* **Transparency:** Be transparent about fees, terms of service, and any other relevant information. Establish trust with users by providing clear and honest communication.

**LITERATURE REVIEW**

A literature review for cryptocurrency trading would typically involve an analysis of academic and professional research articles, papers, and books related to the subject. Below, I'll provide an overview of key topics and findings often explored in the literature on cryptocurrency trading:

1. **3commas: 3Commas Smart Trading terminal and auto trading bots. https://3commas.io/. [Online, Accessed 26 Jan 2020] (2020):** To get an effective trading result, traders need a strategy and high-quality software to implement it. To achieve this perfection, we create tools for trading on Binance that help many traders around the world.We recommend to use only proven trading services. We have been working with Binance since 2017, in October 2019 we became official partners. Trading bots helps users grow their cryptocurrency investments using a feature-rich terminal and proven automated bots that take full advantage of the Binance exchange platform. For every market condition, there’s a trading strategy that can profit from it. 3Commas bots happen to be really good at reducing average acquisition costs, directly increasing your profit margins from each trade.
2. **What crypto exchanges do to comply with KYC, AML and CFT regulations. https://cointelegraph.com/news/what-crypto-exchanges-do-to-comply-with-kyc-aml-and-cft-regulations. [Online, Accessed January 11, 2020] (2019):** Exchanges are simply an important component of the system that makes the crypto market tick. Regulators around the world have [identified](https://www.reuters.com/article/uk-markets-bitcoin/bitcoin-other-cryptocurrencies-tumble-on-government-crackdown-worries-idUSKBN1F50UV" \t "https://cointelegraph.com/news/_blank) this, which is why regulatory moves have primarily targeted exchanges. Regulators want to be sure that exchanges employ the best security practices as well as measures — Know Your Customer ([KYC](https://cointelegraph.com/tags/kyc)). Some exchanges do take their compliance to those measures seriously. For example, in the aftermath of the [Binance hack](https://cointelegraph.com/news/hackers-withdraw-7-000-bitcoins-in-binance-crypto-exchange-security-breach) on May 7, when around 7,074 bitcoins (worth $40 million on the day) were stolen, the company’s founder and CEO, Changpeng Zhao, [announced](https://www.binance.com/en/blog/333497959022997504/Binance-Security-Incident-Update" \t "https://cointelegraph.com/news/_blank) that a significant security update will be conducted that will also include an upgrade to the KYC measures:

**“We are making significant changes to the API, 2FA, and withdrawal validation areas, which was an area exploited by hackers during this incident. We are improving our risk management, user behavior analysis, and KYC procedures.”**

[Know Your Customer](https://complyadvantage.com/knowledgebase/kyc/" \t "https://cointelegraph.com/news/_blank), refers to a set of procedures and process that a company employs to confirm the identity of its user or customer. The robustness of KYC procedures varies across companies and jurisdictions. However, KYC fundamentally involves the collection and verification of a customer’s means of identification — including government-issued identity cards, phone numbers, a physical address, an email address and a utility bill, to name a few.

1. **Delfabbro, P., King, D., Williams, J., & Georgiou, N. (2021). Cryptocurrency trading, gambling and problem gambling. Addictive Behaviors, 122, Article 107021. <https://doi.org/10.1016/j.addbeh.2021.107021:>** Some forms of speculative trading share similarities with gambling. Decisions are often based on limited information, short-term motives for gain, and highly volatile and uncertain outcomes. Given these similarities, there is evidence to show that people who are attracted to gambling are also statistically more likely to engage in higher risk speculation such as day-trading of stocks and crypto-currency trading. In this study, involving 543 people (M = 388, F = 155, 85% aged 18–40 years) who reported at least monthly sports-betting, crypto-currency trading or both, we examined whether gambling and problem gambling were reliable predictors of the reported intensity of crypto-currency trading. The results showed that gambling and problem gambling rates were highest among those who reported both activities and that problem gambling scores (PGSI) and engaging in stock trading was significantly related to measures of crypto-currency trading intensity as based on the time spent per day, number of trades and level of expenditure. Future research should examine whether gambling history and involvement influences how people manage their investments in crypto-currencies, including their propensity for making riskier decisions and experiencing more negative outcomes.
2. **Delfabbro P, King DL, Williams J (2021) The psychology of crypto currency trading: Risk and protective factors. J Behav Addict:** Crypto-currency trading is a rapidly growing form of behaviour characterised by investing in highly volatile digital assets based largely on blockchain technology. In this paper, we review the particular structural characteristics of this activity and its potential to give rise to excessive or harmful behaviour including over-spending and compulsive checking. We note that there are some similarities between online sports betting and day trading, but also several important differences. These include the continuous 24-hour availability of trading, the global nature of the market, and the strong role of social media, social influence and non-balance sheet related events as determinants of price movements.

We review the specific psychological mechanisms that we propose to be particular risk factors for excessive crypto trading, including: over-estimations of the role of knowledge or skill, The paper examines potential protective and educational strategies that might be used to prevent harm to inexperienced investors.

The paper suggests the need for more specific research into the psychological effects of regular trading, individual differences and the nature of decision-making that protects people from harm, while allowing them to benefit from developments in blockchain technology and crypto-currency.

1. **Forbes: Is The Crypto Market Maturing? An Analysis For Entrepreneurs. https://www.forbes.com/sites/theyec/2021/06/01/is-the-crypto-market-maturing-an-analysis-for-entrepreneurs/?sh=1170160bba22. [Online, Accessed: June 1, 2021] (2021):** The cryptocurrency market as a whole — has gone through several periods of sudden popularity and, indeed, media frenzy, before crashing back down to reality.

Since autumn 2020, the cryptocurrency market has seen a near-continuous bull run that's seen Bitcoin rocket in value from $10,645 on October 7, 2020, to an all-time high of $63,346 on April 15, 2021. That represents a gain of about +600% in just a six-month span.

Last fall, Bitcoin once again caught investors’ interest, but not the same investors as last time. Individual retail investors drove the 2017-2018 Bitcoin bubble.

**Bitcoin 2021: The Maturation Of A New Hedge**

History can always repeat itself. Although it's unlikely that we’ll see another repeat of 2017 and 2013, there's no predicting what the future holds for an asset class that's still in its infancy. Nonetheless, the novelty of the Covid-19 impact, the illiquidity of the Bitcoin market and the unprecedented levels of institutional adoption have changed the landscape.

In years past, there was reason to believe that Bitcoin existed purely within a speculative bubble. As such, it was too risky of an investment decision for many cautious entrepreneurs. These days, economic and market conditions tell a different story, and entrepreneurs should have much stronger confidence in the utility and longevity of the crypto market.

**METHODOLOGY**

There are 5 steps to trade Cryptocurrency safely on the internet and here’s the graphical representation of the methodology to do the same:



**Fig: Data-Flow Diagram**

Crypto trading can be highly speculative and risky, and it's important to approach it with caution and a well-thought-out strategy. Here's a five-step methodology for crypto trading:

1. Education and Research: Before you start trading, it's crucial to educate yourself about the cryptocurrency market. Understand the basics of blockchain technology, how cryptocurrencies work, and the different types of cryptocurrencies available.Stay updated on market news, trends, and developments in the crypto space. Join online forums, follow influential figures on social media, and read reputable crypto news sources.
2. Choose a Reliable Exchange: Select a reputable cryptocurrency exchange to trade on. Ensure it has a good track record for security, user experience, and customer support.Consider factors like available trading pairs, fees, and liquidity. Different exchanges offer different trading options, so choose one that aligns with your goals and preferences.
3. Risk Management: Determine your risk tolerance and set clear risk management strategies. Only invest what you can afford to lose. Cryptocurrency markets can be extremely volatile, and prices can change rapidly. Consider using stop-loss and take-profit orders to limit potential losses and lock in profits.
4. Technical and Fundamental Analysis: Analyze cryptocurrencies using both technical and fundamental analysis. Technical analysis involves studying price charts, patterns, and indicators to make trading decisions.Fundamental analysis involves evaluating the underlying technology, team, adoption, and real-world use cases of a cryptocurrency. This can help you make informed investment decisions.
5. Develop a Trading Plan: Create a well-defined trading plan that includes your entry and exit points, risk-reward ratios, and overall trading strategy.Stick to your plan, and avoid making impulsive decisions based on emotions. Greed and fear can lead to significant losses in the crypto market.
6. Continuous Learning and Adaptation: Crypto markets are highly dynamic. Continuously update your knowledge and adapt your trading strategy as the market evolves.Keep a trading journal to track your trades, successes, and mistakes. Analyzing your past performance can help you improve your future decisions.
7. Security:Prioritize the security of your crypto assets. Use hardware wallets or secure software wallets to store your cryptocurrencies when you're not actively trading. Enable two-factor authentication on your exchange accounts.

**TOOLS & TECHNOLOGY USED**



* **Blockchain Technology:** A blockchain is a decentralized ledger that records all peer-to-peer transactions. Participants can confirm transactions without the requirement for a central clearing authority using this technology. Financial organisations are looking into how blockchain technology may be used to revolutionise everything from clearing and settlement to insurance.

Blockchain-based energy companies have created a trading platform for the sale of electricity between individuals. Homeowners with solar panels use this platform to sell their excess solar energy to neighbors.

* **Peer-to-Peer Technology(P2P):** In a  [blockchain](https://utimaco.com/products/technologies/blockchain/what-is-a-blockchain" \o "What is a Blockchain?)  network, ‘peers’ are [nodes](https://utimaco.com/products/technologies/blockchain/what-is-a-node-in-blockchain" \o "What is a Node in Blockchain?) or computers that are equally powerful and execute the same functions. Blockchain is a P2P network that acts as a decentralized ledger for one or more digital assets, which refers to a decentralized peer-to-peer system where each computer keeps a complete copy of the ledger and verifies its authenticity with other nodes to guarantee the data is accurate.



**REQUIREMENT & SPECIFICATIONS**

**Hardware Requirements/Specifications**

We can run the project on Intel I5 processor with 8GB Ram,2GBNvidia Graphic

Processor, it also has 2 cores which run at 1.7 GHz, 2.1 GHz respectively. First

part of the project just takes very little amount of time that depends on the size of

data set upon which classifier is working upon

**Software Requirements/Specifications**

Following are the software and modules that needs to be installed for successful

execution of the project. They are:

1. HTML(Hypertext Markup Language)

2. CSS(Cascadig styling sheets)

3. Javascript

4.React.JS

5. VS Code Text Editor(x64-bit)

6. Live-Preview

7. Browser ie., any(Edge, Chrome, etc.)

**CONCLUSION**

We provided a comprehensive overview and analysis of the research work on crypto currency trading. This survey presented a nomenclature of the definitions and current state of the art. The paper provides a comprehensive survey of 146 crypto currency trading papers and analyses the research distribution that characterize the crypto currency trading literature. Research distribution among properties and categories/technologies are analyzed in this survey respectively. We further summarized the datasets used for experiments and analyzed the research trends and opportunities in crypto currency trading. Future research directions and opportunities are discussed in the "Opportunities in crypto currency trading" section.

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**Cryptocurrency Trading Website**

By

**Group No.: 19**

Signature…………… Name: Prince Rathore

Roll No: 2104500100044

Signature…………….

Name: Vansh K Tamta

Roll No: 2104500100063

Signature……………

Dr.(Prof.) LS Maurya

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**Shri Ram Smarak College of Engineering Technology & Research, Bareilly**