**II. Technology Literature Reviews**

In today's fast changing technology scene, staying up to date on the newest breakthroughs and their repercussions is critical. Through performing a series of Technology Literature Reviews (TLRs), this study attempts to provide a thorough overview of the current status of technology. This study tries to investigate the achievements, trends, and impacts of technology across numerous areas by diving into diverse sources of literature, including scholarly papers, industry reports, and expert analyses. The research attempts to find essential insights, emerging topics, and research gaps by an in-depth examination of relevant literature, ultimately contributing to the body of knowledge in the field of technology.

**1. Studies and Statistics about Cryptocurrency**

**1.1. STUDY**

According to the article of Yi Su**,** cryptocurrency, powered by blockchain technology, offers several advantages in the financial sector. Its finite supply ensures rarity, while decentralized control by programmers and math increases trust. The use of blockchain allows users to own their personal data, reducing security costs. Cryptocurrency protocols provide rules for applications within their environments, with consensus mechanisms ensuring the integrity of transactions. Asymmetric encryption safeguards the blockchain and provides secure account control. However, it is important to recognize that cryptocurrency technology is not immune to security risks and privacy concerns. Overall, cryptocurrency has the potential to revolutionize the financial landscape with its secure, decentralized, and efficient features.

**1.2. STATISTICS**

1. **How many people use cryptocurrency?**

In recent years, cryptocurrency has grown in popularity. By 2021, there will be over 300 million bitcoin users worldwide. This equates to approximately 3.9% of the population owning some sort of cryptocurrency. Furthermore, thousands of establishments accept cryptocurrency payments. These figures are projected to rise as more businesses see the significance of the industry.

1. **Bitcoin holds about 66% of the total market share in the economy.**

Bitcoin accounts for around 66% of the overall value of the cryptocurrency market. Other cryptocurrencies have attempted to compete, but none have succeeded. Bitcoin had a market share of 100% when it initially started, and it had roughly 86% in 2015. This shows that other currencies are gradually displacing it.

**2. Studies and Statistics about NFT**

**2.1. STATISTICS**

Studies and statistics on NFTs provide insights into their popularity and impact. Researchers analyze market trends, user behavior, and the influence of NFTs on industries like art and gaming. These studies examine market size, transactions, artist earnings, buyer demographics, and implications for digital ownership. Stakeholders can gain a better understanding of NFT opportunities and challenges through these research findings.

Let us have a look at the NFT statistics and interesting facts in a detailed manner below.

1. **The Largest NFT Marketplace is OpenSea** OpenSea is the largest P2P marketplace for Non Fungible Tokens, with a total trading volume of roughly $14.68 billion. OpenSea takes 90% of all the NFT trading volume.

OPenSea recorded an all-time high trading volume of $3.7 billion in January 2022. The brand has also aided in the creation of a number of other competitors, like Axie Infinity, which is currently valued at $3.94 billion. The CryptoPunks ($2.40 bil.) and the NBA Top Shot ($0.78 bil.) are two more well-known markets.

Below is the overview of Top Marketplaces for NFTs  


1. **Thailand is the country with the most NFT users.**

Thailand is home to 5.65 million NFT users in the world. Brazil and the United States stand in the second and third spot with 4.99 million and 3.81 million users, respectively.

Below is the table showing the top 10 countries with the most number of NFT users:

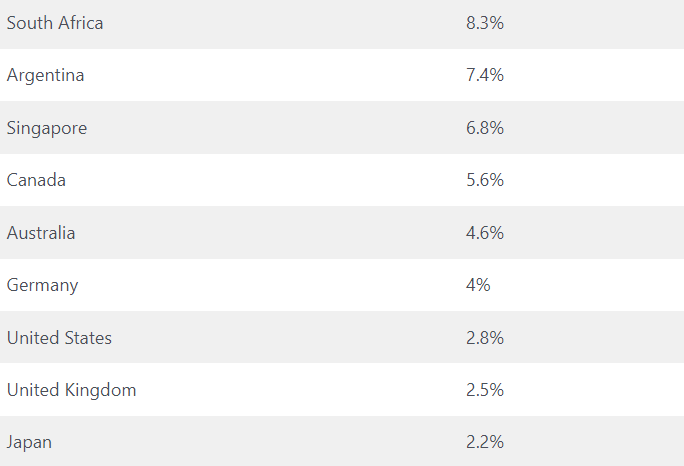
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1. **The Philippines is the country with the highest NFT adoption rate.**

According to Statista, individuals in the United States, United Kingdom, Canada, and Germany were substantially less likely to own or purchase NFTs in 2022 than people in other countries. Analyzing the results of multiple Google Surveys conducted in 2022 worldwide demonstrates that NFTs are highly popular among Southeast Asian and Latin American folks.

Here is a table showing the countries with the highest NFT adoption rate:





**2.2. STUDY**

Based on the research study by Dalai, S., it can be concluded that cryptocurrency, particularly in the form of non-fungible tokens (NFTs) and blockchain technology, has several positive aspects. Firstly, NFT trading practices were seen as a means to generate additional income by the majority of users. This highlights the potential financial benefits of participating in the cryptocurrency market. NFTs have provided individuals with opportunities to monetize their digital assets and creations, such as artwork, music, or collectibles, by leveraging the uniqueness and scarcity that non-fungibility offers. Secondly, the study indicates that ownership of NFTs can empower individuals by creating ownership structures. By utilizing blockchain technology, NFTs enable verifiable ownership and provenance of digital assets. This empowers creators and collectors by providing them with a sense of control and security over their digital possessions, which was previously challenging to achieve in the digital realm.

Additionally, the study emphasizes the importance of incorporating utility factors and utilizing smart contracts to maximize the value and effectiveness of NFTs. Smart contracts, which are self-executing contracts with predefined rules encoded on the blockchain, enable various functionalities and possibilities for NFTs. This programmability enhances the versatility and usefulness of NFTs beyond simple ownership, potentially leading to new and innovative applications.

Overall, the research suggests that cryptocurrency, particularly NFTs and blockchain technology, has the potential to bring financial opportunities, empower individuals through ownership structures, and leverage utility factors through smart contracts. However, it is important to note that the cryptocurrency market is still evolving, and caution should be exercised while participating in it due to its inherent volatility and potential risks.

**3. Advantages and disadvantages of blockchain**

Blockchain technology has garnered popularity due to its promise to transform businesses through decentralized and transparent transactions. Blockchain, with its distributed ledger maintained by a network of computers, has both advantages and disadvantages. In the framework of this discussion, we will look at its effectiveness as well as potential problems, as well as provide insights into the implications and influence of blockchain across numerous industries.

**Advantages:**

1. **Enhanced Security and Privacy**

Blockchain enhances data security and privacy by creating an unchangeable and encrypted record, safeguarding sensitive information from fraud and unauthorized access. Personal data can be anonymized and access can be restricted through permissions, addressing privacy concerns. Distributed storage across a network of computers makes it challenging for hackers to access data, reducing the risk of unauthorized breaches.

1. **Smart Contracts and Automation**

Transactions can also be automated using "smart contracts," increasing efficiency and speeding up the process even more. When certain requirements are met, the next stage in the transaction or process is automatically initiated. Smart contracts eliminate the need for human intervention as well as reliance on third parties to ensure that contract requirements are honored. Smart contracts and automation in blockchain provide advantages by reducing the need for intermediaries, and increasing efficiency through automatic execution of predefined conditions, resulting in faster and more reliable transactions.

1. **Increased efficiency and speed**

Traditional paper-intensive processes are time-consuming, prone to human error, and frequently necessitate third-party intervention. Blockchain can handle transactions far faster than traditional techniques since it eliminates intermediaries and replaces remaining human processes in transactions. In some circumstances, blockchain transactions can be completed in seconds or less.

Disadvantages:

1. **High costs of implementation**

Implementing blockchain in a business is expensive. Most businesses are hesitant to engage in this technology because of the high cost of capital. If you are a business owner interested in implementing blockchain, you must engage core blockchain developers as well as blockchain software developers. This will necessitate a significant investment. Following that, you must develop blockchain-based applications. There are further hardware requirements.

1. **Scalability Challenges**

Scalability issues confront blockchain technology, particularly in public and permissionless networks. The network may get slower as the quantity of transactions increases, resulting in longer confirmation periods and higher transaction costs. Solving scalability concerns while maintaining decentralization is a fundamental technological barrier to mainstream blockchain implementation.

1. **Immutability**  
    Data immutability has always been one of the biggest disadvantages of the blockchain. Once information is entered on a blockchain, it cannot be modified. Any inaccuracies or facts simply cannot be updated. This might cause issues with data accuracy, privacy compliance, and legal duties, especially when working with personal or secret information. In scenarios when data needs to be updated or corrected owing to changes in circumstances or legal requirements, the inability to readily amend or remove data might cause issues.

These are the main advantages and disadvantages of Blockchain technology. It is a game-changing method of storing and transporting data. While it has some drawbacks, most of them can be mitigated with proper design and implementation. Because of the current state of blockchain technology, it is the ideal fit for organizations who wish to use its distributed ledger capabilities.