



The impact of digital currency and bitcoin on future business progress and development

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ABSTRACT

Digital currency, particularly cryptocurrency, refers to a form of money that is used electronically for the exchange of goods and services and plays a very important role in today's world. The concept of digital currency was introduced as encrypted money aimed at facilitating financial transactions and creating a decentralized form of money managed by individuals without intermediaries. Bitcoin, as the world's first digital currency, allows users to make online payments on various websites. This digital currency is still in its early stages of development, and before purchasing it, one must consider all aspects thoroughly—from price fluctuations to legal and tax issues.

Today, we observe an increasing number of payments in businesses being made digitally and cashlessly, based on e-commerce. Many newly established companies are also seeking new ways to expand their available payment methods. The cryptocurrency market is rapidly evolving and growing; a trend that, according to economic experts, heralds the entrance into a new world of business financial transactions in the near future.

Undoubtedly, with the broader availability of platforms and access to digital currency exchange tools worldwide, we will witness a widespread shift toward cryptocurrency-based payments. This research aims to examine topics related to Bitcoin as the most widely used cryptocurrency, its pros and cons, and its position and influence in the financial interactions of today's businesses.

Keywords: Cryptocurrency, Digital Currency, Bitcoin, Business, Virtual Money

1. Introduction

Money is one of the few phenomena that dates back to the beginning of human civilization and has long been used in various forms as a tool for buying and selling. In the early days, transactions between people were conducted through bartering goods. However, this form of trade was gradually replaced by monetary units. These units of currency provided several advantages, including ease of buying and selling, standardization of global transactions, and more.

Nevertheless, traditional currency systems also come with significant problems, such as the risk of theft, reliance on unstable reserves like gold and silver, and the influence of governments and organizations. Additional costs for transactions are also among the major issues.

According to Abdollahi Khalaj (2015), the concept of virtual money—as encrypted currency to facilitate financial transactions and eliminate intermediaries such as banks and financial institutions—was first introduced in 1998. This concept envisioned a new form of money that used computer encryption methods to control currency issuance and enable peer-to-peer transactions without intermediaries or a central authority.

Until 2009, this idea remained a theory. That year, amid the global economic recession, a virtual currency named Bitcoin was practically introduced along with the mathematical algorithm for its generation. A related article was published, and the idea was put into operation (Sayyad Maroof et al., 2015).

In 2008, a domain related to this new system was registered online, but to this day, it remains unknown who registered it. That same year, a person under the alias Satoshi Nakamoto wrote in an encrypted newsletter:

“I am working on a new electronic cash system that is fully peer-to-peer and requires no trusted third party.”

The mentioned scientific article became the foundation of Bitcoin, known as the white paper titled *Bitcoin: A Peer-to-Peer Electronic Cash System* (Sayyad Maroof et al.).

Digital currencies do not rely on a central service provider or financial institution for controlling transactions, because everything is built upon peer-to-peer communication. Digital currency is decentralized in nature, meaning all processes of issuance, transaction processing, and validation are handled by a

network of users without any intermediary. The number of cryptocurrencies in the world is growing, with Bitcoin being one of the most prominent. Bitcoin is a decentralized currency managed through peer-to-peer technology. All activities like issuance, transaction processing, and validation are performed by the network without a central authority, unlike traditional money that is issued by a country's central bank under specific monetary policies.

Bitcoin is essentially electronic; it was designed to be a form of digital money. In contrast, traditional currency is mostly physical and can be easily converted to cash through bank accounts. Over time, Bitcoin has proven to be reliable and holds great potential for growth—especially in countries that face sanctions or limitations on international transactions.

2. Problem Statement

In general, trade in the modern era has crossed borders and entered the global arena. In this context, the presence of multiple intermediaries—including international institutions—has led to increased complications in conducting global transactions. For this reason, virtual money, also known as digital currency, was created to eliminate intermediaries and facilitate monetary and commercial relations.

In recent years, new units of currency have been introduced on the internet and network infrastructure under the name of digital currencies, with Bitcoin being the most famous among them. In addition to avoiding the problems associated with conventional monetary units, these currencies offer further advantages, such as eliminating intermediaries, removing tax burdens, increasing security, and enhancing transparency and control.

This type of money is international and is not supported by any banks. Its security architecture is such that the paying party remains anonymous. Bitcoin operates on a peer-to-peer network structure in which each computer functions as a server. The value of Bitcoin was initially very low, but with its growing popularity worldwide, its value has been steadily increasing (Karimi & Montazeri, 2017).

Today, the use of digital cryptocurrencies is growing rapidly. Although many scholars have not fully welcomed this development—and some have even sought to redefine financial knowledge and the concept of money—it is undeniable that this

phenomenon has attracted considerable attention due to the high levels of actual and potential demand it demonstrates. Such an occurrence is clearly driven by unique benefits that currently have no alternative (Ghoreishi & Lotfi).

Given that all businesses are now based on e-commerce and that newly established companies are constantly seeking new ways to expand their existing payment systems, the concept of digital currency—meaning encrypted money aimed at facilitating financial transactions and creating a decentralized system—has been raised. Bitcoin has emerged as the most widely used and valuable form of virtual currency in the real world.

Therefore, in this paper, we aim to examine the concept of digital currency, its various types, and their advantages and disadvantages. We also intend to explore the role of digital currencies in the economy and the financial interactions of today's businesses. Since Bitcoin is the first and most well-known virtual currency introduced to the public in 2009, this research will place special emphasis on it.

Thus, the central question of this study is:

What impact does the cryptocurrency Bitcoin and other digital currencies have on the financial interactions of today's businesses, and how do they facilitate financial transactions?

3. Advantages and Disadvantages of Bitcoin

Advantages of Bitcoin include:

- Decentralized Information and Communication Distribution
- Efficiency in Payment Services
- High Reliability Due to Transparency
- Traceability and Transparency of Transactions
- Privacy Protection
- No Geographical or Political Restrictions
- Stability of Money Supply and Prevention of Inflation from Over-Issuance

Disadvantages of Bitcoin include:

- Lack of Institutional Backing
- A Platform for Financial Crimes
- Disruption of Monetary and Financial Order
- Value Volatility

- Risk of Collusion and 51% Attacks in the Network
- The Emergence of Quantum Computers
- Lack of Accounting Standards
- Potential to Trigger Future Financial Crises

4. Importance and Necessity of the Research

With the advancement of technology and the increasing use of virtual space, the use of digital currencies for transactions is becoming more widespread as a replacement for physical cash, which is bulky and hard to carry. Today, we observe a growing number of transactions in our economy being conducted in a digital and non-cash manner.

Various economic sectors, which must align with macroeconomic goals, constantly require policy-making. These policies and strategies serve as the basis for legislative decisions and regulatory oversight. Naturally, this type of policy-making helps improve productivity and determine the position of businesses in the national economic framework—something that is clearly essential for all.

New economic phenomena are no exception to this rule. Today, one of these emerging phenomena is the rise of digital currencies, with Bitcoin being the most prominent. The importance of international payments and their alignment with business models underscores the need for proper policy-making in this field.

Although digital currencies enjoy widespread support in theory, in practice, the absence of appropriate infrastructure and insufficient information has hindered their growth and limited their use to a small group of tech-savvy early adopters. Therefore, it is worth pausing to consider the need for greater investment by governments—especially those with unique economic circumstances—in this area.

At the same time, users must always be aware that no one can predict the future of Bitcoin with certainty. In fact, no currency should be considered completely immune to bankruptcy or economic hardship. Bitcoin, as a digital currency, is still in its early stages of growth, and before buying it, one must thoroughly consider all aspects—from price volatility to legal and tax concerns.

Therefore, it is necessary to address the topic of digital currencies and clarify their nature and practical function in society.

Literature Review and Theoretical Framework

Many studies have been conducted in the field of digital currency and Bitcoin. A summary of these studies is presented below:

- Ghoreishi and Lotfi (2020) conducted a study titled *Identifying Policy Elements for Managing Bitcoin-Related Businesses in the Context of Sanctions*. Using an analytical approach, they mapped the path toward purposeful policymaking for Bitcoin and related businesses. They first explained how Bitcoin works, then identified key features of the currency, and finally proposed a suitable policymaking strategy under current sanction conditions. Their conclusion highlighted the importance of anti-sanction strategies in crypto policymaking.
- Ahmadi Jashghani and Arab examined the nature and function of money and digital currency, focusing on its identity and classification in Islam and Iran. They emphasized the growing necessity of electronic money, compared it with Islamic monetary principles, and suggested cautious use of digital currencies in international transactions.
- Dehghani Ashkezari (2019) studied the role of digital currencies in economic development. He concluded that, in an age where the internet and digital technologies are integral to life, a financial revolution is underway that forces traditional currencies to evolve. He argued that Bitcoin can empower startups in Iran, although it has yet to be officially defined as a financial instrument in the country.
- Moslemi (2018) investigated the role of digital currencies in the economy and trade. His research discussed both advantages and disadvantages of digital currencies, as well as their positive effects on economic and commercial relations.
- Mozaffarian and Sheikh explored the possibility of using digital currencies in Iran's e-commerce sector, focusing on Bitcoin. They

noted the complex encryption used in Bitcoin and the existing skepticism regarding its security, which led some countries to ban its use politically. They concluded that Bitcoin aims to change the way users make payments and that the current methods of transferring money—via checks or bank transfers—may become obsolete.

- Karimi and Montazeri (2017) presented a study titled *A Review of Bitcoin and Its Place in Iranian Trade*. They investigated the structure, technical features, pros and cons, and the role of Bitcoin in Iran. The study found that although Bitcoin's initial value was low, it has gained popularity and increased in value over time.
- Abdollahi Khalaj (2015) introduced Bitcoin as a network-based digital currency and examined its strengths and weaknesses. His research focused on the currency's core concepts, mining process, and impact on global markets.
- Sayyad Maroof and colleagues (2015) examined Bitcoin as a digital monetary unit and its role in e-commerce. They emphasized that Bitcoin's decentralized nature and peer-to-peer technology helped it surpass other cryptocurrencies.
- Nasiri Ahmadabadi (2008) studied the effects of electronic money and banking on the macroeconomy. He defined a set of key questions and proposed a basic model to describe the impacts of digital money and banking systems on economic dynamics.

Research Questions and Hypotheses

- H1: Perceived social pressure has a positive effect on the behavioral intention to adopt Bitcoin in Iran.
- H2: Compatibility has a positive effect on the behavioral intention to adopt Bitcoin in Iran.
- H3: Perceived enjoyment has a positive effect on the behavioral intention to adopt Bitcoin in Iran.
- H4: Personal innovativeness in technology has a positive effect on the behavioral intention to adopt Bitcoin in Iran.

- H5: Resistance to change has a positive effect on the behavioral intention to adopt Bitcoin in Iran.
- H6: Behavioral intention has a positive effect on actual usage behavior in adopting Bitcoin in Iran.

Research Model

The model used in this study to measure the acceptance of Bitcoin in Iran is derived from the Unified Theory of Acceptance and Use of Technology (UTAUT). The original model was introduced by Venkatesh et al. in 2003 and later expanded in 2012.

Since its development, the UTAUT model has been widely used in studies across various countries to evaluate technology adoption. The basic and extended models show a strong explanatory power in understanding user behavior. However, the model does not explicitly consider moderating factors such as age, gender, voluntariness, or experience in some applications. Researchers also argue that the model is complex and is often modified in real-world studies.

In 2020, based on a meta-analysis of 162 empirical studies using UTAUT 1 and 2, researchers introduced an optimized meta-model to correct its shortcomings and enhance its reliability.

9. Definition of Variables

- Perceived Social Pressure: According to the theory of planned behavior, social pressure is a key determinant of behavioral intention. It reflects the influence of governments, organizations, and media on individuals' behavioral decisions.
- Compatibility: The extent to which an innovation is perceived to be consistent with existing values, lifestyle, and experiences.
- Perceived Enjoyment: The degree to which using a new system or technology is perceived as enjoyable or fun, affecting motivation and behavioral intention.
- Personal Innovativeness in Information Technology: A person's willingness to explore and experiment with new technologies, considered a trait reflecting openness to innovation.
- Resistance to Change: A common psychological tendency to maintain current

behavior and avoid new practices. In technology adoption, it implies reluctance to switch from traditional systems to new ones.

- Behavioral Intention: Reflects the strength of a user's intention to perform a specific behavior—in this case, to adopt Bitcoin now or in the future.

Type of Research

This is an applied research study. Applied research is conducted to address specific human needs and improve tools, methods, and patterns to enhance quality of life.

In terms of methodology, the study is descriptive and correlational, aimed at describing the conditions of the target variables and analyzing the relationships between them based on the research objectives.

Research Method and Data Collection Tools

The sampling method in this research is non-probability convenience sampling. To gather the required data, Iranian Bitcoin users were identified via Persian-language websites, forums, Telegram groups, and Instagram pages related to cryptocurrencies. The researchers contacted group and channel admins to facilitate survey participation.

Population, Sampling, and Sample Size

The statistical population consists of users in online forums and social media groups focused on cryptocurrencies, which are considered infinite populations since individual identities are unknown. According to Morgan's table, a minimum of 384 samples is required for infinite populations.

It should be noted that many members of cryptocurrency groups may not actively use Bitcoin. Some may have joined only for educational purposes. Therefore, while the actual usage among the sample cannot be confirmed, it is assumed that all participants possess sufficient knowledge of digital currencies and related concepts.

Data Analysis Techniques

Validity and Reliability of the Questionnaire

- Content Validity: The research questionnaire was developed with expert review and reflects content validity.
- Reliability (Internal Consistency): Cronbach's alpha was used to measure reliability across all constructs using a pilot sample of 40 responses.

Variable	Cronbach's Alpha
Perceived Enjoyment	0.900
Usage Behavior	0.946
Compatibility	0.789
Perceived Social Pressure	0.796
Behavioral Intention	0.934
Resistance to Change	0.961
Personal Innovativeness	0.913

All values are above the acceptable threshold of 0.7, indicating high internal consistency and reliability.

Normality Test of Research Variables

Kolmogorov–Smirnov and Shapiro–Wilk tests were used to assess normality. The significance levels for all variables were below 0.05, confirming that the data distribution is normal.

Factor Loading Analysis

All factor loadings for the variables exceeded 0.7, confirming that each measurement item strongly represents its intended construct. The values also passed convergent validity checks using Average Variance Extracted (AVE > 0.5).

Discriminant Validity

Fornell-Larcker criterion and cross-loadings matrix confirmed discriminant validity. The square roots of AVEs for each construct were greater than their correlation with other constructs, supporting the validity of the measurement model.

Hypothesis Testing Results

Hypothesis	t-value	Significance	Result	Effect Size
H1	1.000	NS	Rejected	—
H2	5.403	***	Accepted	0.297
H3	1.213	NS	Rejected	—
H4	4.293	***	Accepted	0.292
H5	3.390	***	Accepted	0.081

Hypothesis	t-value	Significance	Result	Effect Size
H6	16.681	***	Accepted	0.633

(*** indicates $p < 0.01$)

Research Findings

Governmental attention to cryptocurrencies can significantly impact societal well-being. Recognizing Bitcoin as legal tender in Iran may address many economic challenges. Measuring public acceptance is crucial to understanding how this technology is perceived and could be implemented.

- Compatibility: Respondents largely believe Bitcoin is compatible with their lifestyle. Legalizing its use for exporters and traders could increase this perception.
- Personal Innovativeness: Many respondents show a natural tendency to adopt new technologies. Promoting digital literacy through education, media, and public outreach can amplify this effect.

Real-World Business Use Cases in Iran

- Iran by Bit: A travel company that accepts Bitcoin for booking hotels, flights, and other services. It offers commission-based packages in USD, Euro, and Bitcoin.
- Mosaferz App: Enables users to trade cryptocurrency online and receive/exchange currency without physical travel, using digital verification.

Analytical Discussion

The sustainability of Bitcoin depends on incentives for miners. As mining rewards decrease over time, transaction fees might be insufficient. Solutions include adjusting reward mechanisms or introducing mandatory transaction fees. This issue has caused political divisions within the Bitcoin community. Some advocate for monetary stability, while others warn of inflation if rewards are increased. Similarly, taxing transactions may burden traders while benefiting holders.

Bitcoin's governance is informal but necessary. Community-led decisions and code updates result in forks. Only those forks that gain broad support will survive. The Bitcoin Foundation plays a promotional role, but the project's leadership is decentralized.

Conclusion and Summary

This paper comprehensively examined Bitcoin and its role in financial systems and business transactions. Bitcoin's decentralized, peer-to-peer nature offers a secure, low-cost, and censorship-resistant payment method, particularly valuable for countries like Iran facing sanctions.

Despite its advantages, digital currencies lack legal clarity, are subject to volatility, and face security threats. Nonetheless, their global rise suggests that cash may be replaced by digital assets backed by transparency and cryptographic trust.

Recommendations

- Bitcoin won't make everyone rich overnight, but with technical knowledge and strategic thinking, income opportunities exist.
- Policymakers should invest in infrastructure and regulation for responsible adoption.
- Businesses should leverage Bitcoin to enhance trade flexibility, especially under international banking restrictions.

