The Reality of Bitcoin in Algeria and its Future Prospects

واقع البيتكوين في الجزائر وآفاقه المستقبلية

Dr. Melki Fatima Zohra[1] ***Melki Tarik***

Tahri Mohamed University, Bechar- algeria *Djillali Liabes University, Sidi Belabbes - Algeria*
melki.fatimazohra@univ-bechar.dz *tarikmelki2015@gmail.com*

Received: 16/02/2021 *Accepted: 12/12/2021* *Published: 03/03/2022*

Abstract:
This article aims at describing the basics of cryptocurrencies, through an investigation of the reality of Bitcoin in Algeria. It also attempts at determining the long-term prospects for its emergence in Algeria. The research method in this article is both quantitative and qualitative relying on collecting data from different sources to clarify the theoretical and practical aspects of the subject. Therefore, a questionnaire was distributed, collected, then analysed using the SPSS v26 output. Fifty one (51) participants of different ages, qualifications, and activities participated in this research. The results reveal that, though Bitcoin lacks legal status in Algeria, there is a significant Bitcoin transaction by e-commerce practitioners. In addition, there is an increasing demand for dealing with virtual currencies (Bitcoin) in Algeria in the short and medium term. That demand is engendered by the widespread of social media.

Keys words: *money, crypto currency, Bitcoin, features, Algeria*

ملخص:
تهدف هذه المقالة إلى وصف أساسيات العملات المشفرة ، من خلال التحقيق في حقيقة عملة البيتكوين في الجزائر. كما تحاول تحديد الآفاق بعيدة المدى لظهورها في الجزائر. إن أسلوب البحث في هذه المقالة كمي ونوعي يعتمد على جمع البيانات من مصادر مختلفة لتوضيح الجوانب النظرية والعملية للموضوع. لذلك تم توزيع استبيان وجمع ثم تحليله باستخدام مخرجات SPSS v26. شارك في هذا البحث واحد وخمسون (51) مشاركًا من مختلف الأعمار والمؤهلات والأنشطة. كشفت النتائج أنه على الرغم من أن البيتكوين تفتقر إلى الوضع القانوني في الجزائر ، إلا أن هناك معاملة Bitcoin كبيرة من قبل ممارسي التجارة الإلكترونية. بالإضافة إلى ذلك ، هناك طلب متزايد على التعامل مع العملات الافتراضية (بيتكوين) في الجزائر على المديين القصير والمتوسط. هذا الطلب ناتج عن انتشار وسائل التواصل الاجتماعي.

الكلمات المفتاحية: النقود ، العملة المشفرة ، البيتكوين ، الميزات ، الجزائر

1 - *Corresponding author: Melki Fatima Zohra, fatymelki@gmail.com*

1. Introduction

The study of money is one of the most important studies in economics. It is important because of its effect on various economic variables and social life. This kind of study revolves around the study of income and wealth and how to form, determine, and study the level of economic transactions. It includes the financial institutions that deal with the ability to create a new type of money, and can affect the size and the amount of means of payment and the reflection on the economic and social conditions in society.

The world today lives in an era of the growth of technology in various fields. Thus, internet has become the core base of transmitting information in general and accelerating the economic transactions in particular. The latter necessitated the emergence of a new kind of money in line with the new global economy.

As a result of the spread of social networking sites around the world, and the dominance of the dollar over all financial transactions, individuals have set up a currency to trade and complete buying and selling, and their only place is the Internet in the sense of creating a digital currency that contributes to improving the investment, and this is precisely why it has helped the spread and growth of the currency across countries. Among the digital currencies, Bitcoin is the most prominent one (it reached the value of 60.000 $ in March 2021). Though, it has spread all over the world ad many individuals, companies and big firms are using it, the Bitcoin still remains illegal in some countries, the case of Algeria. In this regard, the inquiry was formulated in the following question:

What is the reality of Bitcoin in Algeria and are there any future prospects for this crypto currency in this country?

The main question includes the following sub-questions:

-How did the crypto currencies develop?

- What are the basics and risks of crypto currencies?

-How do the Algerian merchants consider Bitcoin ?

- Is there any possibility to legalize this currency in Algeria?

To answer the main question and the sub-questions, the following two hypotheses were adopted:

The first hypothesis: The reality of Bitcoin in Algeria

The second hypothesis: future prospects of Bitcoin in Algeria

Importance of the study: The crypto currencies have become a reality, they will dominate the economic transactions and increase the pace of e.commerce. The importance of this study lies in tackling one of the important crypto currencies that is Bitcoin in Algeria.

The Study Objectives: This research seeks to achieve the following:
- Learning the basics of cryptocurrencies;

- Investigating the reality of Bitcoin in Algeria.

-Knowing the long-term prospects for the emergence of Bitcoin in Algeria.

The Study Methodology: In order to achieve the research objectives and answer the presented problematic, we relied on the descriptive approach in presenting the theoretical side of our topic, and

we also relied on the analytical approach in the applied aspect to study the case of Reality of Bitcoin in Algeria.

2. Definition of Money

The concise Oxford Dictionary defines money as "a current medium of exchange, which is recognized and widely accepted in payments for goods and services and for the settlement of debts". In other words, money is defined as anything that is generally accepted in circulation and has a general purchasing power, which is used as an intermediary for exchange and a measure of values. This definition clearly reflects the evolution of money during its various stages. Money and the need for it are due to the human need for exchange, where any individual exchanges his surplus production for the production of others. The barbarism regime that prevailed in simple primitive societies was based on this principle. Whereas, the barter system is defined as an exchange of a commodity by another commodity without a broker to complete the exchange. However, with the development of societies, increasing specialization, division of labour and increasing volume of trade, some commodities were used as intermediaries for exchange, especially gold and silver. The use of money in the exchange process has resulted in many economic benefits, such as facilitating exchange, increasing the volume of commercial transactions and facilitating production processes, as well as increasing the efficiency of economic activities in various fields. This has raised the efficiency of allocating resources both in production and consumption.

As far as the different types of money are concerned, there are four types namely coins, paper money, written money, and digital money. In the following subtitle, the digital money will be explained in details since it is the core of our study.

3. Definition of Digital money

It is a crypto currency that can be compared to other currencies such as the dollar or the euro, but with several basic differences, the most prominent of which is that it is a fully electronic currency that trades over the Internet only without a physical presence of it. It also differs from traditional currencies by the absence of a central regulatory body behind it, but it can be used as any other currency for online purchase or even conversion to fiat currencies.

So money is collected, traded and transferred via the Internet every day, but is it possible to find a business on the Internet only that has value in the reality of our lives? This is the idea of "digital money", which is an open source digital currency system that has grown since 2009 to become a market whose value exceeds 100 million dollars. According to Yahoo finance website there are approximately 4800 crypto currencies being traded with a total market capitalisation of $201bn and Bitcoin is the most prominent one (BTC) $128bn (as of April 22, 2020).

Another definition means that it is an online payment system that depends on a computer program designed to find and manage an offer from a digital currency, and to conduct payments between users who deduct or deposit their digital accounts without revealing their identity. Consequently, it is a "digital" currency that is not issued by an official entity such as central banks, and operates as a means of payment without the presence of a central administration, and depends on transfers from person to person without intermediaries (Peer to Peer Networks). Individuals and companies can buy or sell in multiple currencies, either by purchasing from a person or an automated teller machine (ATM).

There are three types of digital money: Digital currency (not virtual), Virtual currency, and Cryptocurrency. Digital currency (not virtual) is denominated in real currency as US Dollar and

digital payment mechanism, e.g. e.money, Pay Pal, digital bank wallet. Whereas virtual currency is a digital currency that is controlled by its creators, and used and accepted in a specific virtual community. However, cryptocurrency is a virtual currency in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds. It uses only cryptography to validate value and transaction such as the Bitcoin.

3.1. The Emergence and Development of Digital Money

Its inception was on the Internet, using it by users of digital games and social networking sites as a means of buying and selling digital things between them. Then a person who called himself the symbolic name Satoshi Nakamoto put forward an idea of a digital currency that he proposed for the first time in a research paper in 2008. He wrote: "*You will not find a solution to political problems in cryptography ... but we can win a major battle in the arms race and gain a new territory of freedom for several years. Governments are good at cutting off the heads of centrally controlled networks like Napster, but pure P2P networks like Gnutella and Tor seem to be holding their own.*" Jason, Terrance (2020, p. 67). It's clear from this quote that Satoshi was creating an alternative system free of governmental control, governed by the decentralized masses. He also described it as an electronic cash system that relies on financial transactions on the principle of peer-to-peer, which is a technical term meaning direct dealing between one user and another without an intermediary. He called it bitcoin and the goal of this currency is to change the global economy in the same way that the web changed publishing methods. In 2016, the Australian businessman Craig Stephen Wright declared that he was Satoshi Nakamoto, providing technical evidence for this, but his falsehood was easily exposed. (Jeffries, 2011)

Seaman (2013, p.6) defines Bitcoin as "*a peer to peer decentralized digital currency. It makes use of advanced elliptic curve mathematics and cryptography, as well as a globally replicated public ledger called the Blockcha*in". Therefore, it is a crypto currency, whose value is based directly on two things: use of the payment system today, and speculation on future use of the payment system. This is one part that is confusing people. It's not as much that the Bitcoin currency has some arbitrary value and then people are trading with it; it's more that people can trade with Bitcoin (anywhere, everywhere, with no fraud and no or very low fees) and as a result it has value. (Andreesseen, 2014). On the other hand, people can trade with Bitcoin using wallets. The word "wallet" is used to describe an application that serves as the interface of the user. Through the wallet, the user can control his money, manage keys and addresses, track the balance, and create and sign transactions. There are different kinds of wallets mainly Nondeterministic (Random) Wallet, Deterministic (Seeded) Wallets, HD Wallet ...etc (Antonopoulos, 2017).

The digital world, which has become a business space, is creating great opportunities for digital companies that can work and integrate with the existing physical business in order to improve the value provided by the company to its customers.

3.2. Digital Money Features

Digital currencies are not subject to any clear legal framework, they are not issued by any of the central banks, and are therefore not subject to state control in any way, given their origin on the Internet and their use by users of digital games and social networking sites as a means of selling and buying things between them.

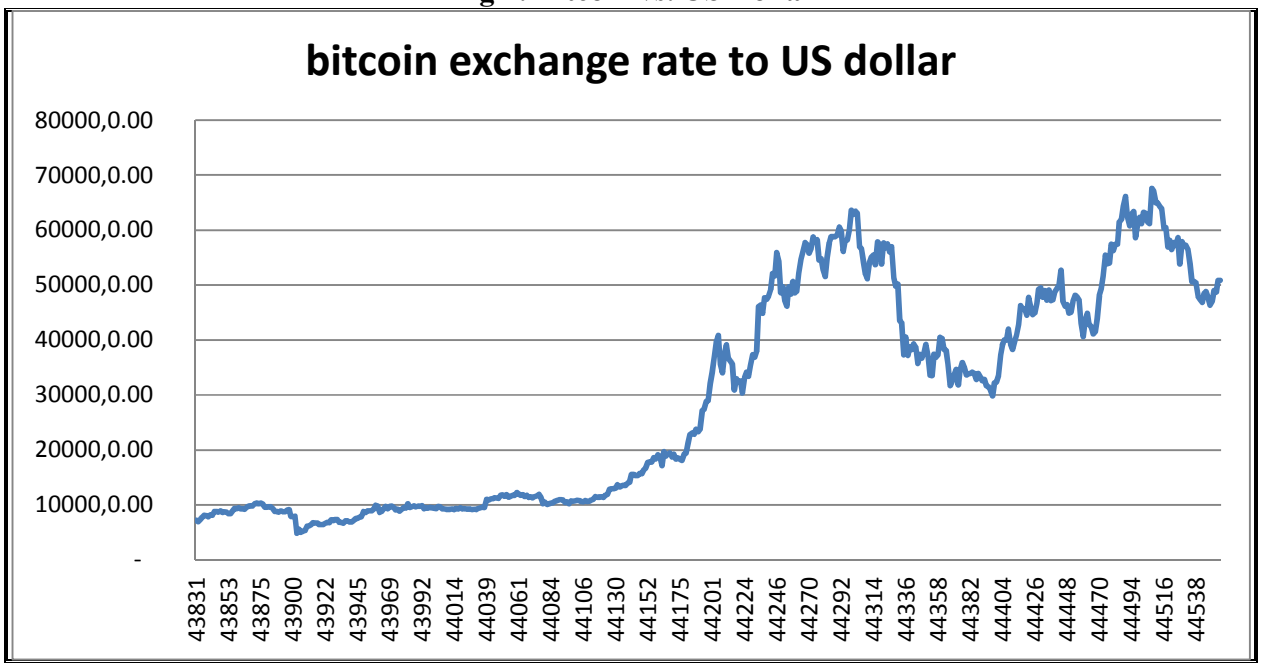
These currencies have evolved into being used in online payments or in the purchase and sale of goods and services from retail stores and restaurants. Analysts disagree about evaluating digital

currencies according to the currency's functional criteria, namely that they are a medium of exchange, a unit of account, and a store of value.

3.2.1 Medium of Exchange: Digital money is used as a medium of exchange by accepting it as a payment mechanism instead of natural currency.

3.2.2. Store of Value: Digital currencies are characterized by their extreme price fluctuations, and therefore many economists such as Paul Krugman considered their ability to be a stable store of value to preserve value, and the Manager of PayPal David Marcus, who supports the "Bitcoin" system, stated that this currency will not be recognized unless its prices are stable. But the change in the value of this currency is related to the decentralized system where there is no central bank intervention to control its transactions or stabilize its value when the level of supply or demand changes; this affects its ability to be considered a good store of value. The following chart shows the value of Bitcoin to the US dollar.

Fig 1: Bitcoin vs. US Dollar



Source: Prepared by the researchers based on the website: https://www.abcbourse.com/download/valeur/BTCUSDu

3.2.3. Unit of Account: As for the role of "Bitcoin" as an account unit, it is actually a unit of account in its own ledger, but this is limited to those who work in the Bitcoin system, and it does not happen outside it, as not all individuals can pay it, so its prices are not denominated, meaning it does not qualify as a fully fledged unit of account.

4. Reasons for the Popularity of Digital Currencies

Some digital currencies enjoy wide acceptance among millions of people in the world despite some disadvantages and the lack of consensus by economists on the availability of stable standards for them, such as traditional currencies, and among the most prominent reasons for this demand are the following:

4.1 Preserving confidentiality

The digital currency system includes a high degree of anonymity for users, so on the general ledger that is available to everyone, the code for the transaction is examined to ensure that it is not duplicated, but the owners of payment transactions do not disclose their identity.

4.2 The possibility of resorting to digital currencies during times of economic crisis

During times of economic crises and the collapse or decline of the value of the national currency, digital currencies do not lose their value; what makes it an alternative to the national currency. For example, some Argentines have used Bitcoin to preserve their savings against inflation as an alternative to the official currency, which suffers from high levels of inflation.

4.3 The low cost of transactions as a result of the absence of intermediaries

The digital currency is the first means of e-commerce in which the cost of transactions is close to zero, so there is no need to rely on banks to facilitate financial transactions, which is something that the consumer and the seller value. While the individual or company using credit cards incurs a cost between 2% to 3% of the transaction value, using Bitcoin is less expensive for merchants and buyers; because it provides a loss of half the profit margin to the merchant, company, or buyer, i.e. what he pays in the transaction cost. Therefore, the digital money system is better than credit cards in terms of encouraging an increase in the volume of transactions and e-commerce due to the absence of intermediaries, and buyers benefit by not bearing the burdens of the transaction cost. (Andolfatto, 2014)

On the level of economic growth, it is noted that the digital currency system encourages not only e-commerce, but also encourages the generation of new types of trade that did not exist before. Many companies have emerged that provide opportunities to exchange Bitcoin with financial currencies and vice versa, and companies have also been established to exchange “Bitcoin” goods and services or transfer them from one person to another. On the other hand, trading (buying and selling) bitcoins has emerged and proved its efficacy as a short term investment. Thus, people can buy low and sell high for profit. (Gustav Van Wyk, 2013)

5. Crypto Currencies Risks

5.1. The Instability of its Position as a Currency

Although the quantitative supply of Bitcoin in circulation reached 13 million members at the beginning of 2014, its status as a currency is still under discussion, and it has not been officially recognized as a currency until now (Ola Al-Sayed, 2014). Some countries recognize it, while some deny it. A court in the US state of Texas ruled the matter and ruled that "Bitcoin" is a currency, while the People's Bank of China stated that it was not a currency, and the Finnish government considered it a commodity, and a German court said it was just a unit of account.

5.2 The use of digital currencies by terrorist and criminal groups

Some terrorist groups use currencies to avoid all known systems for combating terrorism and money laundering, especially as it is possible through digital currencies to make financial transfers without disclosing the identity of the dealers in the absence of a central authority. A report issued by the US Federal Bureau of Investigation in 2013 proved that "Bitcoin is the preferred tool for criminals and informal groups to use in stealing digital currencies as well as speculation and creating other virtual currencies that have no real value or origin." Bitcoin will be misused due to the ability to perform a transaction without leaving any trace, especially since there are companies that have

created a black market for trading "Bitcoin" such as Silk Road that has been closed by the US government. (EBA, 2013)

It should be noted that criminal networks seek to find ways to conceal the source and purpose of illegal financing of criminal activities, and it is recognized that money laundering in the real economy is difficult to detect, which means that its discovery in the digital space is a more complex matter of course. For example, users in the "Second Life" game may create an account with fake names or even steal someone else's identity, carry out illegal activities in cyberspace, and then convert it into real currency, then convert it to a bank account. (El-Sayed, 2014)

The same applies to Bitcoin, as a drug dealer, for example, can sell drugs to a customer with about 2,500 Bitcoins through the Internet, then this trader takes this money and uses it in a game such as poker on the Internet, then withdraws money from "Bitcoin" and transfers it through the casino to be converted into dollars, then transferred to that person's bank account.

Terrorists can also use a game such as "Second Life" and the profits they made in the game to finance terrorist activities. It is possible that a sympathizer of a terrorist organization purchases a Linden dollar, and contacts the terrorist group through the game, to buy virtual products from him, then this member takes these funds are converted into real money to buy the products necessary to carry out a terrorist operation, and the same transaction may take place using Bitcoin, and in both cases, tracking these financial transactions is difficult. In their dissertation, *BITCOIN: A TECHNOLOGY-INFLUENCED SOCIAL MOVEMENT*, Johnson and Green, (2019, p.62)) summarize the key components of illegal crypto currency usage in Table 2.

Table2: The illegal Crypto currency Activities

Activity	**Key Components of Activity in Finance**
Fundraising	Receipt of support from donors, especially cash support
Illegal drug and arms trafficking	Income source
Remittance and transfer of funds	Sending or receiving of funds to support organizational activities
Attack funding	Direct purchase of materiel to support terrorist attacks and financial support of attack operations
Operational funding	Use of funds to support day-to-day operations, to include general security, communications and management

Source: Jason D. Johnson; Terrance D. Green, (2019). *BITCOIN: A TECHNOLOGY-INFLUENCED SOCIAL MOVEMENT*

5.3 The Fluctuation of the Value of Digital Currencies

While the prices of "Bitcoin" increased significantly in a limited time, which led to attracting a large number of investments, there is a corresponding risk of a sudden decrease in its price if, for example, a more acceptable digital currency is created than Bitcoin, this may affect the stability of the size and value of investments.

5.4 The Possibility of Exposure to Digital Fraud

It is possible that people lure consumers to buy fake products or services, and after the consumer makes a payment using digital currencies, he does not get the product or service that he bought.

Moreover, there is another type of risk, because the use of "Bitcoin" in the purchase of goods and services is not protected by a special law, for example, for refund in the event of an incorrect deduction or an account stolen, as happens when using credit cards and bank transfers.

The European Banking Authority for the Risks of Digital Currency Use explained that there is a high risk due to the unattended structure of digital currencies by the competent authorities. It pointed out that among the observed risks is exposure to losing money through the use of trading platforms, when buying Bitcoin through those platforms that are not subject to any regulatory rules, there is no guarantee of preserving the consumer money because:

A- The possibility of the platform failing, piracy or bankrupt.

B - Lack of guaranteeing or protecting deposits in digital currency such as banks, for any loss in deposits is not refunded.

A study prepared by the researchers Tyler Moore of University of Tulsa and Nicolas Christin of Carnegie Mellon University indicated that 45% of digital exchanges fail, resulting in the loss of the client's bitcoin.

6.1. Methodological procedures for the field study

Our study relied on the questionnaire in collecting the necessary data directed to Algerian merchants using e.commerce. The results were analysed using the application of statistical packages SPSS V26.

a. Study population and sample: The study population consists of Algerians with different qualifications and practicing different activities.

b. Study tools

Based on the content and problematic of our research, and based on several references (books, doctoral thesis and websites), we prepared this questionnaire using the following process.

1. Stages of preparing the questionnaire

It was prepared in Arabic and uploaded to paper (format A4). In drafting the questionnaire, we relied on closed questions that have a specific answer, in order to be able to determine the opinions of the sample members about the various axes dealt with by this questionnaire, which includes 15 questions divided into two parts:

- Part one: includes personal data.

- Part two: includes the axes of the questionnaire, which in turn is divided into two axes:

• The first axis: the reality of virtual currencies (Bitcoin) in Algeria.

• The second axis: the future of virtual currencies (Bitcoin) in Algeria.

Before publishing and distributing the questionnaire, it was subject to arbitration by specialists in the subject, in an effort to ensure the integrity of the questionnaire construction, especially in terms of accuracy and comprehensiveness questions.

Processing the form

After the stage of preparation and then publication and distribution, comes the stage of sorting and analyzing the answers included in the regular questionnaire form, which were collected automatically based on the Statistical Package for Social Sciences (SPSS) version 26.0.

Where we quantified the data that we obtained through the collected forms by following the numerical coding method so that:

The first option is represented by the number (1), the second option by the number (2), and the third option by the number (3). Given the nature and method of the study, we calculated and extracted as well as analyzed the frequencies and percentages related to the study sample, in addition to the standard deviations and arithmetic averages.

Table No. (1.II): The Triangular kart scale and the corresponding weights

Statement	Agree	Agree somewhat	Disagree
coding	1	2	3
fields	From 1 to 1.66	From 1.67 to 2.33	From 2.34 to 3

Source: prepared by the researchers

Study results and analysis

1. Analysis of the demographic characteristics of the study sample

a. Validity and reliability of the study tool

a) Tool validity: It is a test of the researcher's ability to measure what is required to be measured so as to ensure that bias or error is not leaked at any of the stages that may affect the validity of the methodological tools used for the study, and thus the high level of confidence in them, and to achieve this we relied on the related questions with each other, in order to ensure the validity of the form as a tool for data collection.

b) The stability of the tool: It means the possibility of applying the form several times so that each time it gives the same answers despite the passage of time. The reliability of the data collection tool was tested using the Cronbach Alpha coefficient.

Table No. (2.II): Stability and statistical validity of the opinions of the survey sample members on the questionnaire

Axes	**reliability coefficient**	**validity coefficient**
The first	, 687	0.828
The Second	,901	0.949
The complete survey	,909	0.953

Source: Prepared by the two students based on the outputs of SPSS v26

It is clear to us through the results of the above table that all the reliability and validity coefficients of the opinions of the members of the exploratory sample on the statements related to each of the hypotheses of the study, and on the entire questionnaire were greater than (60 percent) and some of them are close to (100 percent), which indicates that the study questionnaire is characterized by with very great reliability and validity to achieve the purposes of the research, and make the statistical analysis acceptable.

2. Analysis of the demographic characteristics of the sample.

The following is a detailed description of the study sample members according to the above variables (respondent characteristics):

1) Gender:

Table No. (3.II): Frequent distribution of the study sample members according to the sex variable

Statement		Frequency	Percentage
Gender	Male	39	76,5
	Female	12	23,5
	Total	51	100,0

Source: Prepared by researchers based on SPSS v26 output

It is clear to us from the above table that the majority of the study sample members are males, as their number in the study sample amounted to (39) males at a rate of (76.5%), followed by females, where their number in the study sample was (12) females at a rate of (23.5%), and this indicates that the male component is predominant in the study sample.

2) Age:

Table No. (4.II): Frequent distribution of the study sample members according to the age variable

Statement		Frequency	Percentage
Age	From 18 to 28 Years old	20	39,2
	From 29 to 39 years old	24	47,1
	From 40 to 50 years old	7	13,7
	Above 50	0	0
	Total	51	100

Source: Prepared by researchers based on SPSS v26 output

The age group of the majority of the study sample members ranged from 29 to 39 years, as their number in the study sample was (24) individuals at a rate of (47.1%), followed by those whose age groups ranged from 18 to 28 years, where their number was (20) individuals and with a percentage of (39.2%), followed by those whose age groups ranged from 40 to 50 years, where their number reached (07) individuals at a rate of (13.7%), and in the end we do not find the age group more than 50 years, from here we conclude that more than half of the participants are young people.

3) Academic qualification:

Table No. (5.II): Frequent distribution of study sample members according to the educational qualification variable

Statement		Frequency	Percentage
Qualification	Secondary or less	13	25,5
	License or Master	32	62,7
	Magister or PhD	6	11,8
	Total	51	100,0

Source: Prepared by researchers based on SPSS v26 output

It is clear to us from the above table that the majority of the study members have a bachelor's degree, as their number reached (32) individuals with a percentage of (62.7%), followed by those who have a secondary educational qualification or less, as their number reached (13) individuals at a rate of (25.5%), and the sample also includes: (06) individuals have a master's or doctorate qualification (11.8%), and accordingly we note that the sample has high-level scientific qualifications.

4) Activity:

Table No. (6.II): Frequent distribution of study sample members according to the current job variable

Statement		Frequency	Percentage
Activity	Construction	0	0
	wholesale merchandise	8	15,7
	merchandise retailing	25	49,0
	Services	18	35,3
	Total	51	100

Source: Prepared by researchers based on SPSS v26 output

The table shows that the majority of the participants trade in retail goods, as their number reached (25) individuals at a rate of (49%), followed by the services sector, where their number reached 18 dealers, at a rate of 35.3%, followed by professionals in wholesale trade, where their number reached (8). Individuals (15.7%) and the sample did not include business owners.

5) Years Experience:

Table No. (II.7): Frequent distribution of study sample members according to the variable years of experience

Statement		Frequency	Percentage
Experience	Less than 5 years	37	72,5
	From 5 to 10	11	21,6
	From 11 to 16	3	5,9
	More than 16 years	0	0
	Total	51	100

Source: Prepared by researchers based on SPSS v26 output.

The table shows that the majority of the study sample members have less than 5 years of experience, as their number in the study sample was (37) individuals with a percentage of (72.5 %), followed by those who experience of activity from 5 to 10 years, where their number reached (11) individuals with a percentage (21.6%), as for those with than 11 to 16 years of experience, their number was (3) individuals, at a rate of (5.9%).

Presentation and discussion of the results

1. Testing the sub-hypotheses of the study.

In this section we try to review the results of applying the arithmetic mean and standard deviation with determining the direction of the sample for each axis of the questionnaire and calculating the Spearman correlation coefficient between the axes and then testing the hypotheses of the study

1- Presenting the results of the arithmetic mean and standard deviation with determining the direction of the sample and testing the first sub-hypothesis.

The following table shows the reality of virtual currencies in Algeria.

Table No. (8.II): The mean and standard deviation of the opinions of the participants on the first axis phrases

The first axis *Statements*	**Arithmetic mean**	**standard deviation**	**trend**
1) Money has known developments that keep pace with every time and place	1,4706	,70294	Approval
2) With the expansion of global trade, especially electronic, it is necessary to find a currency that is characterized by ease of trading	1,4706	,70294	Approval
3)Due to the difficulty of capital movement between countries, virtual money appeared as a solution to this problem.	1,4706	,70294	Approval
4) Virtual currencies (Bitcoin) are very easily dealt with in Algeria	1,9608	,66214	Medium Approval
There is a legal and regulatory framework for dealing with virtual currencies (Bitcoin) in Algeria	2,2157	,83220	Medium Approval
Total	1,7176	,48196	Medium Approval

Source: Prepared by researchers based on SPSS v26 output.

We note from the table that the arithmetic mean of the first axis is estimated at. 1,7176, and the standard deviation is estimated at , 481960 According to the triple Likert scale used to measure the respondents' trends for the questionnaire paragraphs, the arithmetic mean of the first axis indicates a relative agreement of the sample members that there is a significant transaction in the bitcoin currency in Algeria by e-commerce practitioners.

Table No. (II.9): Correlation coefficient and probabilistic significance of the opinions of the study sample members on the statements of the first axis

Statements	The first axis		
	The correlation coefficient,	the significance of the probability	the decision
1)Money has witnessed developments that keep pace with every time and place.	,884**	,000	Moral
2) With the expansion of global trade, especially electronic ones, it is necessary to find a currency that is characterized by ease of trading.	,884**	,000	Moral
3) Due to the difficulty of capital movement between countries, virtual money appeared as a solution to this problem.	,884**	,000	Moral
4) Virtual currencies (Bitcoin) are easily dealt with in Algeria.	,391**	,005	Moral
5) There is a legal and regulatory framework for dealing with virtual currencies (Bitcoin) in Algeria.	,344*	,013	Moral

Source: Prepared by researchers based on SPSS v26 output.

Through the above table, it is clear that all the expressions are significant, as they were all less than 0.05, and from this the first sub-hypothesis there is a significant transaction in the bitcoin currency in Algeria by e-commerce practitioners is a valid hypothesis and this is what the Student (T) test shows for the only sample.

Single Sample Test

	Test value = 0					
					Confidence interval of the difference at 95 %	
	t	ddl	Sig. (bilateral)	Average difference	Inferior	Superior
Axis01	25,451	50	,000	1,71765	1,5821	1,8532

Source: Prepared by the two students based on the outputs of SPSS v26

2- Presenting the results of the arithmetic mean and standard deviation with determining the direction of the sample and testing the second sub-hypothesis:

Table No. (10.II): The mean and standard deviation of the opinions of the study sample members on the expressions of the second axis

The second axis Statements	Arithmetic mean	standard deviation	trend
1) Virtual currencies are characterized by the characteristics (speed in trading, zero cost and intermediation, confidentiality) that attract a large group of electronic commerce pioneers.	1,4706	,70294	Approval
2) The increased demand for dealing with virtual currencies (Bitcoin) increases the risks related to it.	1,4706	,70294	Approval
3) The Algerian legislator can keep pace with the rapid development in the field of dealing with virtual currencies.	1,9608	,66214	Medium Approval
4) The establishment of regulatory and monitoring bodies to deal with virtual currencies contributes to converting it from an unsafe currency to a safe one.	1,4706	,70294	Approval
5) Modern and secure mechanisms must be created to limit the process of electronic piracy of virtual currency platforms (Bitcoin).	1,4706	,70294	Approval
Total	1,5686	,58838	Approval

Source: Prepared by researchers based on SPSS v26 output

We note from the table that the arithmetic mean of the second axis is estimated at. 1,5686, and the standard deviation is estimated at 588380, and according to the triple Likert scale used to measure the respondents' trends for the paragraphs of the questionnaire, the arithmetic mean of the second axis indicates the full agreement of the sample members that there is an increasing demand for dealing with virtual currencies (Bitcoin) in Algeria in the short and medium term.

Table No. (11.II): The correlation coefficient and the probabilistic significance of the opinions of the study sample members on the statements of the second axis

Statements	The second axis		
	Probability Significance	Correlation Coefficient	the decision
1) Virtual currencies are characterized by the characteristics (speed in trading, zero cost and intermediation, confidentiality) that attract a large group of electronic commerce pioneers.	,975**	,000	Moral
2) The increased demand for dealing with virtual currencies (Bitcoin) increases the risks related to it.	,975**	,000	Moral
3) The Algerian legislator can keep pace with the rapid development in the field of dealing with virtual currencies.	,305*	,030	Moral
4) The establishment of regulatory and monitoring bodies to deal with virtual currencies contributes to converting it from an unsafe currency to a safe one.	,975**	,000	Moral
5) Modern and secure mechanisms must be created to limit the process of electronic piracy of virtual currency platforms (Bitcoin).	,975**	,000	Moral

Source: Prepared by researchers based on SPSS v26 output

Through the above table, it is clear that all the statements are significant, as they were all less than 0.05, and from the second sub-hypothesis there is an increasing demand for dealing with virtual currencies (Bitcoin) in Algeria in the short and medium term.

It is a valid hypothesis.

This is demonstrated by the student (T) Single sample test

Single Sample Test

	Test value = 0					
	t	ddl	Sig. (bilateral)	Average difference	Confidence interval of the difference at à 95 % Inferior	Superior
Axis02	19,039	50	,000	1,56863	1,4031	1,7341

Source: Prepared by the two students based on the outputs of SPSS v26

Testing the main hypothesis:

a. Presenting the results of the arithmetic mean and standard deviation with determining the direction of the sample and testing the main hypothesis.

Table No. (14.II): shows the results of the descriptive statistics for the axes as a whole.

the axes	Arithmetic mean	standard deviation	trend
The first axis	1,7176	,48196	Approval
second axis	1,5686	,58838	Approval
Total	1,6431	,52621	Approval

Source: Prepared by researchers based on SPSS v26 output.

It is clear from the table that the arithmetic mean for each of the axes of the study in addition to the standard deviation of each of them with the direction of the sample to it, where the result of the general arithmetic mean was 1,6431 with a standard deviation of 0.52621. As for the sample trend for these axes as a whole, it was in agreement according to the known weight.

Table No. (15.II): Correlation coefficient and probabilistic significance of the opinions of the study sample members for the axes as a whole

The axis	the axes as a whole		
	The correlation coefficient	The significance of the probability	The decision
The first axis	,980**	,000	Moral
The second axis	,986**	,000	Moral

Source: Prepared by the two students based on the outputs of SPSS v26

Through the above table, it is clear to us that all the statements are of significant value, as they were all less than 0.05, and from this the main hypothesis defines dealing with virtual currencies (Bitcoin) in Algeria, an important present and a more important future in the short and medium term.

Single Sample Test

	Test value = 0					
	t	ddl	Sig. (bilateral)	Average difference	Confidence interval of the difference at 95 % Inferior	Superior
Poll	22,300	50	,000	1,64314	1,4951	1,7911

Source: Prepared by the two students based on the outputs of SPSS v26

8. Conclusion

In a nutshell, the digital currencies, like the virtual world, require research, know-how and technological, informational and financial expertise as well, a condition that is only available in hundreds of millions of people around the world. Yet, Bitcoin as a cryptocurrency proved its emergent use all over the world, and in Algeria, particularly. Though it lacks the legal status but some e.commerce practitioners use it and ask for its legalization and extension in various sectors.

Bibliography List

1. Adrianne Jeffries (2011, April 10). T*he New Yorker's Joshua Davis Attempts to Identify Bitcoin Creator Satoshi Nakamoto. OBSERVER.*https://observer.com/2011/10/did-the-new-yorkers-joshua-davis-nail-the-identity-of-bitcoin-creator-satoshi-nakamoto
2. Andreas M. Antonopoulos (2017). *Mastering Bitcoin PROGRAMMING THE OPEN BLOCKCHAIN*, O'Reilly 2nd Edition
3. Andreessen, M. (21 January 2014) Why Bitcoin Matters. *New York Times*, https://dealbook.nytimes.com/2014/01/21/why-bitcoin-matters
4. Chris Burniske, Jack Tatar (2017). *Crypto assets, The Innovative Guide to Bitcoin and Beyond,* McGraw Hill; 1st edition
5. David Andolfatto (30 March 2014). Bitcoin and Beyond: The Possibilities and Pitfalls of Virtual Currencies, *Federal Reserve Bank of Saint Louis* https://www.stlouisfed.org/~/media/Files/PDFs/DWTF/Bitcoin-3-31-14.pdf
6. David Seaman (2013).*The Bitcoin Primer: Risks, Opportunities, and Possibilities,* Kindle Edition
7. Gustav Van Wyk (2013). *The Idiot's Guide to Bitcoin*, Chaos Publications

8. Jason D. Johnson; Terrance D. Green, (2019). *BITCOIN: A TECHNOLOGY-INFLUENCED SOCIAL MOVEMENT* (Master Thesis, Naval Postgraduate School Montery, California). https://calhoun.nps.edu/handle/10945/63988
9. Malarshl Van Alstyne (2014). *Why Bitcoin Has Value*, Communications of the ACM. Volume 57 Issue 5 pp 30-32 https://doi.org/10.1145/2594288
10. Marcus-de-Maria (2018). *Profiting From cryptocurrencies, How to profit from Bitcoin and cryptocurrencies in just 20 mins. Investment Mastery*
11. Ola Al-Sayed, (2014). *Virtual currencies: Electronic flows in the stage* of unlimited risk, (Trends of Events) issued by the Future Center, issue 2
12. Moore T., Christin N. (2013). Beware the Middleman: Empirical Analysis of Bitcoin-Exchange Risk. In: Sadeghi AR. (eds) Financial Cryptography and Data Security. FC 2013. Lecture Notes in Computer Science, vol 7859. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-39884-1_3
13. The European Banking Authority for the Risks of Virtual Currency Use, Warning to consumers on virtual currencies
14. http:// www.bitcoincharts.com
15. https://finance.yahoo.com/news/top-10-cryptocurrencies-market-capitalisation-160046487.html