

Challenges of adopting Cryptocurrencies and Blockchain Technology in Jordan's Banking Sector and Its Effect on Accounting

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Abstract

The study aimed to demonstrate how cryptocurrencies and blockchain technology can enhance financial performance by examining and evaluating the features and importance of its application in the Jordanian banking sector and by clarifying the role of blockchain technology in reducing costs and achieving operational goals, and also describe the challenges of adopting Cryptocurrencies and Blockchain Technology in Jordan's Banking Sector depending on some Central bank of Jordan study.

To address the study axis, the researcher used a deductive strategy based on questionnaire design after employing the (complete survey technique) to conduct a thorough survey of all Jordanian banks. The target groups, which included bank managers, deputy general managers, financial managers, heads of accounting divisions, and accounts staff, were given questionnaires by twenty-five different banks. The research came to an end Given blockchain's many benefits, the Jordanian banking sector recognizes the necessity of utilizing it for cryptocurrency accounting. Both costs and operational effectiveness are reduced by this technology.

Keywords: *Cryptocurrencies; Blockchain; Accounting; Financial Performance; Jordan's banking sector.*

1. Introduction

In the past few decades, banking institutions have dominated the e-commerce market by serving as middlemen for the processing of electronic transactions. As a result, each party's expenses related to a transaction rise. But since the first cryptocurrency, Bitcoin, was introduced, a payment system based on cryptographic evidence has been put in place, doing away with the need for middlemen and improving stability and transparency. (Agnese, 2021;Krdzalic,2022).

Nakamoto completed the first work on blockchain technology in 2008. Blockchain technology has since become a major driver of transformation in a number of different industries, such as supply chains, financial markets, and information exchange. (Smith and Castonguay,2020). It has been used by several industries, including banking, insurance, healthcare, education, and government. 10% of global GDP is expected to be tracked and recorded on blockchain technology by 2027. (World Economic Forum, 2015).

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The term "Blockchain" is occasionally used to describe the method of organizing data into blocks. The blockchain, which is constantly growing as new blocks are added to record the most recent transactions, is a complete record of every Bitcoin transaction (Abdo,2022). Cryptocurrencies are decentralized digital money that use blockchain for record-keeping and cryptography for security. They have generated contentious discussions. (Habib,et.at.2022; Kamau,,2022).

Because they offer a decentralized, internet-based substitute for traditional bank accounts, cryptocurrencies are currently popular. Anyone with an internet connection and a smartphone can transact in a number of ways with cryptocurrencies. (Silva et at.2022).

Thanks to the COVID-19 pandemic, the cryptocurrency market, which had occasionally been extremely tiny in the past, reached a peak of \$3 trillion in November 2021. (Anderson et at.2022).

The optimal way to use cryptocurrencies and blockchain technology is a topic of significant discussion and controversy because these technologies are still in their infancy. The tremendous volatility in the value of these technologies, which could arise from any changes to the system's vulnerabilities or functionality, makes many individuals reluctant to use them. On the other hand, fast transaction processing speeds and the newfound possibility of making money through speculation and controlling volatility have started to persuade some people to adopt and use this technology. (Ніфталієв, С. Г. ,2023)

By December 2023, there were over 20,000 distinct cryptocurrency tokens with a market valuation, according to data gathered by (CoinMarketCap,2023) the two important Ethereum and Bitcoin are examples of cryptocurrencies. Observing market capitalization Despite the fact that the value of the cryptocurrency market dropped in 2022 along with the value of other assets.

The study of cryptocurrency accounting is a fresh discipline that requires investigation into the nature of reality through a subjectivist perspective because the phenomenon is interpretable and subjective to humans. Furthermore, human judgment, behavior, and perception are very subjective in the context of bitcoin accounting. Subjectivizing people's views of the world, social constructionism maintains that the various ways in which social actors interpret the same occurrences are rooted in their own worldviews. (Sundqvist et at.2019).

In the very subjective field of bitcoin accounting, professional judgment is essential. (Ivan,2016. pp. 1134-1135) contends that situations where standards are insufficient, difficult to define, or complex put an emphasis on professional judgment. Accounting judgment calls create opportunities for entity-specific reporting, estimation, and disclosure, all of which increase the communication value of accounting. (Healy & Wahlen, 1999, p. 366).

2. The Concept of Cryptocurrencies

Tokens used for payments, making purchases of products or services, or sending money are known as cryptocurrencies. Digital access to application services or platforms is made possible by utility tokens. Asset tokens are used for investments and can be used to represent debt or equity. Tokens that are hybrids can function as both payment and utility tokens at the same time. The inclusion of crypto assets in financial statements becomes more difficult due to the wide variety of tokens that are available, which raises concerns about their classification as securities. (Fortin, 2023)

While (Luo et at.,2022) characterizes Bitcoin as a decentralized form of digital money that allows people to interact directly with one another online without the use of a middleman. For safe implementation, digital signatures are the foundation.

From the point of view of (Pimentel et al., 2020), Cryptocurrencies include digital tokens that run on a blockchain as well as assets that are listed on a company's balance sheet, exist, and are traded on a blockchain. They also have a specific value that can be exchanged.

Crypto assets have previously frequently been referred to as cryptocurrency, Following the advent of Bitcoin, a number of digital assets have been developed, such as the widely known Ethereum, Ripple, and Litecoin. When it comes to fiat currencies, like the Canadian dollar, the government acts as a trustworthy party, guaranteeing the value and stability of the money. Crypto assets, on the other hand, function without the need for middlemen or centralized organizations to retain securities. Which are the four main types of crypto assets (Finma.2018; kizi,2023).

Compared to traditional banking systems, cryptocurrencies offer a number of potential advantages. Firstly, they enable peer-to-peer transactions, doing away with the need for middlemen and so lowering transaction costs and improving efficiency. They may also improve financial inclusion by allowing people to participate in the global economy who do not have access to traditional banking services. (Kamau et al.,2023).

Cryptocurrencies are not backed by a government, central authority, or official legislation, despite the fact that they are traded on stock exchanges against other currencies like the US dollar and that the supply and demand in the markets determines their worth. (Mustafa et al.,2020).

3. Blockchain technology

Researchers Stuart Haber and Scott Stornetta developed a computationally workable technique in 1991 to prevent fraud and backdating in digitally timestamped documents. This methodology established the basis for the concept of blockchain technology. (Academy Binance, 2018).

Blockchain technology makes it possible for anyone to send and receive digital information and cryptocurrencies like Bitcoin without the need for middlemen. Future use of blockchain technology by businesses is greatly anticipated because of its potential for cost savings, safe data storage, decreased fraud and mistake rates, and real-time reporting. (Demirkan et al.,2020).

Blockchain technology is a decentralized database that keeps track of all completed transactions or digital events in a public ledger. It is shared by all parties involved, and every transaction in the public ledger is approved by the participants as a whole. Information entered onto the blockchain cannot be removed. (Silva et al.,2022). It makes it possible for users of the blockchain to directly and securely exchange funds, information, and other digital assets. (Tapscott et al., 2017).

In spite of this, the two primary issues with blockchain, according to the Institute of Chartered Accountants in England and Wales (I.C.A.E.W.), are "transferring ownership of assets and keeping a record of correct financial information." Financial data collection, presentation, and interpretation are the main areas of emphasis for accrual accounting. A significant amount of the work in this field involves figuring out how to use money most effectively or what one's rights and obligations are about property. Because blockchain technology makes it transparent who owns something and whether there are any liabilities, accountants could become much more efficient. (ICAEW,2022).

New rules from the Financial Accounting Standards Board (FASB) require businesses to record cryptocurrencies like Bitcoin at fair market value. The restrictions will go into effect on December 15, 2024, although businesses will be able to apply for an early implementation date.

As per the new requirements, which are the first of their kind in the US, businesses must disclose the value of cryptocurrencies based on market values at the end of every reporting period. This measure aims to improve transparency and accuracy in financial reporting by acknowledging the volatile nature of digital assets like Bitcoin. (Nasdaq,2022).

Most central banks currently use blockchain technology, and analysts anticipate that many more will follow suit and implement it as a distributed ledger system in the near future. (Saidat et al.,2022). As stated in (MCKINSEY,2016) Blockchain technology is currently being used by most banks to restructure their offerings and signal the demise of traditional banking.

Ensuring the provision of transparent, dependable, and cost-effective accounting information is the goal of bank management. Future financial markets will experience greater efficiency as bank data becomes more reliable. (Centobelli et al., 2022).

The primary motivations behind investigating the integration of blockchain technology into business facilities are the elimination of human error, enhancement of operational efficiency, prevention of tampering, and reduction of fraud in accounting records while producing time and cost savings. (George & Patatoukas, 2021).

The role that international financial institutions play in directing and balancing the global economy is noteworthy as well. This is because the banking industry processes enormous volumes of data, and internet technologies play a major role in this regard. Jordanian banks are just one of the several financial organizations that have been impacted by technological advancement. Jordan's banking sector is a vital component of the national economy. (Al-Naimi et al.,2021)

4. The international position on cryptocurrencies

Governments everywhere monitor the evolution of cryptocurrencies and the global positions adopted towards them, as their perspectives shift in reaction to the risks entailed in their use. Still, the cryptocurrency remains unregulated and unmonitored by the relevant authorities.

National laws in several nations have taken varying stances on cryptocurrencies. Some have rejected their circulation and dealt with them, while others have outlawed their circulation by passing laws that expressly forbid trading or dealing in them.

After Congress decided to make Bitcoin an official currency and that it would be equal to the dollar, which has been the nation's official currency since 20 years ago, El Salvador became one of the nations in the world to accept Bitcoin as legal tender. (arabic.sputniknews,2021) .

Although the German government declared that it might tax companies that trade in cryptocurrencies on their revenues, individual transactions would be free from these levies.(Essam El-Din,2014).

Although banks are not allowed to interact with cryptocurrencies in any manner, including buying or selling them through money transfers, opening accounts specifically for them, or exchanging them for other currencies, according to a statement from Qatar's official financial and banking agencies (Abdel Latif et al.,2020).

The value of assets can collapse due to the dangers, harm, and worthlessness of cryptocurrencies, as stated by the Bank for International Settlements (BIS) in Switzerland⁴. The Finance Law of 2018 in Algeria explicitly stated that dealing (Hamza Adnan,2021).

The State of Algeria's Finance Law of 2018 made it clear that trading virtual currencies and circulating them is forbidden. It specifically prohibited obtaining, trading, utilizing, or owning virtual currency. (Al-Adayleh,2020). Because cryptocurrencies are not regarded as commodities and are not based on data or established norms of currency lack of confidence, the Lebanese government issued a warning against using them and any other systems of a similar nature. This is because they present a risk to the stability of the national currency. (Abdel Latif et al.,2020).

The Central Bank of Iraq stated, "Bitcoin is a virtual electronic currency that is traded only over the Internet without a physical presence," indicating caution regarding encrypted payments in general and Bitcoin in particular. We advocate against its use and hold those who do so accountable to the terms of the Iraqi Money Laundering Law No. (39) of 2015 and other pertinent legislation, even though it is not widely used in the country."(aml.iq,2015), Furthermore, the Egyptian Central Bank did not offer any suggestions for future research into cryptocurrency matters, nor did it grant any licenses to create unique platforms for digital money that is accepted electronically as payment. (Ahmed Omar,2018).

The United Arab Emirates Central Bank issued a warning against the use of virtual digital currency. Government agencies were eager to avoid this warning because the bank was worried about releasing the national currency. (amnamag.2023).

In a press release issued in December 2017, the Central Bank of Oman's board of directors declared that the nation's financial authorities had not yet developed any laws pertaining to "digital currencies" or "cryptocurrencies". (Central Bank of Oman,2017).

Rasheed Al Maraj, the governor of Bahrain's central bank, has cautioned against cryptocurrencies, particularly bitcoin. During a Shura Council meeting, Al Maraj declared that no financial institution accepts bitcoin. He added that while Bahrainis are allowed to invest in cryptocurrencies outside of the country, bitcoin is not allowed there. (alwatannews,2018).

Bitcoin trading is prohibited by Kuwait's Central Bank (CBK) in banks and other organizations under its jurisdiction. Bitcoin e-payments and cryptocurrency parties' mediation are covered by the ban. An SAMA It revealed a trial program in October 2017 to establish the Riyal, a local digital currency for use in bank transactions. (arabtimesonline,2017).

Like other central banks and monetary authorities, the Central Bank of Jordan seeks to contain any risks that may be posed by modern payment products or the technology on which they are based and the innovations emerging from them, and then regulate those products or technology in a way that achieves efficiency, security and safety for the financial system and the national economy.

The Central Bank of Jordan's reaction to encrypted virtual currencies began in 2014, when the Central Bank issued its first circular, according to which it prohibited banks and all other financial institutions subject to its supervision and control from dealing in them in any way, or exchanging them for another currency, or opening accounts for customers to deal in them. Or sending or receiving remittances in exchange for it or for the purpose of buying or selling it; It is not a legal currency because there is no obligation on any central bank to exchange its value for money issued by governments or for global traded commodities such as gold. (Central bank of Jordan ,2020).

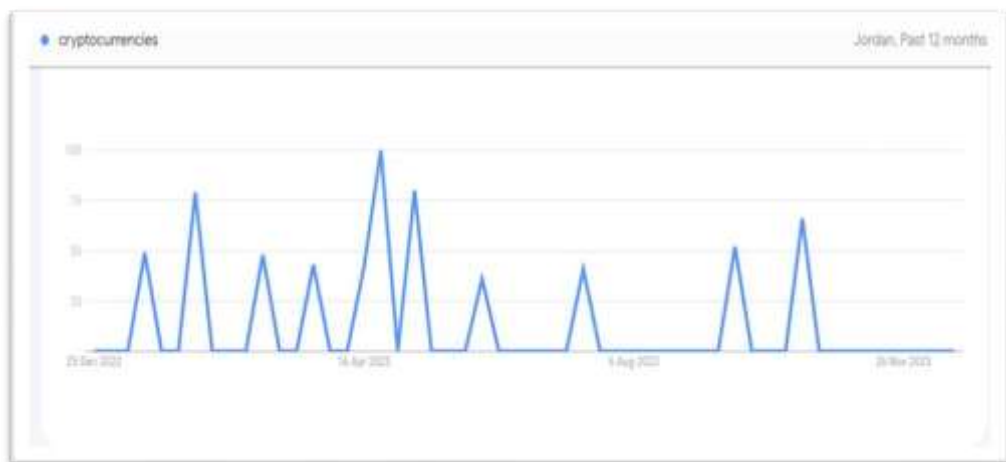
In 2018, the Central Bank of Jordan issued its second circular to all banks and other financial institutions subject to its supervision and control. He stressed that the ban on dealing in encrypted virtual currencies continues to be in effect, including all other virtual currencies, in addition to the ban on all forms of dealing in these currencies, whether directly or indirectly, to include buying, selling, exchanging them, dealing in futures contracts, or investing in investment funds. Or index funds for these currencies, whether

for the benefit of the bank, companies, or for the benefit of clients, as the Central Bank confirmed its aforementioned circulars in its circular issued on 11/24/2019; This is as a result of the spread of the phenomenon of promoting one of the cryptocurrencies known as (Dag Coin). (Central bank of Jordan ,2020).

The government of Jordan has a negative attitude toward cryptocurrencies, thus the new technology faces a difficult legal environment there. The Central Bank of Jordan (C.B.J.) passed new legislation in Feb 2014 that forbid all banks, exchange houses, finance institutes, and payment frames from handling Bitcoin and other cryptocurrency transactions within Jordan. (freemanlaw), However, it is discouraged that local vendors and small businesses continued to accept Bitcoin in spite of a Central Bank of Jordan circular banning all banks, currency exchanges, financial institutions, and payment service providers from dealing with virtual money. (Chohan, U. W. 2022;Al-Naimi er at.,2021)

Twenty-five banks make up the Jordanian banking sector in 2015, with a mix of local, international, and Islamic institutions, according to the Central Bank of Jordan (Central Bank of Jordan,2023)

Figure 1 shows cryptocurrency dealer in Jordan (2023)



Therefore, the importance of the research resides in the fact that more individuals need to know about blockchain technology's applicability in the financial business. The study is significant because it identifies the ways in which this technology can assist various industries in enhancing their profitability, reducing expenses, and boosting productivity.

5. Problem of Study

This study aims to investigate whether the advantages of this tech, such as quicker and more precise process, can be advantageous in order to better comprehend the research challenge.

What are the potential advantages of blockchain tech and cryptocurrency accounting for accountants who work in Jordan's banking industry?

The components of this broader research are the following questions:

- What advantages would blockchain tech and cryptocurrency accounting bring to the Jordanian banking sector?
- What challenges can the Jordanian banking industry encounter while utilizing blockchain tech and crypto-currency accounting?

- Will the adoption of blockchain technology result in a statistically significant drop in service costs for the Jordanian banking sector?
- Does the Jordanian banking industry's adoption of blockchain technology lead to a notable improvement in operational efficiency?

6. Hypotheses of Study

The study investigates the main hypothesis:

"Is there a statistically significant correlation between the application of blockchain tech and the enhancement of the banking industry's financial performance in Jordan?"

It has been divided into the following sub-purposes in order to prove this hypothesis:

- The Jordanian banking sector has realized how valuable blockchain technology is for conducting business and providing services.
- The implementation of blockchain tech will result in a notable decrease in service expenses for banks in Jordan.
- The implementation of blockchain tech in Jordanian banks will result in significantly improved operational efficiency.

7. Research methodology

To evaluate the study's hypotheses, research participants completed an online survey to provide empirical data.

7.1 Study population and sample

The twenty-five banks in Jordan comprise the population under study. The study's sample consisted of all members of the target demographic, which included bank managers, Deputy G-Managers, Financial Managers, Heads of Account, and Accounts staff.

According to (Saunders et al., 2009), An online survey was employed by the research as a quantitative data gathering method to ensure study replicability and an effective data collection procedure. We used the Google Drive platform to administer the survey. After being informed of the aim of the study, these subjects voluntarily consented to participate. Additionally, subjects were informed that their participation in the study would remain anonymous and that they might stop participating at any time. (Podsakoff et al., 2003).

The poll received 113 replies, of which 100 were analyzed. The questionnaire has twenty items. Overall, One hundred valid surveys about the impact of blockchain technology and cryptocurrencies on accounting in the Jordanian banking industry.

7.2 Statistical Analysis

The research employed a five-point Likert scale to examine the hypotheses by answering the questions in the questionnaire. The following numerical value is allocated to each of the five responses: The following is the rating scale: 5 indicates strong agreement, 4 agree, 3 neutrality, 2 disagreement, and 1 strongly disagreement.

Ranges have been applied in the following ways to analyze the data: from 1-1.79 will be signifies no effect, whereas 1.8-2.59 advises a low effect. A moderate effect is indicated by the range 2.60-3.39, while a high effect is shown by the range 3.40-4.19. Lastly, a very high effect is indicated by the range 4.20-5. In addition, the data,

The data was analyzed using statistical software for social sciences (SPSS), which also allowed for the computation of arithmetic means and percentages.

7.3 Reliability and Validity

Table 1 shows the results of the internal consistency (Cronbach's alpha) coefficient, which was used to evaluate the research tool's reliability. The ratios that were determined to be suitable for this study are as follows.

Table 1. Reliability and Validity

	Cronbach's Alpha
Blockchain technology makes it a valuable instrument for cryptocurrency accounting.	0.886
One way that blockchain technology can save costs is by	0.910
Operating efficiency can be increased by utilizing blockchain technology.	0.878
Total	0.932

8. Data Analysis and Hypotheses Testing

H1: Extent Employees Jordanian banking sector comprehend the significance of employing accounting for cryptocurrencies and blockchain technology in conducting their different activities.

We calculated the mean and standard deviation of the participants' answers to the first hypothesis in order to confirm the accuracy of this hypothesis. These values are shown in Table 2.

Table 2. Arithmetic averages and standard deviations of the sample's replies to the first hypothesis.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
1. The capacity to transfer money and make payments quickly, which expedites the conclusion of financial transactions.	113	1	5	4.35	.753
2. The business's competitive advantage as a result of using blockchain technology	113	1	5	4.16	.714
3- The ability to spread on a huge scale because there is no requirement for this infrastructure.	113	1	5	4.29	.716
4- Cutting expenses while raising revenue	113	1	5	3.98	.813
5. Error reduction	113	1	5	4.21	.850

6. Mitigating financial illegal financial dealings.	113	1	5	4.07	.787
7. Openness, safety, and a decrease in fraud.	113	1	5	4.14	.875
8. Improving and updating the offered services	113	1	5	4.21	.713
9-Believed that blockchain technology has the potential to drastically alter cryptocurrency accounting	113	1	5	4.21	.749
Valid N (listwise)	113				

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Axis 1	113	1.00	5.00	4.1809	.56053

The arithmetic means and standard deviations of the first hypothesis's claims are shown in the table above. The range of the arithmetic means is 3.98 to 4.29. Statement 1, with an arithmetic mean of 4.66, has achieved the highest ranking. 4.35 is the arithmetic mean overall.

Participants in the survey overwhelmingly concur that, given its numerous advantages, the Jordanian banking industry understands the need of utilizing blockchain technology in cryptocurrency accounting.

Table 3.T-test comparing the difference between neutral and statements that have established the first hypothesis

	Test Value = 0					
	t	df	Sig. (2-tailed)	(2-Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1. The capacity to transfer money and make payments quickly, which expedites the conclusion of financial transactions.	61.324	112	.000	4.345	4.20	4.49
2. The business's competitive advantage as a result of using blockchain technology	61.905	112	.000	4.159	4.03	4.29
3- The ability to spread on a huge scale because there is no requirement for this infrastructure.	63.752	112	.000	4.292	4.16	4.43
4- Cutting expenses while raising revenue	52.092	112	.000	3.982	3.83	4.13

1745 Challenges of adopting Cryptocurrencies and Blockchain Technology in Jordan's Banking Sector and Its Effect on Accounting

5. Error reduction	52.686	112	.000	4.212	4.05	4.37
6. Mitigating financial illegal financial dealings.	54.959	112	.000	4.071	3.92	4.22
7. Openness, safety, and a decrease in fraud.	50.320	112	.000	4.142	3.98	4.30
8. Improving and updating the offered services	62.822	112	.000	4.212	4.08	4.35
9-Believed that blockchain technology has the potential to drastically alter cryptocurrency accounting	59.751	112	.000	4.212	4.07	4.35
x1	79.289	112	.000	4.18092	4.0764	4.2854

One-Sample Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
1. The capacity to transfer money and make payments quickly, which expedites the conclusion of financial transactions.	Cohen's d	.753	5.769	4.991	6.544
	Hedges' correction	.758	5.730	4.957	6.500
2. The business's competitive advantage as a result of using blockchain technology	Cohen's d	.714	5.824	5.039	6.606
	Hedges' correction	.719	5.784	5.005	6.561
3- The ability to spread on a huge scale because there is no requirement for this infrastructure.	Cohen's d	.716	5.997	5.190	6.802
	Hedges' correction	.720	5.957	5.156	6.756
4- Cutting expenses while raising revenue	Cohen's d	.813	4.900	4.232	5.566
	Hedges' correction	.818	4.867	4.204	5.529
5. Error reduction	Cohen's d	.850	4.956	4.281	5.629
	Hedges' correction	.856	4.923	4.252	5.591
6. Mitigating financial illegal financial dealings.	Cohen's d	.787	5.170	4.468	5.870
	Hedges' correction	.793	5.135	4.438	5.830
7. Openness, safety, and a decrease in fraud.	Cohen's d	.875	4.734	4.086	5.378
	Hedges' correction	.881	4.702	4.059	5.342

8. Improving and updating the offered services	Cohen's d	.713	5.910	5.114	6.703
	Hedges' correction	.718	5.870	5.080	6.658
9-Believed that blockchain technology has the potential to drastically alter cryptocurrency accounting	Cohen's d	.749	5.621	4.862	6.377
	Hedges' correction	.754	5.583	4.829	6.335
x1	Cohen's d	.56053	7.459	6.465	8.450
	Hedges' correction	.56432	7.409	6.421	8.393

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation.

Hedges' correction uses the sample standard deviation, plus a correction factor.

With a t-value of 79.289, Table 3's arithmetic mean and deviations in the Jordanian banking sector's workforce from the scale's midpoint (3) demonstrate statistical differences at a significance level of 0.000.

We therefore accept the theory that, as a result of blockchain technology's numerous advantages, the Jordanian banking industry will eventually see the benefits of utilizing it for cryptocurrency accounting, dealings and providing services.

H2: The second hypothesis discusses how using blockchain technology and accounting for cryptocurrencies could lower transaction costs and improve service quality if implemented in Jordan's banking industry.

We computed the averages and standard deviations of the sample of respondents' responses to the second hypothesis in order to determine if this hypothesis is true; Table 4 displays the results.

Table 4. shows the standard deviations and average values of the sample of respondents' responses in respect to the second hypothesis.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
1 Reduce the cost associated with money transfers.	113	1	5	4.17	.865
2 Cutting down on the cost of money transfers for global trade.	113	1	5	4.07	.821
3 The significant administrative savings from record keeping lead to a decrease in transaction processing expenses.	113	1	5	4.04	.784
4 Rebates on clerical duties, like transaction settlements	113	1	5	3.97	.807

5 Reduce the resources used to manage office procedures.	113	1	5	4.04	.823
Axis 2	113	1.00	5.00	4.0584	.70289

Table 4 presents the average values and standard deviations of the assertions in the second hypothesis. The range of average values is 3.96 to 4.16. At 4.16, Statement 1 has the highest average value and the highest rank. The average value for the whole is 4.052.

The findings of the study indicate that if blockchain technology is implemented in the Jordanian banking industry, it will significantly lower transaction costs and improve the quality of services offered.

Table 5. T-test comparing the distinction between statements that support the second hypothesis and those that are neutral.

One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1 Reduce the cost associated with money transfers.	51.222	112	.000	4.168	4.01	4.33
2 Cutting down on the cost of money transfers for global trade.	52.728	112	.000	4.071	3.92	4.22
3 The significant administrative savings from record keeping lead to a decrease in transaction processing expenses.	54.860	112	.000	4.044	3.90	4.19
4 Rebates on clerical duties, like transaction settlements	52.347	112	.000	3.973	3.82	4.12
5 Reduce the resources used to manage office procedures.	52.123	112	.000	4.035	3.88	4.19
Axis 2	61.377	112	.000	4.05841	3.9274	4.1894

One-Sample Effect Sizes					
		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
1 Reduce the cost associated with money transfers.	Cohen's d	.865	4.819	4.161	5.474
	Hedges' correction	.871	4.786	4.133	5.437
2 Cutting down on the cost	Cohen's d	.821	4.960	4.285	5.633

of money transfers for global trade.	Hedges' correction	.826	4.927	4.256	5.596
3 The significant administrative savings from record keeping lead to a decrease in transaction processing expenses.	Cohen's d	.784	5.161	4.460	5.859
	Hedges' correction	.789	5.126	4.430	5.820
4 Rebates on clerical duties, like transaction settlements	Cohen's d	.807	4.924	4.253	5.593
	Hedges' correction	.812	4.891	4.225	5.555
5 Reduce the resources used to manage office procedures.	Cohen's d	.823	4.903	4.235	5.569
	Hedges' correction	.829	4.870	4.206	5.532
Axis 2	Cohen's d	.70289	5.774	4.995	6.550
	Hedges' correction	.70764	5.735	4.962	6.506
<p>a. The denominator used in estimating the effect sizes. Cohen's d uses the sample standard deviation. Hedges' correction uses the sample standard deviation, plus a correction factor.</p>					

Additionally, a t-test was used to compare the acceptability standard of the neutral hypothesis to the arithmetic mean of the statements that made up the second hypothesis, as indicated in Table 5.

Table 5 demonstrates that the arithmetic mean and the comparison with a difference from neutral differ statistically significantly ($p < 0.05$). There is a statistical significance of 0.000 and a t-value of 61.377 .

The hypothesis, which specifically pertains to the application of blockchain technology in Jordan's banking industry, has been accepted. It is assumed that there is a statistically significant correlation between the use of blockchain technology and a reduction in the costs associated with the services provided .

H3: The third hypothesis examined the connection between improving the operational effectiveness of Jordanian economic sectors and the usage of blockchain technology and accounting for cryptocurrencies.

We computed the averages and standard deviations of the sample of respondents' responses to the third hypothesis in order to determine if this hypothesis is true; Table 6 displays the results.

Table 6. relates the third hypothesis to the average values and standard deviations of the responds from the sample of respondents.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
1 Complete financial transactions swiftly and correctly.	113	4.27	.710	.067
2 Papers and records are less expensive to operate because they are not used.	113	4.18	.722	.068

3. Reduce the cost of delivering funds for export and trade agreements.	113	4.06	.782	.074
4 Facilitating overseas trade deals utilizing Internet money.	113	4.19	.693	.065
5 Lowering fees and expenses for conducting international business.	113	4.06	.827	.078
6 the capability to share knowledge with others by saving it and having easy access to it in case it is lost.	113	4.23	.707	.067
x3	113	4.1667	.60175	.05661

Table 6, which presents the arithmetic means and standard deviations of the assertions, illustrates the third hypothesis. The range of the arithmetic means is 4.07 to 4.32. Statement 1, which has an arithmetic mean of 4.32, has continuously been ranked highest. 4.1833 is the arithmetic mean overall.

Table7. T-test comparing the distinction between statements that are neutral and those that support the third hypothesis

One-Sample Test						
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1 Complete financial transactions swiftly and correctly.	63.975	112	.000	4.274	4.14	4.41
2 Papers and records are less expensive to operate because they are not used.	61.458	112	.000	4.177	4.04	4.31
3. Reduce the cost of delivering funds for export and trade agreements.	55.186	112	.000	4.062	3.92	4.21
4 Facilitating overseas trade deals utilizing Internet money.	64.386	112	.000	4.195	4.07	4.32
5 Lowering fees and expenses for conducting international business.	52.223	112	.000	4.062	3.91	4.22

6 the capability to share knowledge with others by saving it and having easy access to it in case it is lost.	63.582	112	.000	4.230	4.10	4.36
x3	73.606	112	.000	4.16667	4.0545	4.2788

One-Sample Effect Sizes					
		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
1 Complete financial transactions swiftly and correctly.	Cohen's d	.710	6.018	5.209	6.825
	Hedges' correction	.715	5.978	5.174	6.779
2 Papers and records are less expensive to operate because they are not used.	Cohen's d	.722	5.782	5.002	6.558
	Hedges' correction	.727	5.743	4.968	6.514
3. Reduce the cost of delivering funds for export and trade agreements.	Cohen's d	.782	5.191	4.487	5.894
	Hedges' correction	.788	5.157	4.457	5.854
4 Facilitating overseas trade deals utilizing Internet money.	Cohen's d	.693	6.057	5.242	6.869
	Hedges' correction	.697	6.016	5.207	6.823
5 Lowering fees and expenses for conducting international business.	Cohen's d	.827	4.913	4.243	5.580
	Hedges' correction	.832	4.880	4.215	5.542
6 the capability to share knowledge with others by saving it and having easy access to it in case it is lost.	Cohen's d	.707	5.981	5.176	6.784
	Hedges' correction	.712	5.941	5.142	6.738
x3	Cohen's d	.60175	6.924	5.999	7.847
	Hedges' correction	.60582	6.878	5.959	7.794
<p>a. The denominator used in estimating the effect sizes. Cohen's d uses the sample standard deviation. Hedges' correction uses the sample standard deviation, plus a correction factor.</p>					

The employees in the Jordanian banking sector's arithmetic mean and deviations from the midpoint of the difference from neutral, as shown in Table, demonstrate statistical differences at a significance level of 0.000, with a t-value of 73.606.

Correlations				
		x1	x2	x3
x1	Pearson Correlation	1	.544**	.655**
	Sig. (2-tailed)		.000	.000
	N	113	113	113
x2	Pearson Correlation	.544**	1	.565**
	Sig. (2-tailed)	.000		.000
	N	113	113	113
x3	Pearson Correlation	.655**	.565**	1
	Sig. (2-tailed)	.000	.000	
	N	113	113	113

** . Correlation is significant at the 0.01 level (2-tailed).

This hypothesis has been accepted and states that there is a statistically significant association between the use of blockchain technology in the Jordanian banking sector and an improvement in operational efficiency.

9. Conclusion and Results

The ongoing transformation of the financial landscape by digital assets has presented a difficulty for businesses and organizations of all sizes when it comes to bitcoin accounting. Notwithstanding the complexity, effective navigation of this expanding frontier requires proactive adaptation and the use of specialist expertise. Understanding the accounting complexity of cryptocurrencies is essential for financial transparency, regulatory compliance, and making informed decisions as they become more and more interwoven into the global economy. Businesses and organizations who wish to prosper in the digital economy in this day and age of modern finance need to have a solid understanding of digital asset accounting.

Given that blockchain technology affects all, it is even more crucial to comprehend and evaluate its application in the financial sector, where it has the potential to revolutionize credit and payment systems. According to (Cai ,2018)

Blockchain technology creates new "polycentric and weakly intermediated" arrangements that increase the efficiency of the financial sector. According to (Saidat et al., 2022).

This study's main focus is on how Jordan's banking industry has been affected by blockchain technology and cryptocurrency accounting.

The goal of this research is to support the Central Bank of Jordan in implementing blockchain technology for various applications by compiling the viewpoints of banking sector professionals in Jordan.

In light of the foregoing data, it is crucial to remember that blockchain technology offers a variety of uses. Using blockchain technology lowers transaction costs and enables quick and simple transaction execution. Additionally, a high level of privacy and transparency are guaranteed by this technology. Therefore, costs and administrative complexity are reduced when blockchain technology is used. The following results have been obtained from the research:

Effects Integrating cryptocurrencies and blockchain technology into the Banking Sector in Jordan. Because of its many benefits, the Jordanian banking sector recognizes the

necessity of utilizing blockchain technology for cryptocurrency accounting. This technology improves operational effectiveness while lowering costs.

A statistically significant relationship has been observed between the adoption of blockchain technology and the reduction of service costs provided by Jordanian banking sectors. The adoption of blockchain technology in Jordan's banking industry will significantly lower transaction costs and enhance the quality of services offered.

The adoption of blockchain technology and increased operational effectiveness in Jordan's banking industry are statistically correlated. Reducing transaction costs and operating expenses helps achieve this.

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