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The artificial intelligence in auditing: Corporate behaviour and technological adoption in an emerging market

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Abstract

The objective of this research is to offer an empirically grounded assessment of the intention of the auditing profession to adopt "disruptive" technologies. This study investigates, using data collected from employees of the Big Four firms in Tunisia, the determinants that drive auditors to adopt blockchain technology (BT). To achieve this objective, in 2022, 53 auditors from the "big four" enterprises in Tunisia, including both certified auditors and auditing students in training, participated in a survey. The study employs statistical methods and ordinary least squares (OLS) regression to identify the associations between the intention to implement BT and the five variables under investigation. The study examines perceived utility, ease of use, trust, support cost (SC), and facilitating condition (FC) while drawing on a number of theories, including the Technology Acceptance Model (TAM). Results show that two factors, particularly perceived utility for auditing (PUA) practice and trust, drive auditing professionals' intention among Big Four companies to use BT. This study results illuminate the factors motivating Big Four companies to embrace BT, enabling the development of strategies to expedite the adoption and utilization of this technology in developing accounting and auditing firms. The study fills a gap in the literature about adopting BT in emerging economies by concentrating on this specific setting. This study contributes to the knowledge of technology adoption and provides valuable recommendations for accelerating the uptake and application of BT in this particular setting.

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1. Introduction

The accounting industry has embraced automation and disruptive technologies at an increasing pace, yet research exploring the factors influencing their adoption, particularly in developing countries, remains limited (Moll & Yigitbasioglu, 2019). Most studies concentrate on developed economies, leaving emerging markets with little understanding of the adoption of these technologies, especially blockchain technology (BT). This study aims to fill that gap by investigating the adoption of BT in Tunisia's accounting sector, a country dedicated to innovation and digital transformation.

The motivation for this research stems from rapid advancements of BT and its potential to transform accounting practices. Tunisia's proactive digital transformation efforts offer a unique opportunity to explore how BT can boost productivity, competitiveness, and decision-making in a developing economy. By examining the factors influencing BT adoption in Tunisia, this study offers insights for stakeholders, decision-makers, and

accounting professionals on the opportunities and challenges of implementing advanced technologies in similar contexts.

Although BT holds significant promise, the reason behind its adoption in Tunisia remain unclear. This research aims to explore the primary factors influencing the adoption of blockchain technology by the Big Four auditing firms operating in Tunisia. Drawing on established theoretical models, including the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), the Diffusion of Innovations Theory (DOI), the Theory of Reasoned Action (TRA), and Task-Technology Fit (TTF) theory, the study seeks to uncover the behavioral factors affecting BT adoption (Lee, Kriscenski, & Lim, 2019; Taherdoost, 2022).

When evaluating technology adoption, the TAM and UTAUT models examine variables such as perceived usefulness and ease of use, gauging its potential to improve work performance. The DOI theory explains how innovations spread over time, while TTF theory assesses the alignment of technology with specific tasks (Goodhue & Thompson, 1995; Hsu, Liu, Weng, & Chen, 2013). The TRA provides a framework to identify factors shaping behavior and their interactions (Godin, 1994; LaCaille, 2020; Shimp & Kavas, 1984). Collectively these models provide insight into the adoption of new technologies in various contexts.

Prior research has explored factors influencing behavioral intentions to adopt BT in various settings, based on these theories (Kabir & Islam, 2021; Latif & Zakaria, 2020; Nazim, Razis, & Hatta, 2021). These studies highlight the importance of trust, perceived utility, ease of use, effort expectancy, social influence, and facilitating conditions (FC) in driving BT adoption. They also suggest that education and training may be necessary to increase awareness and understanding of the technology. Furthermore, studies show that the Big Four auditing firms are likely to adopt BT, with research supporting UTAUT's predictive ability in understanding auditors' intentions to use blockchain (Lee et al., 2019).

This study explores how the Big Four firms operating in Tunisia adopt BT, within the context of the country's drive for digital transformation. Tunisia's proactive stance on technological innovation demonstrates its commitment to leveraging emerging technologies for societal advancement and economic development. By providing key insights, this research contributes to a better understanding of the factors influencing technology adoption and its implications for Tunisia's productivity, competitiveness, and decision-making processes.

The rest of this paper is organized as follows: Section 2 reviews relevant literature on BT adoption theories and their application in accounting. Section 3 discusses the research hypotheses, while Section 4 details the methodology used. Section 5 presents the findings and discussion, and Section 6 outlines the implications for stakeholders and policymakers, concluding with a summary of key insights and suggestions for future research.

2. Theoretical Background

Several theories explain the intention to adopt BT, revealing factors influencing individuals' and organizations' decision-making processes.

2.1. The Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) highlights the importance of attitudes in determining an individual's intention to adopt a particular system. Key factors influencing this intention are perceived usefulness and ease of use. Originally introduced by Davis (1989) TAM suggests that ease of use can also influence the perceived usefulness of a system. Furthermore, an individual's attitude toward the system and perceived benefits lead to a behavioral intention to adopt it, which in turn predicts actual system usage. The TAM framework comprises five core constructs: perceived ease of use (PEU), perceived usefulness, attitude toward use, behavioral intention to adopt, and actual system utilization (Agustina, 2019; Shrestha, Vassileva, Joshi, & Just, 2021).

2.2. The Unified Theory of Acceptance and use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a widely applied model that provides a theoretical framework for understanding factors influencing technology acceptance. The Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behavior (TPB), Innovation Diffusion Theory (IDT), Social Cognitive Theory (SCT), Theory of Reasoned Action (TRA), and the Model of PC Utilization (MPCU) are some of the models that are included in this study (Gao & Deng, 2012). UTAUT identifies three key determinants of intention to use technology: effort expectancy, performance expectancy, and social influence, along with two direct predictors of usage behavior: intention and facilitating conditions. This model, validated with substantial empirical support (Venkatesh, Morris, Davis, & Davis, 2003), suggests that an individual's intention to adopt technology is a strong predictor of actual usage. UTAUT has been effectively applied in various domains, including internet banking and educational digitalization (Chao, 2019; Marchewka & Kostiwa, 2007).

2.3. The diffusion of Innovation Theory (DOI)

The Diffusion of Innovations (DOI) theory outlines the process by which new ideas and products are adopted and spread across individuals and social systems over time, focusing on the diffusion and adoption of innovations (García-Avilés, 2020).

2.4. The Task-Technology Fit (TTF)

Task-Technology Fit (TTF) theory assesses how well technology aligns with tasks to evaluate system effectiveness (Goodhue & Thompson, 1995). In particular, the fit between technology and individual needs, along with task-technology fit and organizational readiness, plays a vital role in mobile nursing information systems (Sherifi, 2019). Goodhue and Thompson's model highlights the significance of aligning technology with tasks to enhance individual performance (Goodhue & Thompson, 1995).

2.5. The Theory of Reasoned Action (TRA)

TRA is a social psychology theory that explains behavior by highlighting variables affecting it, its sources, and its relationships. It suggests people act on their intentions when they have the necessary skills and the environment doesn't hinder them (Hale, Householder, & Greene, 2002).

3. Literature Review and Hypotheses Development

3.1. Literature Review

The Big Four auditing firms have collaborated with asset management firms such as VeChain and Northern Trust to invest in BT. PricewaterhouseCoopers (PwC) developed an auditing solution for enterprises conducting Bitcoin transactions, explicitly focusing on assessing cryptocurrencies (Tang, 2023).

In 2018, Ernst & Young (EY), one of the big four auditing firms, developed the Blockchain Analyzer, a tool for extracting transactional data from corporate ledgers. They subsequently made this software, known as Crypto-Asset Accounting and Taxation (CAAT), available to the public in March 2019. Klynveld Peat Marwick Goerdeler (KPMG), a globally recognized professional services firm, recently introduced its Digital Ledger Services and joined the Wall Street Blockchain Alliance (WSBA) as a member. Deloitte, a prominent member of the Big Four, established its first blockchain lab in Dublin in May 2016, marking its initial foray into BT (Bonyuet, 2020).

Big Four businesses in Tunisia are actively investigating cutting-edge technologies such as cloud computing, blockchain, AI, and data analytics to improve consumer value, productivity, and services (Youssef, 2021).

In their study on blockchain technology adoption (BT), Lee et al. (2019) utilized the UTAUT model and found that it accounted for 70% of the variation in usage intention, outperforming eight other models. They identified three primary predictors for intention to use BT: performance expectancy, effort expectancy, and social influence. Additionally, intention and enabling activities were direct predictors of usage behavior, with four moderating factors—experience, voluntariness, gender, and age—playing a significant role. To enhance their explanation of the behavioral intention to adopt blockchain, they revised UTAUT by emphasizing perceived operational value and replacing social influence with trust (Lee et al., 2019).

Similarly, Ferri, Spanò, Ginesti, and Theodosopoulos (2021) investigated auditors' motivations for adopting BT using data from Big 4 employees in Italy. Their study applied the TAM and UTAUT models and found that performance expectations and social influence were key drivers, with effort expectancy being a consistent predictor of auditors' adoption and use of BT.

3.2. Research Hypotheses

Perceived utility for auditing (PUA) practice is closely related to the perceived usefulness of blockchain technology (BT). Perceived utility is defined as a person's perceptions of tangible benefits offered by a technology, which is critical for user acceptance and adoption decisions. As defined by Davis (1989) perceived usefulness is the degree to which a person believes that using a specific system would enhance job performance (Davis, Bagozzi, & Warshaw, 1989). Venkatesh et al. (2003) widely use this concept to forecast the likelihood of a user adopting new technology.

Perceived usefulness significantly influence Shrestha and Vassileva (2019) decision too use a blockchain-based research data-sharing system. Similarly, Almarashdeh et al. (2021) identified that the intention to use bitcoins was affected by factors such as performance expectation, effort expectation, trust, adoption risk, decentralization, and social influence. These studies highlight the complex nature of user perceptions and intentions regarding Bitcoin adoption, emphasizing the roles of social influence, adoption risk, and effort expectancy as key determinants of behavioral intentions in the cryptocurrency context. Furthermore, Lee et al. (2019) demonstrated that operational perceived usefulness positively impacts usage intention.

Discussions of the Technology Acceptance Model (TAM) and its variants often interchange perceived utility and perceived usefulness. Consequently, this study proposes perceived utility as a key factor influencing the intention to implement blockchain technology, in line with previous research (Lee et al., 2019; Venkatesh et al., 2003). The hypothesis, therefore, is that:

H_1: PUA practice positively impacts an individual's intention to use blockchain.

Hubert et al. (2019) define perceived ease of use (PEU) as the level of assurance that a person can comprehend and utilize a technology. Blockchain technology offers features such as automatic transaction execution through smart contracts and rapid processing, which are likely to enhance usability (Lee et al., 2019). Consumers may perceive these inherent attributes as enhancements to usability, which could potentially impact

the adoption rate of blockchain technology (BT). Davis et al. (1989) found in their longitudinal study that while PEU is less influential than perceived usefulness, it still affects user behavior regarding the acceptance of new computer systems. Based on this, the hypothesis posits that perceptions of ease of use positively influence individuals' intentions to adopt BT. Therefore, the hypothesis is:

H2: PEU positively affects an individual's intention to use blockchain.

According to Shin (2019) trust is foundational to blockchain technology. Users' trust in blockchain will be crucial for its success. Trust is defined as a user's willingness to rely on the actions of another party with the expectation that they will fulfill certain obligations (Shin, 2019). This definition implies that trust is a determinant of privacy and security and serves as a motivator for attitudes toward BT (Shin, 2011).

In risky online interactions, trust is a critical component. Numerous studies on e-commerce and digital technologies link trust to consumer acceptability (Mou & Shin, 2018; Shin, 2011). Research by Shin, Lee, and Hwang (2017), among others, highlights the significant impact of trust on user behavior. As trust in online services increases, users are less likely to verify the accuracy and reliability of the information about these services (Mou, Shin, & Cohen, 2017; Shin et al., 2017). Trustworthy services offer users simplicity and convenience, as they do not need to verify the service's validity or legality (Bianchi & Brockner, 2012). Thus, understanding the elements that build trust in a blockchain service is essential, as confidence is crucial for completing digital transactions. Therefore, the following is the third study hypothesis:

H_3: Trust positively affects an individual's intention to use blockchain.

According to the Information System Success Model advanced by DeLone and McLean (2003), cost reductions are considered when calculating net benefits in this model. In light of these results, Lee et al. (2019) suggest that the cost variable could negatively impact the likelihood of using blockchain. Because this technology is still not well understood., it is anticipated that installing blockchain to replace existing technologies will be expensive (Lee et al., 2019). Furneaux and Wade (2011) contend that the high cost of maintaining present systems will discourage people from abandoning them. Therefore, individuals weigh substantially on cost when considering whether or not to use blockchain. Thus, the cost may negatively affect the intention to use blockchain (Furneaux & Wade, 2011). So, this research hypothesizes that:

H_4: Cost has a negative effect on an individual's intention to use blockchain.

FC are considered in this study to understand how an organization's or person's preparation from a readiness standpoint affects the intention to use. The FC variable is highly related to user intention. If potential users feel that the required time, effort, and feasibility risk are too considerable, they may decide against moving further or become discouraged by implementing modern technology. The conditions must be within a reasonable range for the adoption of blockchain to be considered beneficial (Venkatesh et al., 2003). FC affects trust and experience and positively impacts the intention to use. A contributing factor according to researchers, is that people won't trust blockchain and its promise if they think their company isn't prepared to adapt logistically (Lee et al., 2019).

In this study, it is hypothesized that FC influences people's intention to adopt blockchain. Therefore, the fifth hypothesis is as follows:

H_5: FC positively affects an individual's intention to use blockchain.

4. Research Design and Data

4.1. Sample Selection and Data Sources

The survey was developed based on prior studies and aligned with the research hypotheses. The surveys were administered in the Tunisian big four companies, i.e., PwC, Deloitte, EY, and KPMG. A response was disregarded if it contained several missing values and was incomplete. From 100 distributed surveys, only 53 usable survey responses were collected. So, the final sample is composed of 53 observations.

Table 1. Demographic characteristics of respondents.

Demographic characteristics	Frequency	Percentage
Affiliation		
Training students	7	13.2%
Professionals in the auditing department	46	86.8%
Education level		
Master's degree in accounting and auditing	51	96.2%
Doctoral degree in accounting	2	3.8%
Age range		
20-25 years old	32	60.4%
26-30 years old	7	13.2%
over 30 years old	14	26.4%
Gender		
Male	30	56.6%
Female	23	43.4%
Total	53	100%

Table 1 shows that trainee respondents are the least (13.2%), and the majority (86.8%) of respondents were professionals in the auditing department. The statistics reveal that (96.2%) of respondents had a master's degree in accounting and auditing and thatjust (3.8%) had a doctoral degree in accounting. Moreover, 73.6% of respondents were between 20 and 30. Also, 26.4% of respondents claimed they were over 30. On the other hand, 43.4% of respondents are female, compared to 56.6% who are men.

4.2. Regression Model and Definition and Measurement of Variables

This study uses regression analysis to determine the relationship between the independent variables, PUA, PEU, Trust, Support cost (SC), FC, and the dependent variable, the intention to use Blockchain. The regression model is next in line.

$$Y = \beta 0 + \beta 1\, PUA + \beta 2\, PEU + \beta 3\, Trust + \beta 4\, SC + \beta 5\, FC + Control\ Variables + \varepsilon i$$

With:

Y = INT-BLOCKCHAIN = The Intention to Use BT.

PUA = Perceived utility for auditing practice.

PEU = Perceived ease of use.

Trust = Trust.

SC = Support cost.

FC = Facilitating condition.

4.2.1. Control Variables

A = age = 1 when the respondent's age > 30 and 0 when it is between 20 and 30.

AFF = Affiliation = 1 when a respondent is professional in auditing and 0 when training students.

E = Education = 1 when a respondent has a Master's degree in accounting and 0 when a Doctoral degree.

G = Gender = 1 when the respondent is a man and 0 when it is a woman.

β, β1, β2…: Are the parameters that must be estimated.

εi: The error term

4.2.2. The Dependent Variable: The Intention to use Blockchain (INT-Blockchain)

By indicating their intention to use BT (INT-Blockchain), users can show how much they want to engage in a particular activity. The behavioral intention of technology users, which measures their propensity to engage in a specific behavior, has been used to predict their actual behavior.

This study used two question items from previous investigations to gauge participant's intentions to use blockchain. The two items covered are Q1: you intend to use Blockchain for auditing tasks, and Q2: you plan to adopt blockchain in those tasks. A seven-point Likert-type scale was used to ask respondents' opinions.

4.2.3. The Independent Variables

4.2.3.1. PUA

For this study, PUA practice is a brand-new variable and has never been used in research. This variable is linked to the perceived usefulness and helpfulness of BT. Forecasting relies heavily on blockchain's perceived value in improving legacy systems (Venkatesh et al., 2003). Davis et al. (1989) combined the traditional TAM and TRA models to explain the intention to embrace new technology using information from a sample of MBA students at a renowned university. Utility or usefulness was a significant factor in predicting the adoption of an IT system. Perceived utility and perceived usefulness are frequently used synonymously when discussing the TAM and its variants. Therefore, this study proposes perceived utility as a determining factor of the intention to implement BT per previous findings (Lee et al., 2019; Venkatesh et al., 2003).

This study measures PU using 3 question items. The four items mentioned are Q3: using blockchain increases your chances of accomplishing essential goals, Q4: using blockchain helps you complete tasks more quickly, and Q5: using blockchain boosts productivity. The survey used a seven-point Likert-type scale to ask participants' opinions.

4.2.3.2. PEU

This variable reflects how a user perceives the simplicity of a technology. Understanding users' perceptions of BT's simplicity and convenience is crucial for its successful adoption (Lee et al., 2019). Therefore, the degree of PEU is commonly measured using a four-item scale as follows: Q6: using blockchain is easy for you; Q7: your interaction with the blockchain is clear and understandable; Q8: the blockchain is helpful in your daily life; and Q9: it is simple for you to become adept at using blockchain. A seven-point Likert scale was used to measure the extent of PEU consumption.

4.2.3.3. Trust

Trust refers to the extent to which users feel confident that a technology, such as blockchain, will reliably perform according to expected standards. Users typically favour technology that has undergone evaluation and

validation by reputable third parties when managing sensitive information like personal accounts or financial matters (Shin et al., 2017).

This study measures trust using three question items that were suggested in previous research. Q10: You would trust the blockchain to complete the task correctly; Q11: the blockchain would protect personal information. And Q12: the blockchain is reliable. A seven-point Likert scale with seven options was used to ask respondents to specify.

4.2.3.4. Cost

The cost variable may also have a detrimental impact on the intention to utilize blockchain. The cost of installing blockchain to replace existing technologies is predicted to be high because this framework is still poorly understood. According to Furneaux and Wade (2011) the high expense of maintaining current systems will make people less likely to give them up. Given that the technology is still relatively new and the cost of the ledgers is high, it is expected that the cost variable will have a negative correlation with the intention to adopt blockchain (Furneaux & Wade, 2011).

The study uses 2 question items to measure the variable "SC". The 2 items included are Q13: the continued use of blockchain is expensive, and Q14: the ongoing operational costs of blockchain are high. Respondents were asked to indicate on a seven-point Likert-type scale.

4.2.3.5. FC

The FC variable strongly correlates with user intention (Venkatesh et al., 2003). Potential users may get disinterested in utilizing modern technology if they believe doing so will be excessively time-consuming, risky, and challenging. The circumstances must fall within a controllable range for the adoption of blockchain to be considered advantageous (Lee et al., 2019).

To measure the FC in this study, 2 question items suggested in earlier investigations were used. The two items mentioned are Q15: The blockchain is compatible with the other technologies you use, and Q16: when utilizing the blockchain, you can seek assistance from others. A seven-point Likert scale with seven options was used to ask respondents to specify.

Table 2. Cronbach's alpha for survey scales.

Scale	Items	Cronbach's alpha
Perceived utility for auditing practice	Q1 – Q3	0.805
Perceived ease of use	Q4– Q7	0.850
Trust	Q8 – Q10	0.834
Support cost	Q11– Q12	0.812
Facilitating condition	Q13 – Q14	0.714
The intention to use blockchain	Q15-Q16	0.7

5. Results and Discussion

5.1. Reliability Test: Cronbach Alpha

As shown in Table 2, Cronbach's Alpha coefficients for the survey scales indicate good internal consistency. Cronbach's alpha reliability coefficient typically falls between 0 and 1. Notably, Cronbach's Alpha values for PEU (0.850) and Trust (0.834) are higher than those for PUA (0.805) and SC (0.812). While the FC scale has a slightly lower Cronbach's Alpha (0.714), it still falls within an acceptable range. This result indicates that the survey questions are reliable.

5.2. Descriptive Statistics

The descriptive statistics of the six constructs under study are shown in Table 3.

Table 3. Descriptive statistics for key constructs.

Construct name	N	Minimum	Maximum	Mean	Std. deviation	Variance
Perceived utility for auditing practice	53	1.00	7.00	2.797	1.436	2.063
Perceived ease of use	53	1.00	6.25	4.613	1.232	1.518
Trust	53	1.00	7.00	4.773	1.374	1.888
Support cost	53	1.00	7.00	5.009	1.353	1.832
Facilitating condition	53	2.00	7.00	5.150	1.170	1.371
The intention to use blockchain	53	1.00	7.00	4.471	1.576	2.485

The table includes data for each construct from a sample size of 53 respondents. Table 3 shows that the average value (Standard Deviation) of the intention to use Blockchain is 4.4717 (1.576310). The technology's perceived usefulness is typically somewhere around 2.80 (1.44). The technology's PEU score hovers around 4.61

(1.23) on average. The range demonstrate that scores for PEU range from 1.00 to 6.25. On average, the level of trust in the technology is around 4.77 (1.37). The standard deviation suggests a moderate variation in participants' levels of trust. The average SC of using the technology is approximately 5.01 on average. The standard deviation indicates that participants' views of assistance costs vary only moderately. On average, the FC for using the technology is around 5.15. Participants' perceptions of PEU and FC exhibit relatively low standard deviations, indicating consistent responses.

In contrast, trust and SC have higher standard deviations, suggesting more significant variability in participants' views. The consistency in responses for PEU and FC may indicate that these factors are more stable and predictable in the context of blockchain adoption in auditing. The greater variability in trust and SC may indicate a broader range of opinions and considerations in these areas.

5.3. Bivariate Correlation

This research performed a bivariate correlation analysis to examine the relationships between various factors in the context of BT adoption, as shown in Table 4.

Table 4. Pearson correlation.

Variables	Perceived utility for auditing	Perceived ease of use	Trust	Support cost	Facilitating condition	The intention to use blockchain
Perceived utility for auditing	1	-0.530***	-0.669***	-0.619***	-0.602***	0.508***
Perceived ease of use		1	0.559***	0.407***	0.641***	-0.089
Trust			1	0.561***	0.508***	-0.179
Support cost				1	0.478***	-0.284**
Facilitating condition					1	0.331**
The intention to use blockchain						1

Note: ***Correlation is significant at the 0.01 level (2-tailed).
**Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 4, most of the coefficients are below the 0.8 cutoff, corresponding to the point where multicollinearity between the explanatory variables becomes a significant issue. This suggests that the Pearson correlation matrix does not exhibit significant multicollinearity, indicating that the variables are relatively independent of each other in this context.

5.4. T-Test for the Differences in Means between Male and Female Sub-Samples

The following table shows the results of T-tests conducted to examine the differences in means between male and female sub-samples for several key variables.

Table 5. T-test results by gender.

Variables	Gender	N	Mean	Std. deviation	Std. error mean	T	Sig. (2-tailed)
Perceived utility for auditing practice	Male	29	3.120	1.526	0.283	1.844	0.071
	Female	24	2.406	1.239	0.253	1.880	0.066
Perceived ease of use	Male	29	4.370	1.234	0.229	-1.598	0.116
	Female	24	4.906	1.188	0.242	-1.604	0.115
Trust	Male	29	4.528	1.283	0.238	-1.441	0.156
	Female	24	5.069	1.447	0.295	-1.424	0.161
Support cost	Male	29	4.758	1.320	0.245	-1.501	0.140
	Female	24	5.312	1.357	0.277	-1.497	0.141
Facilitating condition	Male	29	4.896	1.160	0.215	-1.774	0.082
	Female	24	5.458	1.131	0.231	-1.778	0.081
The intention to use blockchain	Male	29	4.500	1.592	0.295	0.142	0.887
	Female	24	4.437	1.590	0.324	0.142	0.887

The results of t-tests comparing various variables by gender indicate some potential differences, although none reached statistical significance at the 0.05 level. The results of t-tests examining gender-based differences in perceptions within the context of auditing practices and BT are presented in Table 5. Notably, a statistically

non-significant difference (p = 0.071) is observed in the PUA practice, with men expressing a slightly more pronounced impact than women. The ease of utilization exhibits marginal non-significance (p = 0.116), indicating subtle variations in how men and women perceive the ease of using auditing practices. Trust in BT does not show a statistically significant gender difference (p = 0.156). While the perceived cost of support for blockchain is non-significant (p = 0.140), women appear to find it slightly more expensive than men. Enabling factors show no statistically significant gender-based differences (p = 0.082), and both men and women perceive them as relatively unimportant. Lastly, intentions to use BT demonstrate statistical negligibility (p = 0.887) for both genders.

5.5. Multivariate Analyses and Results Interpretation

Table 6. Regression analysis results.

Model	Expected signs	Coefficient (β)	T	P>|t|	VIF
Perceived utility for auditing practice	+	0.698	3.950***	0.000	2.516
Perceived ease of use	+	0.237	1.511	0.138	1.980
Trust	+	0.361	2.119**	0.040	2.335
Support cost	-	0.061	0.401	0.690	1.829
Facilitating condition	+	0.321	1.935	0.060	2.210
Age	?	0.242	1.902	0.064	1.302
Gender	?	0.181	1.512	0.138	1.152
Education	?	-0.082	-0.591	0.558	1.549
Affiliation	?	0.211	1.530	0.133	1.534
R^2	0.466				
F	4.164				
Mean VIF	1.823				

Note: ***Correlation is significant at the 0.01 level (2-tailed); **Correlation is significant at the 0.05 level (2-tailed).

The research suggests that the regression model, including all five variables, offers an excellent fit to the sample data [Adjusted R^2 = 0.466; F (5, 53) = 4.164; p<0.05]. Variance Inflation Factor (VIF) test results indicate that the model does not have any significant multicollinearity. All variables' VIFs are under four. The results demonstrate that trust and PUA practice substantially impact the intention to employ blockchain (p=0.00).

- First, predict that PUA practice have a positive influences the intention to use BT. Our findings demonstrate that the statistical correlation was positive and reasonably neutral. So, it can be claimed that this variable, which has the highest statistical value, plays the most considerable role in predicting intention to use BT (β =0.698 and P>|t|=0.000), as shown in Table 6. *The first hypothesis, H1, is then confirmed.* Past studies, which commonly predicted acceptance using perceived benefit (Venkatesh et al., 2003). This is consistent with the basic tenet of cost-benefit analysis, which holds that even if a person does not fully understand a particular technology, they will eventually be open to the idea if it adds some intrinsic value to their lives.
- Second, the proposition is that PEU will positively influence the intention to use the technology. In this context, (β = 0.237 and P>t = 0.138). *However, this result does not support hypothesis H2.* These findings are linked to the notion that blockchain is a relatively new concept that the public has not entirely accepted.
- Third, there is an expectation that usage intention and trust will exhibit a positive connection. The model indicates a significant relationship between the two, and the data support this assertion. This relationship is likely responsible for the public's confidence in BT and information security in general. According to the result, (β = 0.361, and P> | t | = 0.040). *The obtained result confirms the third hypothesis, H3, of the research.* This aligns with past studies (Lee et al., 2019; Liu & Ye, 2021) which indicated that trust was commonly used to predict acceptance. These findings suggest that individuals comprehend the technical aspects of technology and prioritize information security, privacy, and trust when using technology.
- Fourth, the third hypothesis suggests that cost is negatively associated with utilizing blockchain. The data indicated one unexpected finding in the form of this hypothesis. The variable cost is still a positive element, according to the data from the model (β = 0.061 and P> | t | = 0.690). *This result does not support the fourth hypothesis, H4.* This is due to the sample participants' belief that, despite the initial expense of installing blockchain, the advantages may make it worthwhile in the long run.
- Moreover, the belief that FC positively affects usage intention is not strongly supported by the results (β= 0.321), as the p-value of 0.060 falls just above the conventional significance threshold (0.05). This

suggests that statistically, the relationship between FC and the intention to embrace BT is not robust. Consequently, *these findings do not provide strong support for hypothesis H5*, which proposed a positive association between FC and usage intention.

After conducting a thorough analysis of the data while considering control variables, it is evident that none of the variables—namely age, gender, education, or affiliation—have a statistically significant impact on auditors' intention to employ BT. This suggests that these demographic and professional considerations do not influence the willingness of auditors to adopt BT. The statistical analysis demonstrates a non-significant p-value of 0.064, which contradicts the initial hypothesis that age substantially affects auditors' inclination to adopt BT.

The primary result of this study is that age, gender, professional affiliation, and educational attainment do not substantially influence auditors' perspectives on implementing BT in this domain. In contrast to other variables in the model, the demographic and professional characteristics in question do not emerge as significant determinants in shaping auditors' decisions for BT.

6. Conclusion

This study examined the intentions of Tunisian accounting professionals to adopt blockchain technology (BT). A 2022 survey of 53 auditors from the "Big Four" firms, including trainee students, was conducted. The study assessed five variables related to BT usage intention using the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). It found that perceived utility and trust are the primary factors influencing Tunisian auditing professionals' intention to adopt BT. Previous research has highlighted that blockchain adoption can benefit auditors (Ferri et al., 2021; Lee et al., 2019; Schmitz & Leoni, 2019). Tunisia, with its focus on technological advancement, is open to adopting new technologies.

The Tunisian government is actively promoting digital transformation and innovation across industries to enhance productivity, competitiveness, and economic growth. Tunisia's Big Four firms are optimistic about the potential of blockchain, artificial intelligence (AI), data analytics, and cloud computing, recognizing these technologies' ability to provide real-time data, accelerate processes, and deliver advanced solutions. This study aims to facilitate the adoption of blockchain in accounting and auditing organizations by clarifying its purpose, addressing barriers, and incentivizing successful implementation.

6.1. Contributions

The study has the potential to offer substantial theoretical, practical, and managerial insights. The findings could refine current theoretical frameworks and guide future research in these domains.

6.1.1. Practical Implications

The study offers a thorough overview of professional auditors' aspirations and capabilities regarding blockchain technology (BT). It emphasizes the practical implications for operational planning, practice, BT implementation, and training strategies, especially within large audit and accounting firms with similar organizational structures and cultures (Bonsón & Bednárová, 2019; Dai & Vasarhelyi, 2017).

6.1.2. Theoretical Implications

The study investigates the factors that influence auditors' intentions to adopt blockchain technology (BT) to improve the Technology Acceptance Model (TAM). It highlights potential benefits, such as increased efficiency, accuracy, and security, as well as challenges, including cost, complexity, and resistance to change. These findings can inform the development of the most effective BT adoption strategies.

6.1.3. Managerial Implications

Managers can incorporate BT into strategic planning to assess its impact on the industry, competitive environment, and corporate processes. They can identify adoption intentions, explore competitive advantage, and gain feedback. Change management strategies, stakeholder participation, effective communication, and support systems are crucial. Partnering with external partners can accelerate adoption and support strategic goals.

6.2. Limitations and Future Research

The BT research accounting and auditing applications of BT are limited by the technology's novelty and lack of concrete examples. More information and research are required regarding technological challenges and opportunities. Essential is the unity among the government, regulatory bodies, auditors, and accountants. The broad generalizability of the results could be influenced by the study's small sample size, which comprised only 53 auditors from the "big four" enterprises in Tunisia. Nevertheless, with a larger sample size, the results may provide a more comprehensive comprehension of the factors that influence the intentions of auditing professionals to adopt BT in developing environments.

Future research on auditors' intention to adopt BT could explore perceived benefits, risks, organizational factors, and individual characteristics. It could also identify barriers to adoption, such as legal, cultural, and technical. The study could also examine the impact of blockchain on audit quality, focusing on its ability to

improve accuracy, transparency, and dependability. Comparative studies could be conducted to understand variations in auditors' intentions across different countries, regulatory frameworks, and auditing standards, examining contextual elements affecting decision-making and comparing adoption rates, motives, and difficulties.

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