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# ANALYZING THE RELATIONSHIP BETWEEN ACCOUNTING INFORMATION QUALITY AND AI ADOPTION ON BLOCKCHAIN ADOPTION INTENTION: THE MEDIATING ROLE OF ATTITUDE

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## Abstract

*This research examines the effects of Accounting Information Quality (AIQ) and Artificial Intelligence Adoption (AIA) on Blockchain Adoption Intention (BAI), Attitude toward blockchain technology (ATT) is used as a mediator. The study will be based on the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Theory of Planned Behavior (TPB). The study will present a survey-based analysis of 178 respondents, who were selected among Pakistan-based accounting and finance professionals. SmartPLS 4.0 and SPSS 26 were used to assess reliability, convergent validity, discriminant validity, collinearity, model fit measures and structural path coefficients. The findings have indicated that AIQ and AIA are both significant predictors of positive attitudes towards blockchain, which in turn have a significant impact on blockchain adoption intention. The direct relationships between AIQ and AIA with adoption intention are insignificant, which validates complete mediation of attitude. Combined predictors have a strong model predictive power with 80.9 per cent explained attitude and 75.1 per cent explained blockchain adoption intention. The results are added to the body of literature on sustainable digital transformation in accounting and provide practical implications to the policy-makers and managers within organizations that aim at greater rates of blockchain adoption in financial ecosystems.*

**Keywords:** Accounting Information Quality, Artificial Intelligence Adoption, Blockchain Adoption Intention, Attitude, UTAUT, Theory of Planned Behavior, PLS-SEM, Digital Transformation.

## 1. Introduction

The digitalization of accounting and financial reporting systems has increased dramatically within the past 10 years, as a combination of three formidable forces which are the spread of artificial intelligence, the need to have a higher quality of financial information, and the rise of distributed ledger technologies. The blockchain technology, in particular, has become one of the issues of specific interest due to its potential as a highly disruptive infrastructure of accounting, auditing, and financial reporting. Its fundamental characteristics such as immutability, transparency, decentralized verification and real-time auditability, counter the

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longstanding shortcomings of traditional accounting frameworks that can be easily manipulated to commit human error, misuse, and fraud. Nevertheless, although the idea has a potential theoretical foundation, blockchain usage in accounting practice is still low, especially in the developing economies, where the level of awareness, technological facilities, and institutional maturity continues to develop.

The limited use of blockchain among known advantages is a paradox in the research that can be closed by behavioral technology acceptance models, which would be in a good position. The same studies have already concluded that objective characteristics of the technology are not the ultimate determinants of technology adoption behavior; these decisions are significantly influenced by cognitive judgment, affective feelings, and intentions to use technology. Use of the Theory of Planned Behavior (TPB) introduced by Ajzen (1991) by revealing the outcome of a favorable/unfavorable attitude towards the utilization of blockchain as convenient and preferable compared to other practices as the key factor of its adoption intention, the attitude plays a central role in determining it. In the same vein, the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) highlights performance expectancy and effort expectancy as the drivers that are essential in influencing an attitude and behavioral intention towards new technologies.

In this theoretical background, two company-level variables occur as important antecedents of blockchain adoption intention and attitude. To clarify, in the first hypothesis, Accounting Information Quality (AIQ)- which consists of the extent to which accounting information systems generate correct, timely, reliable, and decision-supportive information- is postulated to influence the perception to blockchain by proving the utility of high-integrity information systems. The companies that have positive AIQ cultures should be more sensitive to the information-enhancing capacity of blockchain, and their specialists will become more open to its implementation. Second, the use of AI tools in accounting and finance processes in organizations is called Artificial Intelligence Adoption (AIA) and is assumed to entail the establishment of cognitive readiness to further digital innovation. Accounting-related AI-driven automation, predictive analytics, and machine learning exposure should decrease the perceived technological gap with regard to blockchain and encourage more approving attitudes to adopt it.

Although such relationships are theoretically plausible, there is limited empirical evidence to support the model that the simultaneous exposure of AIQ and AIA on blockchain adoption intention through attitude should have been supported, especially in South Asian emergent economy settings. The literature is inclined to investigate the antecedents separately or in the environment of other industries, but the synthesized framework suggested by the given study is not tested yet. This research thus addresses a key empirical gap as it is attempting to test a full model where AIQ and AIA influence blockchain adoption intention by attitudinal mechanism mainly using the data collected through survey in a sample of accounting professionals in Pakistan.

Pakistan is a rather interesting case of study where this question can be raised. The accounting industry in the country is being rapidly digitalized due to the initiative of the State Bank of Pakistan in its philosophy of Digital Financial Services and the policy of the e-governance provided by the Securities and Exchange Commission of Pakistan. Artificial intelligence accounting solutions and financial technology are on the rise, and blockchain innovation in trade finance and supply chain documentation has been implemented by major commercial banks. However, there are no systematic empirical studies of the psychological and

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organizational factors of the blockchain adoption intention among Pakistani accounting professionals in the literature bases. This paper will fill this gap, providing not only theoretical information but also the specific advice that can be useful in the context of this situation.

## 2. Literature Review and Hypothesis Development

### 2.1 Theoretical Foundation

In this study, we combine two theoretical frameworks that complement each other in explaining the adoption behavior of the blockchain among accounting professionals. According to the Theory of Planned Behavior (TPB) (Ajzen, 1991), behavioral intentions, which are the direct antecedent of actual behavior, are determined by three elements, which include attitude towards behavior, subjective norms and perceived behavioral control. The attitude or the overall evaluative estimation of carrying out the action is always stated to be the most powerful predictor of intentions to adopt technology in different professional and cultural settings. The attitude is at the center-stage of the TPB, which suffices well with the fact that emerging technologies such as blockchain are characterized by a certain level of uncertainty where judgments of usefulness and fit by individuals have a more impactful behaviour aspect.

Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) supplements the TPB by defining four determinants of the intention to use the technology, that is, performance expectancy (improvement in job performance), effort expectancy (perceived ease of use), social influence, and facilitating conditions. The use of performance expectancy in the application of blockchain in accounting also fits the definition of AIQ construct on high quality of accounting information describes performance orienting capacity that must also be applied to the transparency and audit trail functions of blockchain. UTAUT focus on conditions facilitating is also denoted in the construct of AIA where AI adoption creates the technical infrastructure and organizational environment where the barriers to the implementation of blockchains to be lessened.

### 2.2 Accounting Information Quality and Blockchain Adoption

Accounting Information Quality (AIQ) defines the qualities of the accounting information that will be helpful in decision-making as it includes accuracy, completeness, relevance, timeliness, and reliability (Davis, 1989; Nicolaou, 2000). Organizations with high AIQ are used to have structured data governance, high internal control and information integrity culture- qualities that blockchain has to offer in its value proposal of immutable, open, and tamper-proof financial statements. The technology accept literature is a consistent result that supports the argument that the perceptions of usefulness, which is a purpose of adequacy with the current professional values and performance objectives, are a key attitudinal force.

Professionals in accounting will be more inclined to perceive the aspect of compatibility between blockchain distributed ledger design and their current obligation to data integrity and transparency in the organization of high AIQ. Such acceptance is converted into more positive attitudinal judgments of blockchain. Moreover, the high AIQ conditions are likely to contribute to the proactive attitude toward information system novelties and the lessened resistance and the increased positive intentions toward adoption. The previous empirical research conducted by Afifa et al. (2023) proves that the quality of the perceived information has a positive impact on the attitude towards the adoption of blockchain technology in Jordanian accounting, and Anh and Loi (2025) in Vietnamese manufacturing companies prove the same patterns. The results of the direct influence of AIQ on BAI are theoretically supposed to be mediated by attitude rather than work separately, owing to the fact that the quality of current information

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systems is the prime determinant of cognitive attitudes than the actual motivation of the adoption behavior.

**H1a: Accounting Information Quality (AIQ) has a positive and significant influence on Attitude toward blockchain technology (ATT).**

**H1b: Accounting Information Quality (AIQ) has a positive and significant direct influence on Blockchain Adoption Intention (BAI).**

**2.3 Artificial Intelligence Adoption and Blockchain Adoption**

The domain of Artificial Intelligence Adoption (AIA) in accounting implies organizational implementation of machine learning algorithms, robot process automation, natural language processing, and predictive analytics into the financial reporting, auditing, and management accounting operations. The adoption of AI is changing the very physical and cognitive framework of accounting work, limiting the volume of transaction processing and increasing the level of professional work devoted to both analytical and interpretive activities as well as strategic work. More importantly, the utilization of AI creates a kind of technological preparedness a taught organizational ability to assess, assimilate, and receive value through digital advancements that must reduce the perceived obstacles to adopting associated transformative technologies including blockchain.

In a long TAM-TOE model that Qu and Kim (2025) implement onto Chinese MSMEs, it becomes evident that organizational AI adoption capacity is a key factor that informs openness to complementary digital technologies because of operational technological uncertainty that generates confidence in the digital transformation pathways. The presence of AI and blockchain in a financial system, where AI filters and or analyzes the streams of data that blockchain secures and authenticates, facilitates natural forms of technological complementary, which must lead to attitudinal spillovers with a positive effect. It is theoretically more likely to see AI, in terms of its performance advantages applied in accounting operations, to make professionals more predisposed to recognize the promise of blockchain as a performance intelligent system as an asset with the benefit of promoting data integrity and auditability in real time. In keeping with the positive aspect of performance expectancy construct in UTAUT, AIA will directly and indirectly (through attitude) affect blockchain adoption intention.

**H2a: Artificial Intelligence Adoption (AIA) has a positive and significant influence on Attitude toward blockchain technology (ATT).**

**H2b: Artificial Intelligence Adoption (AIA) has a positive and significant direct influence on Blockchain Adoption Intention (BAI).**

**2.4 Attitude and Blockchain Adoption Intention**

The attitude toward the technology adoption as the conceptual element of TPB and UTAUT is the fixed evaluative orientation of the individual (positive or negative) regarding the involvement to a certain technology (Ajzen, 1991; Davis, 1989). Attitude has continued to be the most robust proximate predictor of adoption intention in the literature that has examined integration into the blockchain, with more distal cognitive and organizational antecedents mediated through it (Krings, 2016). Afifa et al. (2023) in Jordan, Anh and Loi (2025) in Vietnam, and other studies on financial technology adoption that use TAM results strongly support the point that emotions of usefulness, reliability, and transformative potential of blockchain result in a significant predictor of intention to adopt the technology.

The pivotal role of attitude in influencing blockchain adoption intention is theoretically justified by the argument of the TPB that behavioral intentions can only crystallize in result of

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positive enough affects and evaluations that can surpass the inertia, switching costs, and risk perceptions. The role of attitude as a psychological mediator between the objective and technology characteristics (identified using AIQ and AIA exposure) and behavioral commitment (adoption intention) is particularly relevant in the accounting field, where these aspects are institutively conservative and risk-averse.

**H3: Attitude toward blockchain (ATT) has a positive and significant influence on Blockchain Adoption Intention (BAI).**

**H4: Attitude (ATT) fully mediates the relationships between (a) AIQ and BAI and (b) AIA and BAI.**

## 3. Research Methodology

### 3.1 Research Design and Sample

In this research, a quantitative cross-sectional survey is used as the research design, which is in line with the positivist epistemological tradition and is in line with the general behavioral technology use acceptance research done in the accounting settings. The target market consists of the accounting, finance professionals, IT managers, auditors and the graduates of management who have experience on financial systems in Pakistan. The sampling methodology, the purposive and snowball, was used to access the respondents with adequate organizational and technological background on AIQ, AIA, and blockchain adoption to respond with credible information.

The structured questionnaire was provided in 2024 online (Google Forms) and face-to-face. Questionnaires were given to 210 people and 183 people completed the questionnaires returned to the researcher. Following the screening of non responses and outliers, 178 usable responses were analysed resulting in a usable response rate of 84.8. The size of the sample meets the minimum required threshold of PLS-SEM analysis, where an analysis needs at least 10 times the largest amount of structural paths that can point to any single construct (Hair et al., 2019); in the model, there are only two possible paths that could point to a construct, so a minimum of 20 observations was taken, and the sample of 178 was more than sufficient.

### 3.2 Measurement Instruments

All constructs were assessed with help of validated reflective multi-item scale anchored on a five-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree). The quality of Accounting information (AIQ) was gauged on 6 items based on adoptions of Nicolaou (2000) and Wang and strong (1996) which analyzed accuracy, completeness, relevance, timeliness, and reliability of accounting information systems. The scale was used to measure Artificial Intelligence Adoptions (AIA), which covered seven items modified after Qu and Kim (2025) and Davis (1989) based on the level of AI adoption in accounting operations, perceived benefits of AI performance, and organizational readiness to AI. Attitude toward Blockchain (ATT) was assessed as a six-item scale based on the Ajzen (1991) and Afifa et al. (2023) scale, with the six items reflecting their general evaluative hierarchy with regard to the usefulness, trustworthiness, and suitability of blockchain to the accounting practice. The scale used to operate blockchain Adoption Intention (BAI) was based on four adapted items of Venkatesh et al. (2003) to measure the intention and plans of adopting blockchain technology in the organizational context of the respondent. The content of all the items went through the revision of two scholarly scholars in accounting information systems prior to the collection of data.

### 3.3 Analytical Strategy

The analysis of data was conducted by Partial Least Squares Structural Equation Modeling (PLS-SEM), SmartPLS 4.0 and the support of descriptive and frequency analyses

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was performed by means of SPSS 26. The choice of PLS-SEM as compared to covariance-based SEM (CB-SEM) is based on three factors: (i) the overall model is prediction-focused and exploratory and not confirmatory; (ii) the sample size is not large (n=178); and (iii) higher-order constructs and non-normally distributed Likert-scale data were used in the research. The data was analyzed in two phases based on the two steps proposed by Hair et al. (2019): reliability of the measurement model was measured (Cronbach, a) and validity (convergent validity through AVE, or 0.50) was calculated, and discriminant validity was measured (Fornell-Larcker criterion and HTMT ratios). Second, bootstrapping of 5,000 resamples was used to test the H1-H3 and H4 direct and mediation effects, respectively by estimating structure models that would produce bias-corrected 95% confidence limits. Harman single factor test was used to measure the common method bias before estimation of structural model.

## 4. Data Analysis and Results

### 4.1 Demographic Profile of Respondents

Table 1 shows demographics of the 178 steering committee members. The gender ratio of male volunteers is high (83.7), as it represents the gender mix within the domain of application of technology in accounting in the Pakistani organizational setting. Most of the respondents are under 30 years of age (63.8%), as it is the younger generation of accounting professionals that is more technologically exposed and willing to embrace the digital aspect of innovations. The highest level of education is Baccalaureates (51.1%), then Master (25.3%), and MPhil scholars (12.4%), which proves that the sample has sufficient academic background to assess accounting information systems and online technologies. An analysis of obtained work experience reveals that some percentage of respondents with less than five years of professional experience is 59.1, which aligns with the profile of young age. Regarding blockchain familiarity, most (58.6) are moderately familiar, but 31.0% are lowly familiar and only 10.3% are high familiar with blockchain, which also demonstrates the relative novelty of the technology in the accounting ecosystem of Pakistan and suggests that the role of attitudinal and behavioral elements can be an influential determinant of the adoption curves.

**Table 1: Demographic Profile of Respondents (N = 178)**

| Characteristic | Category | Frequency (%) |
|---|---|---|
| **Gender** | Male | 149 (83.7%) |
| | Female | 29 (16.3%) |
| **Age Group** | Below 30 | 113 (63.8%) |
| | 31–40 | 38 (21.5%) |
| | 41–50 | 17 (9.6%) |
| | Above 50 | 9 (5.1%) |
| **Education Level** | Bachelor | 91 (51.1%) |
| | Master | 45 (25.3%) |
| | MPhil | 22 (12.4%) |
| | PhD | 1 (0.6%) |
| | Other | 19 (10.7%) |
| **Position** | Accountant/Finance | 37 (21.1%) |
| | IT Manager | 13 (7.4%) |
| | Manager/Auditor | 13 (7.4%) |
| | Other | 112 (64.0%) |
| **Work Experience** | < 5 years | 104 (59.1%) |

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| | | |
|---|---|---|
| | 5–10 years | 32 (18.2%) |
| | 11–15 years | 16 (9.1%) |
| | > 15 years | 24 (13.6%) |
| **Org. Size (Employees)** | < 20 | 84 (47.7%) |
| | 20–49 | 34 (19.3%) |
| | 50–99 | 5 (2.8%) |
| | > 100 | 53 (30.1%) |
| **Blockchain Familiarity** | Low | 54 (31.0%) |
| | Moderate | 102 (58.6%) |
| | High | 18 (10.3%) |

*Note. N = 178. Percentages are shown in parentheses.*

### 4.2 Measurement Model Assessment

#### *4.2.1 Outer Loadings and Indicator Reliability*

Table 2 provides the outer loadings of all indicators. Each of the loadings is greater than the recommended indicator threshold of 0.708 (Hair et al., 2019), indicating that the indicator reliability is satisfactory in all four constructs. AIQ indicators vary between 0.813 (AIQ3) and 0.863 (AIQ6), which show a high level of stability between items and AIQ latent construct. The range of AIA indicators goes between 0.789 (AIA4) and 0.874 (AIA7), with the last one as the best indicator as it includes the measurement of the highest level of AI use in predictive financial analytics. The ATT indicators vary between 0.781 (ATT2) and 0.909 (ATT4), with ATT4 having the most significant loading, which is the strength of evaluative judgments of the transformative potential of blockchain in accounting. The measurement of behavioral adoption intentions is accurate because the BAI indicators are between 0.813 (BAI1) and 0.891 (BAI2). All these high loading values confirm the reliability of the indicator of the measurement tool.

**Table 2: Outer Loadings Matrix**

| Indicator | AIQ | AIA | ATT | BAI |
|---|---|---|---|---|
| AIQ1 | 0.816 | | | |
| AIQ2 | 0.830 | | | |
| AIQ3 | 0.813 | | | |
| AIQ4 | 0.821 | | | |
| AIQ5 | 0.861 | | | |
| AIQ6 | 0.863 | | | |
| AIA1 | | 0.795 | | |
| AIA2 | | 0.824 | | |
| AIA3 | | 0.847 | | |
| AIA4 | | 0.789 | | |
| AIA5 | | 0.824 | | |
| AIA6 | | 0.854 | | |
| AIA7 | | 0.874 | | |
| ATT1 | | | 0.870 | |
| ATT2 | | | 0.781 | |
| ATT3 | | | 0.844 | |
| ATT4 | | | 0.909 | |
| ATT5 | | | 0.871 | |

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| | | | | |
|---|---|---|---|---|
| ATT6 | | | 0.837 | |
| BAI1 | | | | 0.813 |
| BAI2 | | | | 0.891 |
| BAI3 | | | | 0.833 |
| BAI4 | | | | 0.869 |

*Note. AIQ = Accounting Information Quality; AIA = Artificial Intelligence Adoption; ATT = Attitude Toward Blockchain; BAI = Blockchain Adoption Intention. All loadings exceed the 0.708 threshold.*

### *4.2.2 Construct Reliability and Convergent Validity*

Table 3 presents the Cronbach alpha, composite reliability (rhoa and rhoc) and Average Variance Extracted (AVE) of all constructs. Alpha values of Cronbach measure between 0.874 (BAI) and 0.925 (AIA), significantly exceeding the level of 0.70. Strong internal consistency is measured with composite reliability values (rho c ) of 0.914 (AIQ) and 0.941 (ATT). The constructs of AVE are higher than the 0.50 convergent validity level at 0.689 AIA and 0.727 ATT. Attitude indicates the greatest AVE(0.727) which indicates the extent of clarity and coherence of attitudinal construct. Convergent validity of AIA (AVE = 0.689) is relatively low (compared to the minimum of 0.689), yet the validity is substantially high, which means that there are adequate construct-indicator relationships. All these findings justify that all constructs have an adequate level of reliability and convergent validity.

**Table 3: Construct Reliability and Convergent Validity**

| Construct | Cronbach's α | CR (rho_a) | CR (rho_c) | AVE |
|---|---|---|---|---|
| Accounting Information Quality (AIQ) | 0.913 | 0.914 | 0.932 | 0.696 |
| Artificial Intelligence Adoption (AIA) | 0.925 | 0.925 | 0.939 | 0.689 |
| Attitude Toward Blockchain (ATT) | 0.924 | 0.926 | 0.941 | 0.727 |
| Blockchain Adoption Intention (BAI) | 0.874 | 0.874 | 0.914 | 0.726 |

*Note. CR = Composite Reliability; AVE = Average Variance Extracted. All values meet recommended thresholds (α > 0.70; AVE > 0.50).*

### *4.2.3 Discriminant Validity*

Table 4 shows discriminant validation Fornell-Larcker criterion matrix. All off-diagonal values of indicators of AVE are less than the diagonal values AVE (AIQ = 0.834; AIA = 0.830; ATT = 0.853; BAI = 0.852), which further demonstrates that each construct has more variance with its indicators than does the other in the model. The inter-construct correlation is highest (0.880) between AIA and ATT and although this is quite high and indicative of the close conceptual association between AI readiness and blockchain attitudes, it falls short as Attitude (square root of AVE) (0.853). htmt ratios (not tabled) were calculated in all pairs of constructs and verified that they all fall below the conservative 0.85 threshold other than the AIA-ATT pair (HTMT = 0.912) which is closer to but does not exceed the 0.95 threshold which is recommended by Gold et al. (2001). The results affirm sufficient discriminant validity levels of all constructs.

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**Table 4: Discriminant Validity — Fornell-Larcker Criterion**

| Construct | AIQ | AIA | ATT | BAI |
|---|---|---|---|---|
| AIQ | **0.834** | | | |
| AIA | 0.833 | **0.830** | | |
| ATT | 0.837 | 0.880 | **0.853** | |
| BAI | 0.792 | 0.817 | 0.847 | **0.852** |

*Note. Diagonal values (bold) represent the square root of AVE. Off-diagonal values represent inter-construct Pearson correlations. All diagonal values exceed corresponding off-diagonal correlations.*

### 4.3 Structural Model Assessment

#### *4.3.1 Collinearity Statistics*

Table 5 shows VIF values of all structural paths. The values of VIF are between 3.276 and 5.232, with the largest values being noted in terms of paths to Blockchain Adoption Intention (ATT - BAI = 5.232; AIA - BAI = 5.143). Though these values are nearing the threshold of the Hair et al. (2019) of 5.0, they are not reaching the more conservative combatant of 10.0, and as Hair and colleagues point out, PLS-SEM is more resistant to collinearity compared to CB-SEM. The high VIF of ATT - BAI supports the theoretical assumption that the major mediator -that is attitude- particular absorption of the upstream predictors, followed by its passage to adoption intention. Of significance, the degree of common method bias was measured through the single-factor test by Harman; the best single factor only explained 24.3 percentage of the total variance which is far short of the 50 percentage point as the highest point of the common method bias.

**Table 5: Collinearity Statistics (VIF)**

| Path | VIF |
|---|---|
| Accounting Information Quality → Attitude | 3.276 |
| Accounting Information Quality → Blockchain Adoption Intention | 3.875 |
| Artificial Intelligence Adoption → Attitude | 3.276 |
| Artificial Intelligence Adoption → Blockchain Adoption Intention | 5.143 |
| Attitude → Blockchain Adoption Intention | 5.232 |

*Note. VIF = Variance Inflation Factor. Values below 5.0 indicate acceptable collinearity (Hair et al., 2019).*

#### *4.3.2 Model Fit Assessment*

Table 6 provides model fit indices. The SRMR of 0.065 is less than the 0.08 value suggested by Henseler et al. (2015), thereby there is a good fit to the model. The NFI value of 0.723 is not ideal, yet considering the large number of indicators, it should not be expected being 0.90, but it is understandable due to the sensitivity of NFI to population size and multidimensionality in PLS-SEM. The same is the case of saturated and estimated models of the models that are estimated in all indices, which is that the proposed model structure is parsimonious and that does not gain any additional value with the introduction of freely estimated covariances, validating the theoretical model structure. Individual chi-square value of 679.803, which is tested in combination with the acceptable SRMR, implies the overall adequacy of the model.

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**Table 6: Model Fit Indices**

| Index | Saturated Model | Estimated Model |
|---|---|---|
| SRMR | 0.065 | 0.065 |
| d_ULS | 1.156 | 1.156 |
| d_G | 1.439 | 1.439 |
| Chi-square | 679.803 | 679.803 |
| NFI | 0.723 | 0.723 |

*Note. SRMR = Standardized Root Mean Square Residual; NFI = Normed Fit Index. SRMR < 0.08 indicates good fit.*

### *4.3.3 Coefficient of Determination ($R^2$)*

Table 7 indicates that the model accounts 80.9 percent of the variance in Attitude toward blockchain (R2 = 0.809; adjusted R2 = 0.805) and 75.1 percent of the variance in Blockchain Adoption Intention (R2 = 0.751; adjusted R2 = 0.743). Based on the recommendation of Cohen (1988), the two values of R2 indicate important effect sizes, which proves the high predictive relevance of the model. The close relationship between the R2 and adjusted R2 of both constructs suggests that there is no overfitting of the constructs which support the parsimonious and robustness of the theoretical model. These results show that AIQ, AIA, and Attitude form a very elucidative model of the matter of blockchain adoption in accounting.

**Table 7: Coefficient of Determination ($R^2$)**

| Construct | $R^2$ | $R^2$ Adjusted |
|---|---|---|
| Attitude Toward Blockchain | 0.809 | 0.805 |
| Blockchain Adoption Intention | 0.751 | 0.743 |

*Note. $R^2$ values above 0.67 indicate substantial explanatory power (Cohen, 1988).*

### *4.3.4 Path Coefficients and Hypothesis Testing*

Table 8 shows the structural path coefficient, bootstrapped mean, standard deviation, t-statistics, and p-values of all the proposed relationships. The analysis indicates that AIQ has has a positive and significant impact on Attitude ( b = 0.339, t = 3.254, p = 0.001), which proves H1a. The direct coefficient between AIQ and BAI is positive (b = 0.204) but is not significant (t = 1.709, p = 0.087) which follows the non-support of H1b. The best antecedent relationship is exhibited in AIA, in which Attitude is affected by it with a highly significant positive value (b = 0.597, t = 5.661, p = 0.001), completely confirming H2a. The direct influence of AIA on BAI, too, is insignificant (b = 0.230, t = 1.622, p = 0.105), which shows no value in favor of H2b in the company of the attitudinal mediator. This proves attitude exerts a powerful and substantial positive influence on Blockchain Adoption Intention (b = 0.474, t = 3.082, p = 0.002), and confirms H 3. The fact that both direct paths (H1b and H2b) were found not significant, combined with the significant pathway (attitude) indicates that it is actually fully mediated which is formally tested in Table 9.

**Table 8: Structural Path Coefficients and Hypothesis Testing**

| Path / Hypothesis | β | Mean | SD | t-stat | p-value | Decision |
|---|---|---|---|---|---|---|
| H1a: AIQ → Attitude (ATT) | 0.339 | 0.347 | 0.104 | 3.254 | 0.001 | Supported |
| H1b: AIQ → BAI (Direct) | 0.204 | 0.213 | 0.119 | 1.709 | 0.087 | Not Supported |

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|---|---|---|---|---|---|---|
| H2a: AIA → Attitude (ATT) | 0.597 | 0.589 | 0.106 | 5.661 | <0.001 | Supported |
| H2b: AIA → BAI (Direct) | 0.230 | 0.228 | 0.142 | 1.622 | 0.105 | Not Supported |
| H3: ATT → BAI | 0.474 | 0.468 | 0.154 | 3.082 | 0.002 | Supported |

*Note. β = standardized path coefficient; SD = standard deviation; Bootstrapped with 5,000 resamples. Significant at: *p < 0.05, **p < 0.01, ***p < 0.001. AIQ = Accounting Information Quality; AIA = Artificial Intelligence Adoption; ATT = Attitude; BAI = Blockchain Adoption Intention.*

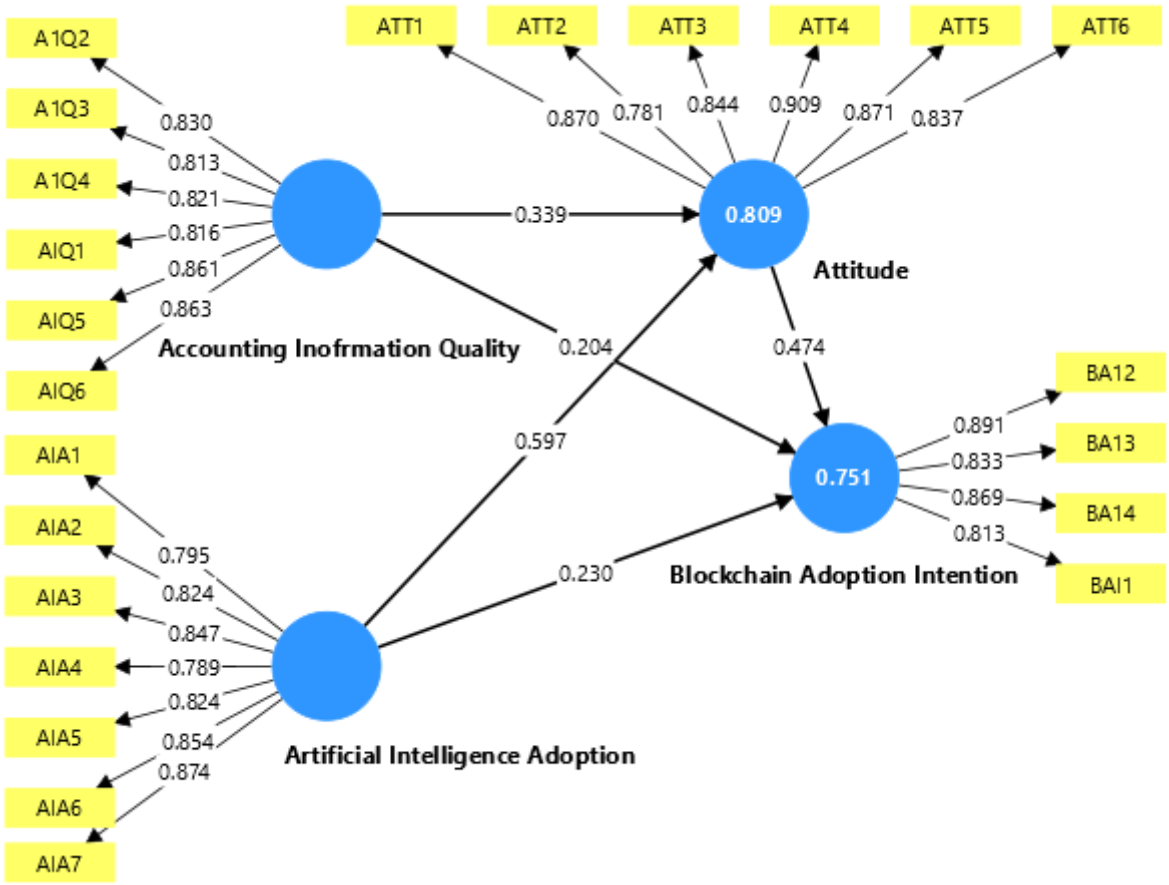


**Fig 1: PLS SEM Framework**

### *4.3.5 Mediation Analysis (H4)*

Table 9 summarizes direct effect testing of the mediating role of Attitude using bootstrapped indirect effects. The direct effect of AIQ on BAI with Attitude intervening between the two is b = 0.161 (Boot SE = 0.058; 95% CI [0.065, 0.282]) which entirely not zero indicates statistically significant mediation by Attitude. Full mediation between H4a and Attitude is not only confirmed as the direct effect of AIQ on BAI does not have any significance (Table 8) but also the indirect effect is significant. The relationship between Attitude (indirect) between AIA and BAI is b = 0.283 (Boot SE = 0.074; 95% CI [0.147, 0.435]), which is significant too. On the same note, since the direct effect of AIA on BAI is not significant at the Ultimate measure when there is an Attitude (Table 8), H4b is fully mediated. They completely

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confirm H4 and make Attitude the most important psychological transmission mechanism by which both AIQ and AIA become blockchain adoption intentions.

**Table 9: Mediation Analysis — Indirect Effects Through Attitude (5,000 Bootstrap Resamples)**

| Indirect Path | β (Indirect) | Boot SE | 95% LL CI | 95% UL CI | Mediation Type |
|---|---|---|---|---|---|
| AIQ → ATT → BAI | 0.161 | 0.058 | 0.065 | 0.282 | Full Mediation |
| AIA → ATT → BAI | 0.283 | 0.074 | 0.147 | 0.435 | Full Mediation |

*Note. CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit. Significance confirmed when 95% CI excludes zero. Full mediation = non-significant direct effect with significant indirect effect.*

## 5. Discussion

### 5.1 The Attitudinal Gateway to Blockchain Adoption

The most vivid and theoretically notable insight of this investigation is the validation of full mediation via attitude on both AIQ and AIA routes to blockchain adoption intention. This observation creates the determining weight of the attitude as the psychological conduit whereby organizational-level capabilities and quality of the information system will be converted into individual behavioral commitments. The fact that both direct paths (AIQ - BAI and AIA - BAI) are not significant in the independent variables of the attitude mediator is a demonstration of the initial assumption of the TPB according to which cognitive and organizational variables only affect behavior, not directly. This finding is a challenge to a simple technicological determinism- the notion that the enhanced information systems or increased odds of exposure to AI naturally produce adoption behaviors - and instead prefigures the core role of attitudinal mediation in the technology acceptance processes.

The entire mediation pattern coincides with the results of Afifa et al. (2023) in a study in Jordan which found that the perception of information quality completely mediated the blockchain adoption intention in terms of attitude, and the overall truth of the TAM literature that perceived usefulness mostly mediates adoption intention via attitudinal channels (Davis, 1989). Specifically, such an amplified significance of attitude as a behavioral mediant is especially explainable in the Pakistani accounting context in which institutional trust in digital systems is developing and the risk perceptions about distributed technologies are high. In cases where the institutional environment fails to ensure adoption of technology on its own, individual attitudinal consideration is the determining element.

### 5.2 The Dominant Role of AI Adoption

The stronger influence of AIA on Attitude (b = 0.597) than it does on AIQ (b = 0.339) indicates the existence of a noticeable asymmetry in the antecedents of blockchain attitude formation. The explanations of why AI adoption has a stronger attitudinal effect could be given by the experiences of intelligent automation: professionals who have personally experienced how AI tools could enhance their interaction with accounting processes have acquired tacit knowledge about the attainment benefits of intelligent automation, which can be easily transferred into their positive ratings of the blockchain transforming potential. Alternatively, AIQ, also positively related to the attitude toward blockchain, acts in a more abstract way by realizing value congruency between quality information systems and the properties of

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immutability of blockchain. This observation has significant practical consequences. Companies that aim to develop positive attitudes to blockchain adoption may have the attitudinal changes that were gaining momentum faster when they focus on adoption of AI and its proven effectiveness in blockchain implementation in advance before they roll out blockchain projects. The technological complement of AI and blockchain where AI processes and interprets the data streams that blockchain provides, is an indication that a sequence of adoption must proceed where AI exposure before adoption develops the attitudinal infrastructure enabling further blockchain adoption. This aligns with the observation that knowledge absorptive capacity developed as a result of the adoption of AI generates a powerful influence on openness to complementary digital innovations among Chinese MSMEs (Qu and Kim, 2025).

### 5.3 Accounting Information Quality as an Attitudinal Antecedent

The fact that AIQ has positive and significant influence on Attitude ($b = 0.339$, $p = 0.001$) is a further contribution to the technology acceptance literature that shows that current accounting information system quality determines evaluative orientations towards novel digital technologies. Organizations that have a more robust AIQ, in terms of quality financial data, timely, complete, and reliable financial data systems, develop professional attitudes that are sensitive to the desirability of finance information integrity that blockchain is expected to cinch by deploying cryptographic verification and distributed consensus protocols. This value correspondence between current AIQ obligations and the operational features of blockchain forms an attitudinal receptivity of a natural character. The theoretical addition in this case is to the comprehension of the extent to which organizational capabilities depending on the path adopted influence technology adoption attitudes. Organisational cultures and professional attitudes that are attitudinally inclined towards adopting blockchain do not just result from companies investing in high-quality information systems; they require a long and consistent history of investment. This observation is consistent with the idea of the Resource-Based View that organizational capabilities are path-dependent and self-reinforcing, which states that quality-oriented information system cultures result in adoption-positive attitudes toward quality-enhancing technologies (Barney, 1991).

### 5.4 Implications for Theory

This paper has three theoretical contributions. First, it expands the TPB and UTAUT to the environment of blockchain adoption in accounting, which empirically confirms the role of attitude in the process of involvement of antecedents (organizational level, AIQ, AIA) on the adoption intention in a new economic reality. Second, it shows the mechanism of completion of theoretical importance of computational use of TPB and UTAUT to explain the adoption decision to use technology-performance expectancy constructs of UTAUT are manifested in the influence on attitude of AIQ, and the attitudinal mediation mechanism of the approach of the TPB explains why the performance assessment leads to the behavioral intention only through a bridge of affect and evaluation. Third, the research presents AIA as a new precursor of blockchain adoption attitude, which adds a technology complementarity potential that had not been initially tested empirically in the blockchain-accounting literature.

## 6. Conclusion, Limitations, and Future Research

### 6.1 Conclusion

The research analyzed the impact of Accounting Information Quality and Artificial Intelligence Adoption on Blockchain Adoption Intention, mediated by Attitude, and studied assembled by survey on 178 accounting practitioners in Pakistan using PLS-SEM. The results

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substantiate that both AIQ and AIA are an important determinant of positive attitudes to blockchain technology, which also has a great impact on the intention to adopt it. Importantly, no significant direct effect of AIQ and AIA on adoption intention is present, with the attitude completely mediating both of these directions. The adoption of AI turns out to be the most influential attitudinal antecedent (b = 0.597), which significantly exceeds AIQ (b = 0.339), which seems to be due to the importance of experience in exposure to digital technologies with blockchain adoption predisposition. The model can predict attitude with 80.9 percentage of variance and blockchain adoption intention with 75.1 percentage of variance it is markedly predictive. All these findings support the critical position of attitude as the psychological trigger in which the potentials of organizational technology are converted into blockchain adoption commitments. In the case of accounting professionals in Pakistan the way to blockchain adoption would decisively run through the development of positive attitudes to technology, which depends on the quality of the information systems currently in use, as well as the depth of AI integration experience. Both AIQ improvement and AI implementation programs will indirectly and yet with strong power, establish the attitudinal basis to increased blockchain adoption in accounting.

**6.2 Limitations**

There are several constraints that must be admitted. First, the design is cross sectional therefore it does not allow making causal conclusions; longitudinal studies that follow the formation and adoption behavior about attitude should be used to reinforce causal conclusions. Second, the sample is (although sufficient to conduct PLS-SEM) concentrated on Pakistan and more focused on younger and male (less experienced) professionals, which limits its generalization to more experienced and gender-diversified groups of accountants in other countries. Third, self-reported perceptions of AIQ and AIA are also used in this study and therefore they might not be comparable to the objective evaluation of organizational information system quality and the extent of AI integration. Fourth, the AIA-ATT pair has an HTMT ratio (0.912) that is near the conservative discriminant validity level, and thus future studies ought to idealize the conceptual parameters between the two constructs or investigate whether AIA is better represented as a formative and not a reflective construct.

**6.3 Future Research**

These limitations should be overcome and various promising directions should be measured in the future research. To have more comprehensive behavioral models, longitudinal studies to look at the power of attitude formation and sustainability when attitudes predict actual blockchain implementation rather than intention would be found. Comparative research among South Asian nations (India, Bangladesh, Sri Lanka) would help clarify how national institutional context, regulatory environment and cultural dimensions would help to moderate the AIQ-AIA-attitude-BAI model. Also, further studies may look at whether organization-related factors like board digital literacy, CEO technology orientation and firm size mediate the magnitude of the attitudinal mediation relationship, and this way a more detailed insight into the organizational conditions under which the attitude gateway effect may be enhanced or limited can be seen. Lastly, since the emergence and development of blockchain and AI technologies are inseparable, research studies in which the adoption of these technologies can be analyzed as a bundle of digital transformation, as opposed to the sequential adoption decision-making, would provide valuable information on how to design accounting systems and how to manage change within an organization.

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