AMERICAN JOURNAL OF

INTERNATIONAL TRADE, BUSINESS ANALYTICS AND ECONOMICS (AJITBAE)

VOLUME 1 ISSUE 1 (2026)



PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

American Journal of International Trade, Business Analytics, and Economics (AJITBAE)

Volume 1 Issue 1, Year 2026
ISSN: 3144-069X (Online)
DOI: https://doi.org/10.54536/ajitbae.v1i1.8949
https://journals.e-palli.com/home/index.php/ajitbae

Artificial Intelligence Adoption and Audit Quality: The Mediating Role of Auditor Digital Readiness

Leon Hossain Khan[1*], Sayeda Binte Karim[2], Nusrat Jahan Akhi[3]

Article Information

Received: August 13, 2026

Accepted: October 31, 2026

Published: November 19, 2026

Keywords

Audit Quality, Investigator Digital Preparedness, Mediation, Organisational Support, Partial Least Squares Structural Equation Modelling, The Use Of Artificial Intelligence

ABSTRACT

Artificial intelligence is now a significant part of modern-day auditing, but the correlation between the use of smart tools and audit job quality is not limited to technological accessibility. This research paper discusses the adoption of artificial intelligence, organisational support, auditor digital preparedness and audit quality within an integrated structural model. The sample size analysed comprised 410 audit-professional profiles, which was analysed by a partial least squares structural equation modelling. The model defined five direct and two indirect relationships which run through auditor digital readiness. The measurement scores showed good levels of indicator reliability, internal consistency, convergent and discriminant validity. The adoption of artificial intelligence was positively correlated with the auditor digital readiness (β = 0.403) and audit quality (β = 0.318). Auditor digital readiness (β = 0.317) and audit quality (β = 0.131) were positively correlated with organisational support, and audit quality (β = 0.306) was positively correlated with auditor digital readiness. The indirect effects of artificial intelligence adoption (β = 0.123) and organisational support (β = 0.097) to audit quality due to digital readiness were positive and the bootstrap confidence interval did not contain 0. The model explained 31.4% and 35.1% of the variance in the digital readiness of the auditors and quality of the audit respectively. The results depict a complementary arrangement where technology application, institutional support and individual capacity work in tandem in the given model. The research provides an analytically based model to explain digital transformation in the audit practice and recognises development of capabilities as a substantive process in linking organisational and technology conditions to the audit quality.

INTRODUCTION

The organisation and execution of financial audit engagements are being redefined by the digital transformation. The audit teams are faced with electronic accounting records, intricate populations of transactions, incessantly created business information and technology-enhanced internal controls. Within this setting, artificial intelligence can provide solutions to detecting suspicious transactions, document classification, pattern recognition and help in the preparation or verification of information related to audits. These applications can expand the area of analysis and enable the detection of issues that need professional management (Mohd Sanusi *et al.*, 2022). However, the usefulness of a smart application cannot be evaluated only with its application or frequency of use. Quality of audits eventually lies in the appropriateness of procedures, adequacy and appropriateness of evidence, investigation of inconsistencies and justification of professional judgement.

The rising integration of intelligent technologies in the audit work raises a significant organisational question: in what circumstances does the adoption of technology go hand in hand with a high audit performance? A software program is able to compute great volumes of data; however, the output of the software program will only be professionally valuable when the auditors are aware of the associated data, analyze the significance of the output and are in a position to decide whether or not further verification is required (Albawwat & Frijat, 2021). Digital transformation, in turn, is an activity connected to the technological practice as well as the subsequent creation of the ability of auditors to comprehend technology-assisted evidence. The connection between the adoption of the tools and professional quality is thus suitably studied along with the willingness of the professionals who are likely to be using the tools.

Another layer to the digital audit environment is provided by organisational support. Software and infrastructure investment is not synonymous to the delivery of ongoing learning opportunities, technical support or managerial motivation (Hasan, 2022). The auditors need access to resources and time to familiarise and to be guided where new applications produce challenging or unclear outcomes. The ability of the firm to accommodate the needs can also affect the trustworthiness and ability of the audit professionals to deliver technologically intensive duties. The quality of work can also be influenced by organisational support in more direct ways, such as more definite expectations, access to the right resources and a working environment that allows to pay a keen eye to audit evidence (Lehner *et al.*, 2022).

Auditor digital readiness is the ability-based relationship

[1] Masters of Accountancy, Lincoln University College, Malaysia
[2] Masters of Business Administration, Daffodil International University, Bangladesh
[3] Bechelor of Business Administration, Ahsanullah University of Science and Technology, Bangladesh
[*] Corresponding author's email: leonkhan454@gmail.com

amid technological setup and professional practice. Readiness in the current research is defined as the capacity to apply digital tools in the given roles, format the data as required by the tools to be analyzed, interpret the results of the different tools, and realise the necessity of further validation and get acquainted with newly developed applications (Karmańska, 2022). These skills are not limited to simple knowledge of software. They are associated with the ability of an auditor to ensure that the technology-facilitated processes can be used to address the evidential and judgemental goals of an audit engagement. In line with this, readiness is analysed as an outcome related to technology adoption and support by organisations and as an antecedent related to audit quality. The paper unites these dimensions in a consistent model that involves artificial intelligence use, organisational support, auditor digital preparedness and quality of audits. The specified relationships take care of the direct relationships between the variables of adoption and support and both readiness and quality, as well as the relationships between readiness and quality. The question is then asked: does readiness mediate some of the relationship between each antecedent and audit quality? This is analyzed with two mediating relationships (Minkkinen *et al.*, 2022). The design separates immediate statistical relationships with the indirect pathways and, thereby, provides a more informative description of the model compared to one relationship in the use of technology and audit performance.

It is based on a structured dataset of 410 profiles and a questionnaire specification designed to target professionals engaged in an internal or external financial audit assignment (Nazarova *et al.*, 2021). The analytical model to be used in the analysis of the reflective measurement model is partial least squares structural equation modelling which offers the direct structural paths and the specific indirect effects. As opposed to seeing audit quality as a technology by-product, the outcome measure is in relation to risk-responsive procedures, relevant evidence, investigation of inconsistencies, documentation of significant judgements and correspondence between conclusions and evidence. These functional aspects hold onto the professional gist of the audit-quality construct (Kaya *et al.*, 2022).

The research adds to the analysis of technology-facilitated audit practice in three ways. Then, the artificial intelligence and organisational support are regarded as two different antecedents because it is agreeable that technology-related behaviour and an institutional enabling condition do not necessarily share the same relationship with performance. Second, auditor digital readiness is not an outcome of a general and undifferentiated notion of digital transformation but it is considered an intervening variable (Hu *et al.*, 2020). Third, the model is evaluated based on its measurement properties, path coefficients, explained variance, effect sizes and bootstrapped indirect relationships, which allow an in-depth evaluation of the inner statistical framework. These contributions provide the ground to explain how a digitally able audit workforce can be built coupled with accountable technological incorporation.

LITERATURE REVIEW

Artificial Intelligence Adoption and Auditor Digital Readiness

The implementation of artificial intelligence can be defined as the integration of intelligent technologies in recognizable audit tasks. These activities could be auditing planning, review of financial or transactional data, audit of audit related documentation and detection of unusual patterns that need additional focus (Listya *et al.*, 2023). Adoption thus relates to realised interaction with smart tools as opposed to overall awareness of their existence. Repeat opportunities to learn may arise often when auditors have to choose the right data, review an output and consider a technological recommendation as a part of a defensible audit process (Borges *et al.*, 2020). The familiarity that ensues can promote the emergence of viable digital capability.

The process of becoming digital-ready is especially topical due to the multiple functions of audit technologies (Fedyk *et al.*, 2022). The materiality, explanation or audit implications of anomalies are not always determined by a system that is able to identify them. Auditors need to know how to prepare data, the situation of the process and how to tell the difference between a model-generated suggestion and substantive information. His/her frequent work with smart applications can be linked to the increased level of confidence in the process of preparing audit data, analyzing outcomes and determining situations when more detailed verification is necessary (Abimanyu & Suhartini, 2023). The adoption of technology can therefore be theorised as a professional learning environment so long as the adoption of technology comes with informed critique as opposed to blind reliance.

The former hypothesis indicates the anticipated positive correlation of experience with the use of artificial intelligence applications and digital competence of the auditors (Lee *et al.*, 2021). It does not assume that being exposed is sufficient to become a master. Rather, it outlines an empirical correlation between the level of technological application in all audit activities and the preparedness needed to conduct productive work with the help of technology. The H1 will be that there is a positive relationship between the adoption of artificial intelligence and the digital readiness of the auditors (Puspanugroho & Susilo, 2022).

Artificial Intelligence Adoption and Audit Quality

The quality of audits is reflected in the performance and presentation basis of an engagement but not in technological advancement as a goal. Smart tools can guide audit teams to discover entire populations of transactions, exception finding, finding potentially relevant documents and sorting information ready to be reviewed by professionals (Rumetna *et al.*, 2022).

These applications can be linked to more specific risk assessment and more methodical analysis of evidence by expanding the ability to analyze it. The professional value of such applications is defined by the fact whether they are going to contribute the proper procedures and well-justified conclusions (Jöhnk *et al.*, 2021).

Professional supervision also takes a different shape due to artificial intelligence. Identified anomaly needs to be investigated, a document classification needs to be interpreted in context and a generated explanation must be verified with any pertinent evidence (Juan Barus *et al.*, 2021). To this effect technology adoption and delegation of audit judgement are not synonymous. The relationship between it and audit quality is proposed on the fact that there are possibilities that intelligent applications may be more efficient in coverage and focus of professional work whereas the obligation to evidence sufficiency and the ultimate decision on the same lies with the audit team (Couceiro *et al.*, 2020). The study operationalises audit quality in such a way that this distinction is maintained.

H2 is that adoption of artificial intelligence has a positive relationship with audit quality (Kot *et al.*, 2021). The relationship which is expected permits a direct statistical relationship between the utilisation of intelligent tools and quality of audit procedures, evidence, documentation and conclusions taking into consideration organisational support and auditor digital preparedness in the identical structural model.

Organisational Support and Auditor Digital Readiness

The ability to operate emerging technologies is not only influenced by the efforts of individuals, but it is also influenced by institutional configurations (Mohd Sanusi *et al.*, 2022). Organisations determine access to training, technical resources, support and possibilities of professional experimentation. Skill development can be part of audit work and can be encouraged by the management and proper learning time can help the auditors develop competence without facing the responsibility of immediate engagement (Albawwat & Frijat, 2021). It is also critical to provide technical support in case there are unknown interfaces or strange outputs or problems with data preparation by practitioners.

The motivation to become ready may be enhanced by an organisational environment that is supportive, through diminishing real impediments to the development of new capabilities (Hasan, 2022). Basic knowledge could be provided through formal training; practical support could lead to practical competence; and management support could serve to support the importance of further learning. All these conditions serve as conditions conducive to adaptability to new applications as well as to critical evaluation of digital outputs. Organisational support is thus likely to exhibit a positive relationship with readiness in addition to the association that can be attributed to actual adoption of artificial intelligence (Lehner *et al.*, 2022).

H3 stipulates that auditor digital readiness is positively related to the organisational support. This suggestion is to view the institution as a facilitating environment whereby individual technological competence is formed and sustained (Karmańska, 2022). The distinction between organisational support and adoption itself makes it possible to look at the fact that the resources and encouragement that auditors can have are associated with readiness as opposed to the frequency with which they engage in the practice of using intelligent tools.

Organisational Support and Audit Quality

The relationship that exists between organisational support and audit quality may also not be entirely due to individual digital readiness (Minkkinen *et al.*, 2022). The way the audit tasks are organised, the possibility to cope with challenging evidence and the adherence to the implementation of professional practices can be influenced by appropriate resources, technical guidance, and developmental opportunities. Management support may stimulate proper execution of procedures and allow the audit staff to overcome technological difficulties without replacing the convenience with the right professional confirmation (Nazarova *et al.*, 2021).

It will be a positive relationship, but may not be as strong as more immediate engagement-level factors. The generation of audit quality is a result of numerous interrelated activities and institutional backing in general can contribute to the overall result in part by modulating intervening capacities and practices (Kaya *et al.*, 2022). A direct relationship would, however, be observed to show that the enabling environment still holds significance in cases where the elements of technology adoption and individual preparedness are controlled. H4: The organisational support has a positive relationship with audit quality (Hu *et al.*, 2020).

Auditor Digital Readiness and Audit Quality

Auditor digital preparedness embraces the professional ability to transform the technology-based analysis into valuable audit work. Data preparation, system output interpretation and deciding on additional validation are crucial operations as the operation of analytical procedures becomes more and more reliant on digital tools. Preparedness thus encompasses technical literacy, transformative ability and a value of the evidential nature of information that is produced through technology (Listya *et al.*, 2023). These skills directly apply in the selection of audit procedures, performance and evaluation.

Higher preparedness can be linked to the quality of the audit since competent auditors can be more effective in identifying inconsistencies in data, questioning the unusual outcomes and incorporating pertinent data into the documentation and the ultimate findings (Borges *et al.*, 2020). On the contrary, this can be advantageous, as it may not translate to the effectiveness of highly advanced applications when it is up to users to determine

which output can pass as plausible and which one can be considered as a proven discovery (Lee *et al.*, 2021). Preparedness provides a functional medium between the possibility created by technology, and the business needs of conducting an audit. H5: Auditor digital preparedness has a positive relationship with the audit quality.

The Mediating Role of Auditor Digital Readiness

The mediating framework expands the direct relationships by looking at how technological adoption and organisational support can be linked with quality of audit via their correlations with digital readiness. Repeated entry into new tools and analytical practices can be offered through the use of artificial intelligence (Fedyk *et al.*, 2022). This exposure can be coupled with increased ability in data preparation, interpretation of results and performing informed validation. The abilities in question, in their turn, can be correlated with more relevant audit practices and more well-founded evidential conclusions. The ensuing path connects quality and adoption in-between a professional capacity.

A similar, but conceptually different, route may be followed by organisational support. Availability of training, guidance and development time can increase readiness which, in turn, can relate to audit quality (Abimanyu & Suhartini, 2023). The mediation model thus fits both, the institutional conditions within which learning occurs, and the individual capacity within which the condition becomes relevant towards audit work. H6 indicates that the positive relationship between artificial intelligence adoption and quality of the audit is mediated by auditor digital readiness. H7 states that auditor digital readiness mediates the positive association between organisational support and audit quality. These two indirect relationships are assessed in connection with the two direct relationships to determine whether the identified pathways have a complementary or not relation (Puspanugroho & Susilo, 2022).

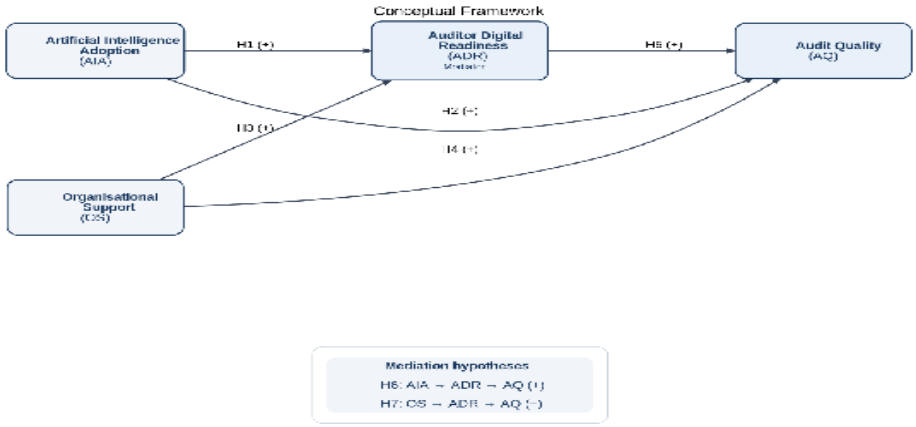


Figure 1: Conceptual model and hypothesised direct and mediated relationships.

MATERIALS AND METHODS

Research Design and Analytical Dataset

The researcher uses a quantitative, explanatory modelling design to analyse the associations between four latent constructs. It is based on the analytical foundation of a set of data 410 records in the form of a questionnaire aimed at professionals in internal or external financial audit tasks. The questionnaire specifies eligibility by engaging in financial audit work in the last 12 months and being conversant with the audit procedures in the particular firm or department. The methodology is cross-sectional, and the associations between variables are based on current statistical correlations, as opposed to meaningful causal time sequences (Rumetna *et al.*, 2022). The unit of the model is the individual audit-professional profile, and the outcome mentioned is the perceived audit quality related to the recent audit work.

Data structure comprises professional characteristics, data on the organisational setting and answer to twenty substantive measurement indicators. Professional variables include age, gender, academic and professional qualifications, position, auditing experience, audit function, type of organisation, team size, recent artificial intelligence training and time spent in artificial intelligence-related audit functions. These factors specify the analytical sample composition. Even the structural model is limited to adoption of artificial intelligence, organisational support, auditor digital readiness and quality of an audit, thus ensuring consistency between the central research questions and the latent-variable relationships.

Measurement of Constructs

Five items were used to represent each latent construct. The adoption of artificial intelligence was quantified by the frequency of using intelligent technologies to plan audit, analyze data on transactions, review documents, detect abnormal patterns and routine audit activities. The response categories were in terms of 5-point frequency scale (never) to very often. The other constructs utilized the responses of five points of agreement where strongly disagree was at one end and strongly agree at the opposite end. It is worth noting that there is a difference between frequency and agreement since the construct

of adoption focuses on real reported use, whereas the other constructs focus on organisational circumstances, professional competencies and audit practice evaluation (Jöhnk *et al.*, 2021).

Favourability of digital-development materials, training, management encouragement, technical support and learning time, indicated organisational support. Auditor digital preparedness addressed the skills of digital audit work, the creation of digital data, and interpretation of the results, evaluation of further verification and adapting to new applications. Audit quality was operationalised by the correspondence between the procedures and the risks that have been assessed, sufficiency and appropriateness of evidence, exploration of inconsistencies, and recording of significant judgements and correspondence between the final conclusions and evidence gathered (Juan Barus *et al.*, 2021). The measures were described in a reflective manner wherein the indicators observed were manifestations of their respective latent constructs.

Analytical Procedure

The analysis of measurement model and the structural relationships was done by partial least squares structural equation modelling. Measurement stage measured standardised indicator loadings, Cronbachs alpha, composite reliability and average variance extracted. The FornellLarcker criterion, heterotrait-monotrait ratios, and comparisons of cross loading, were used to evaluate discriminant validity (Couceiro *et al.*, 2020). The structural model was then assessed with the factor of inner variance inflation, the coefficient of determination, adjusted coefficient of determination and contribution of individual predictors in terms of f-squared. This order identifies the quality of the measures with the associations that have to be estimated among the latent variables.

The statistic inference was carried out using 5,000 bootstraps that can be used and confidence intervals reported at the 2.5 th and 97.5 th percentiles. Estimated coefficients, bootstrap standard errors, test statistics and confidence intervals were used to test direct path coefficients and specific indirect effects (Kot *et al.*, 2021). The confidence interval that excluded 0 was considered to support a respective directional hypothesis in the simulated analytical sample. Direct and mediated effects summed up all the direct and mediated effects between each antecedent and outcome relationship. All coefficients were read in their standardised version and substantive discussion was taken with reference to statistical support as well as the relative strength of the associations.

RESULTS AND DISCUSSION

Characteristics of the Analytical Sample

The records of the analytical dataset were 410. The predominant age group was 25-34 years, constituting 48.5 % of the sample, and 35-44 years, constituting 25.6 % of the sample. There were 69.3% men profiles, 26.1% women profiles, and 0.5% another gender identity and 4.1% undisclosed gender profiles. The most obtained education level was a master degree with a record of 53.2% and 40.5% was a bachelor's degree. The distribution gives a foundation on which the model is interpreted based on a composition of a professional profile with a high rate of working-age and academically qualified audit staff.

External financial audit was the primary audit role of 59.0 % of profiles; internal financial audit was the primary audit role of 31.0 % and a combination of both was the primary audit role of 10.0 %. The organisational settings were divided between national or local audit firms (48.5%) and international firms (18.8%), corporate internal audit departments (14.9) %, financial-institution audit

Table 1: Selected characteristics of the analytical sample (N = 410)

Characteristic	Category	n	%
Age	25–34 years	199	48.5
Age	35–44 years	105	25.6
Gender	Male	284	69.3
Gender	Female	107	26.1
Audit function	External financial audit	242	59.0
Audit function	Internal financial audit	127	31.0
Audit function	Both functions	41	10.0
Organisational setting	National/local audit firm	199	48.5
Organisational setting	International audit firm	77	18.8
Audit experience	4–6 years	105	25.6
Audit experience	7–10 years	93	22.7
Audit experience	More than 10 years	90	22.0
AI training	No training	105	25.6
AI training	11–20 hours	88	21.5
AI usage experience	More than 1–2 years	137	33.4

Selected categories are presented to describe the analytical profile composition; percentages use N = 410.

departments (9.5%) and public-sector audit organisations (7.1%). In terms of position, senior auditors occupied the top most position at 28.8%. Regarding experience, 25.6% of the profiles were in the four to six years bracket, 22.7% were in the seven-to-ten-year bracket and 22.0% showed over ten years of audit experience.

The other constructs related to technology were given context by training and experience variables. About 25.6% of the profiles did not have any training in artificial intelligence in the last year, 20.5% had less than five hours of training, 22.2% had five to ten hours, and 21.5% had eleven to twenty hours of training. Meanwhile, the highest percentage of personal use of artificial intelligence in audit work was over one year and to two years, at 33.4% percent. The presence of various training levels and time-frames depicts the conceptual difference between using intelligent tools and getting systematic encouragement of digital capabilities advancement.

Descriptive Statistics

Construct-level means statistics showed means of 3.161 on artificial intelligence adoption, 3.114 on organisational support, 3.168 on auditor digital readiness and 3.346 on audit quality. The constructs were measured on a five-point response metric, but the adoption measure was an expression of frequency of use, unlike the other scales, which were functioning on agreeableness. The mean of the audit quality increased over the means of the three predictor or mediator constructs. The standard deviations were near to one in all the four constructs with the range between about 0.988 and 1.003 showing that there was indeed observable dispersion in the analysed profiles instead of homogenised responses.

The average frequency of using artificial intelligence to analyse financial or transaction data was 3.227 at the indicator level, and 3.022 at the review of audit-related documents. The most frequently used organisational support practices were the offering of pertinent digital training with the highest mean of 3.261 and adequacy of resources to create digital capability with a mean of 2.993. To be digitally ready, the capacity to determine whether the digital outputs needed further validation had a mean of 3.237. The adequacy and relevance of evidence had a mean of 3.473 in the quality of audit, whereas the examination of major inconsistencies had a mean of 3.190. These trends furnish substantial detail regarding the larger construct-level estimates.

Indicator Reliability and Convergent Validity

Indicator loadings of the reflective measurement model were high. The loadings of artificial intelligence adoption were in the range of 0.799 to 0.845; organisational support loadings were in the range of 0.808 to 0.859; digital readiness loadings were in the range of 0.809 to 0.862; and audit quality loadings were in the range of 0.827 to 0.870. Every loading exceeded 0.708. The smallest of observed loading still signified that the corresponding latent construct accounted a significant portion of the indicator's variance.

This assessment was supported by internal consistency measures. The alpha of artificial intelligence adoption was 0.889, 0.892 in organisational support, and digital readiness, and 0.898 in audit quality. The composite reliability scores were between 0.919 and 0.925 which showed high consistency of the five-item scales. Average variance extracted was 0.694, 0.697, 0.700 and 0.711, respectively. All of them were above 0.50 which implies that on average the specified constructs explained more than half of the variance in their respective indicators. The evidences, combined, permit the treatment of the latent variables as operationally independent and consonant enough to be used in the evaluation of the structural paths.

Table 2: Construct descriptives, reliability and convergent validity

Construct	Mean	SD	α	ρc	AVE	Loading range
AIA	3.161	0.990	0.889	0.919	0.694	0.799–0.845
OS	3.114	1.003	0.892	0.920	0.697	0.808–0.859
ADR	3.168	0.988	0.893	0.921	0.700	0.809–0.862
AQ	3.346	0.996	0.898	0.925	0.711	0.827–0.870

ALA = artificial intelligence adoption; OS = organisational support; ADR = auditor digital readiness; AQ = audit quality

Discriminant Validity

Complementary criteria were used to measure discriminant validity. Overall, the average variance extracted square roots were 0.833, 0.835, 0.837, and 0.843 in the FornellLarcker matrix, which represented the adoption of artificial intelligence, organisational support, auditor digital readiness, and audit quality, respectively. All the diagonal values were greater than the correlations with the respective constructs. The highest latent correlation was between the auditor digital readiness and audit quality at 0.507, then the association between artificial intelligence adoption and audit quality at 0.487. These coefficients speak of the similar though different dimensions of technological practice, institutional conditions, professional competence and perceived audit performance.

The heterotrait-monotrait ratios were between 0.222 and 0.561, as related to artificial intelligence adoption and organisational support as well as auditor digital readiness and audit quality. The six ratios were all less than 0.85 with the upper limits of the bootstrap confidence interval being less than one. The results of cross-loading comparisons provided an equivalent pattern: all indicators loaded higher on their respective constructs than on the other constructs. The overlap of these evaluations suggests that

Table 3: Fornell–Larcker assessment of discriminant validity

Construct	AIA	OS	ADR	AQ
AIA	0.833	0.200	0.466	0.487
OS	0.200	0.835	0.397	0.316
ADR	0.466	0.397	0.837	0.507
AQ	0.487	0.316	0.507	0.843

Diagonal values are the square roots of average variance extracted; off-diagonal values are latent-construct correlations.

the measurement model was sufficiently able to distinguish the four latent notions and allows one to interpret the approximated structural interrelations without assuming that their measures can be replaced.

Collinearity, Explanatory Power and Effect Sizes

The structural evaluation showed that there was low predictor collinearity. The variance inflation factors were 1.042 in both antecedents of digital readiness and 1.188 to 1.457 in the three antecedents of audit quality. These values imply that the overlap of predictors was not dominant in the estimation of coefficients. The model accounted 31.4% of the variation in the digital readiness of the auditor, an adjusted value of 31.0% and 35.1% of the variation in the quality of the audit, an adjusted value of 34.6%. The two endogenous constructs thus exhibited a significant explained variance in the four-construct model described.

The f-squared statistics helped to explain the relative contributions of the individual paths. The effect size of artificial intelligence adoption on digital readiness was 0.225, which is medium in the results provided. It had a 0.120 effect size to audit quality. The effect size of the organisational support to readiness and audit quality was 0.140 and 0.022, respectively and the effect size of digital readiness to audit quality was 0.099. These comparisons differentiate between statistically supported directions and their own explanatory gains. Specifically, organisational support continued to have a positive direct relationship with audit quality, but its incremental direct value added was lesser than the supplementary value added by adoption.

Direct Structural Relationships

The positive correlation of artificial intelligence adoption and auditor digital readiness ($\beta = 0.403$, $t = 10.506$, $p < 0.001$, 95% bootstrap CI [0.325, 0.477]) was a positive correlation indicating the first hypothesis being accepted. This coefficient was the largest direct one in the structural model. The second hypothesis was confirmed too: there was a positive correlation between artificial intelligence adoption and audit quality ($\beta = 0.318$, $t = 7.083$, $p < 0.001$, 95% CI [0.229, 0.404]). These findings demonstrate that the technology adoption was placed in an outstanding position in both capability and outcome related segment of the said model.

Organisational support was positively associated with digital readiness ($\beta = 0.317$, $t = 8.302$, $p < 0.001$, 95% CI [0.241, 0.390]), supporting H3. Its direct association with audit quality was smaller but remained positive ($\beta = 0.131$, $t = 3.145$, $p = 0.002$, 95% CI [0.048, 0.214]), supporting H4. Auditor digital readiness was positively associated with audit quality ($\beta = 0.306$, $t = 6.115$, $p < 0.001$, 95% CI [0.207, 0.403]), supporting H5. The five confidence intervals did not include a zero and followed the positive directions of the hypotheses of the research.

Table 4: Direct structural paths and bootstrap inference

Hyp.	Path	β	t	p	95% CI	f²
H1	AIA → ADR	0.403	10.506	<0.001	[0.325, 0.477]	0.225
H2	AIA → AQ	0.318	7.083	<0.001	[0.229, 0.404]	0.120
H3	OS → ADR	0.317	8.302	<0.001	[0.241, 0.390]	0.140
H4	OS → AQ	0.131	3.145	0.002	[0.048, 0.214]	0.022
H5	ADR → AQ	0.306	6.115	<0.001	[0.207, 0.403]	0.099

All five direct hypotheses were supported. Confidence intervals are based on 5,000 bootstrap draws.

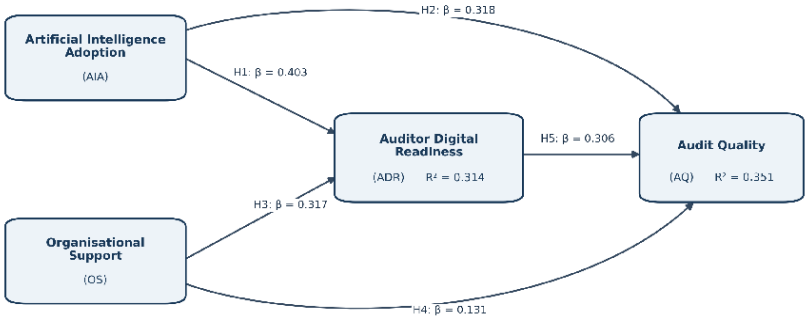


Figure 2: Estimated standardised structural paths and explained variance.

Indirect Relationships and Mediation

The initial hypothesis on mediation involved the route between artificial intelligence adoption and audit quality via auditor digital preparedness. The specific indirect effect was found to be positive (β = 0.123, t = 5.340, p = 0.001), and it was in a positive 95% bootstrap confidence interval of 0.081 to 0.172. The interval did not include zero; therefore, H6 was accepted in the analytical sample. The approximate direct adoption-to-audit-quality effect also was positive. The overall pattern was thus termed as complementary mediation: audit quality was directly linked with adoption and indirectly linked with adoption via the positive relationship between audit quality and readiness.

The second mediation hypothesis tested the organisational support, auditor digital readiness and audit quality. The specific indirect coefficient was 0.097 (t = 4.729, p < 0.001), with a 95% bootstrap confidence interval of [0.060, 0.140]. This also factored out zero and favored H7. Since the positive relationship between direct organisational support and auditing quality was maintained, the pattern reported was also of complementary mediation. These findings demonstrate that both antecedents were relevant to the capability pathway and the indirect effect of artificial intelligence adoption and organisational support was estimated to be a bit greater.

Table 5: Specific indirect effects and total associations

Hyp.	Indirect path	β indirect	95% CI	β direct	β total	Type
H6	AIA → ADR → AQ	0.123	[0.081, 0.172]	0.318	0.441	Complementary
H7	OS → ADR → AQ	0.097	[0.060, 0.140]	0.131	0.228	Complementary

Both indirect hypotheses were supported; direct and indirect effects were positive in each pathway.

Total Effects and Hypothesis Summary

The overall relationship between artificial intelligence adoption and audit quality was 0.441 which included a direct effect of 0.318 and an indirect effect of 0.123. The associated total effect on organisational support was 0.228 which comprises a direct of 0.131 and an indirect effect of 0.097. Bootstrap confidence interval of the total effects was [0.360, 0.516] and [0.149, 0.307] respectively. In that way, the mediation component constituted a substantive component of each total relationship. Indirect pathway the approximate decomposition suggests that the indirect pathway contributed 28.0 percent of the total effect of adoption on quality and 42.6 percent of the total effect of support on quality.

The estimates go in favour of all the seven directional hypotheses in the sample. The trend is consistent throughout measurement consistency, separation of constructs, evaluation of collinearity, direct correlation and partially mediation. Adoption of artificial intelligence revealed the inverse relationship with audit quality as the strongest overall correlation and organisational support presented a smaller direct relationship and a positive readiness-relationship pathway (Albawwat & Frijat, 2021). The independent positive relationship between auditor digital readiness and audit quality remained after the addition of both antecedents. The combined results thus incline towards a view that technology use, institutional enabling conditions and professional capability are related yet analytically different aspects of technology-enabled audit practice.

Discussion

Artificial Intelligence Adoption as a Technological and Capability-Related Factor

The structural findings position the adoption of artificial intelligence in the centre of the relationships analysed. Its direct relationship was found to be the strongest with digital readiness and it was also found to have a positive association with audit quality despite the inclusion of organisational support and readiness (Hasan, 2022). These conclusions would agree with the theoretical suggestion that intelligent audit technologies can be applicable to professional performance in more than a single line. The skills to analyze digital information and, therefore, can be directly linked to the quality-focused audit process performance are linked to the use of tools to plan, analyze transactions, scrutinize documents and detect anomalies.

It is imperative that there is a difference between these associations. Adoption will indicate the interest in a technology, and readiness will indicate the professional skills of utilizing digital resources wisely (Lehner *et al.*, 2022). Their association implies that technology related activity and professional capacity may evolve in a mutually reinforcing functioning environment, even though the model fails to recognise an order of causation in time. The direct adoption-quality relationship also demonstrates that the intelligent-tool use/perceived quality of the audit relationship is not readiness-drained. The analytical model enables a clear identification with the audit planning, evidenced examination or documentation that is adopted following preparation of readiness (Kaya *et al.*, 2022).

The greater overall impact of adoption, compared to organisational support should not be likened to the fact that audit results are solely dependent on software investment. Adoption can be applied by actions that are part of audit work whereas organisational support is wider institutional provisions (Hu *et al.*, 2020). The close relationship between use of technology related items and engagement processes can probably explain the fact that adoption has a stronger immediate relationship with the

quality construct of interest. The substantive meaning of the result is that there is correspondence between engagement with intelligent-tools and professional auditing activities, as opposed to the assumption that algorithmic output can substitute auditor judgment.

Organisational Support as an Enabling Condition

Both readiness and quality of audit were positively related to organisational support. The coefficient of readiness was significantly higher than the direct quality coefficient, which indicated that support was more intricately associated with the establishment of professional technological capability but not the relationship with the residual quality when other variables were held constant (Listya *et al.*, 2023). This trend aligns with the content operation in the support construct that places an emphasis on resources, training, encouragement, technical assistance and learning time. These provisions are directly applicable in relation to skill acquisition, competence maintenance and adaptation.

The mediation estimate gives more information about contribution of the organisational environment. The specified model bore a significant part of the total support quality association which acted via readiness. The organisational support can thus be seen as the infrastructure of developing professionals that are capable of interpreting technologically created findings and making an evidential conclusion. The positive direct coefficient shows that help and willingness did not have the same values in the statistical sense, validating the necessity to consider institutional circumstances and personal ability as two distinct constructs (Borges *et al.*, 2020).

The fairly low incremental effect size on the direct organisational support -quality path has practical implications as well. The fact that the coefficient is a positive one does not mean that all the support initiatives that are added will lead to a commensurate improvement in audit quality. The arrangement indicates that the support initiatives are specifically conceptually relevant when they are made to reach the auditor via enhanced competence (Lee *et al.*, 2021). The most defensible training content, technical assistance and safeguarded learning opportunities are thus most defensible when associated with observable audit tasks and the professional judgement needed to undertake them.

The Mediating Function of Auditor Digital Readiness

The two beneficial indirect effects support the role of readiness as a bridging construct. The adoption-conditioned indirect coefficient suggests that the connection between the use of intelligent tools and the quality of audits involves an analytically differentiating ability element (Abimanyu & Suhartini, 2023). The indirect coefficient on support relates to the institutional enabling conditions at a parallel level. In both instances, mediation was complementary as opposed to substitutive since the direct relationships were positive. Readiness thus did not substitute the associations of the antecedents with quality. The concept of being ready is particularly important in relation to the quality of audit since it implies critical assessment, and not just technical functioning (Rumetna *et al.*, 2022). Getting the electronic information out right and understanding the outputs are valuable professional skills, however, knowing when a result needs further investigation is also vital to professional work. The construct of readiness to the questionnaire thus has a buffer against overly restrictive understanding of digital competence. This factor is congruent with the quality construct concern of evidence, exploration, record keeping and ultimate conclusions. The compatibility of the conceptual definitions with the presence of positive paths supports the interpretability of the mediation framework.

Integrated Interpretation of the Structural Model

The estimates of the explained variance show that the two antecedents had a combined effect of about one-third of the variation of digital readiness with the three direct predictors having a marginally more than one-third of the variation of perceived audit quality. These values illustrate how the proposed constructs reflected significant areas of the analytical relationships but did not single out audit performance to one technological determinant (Couceiro *et al.*, 2020). High levels of measurement reliability, and reasonable levels of discriminant validity also have the effect of supporting the interpretation of the model as a set of different constructs, and not a group of overlapping questionnaire labels.

The resulting analysis pattern is in line with a comprehensive perspective of digital audit transformation. Technology adoption refers to how the audit professionals utilize smart apps; organisational support refers to the facilitating conditions presented to them; readiness refers to how the professionals use digital resources smartly; and audit quality refers to the procedural and evidential aspects of their work (Kot *et al.*, 2021). Their interrelations suggest that the digitalisation of audit practice best fits the conceptualisation of interaction between work processes, organisational arrangements and professional capabilities. The results, therefore, indicate a multidimensional explanation of audit quality in the given framework.

CONCLUSION

The present research analysed the adoption of artificial intelligence, organisational support, auditor digital readiness and quality of audit using a four-construct partial least squares structural model on 410 audit-professional profiles. The outcomes of measurement facilitated the internal consistency, convergent validity and discriminant validity of constructs in question. The five direct structural relationships were all positive, and the two indirect through bootstrapped confidence intervals were supported. The model accounted 31.4 % and 35.1 % of the variations in digital readiness and audit quality respectively.

The overall result is that auditor digital readiness has a significant place between technological and organisational states and quality-oriented nature of audit work. Adoption of artificial intelligence had shown the greatest overall

connection with the quality of audit and the organisational support had shown the outcome both directly and indirectly through readiness. The overall outcomes offer digital transformation as a professional and organisational process where use of intelligent applications, availability of institutional support and the ability to make critical technology judgements are related yet different dimensions. The ensuing model is a clear analytical platform on which audit practice can be streamlined and integrate intelligent technologies in the interests of quality.

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