

Design and Fit of Auditors' Psychological Model and the Disclosure Quality of the Board of Directors' Activity Report

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ABSTRACT

This study examines the design and fit of a psychological model of auditors and the disclosure quality of the Board of Directors' activity report. The present research is applied in terms of purpose and descriptive-analytical in terms of nature, and it is conducted within the category of survey studies. First, the factors influencing the psychological model of auditors and the disclosure quality of the Board of Directors' activity report were identified using the grounded theory method. Subsequently, the model was designed through the interpretive structural modeling (ISM) approach, and finally, the model was estimated using structural equation modeling (SEM). The data collection procedures in this research include both library and field methods. For reviewing the literature and research background, library methods were used, while field methods were employed to collect data aimed at confirming or rejecting the study hypotheses. Observation and a structured questionnaire served as the primary data-gathering tools. The statistical population of this research comprises partners, employees, managers, and supervisors of auditing firms. The first step in determining the sample size involved defining an expert according to specific criteria. In this study, the perspectives of 20 experts, audit firm managers, and university faculty members were utilized. In the quantitative section, the opinions of partners, employees, managers, and supervisors of auditing firms were employed to evaluate the model fit and validate it using the partial least squares (PLS) method. Ultimately, 317 questionnaires were selected and analyzed in the quantitative phase. The findings indicated that the measurement instruments demonstrated acceptable levels of validity and reliability. Moreover, convergent validity was confirmed through the evaluation of factor loadings, showing adequate differentiation among latent variables and the absence of overlap. Further, the structural model was analyzed using the Bootstrap method to determine the significance of relationships among latent variables and to verify the accuracy of the research hypotheses. The results showed that all model relationships were significant with appropriate strength, indicating the proposed model's strong predictive and explanatory power. Additionally, the Variance Inflation Factor (VIF) was calculated for mediating and independent variables, confirming the absence of multicollinearity and ensuring the accuracy of parameter estimations. Overall, the findings revealed that the partial least squares (PLS) analysis technique is not only a powerful tool for evaluating multivariate structural models but also highly capable of analyzing complex and real-world data.

Keywords: Auditors' psychology; disclosure quality of reports; Board of Directors' activity; interpretive structural modeling; grounded theory

Introduction

The growing complexity of business environments, globalization of capital markets, and heightened expectations for corporate transparency have fundamentally reshaped the responsibilities of auditors and the behavioral, psychological, and ethical competencies required of them. In contemporary financial ecosystems, auditors are no



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longer expected merely to verify compliance with accounting standards; rather, they are positioned as key institutional actors who enhance the credibility of financial information and reduce information asymmetry between firms and stakeholders. This expanded role increases the significance of auditors' psychological characteristics, personality traits, and behavioral tendencies, especially given their direct influence on professional skepticism, judgment quality, and the disclosure practices of corporate governance bodies. Research consistently demonstrates that the psychological underpinnings of auditor behavior—such as personality types, cognitive style, ethical grounding, and emotional stability—are critical components affecting the quality of audit outcomes and the credibility of board activity reports (1-3).

Audit quality, which is widely recognized as a cornerstone of trustworthy financial reporting, is influenced by auditors' professional skepticism, their capacity to identify inconsistencies in evidential cues, and their ability to resist client pressure. Earlier foundational work emphasized that auditors rely heavily on evidential cues to make judgments, and that both cognitive and situational factors shape how cues are interpreted (4). In more recent studies, the personality traits of auditors have emerged as strong predictors of skepticism and judgment quality (5, 6). This body of research indicates that auditors with high conscientiousness, emotional stability, and openness to experience tend to be more skeptical, analytical, and resistant to manipulation or client influence. Further evidence shows that personality types A, B, C, and D each influence reporting behaviors and the tone of audit outputs in distinctive ways (7, 8).

Beyond individual psychological traits, structural and environmental determinants also shape auditors' professional judgments. These determinants include organizational culture, audit firm governance, and external regulatory oversight. Studies reveal that auditor experience and the depth of their professional exposure significantly enhance their ability to detect fraud and identify irregularities (9). Professional skepticism, moreover, is not only the result of personality but also a byproduct of training, professional socialization, and situational triggers in the audit environment. The interplay between individual and situational factors points to the need for a comprehensive psychological model that integrates personality, cognition, ethical grounding, and organizational context.

Parallel to the evolution of auditing roles, board reporting practices—specifically, the disclosure quality of the Board of Directors' activity reports—have gained increasing regulatory and academic attention. High-quality board activity disclosures reduce market myopia, enhance investor confidence, and strengthen governance transparency (10). In the European context, the emphasis on environmental, social, and governance (ESG) mechanisms has pushed companies toward more robust sustainability disclosures, supported by emerging regulatory frameworks (11). These regulatory shifts, coupled with global sustainability reporting trends, highlight the increasing need for accurate, comprehensive, and timely disclosures that reflect not only financial but also non-financial dimensions of corporate performance (12).

The movement toward enhanced sustainability and governance transparency has implications for both corporate boards and audit professionals. Firms with sustainability committees, for instance, have been shown to demonstrate stronger environmental disclosures and higher reporting quality, strengthening their legitimacy in the eyes of stakeholders (12). Similarly, regulatory reforms across continents are reducing administrative burdens while simultaneously pushing for higher-quality sustainable investments and disclosures (11). This dual emphasis on transparency and efficiency underscores the importance of psychological competencies in auditors, who must interpret complex disclosures, evaluate compliance, and ensure the integrity of board reporting processes.

A key issue in disclosure practices is the role of information asymmetry and how policy structures influence firm innovation and transparency. Research has shown that clear information disclosure frameworks can stimulate innovation and reduce governance risk (13). Moreover, the quality of sustainability disclosure mechanisms has been found to reduce short-termism in capital markets and encourage firms to align more closely with long-term value creation (10). These insights demonstrate that high-quality disclosures—whether financial or sustainability-based—are interconnected with audit quality and the psychological readiness of auditors to process complex information objectively.

At the same time, the digitalization of corporate activities and the shift toward real-time reporting environments have increased the demand for auditors who possess not only technical skills but also adaptive psychological traits. Digital transformation has significantly altered industry performance dynamics and created new information ecosystems that auditors must navigate (14). The interaction between investors and firms through digital communication platforms also has implications for ESG rating divergence and the broader transparency landscape (15). As firms transition into digital ecosystems, the need for auditors with strong cognitive capabilities, resilience, and flexibility becomes even more pronounced.

Emerging global challenges and crises, such as the COVID-19 pandemic, have further illustrated that auditor psychology plays a vital role in organizational resilience and reporting quality. During periods of heightened uncertainty, auditors must process ambiguous information while maintaining independence and skepticism. Evidence from early pandemic conditions reveals how going-concern judgments were influenced by situational pressures and the psychological resilience of auditors (16). This suggests that psychological characteristics must be integrated into any comprehensive model aimed at explaining variations in disclosure quality and audit performance under crisis conditions.

Research on governance practices in emerging economies provides additional insights into the complexities surrounding audit quality and sustainability reporting. For example, the quality of sustainability reports in Nigerian firms has been strongly linked to governance structures and the behavioral tendencies of auditors involved in assurance activities (17). Assurance practices, as shown in studies from Finland, also enhance the credibility of climate-related disclosures and reduce stakeholder uncertainty (18). These findings highlight the global relevance of auditors' psychological attributes in shaping disclosure quality and governance performance.

Within Iran's auditing landscape, psychological characteristics have been empirically shown to influence audit judgment skills, skepticism, and reporting behavior. Research indicates that cognitive tendencies, ethical grounding, and behavioral patterns directly affect auditors' decision-making processes, especially in high-pressure contexts (6, 19). Additional studies confirm that auditors' personality traits play a decisive role in shaping how audit evidence is evaluated and how reporting judgments are formed (1, 2). Complementing this perspective, psychological factors have been linked to the quality of professional interactions, including communication with clients, colleagues, and governance bodies (20).

With the rise of regulatory pressures, sustainability expectations, and digital transformation, the demands placed on auditors and boards continue to intensify. The literature suggests that psychological competencies—such as emotional regulation, analytical thinking, interpersonal judgment, and ethical resilience—are now inseparable from discussions on audit quality, governance transparency, and disclosure practices. Professional contacts and social capital have additionally been identified as key drivers influencing individuals' entry into the auditing profession, hinting at the broader social embedding of psychological traits (21).

Considering the convergence of psychological, regulatory, technological, and governance-related factors, there is a pressing need to develop a comprehensive model that explains how auditors' psychological characteristics influence the disclosure quality of board activity reports. Prior studies have individually examined components such as personality, skepticism, governance mechanisms, digital transformation, and sustainability disclosure. However, few have integrated these diverse yet interrelated factors into a single explanatory framework. Developing such a model is essential for advancing theoretical understanding and improving practical auditing processes, particularly in emerging markets facing rapid regulatory and technological changes.

Given these gaps in the literature and the increasing significance of audit psychology in shaping governance outputs, the present study aims to design and empirically fit a comprehensive psychological model of auditors and examine its effect on the disclosure quality of Board of Directors' activity reports using advanced structural modeling techniques.

Methods and Materials

The present study is applied in terms of purpose and descriptive–analytical in terms of nature, and it is conducted as a survey-based investigation. Initially, the factors influencing the psychological model of auditors and the disclosure quality of the Board of Directors' activity report were identified using the grounded theory method. Subsequently, the model was designed using the interpretive structural modeling (ISM) method, and finally, the model was estimated using structural equation modeling (SEM).

The data collection methods in this research are divided into two categories: library and field methods. Library methods were employed to gather information related to the literature and research background, while field methods were used to collect data for confirming or rejecting the research hypotheses. Observation and a structured questionnaire were used as the primary tools for data collection.

The statistical population of this research consists of partners, employees, managers, and supervisors of auditing firms. The first step in determining the sample size is to define an expert according to precise criteria. A comprehensive and complete definition must be provided. In the present study, an expert is an individual who meets the following conditions:

1. at least fifteen years of work experience in auditing;
2. at least ten years of managerial and teaching experience in auditing;
3. at least five years of experience serving on the board of directors of auditing firms;
4. at least three years of active experience in supervisory positions in auditing firms.

Accordingly, the perspectives of 20 experts, managers of auditing firms, and academic faculty members meeting these criteria were used in this study. In the quantitative section, the opinions of partners, employees, managers, and supervisors of auditing firms were utilized to evaluate the model fit and validate it using the partial least squares (PLS) method. To determine the random sample size for the quantitative section, the power analysis method proposed by Cohen (1992) was applied. Based on the calculated formula, the lower bound of the sample size was 227 and the upper bound was 1034. A total of 1034 electronic questionnaires were distributed, and ultimately, 317 valid questionnaires were selected for analysis.

Findings and Results

This section presents the qualitative data derived from the analysis of interviews conducted with the study participants and also outlines the theoretical model extracted from these data within the systematic grounded theory framework. In this regard, first, the categories obtained from the open coding process are presented. Then, the components of the axial coding paradigm—including causal conditions, the central phenomenon, strategies, context, intervening conditions, and consequences—are separately outlined based on their subcategories. Finally, through selective coding, these elements are integrated, and the storyline is constructed. The final model has been reviewed and confirmed by experts and specialists in the field.

In the research design, grounded theory was applied through open coding, axial coding, and selective coding. Among the identified factors, the axial coding paradigm was developed, and based on this, the linear relationships among the research categories—causal conditions, central categories, contextual conditions, intervening conditions, strategies, and consequences—were specified. The figure below presents the axial coding paradigm, or in other words, the qualitative process model of the research.



Figure 1. Qualitative Research Model

Interpretive Structural Modeling (ISM) was introduced by Andrew Sage in 1977. In this method, the underlying indicators of the subject under study are first identified, and then the relationships among these factors and the

pathways for improvement are determined. The structural–interpretive model analyzes the relationships among indicators by decomposing them into several hierarchical levels (Kannan, 2009). The first step in ISM modeling is calculating the internal relationships among the indicators. To reflect these internal relationships, the views of experts are used.

Table 1. Identified Variables and Assigned Symbols

Indicator	Symbol
Acceptance of feedback and professional commitment	D01
Low efficiency of control structures	D02
Economic pressures and constraints	D03
Managerial negligence and oversight failures	D04
Environmental and organizational factors	D05
Social beliefs and values	D06
Quality and accuracy of financial records	D07
Basis of professional ethics	D08
Compliance with legal regulations	D09
Interaction and communication capabilities	D10
Cognitive and thinking abilities	D11
Financial stability and discipline	D12
Personality and individual characteristics	D13
Data clarity and accessibility	D14
Professional skills and knowledge	D15
Psychological characteristics of auditors and disclosure quality of the Board of Directors' report	D16

The matrix obtained in this step shows which variables influence, or are influenced by, other variables. The Structural Self-Interaction Matrix (SSIM) is formed based on the dimensions and indicators of the study and by comparing them through four conceptual relationships. The resulting information is summarized using the ISM method, and the final SSIM is constructed. The SSIM is presented in Table 2.

Table 2. Structural Self-Interaction Matrix (SSIM)

SSIM	D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11	D12	D13	D14	D15	D16
D01		A	A	A	A	A	V	A	X	A	A	V	A	X	V	V
D02			X	V	X	V	V	A	V	A	A	V	A	V	V	V
D03				V	X	V	V	A	V	A	A	V	A	V	V	V
D04					A	X	V	A	V	A	A	V	A	V	V	V
D05						V	V	A	V	A	A	V	A	V	V	V
D06							V	A	V	A	A	V	A	V	V	V
D07								A	A	A	A	A	A	A	A	V
D08									V	X	X	V	X	V	V	V
D09										A	A	V	A	X	V	V
D10											X	V	X	V	V	V
D11												V	X	V	V	V
D12													A	A	V	V
D13														V	V	V
D14															A	A
D15																V
D16																

After obtaining the initial reachability matrix, the final reachability matrix is constructed by applying transitivity among the variable relationships. This matrix is square-shaped, where each cell equals 1 if an element has reachability to another element through any number of steps, and otherwise equals 0. The reachability matrix is derived using Euler's theory by adding the adjacency matrix to the identity matrix and raising the matrix to the power

of n until no further changes occur in the elements. Secondary relationships must also be verified. This means that if A leads to B and B leads to C, then A must also lead to C. If the direct effects implied by secondary relationships are missing, the matrix must be corrected accordingly. The final reachability matrix for the knowledge management indicators is presented in the table below.

Table 3. Final Reachability Matrix of Indicators

SSIM	D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11	D12	D13	D14	D15	D16
D01	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	1
D02	1	0	1	1	1	1	1	0	1	0	0	1	0	1	1	1
D03	1	1	0	1	1	1	1	0	1	0	0	1	0	1	1	1
D04	1	0	0	0	0	1	1	0	1	0	0	1	0	1	1	1
D05	1	1	1	1	0	1	1	0	1	0	0	1	0	1	1	1
D06	1	0	0	1	0	0	1	0	1	0	0	1	0	1	1	1
D07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
D08	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
D09	1	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1
D10	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
D11	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
D12	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
D13	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
D14	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0
D15	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1
D16	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

To determine the relationships and hierarchical levels of the criteria, the output set and input set for each criterion must be extracted from the obtained matrix.

- Reachability set (row elements, outputs or influencing variables): variables that can be reached through this variable.
- Antecedent set (column elements, inputs or influenced variables): variables through which this variable can be reached.

The output set includes the criterion itself and the criteria that are influenced by it. The input set includes the criterion itself and the criteria that influence it. Then, the set of bidirectional relationships among the criteria is determined. After identifying the reachability set and the antecedent set, the intersection of the two sets is calculated. The first variable for which the intersection of the two sets is equal to the reachability set (outputs) will be the first-level variable. Therefore, the elements at the first level will have the highest degree of dependence in the model. After determining the level, the criterion whose level has been identified is removed from all sets, and the input and output sets are recalculated so that the level of the next variable can be obtained. Accordingly, variable D16 is the first-level variable. After identifying the first-level variable(s), these variables are removed, and the input and output sets are recalculated without considering the first-level variables. The common set is then identified, and the variables whose intersection is equal to the input set are selected as second-level variables.

Variable D7 is the second-level variable.

Variables D12–D15 are the third-level variables.

Variables D1, D9, and D14 are the fourth-level variables.

The final hierarchy pattern of the identified variables is presented in the figure. In this diagram, only the significant relationships of the elements in each level with the elements in the lower level, as well as the significant internal relationships of the elements within each level, have been considered.

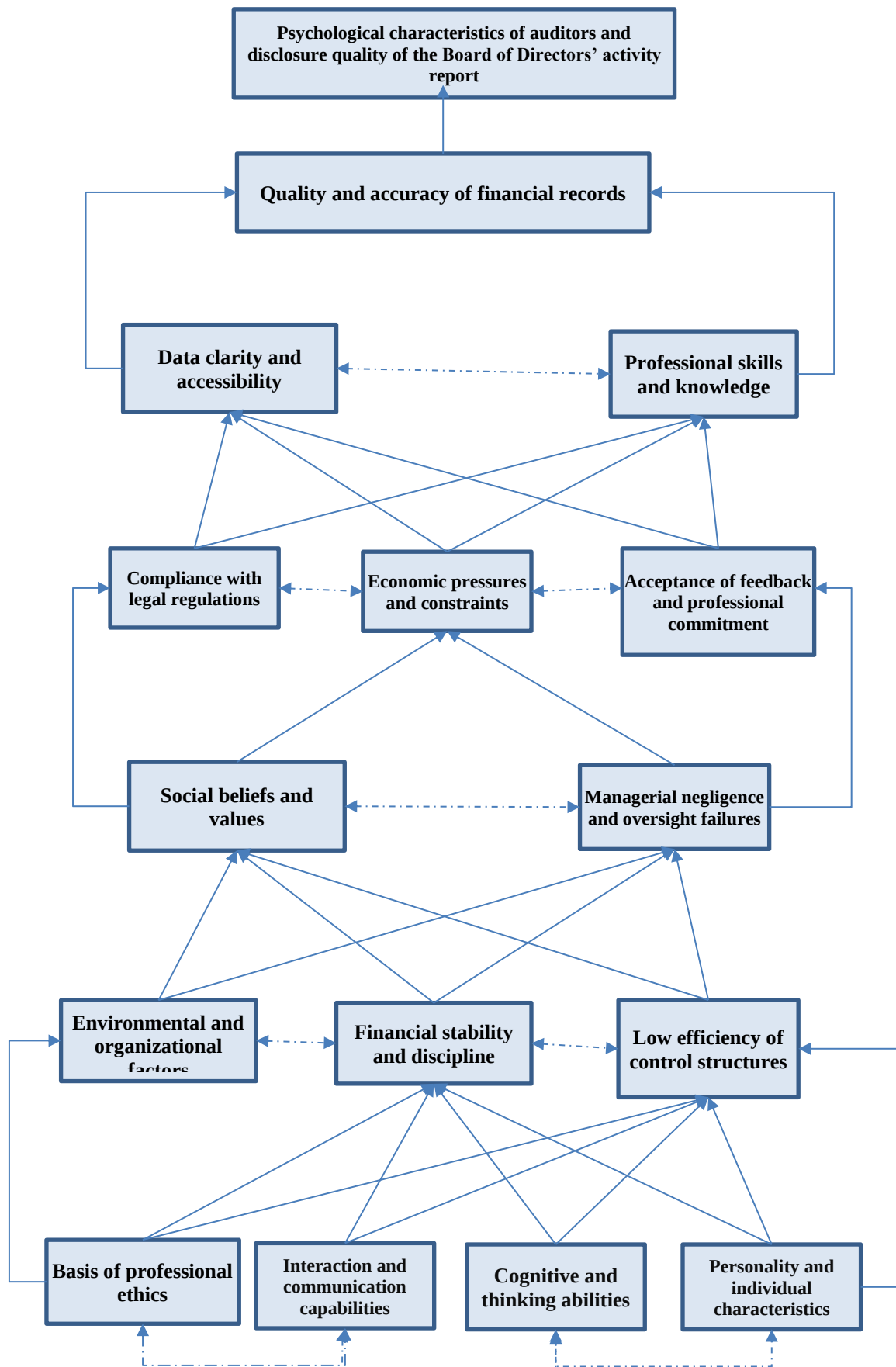


Figure 2. Final ISM Model

In the final step, after identifying the factors affecting the model and designing the model, the model fit is evaluated using structural equation modeling.

In general, the methods used to process and summarize collected data are referred to as descriptive statistics. This type of statistics merely describes the population or sample, and its purpose is to compute the parameters of the research population or sample. In the descriptive statistics section, data analysis has been performed using measures of central tendency such as the mean and measures of dispersion such as standard deviation, range, minimum, and maximum.

Table 4. Descriptive Statistics of the Research Variables

Variables	Mean	Skewness	Kurtosis	Variance
Acceptance of feedback and professional commitment	3.790	0.766	0.002	0.490
Low efficiency of control structures	3.546	1.461	-0.584	0.446
Economic pressures and constraints	4.0842	-0.058	-0.263	0.231
Managerial negligence and oversight failures	3.825	-0.216	0.566	0.225
Environmental and organizational factors	3.6729	-0.496	0.314	0.339
Social beliefs and values	4.2229	-0.625	-0.470	0.358
Quality and accuracy of financial records	4.0938	0.018	-0.032	0.192
Basis of professional ethics	3.8734	-0.883	0.163	0.465
Compliance with legal regulations	3.7405	-0.301	-0.171	0.473
Interaction and communication capabilities	4.3938	-0.241	-0.621	0.302
Cognitive and thinking abilities	4.100	-0.938	0.134	0.319
Financial stability and discipline	3.8397	0.273	-0.318	0.399
Personality and individual characteristics	4.1542	-0.800	0.051	0.259
Data clarity and accessibility	3.900	0.088	-0.558	0.439
Professional skills and knowledge	3.9125	1.215	-0.628	0.410
Psychological characteristics of auditors and disclosure quality of the Board of Directors' activity report	4.1417	1.677	-0.749	0.213

Acceptance of feedback and professional commitment has a mean of 3.790 and a variance of 0.490. The range of variation, based on the minimum and maximum, is shown as 3. Descriptive statistics for the other variables are also presented in the table.

Since PLS analysis is derived from linear regression, the assumptions related to the data in regression must also be examined in this approach.

Before evaluating the structural relationships, multicollinearity must be examined so as to ensure that the regression results are not biased (Hair et al., 2019). In statistics, the variance inflation factor (VIF) assesses the degree of multicollinearity in ordinary least squares (OLS) regression analysis. The severity of multicollinearity can be analyzed by examining the magnitude of the VIF value. In fact, this index indicates the extent to which the variance of the estimated coefficients is inflated due to multicollinearity. If the VIF value is greater than 5, the inflation level is considered critical, and the ideal value for VIF is 3 or less (Hair et al., 2019).

Table 5. Multicollinearity Test (VIF)

Variable	VIF
Acceptance of feedback and professional commitment	1.000
Low efficiency of control structures	1.517
Economic pressures and constraints	1.372
Managerial negligence and oversight failures	4.750
Environmental and organizational factors	3.373
Social beliefs and values	2.897
Quality and accuracy of financial records	2.258
Basis of professional ethics	1.845
Compliance with legal regulations	1.369
Interaction and communication capabilities	1.618

Cognitive and thinking abilities	1.299
Financial stability and discipline	3.667
Personality and individual characteristics	4.805
Data clarity and accessibility	1.819
Professional skills and knowledge	2.224
Psychological characteristics of auditors and disclosure quality of the Board of Directors' activity report	1.966

According to the results in Table 5, the VIF values of the research components were obtained as less than 3. Therefore, the research components do not exhibit multicollinearity.

Partial least squares technique and testing the research hypotheses

In the present study, structural equation modeling based on the partial least squares (PLS) method has been used to test the measurement model and the research hypotheses. The PLS software is less dependent on sample size, does not require normally distributed data, and focuses on maximizing variance, which makes this newer method more suitable for real-world applications than LISREL or AMOS.

Each of the research hypotheses has been analyzed separately using the partial least squares technique. Finally, the overall research model has also been tested using the same technique. In the partial least squares technique, several points are of particular importance:

1. The strength of the relationship between a factor (latent variable) and an observed variable is indicated by the factor loading. The factor loading ranges between 0 and 1. In the standardized measurement model, if the factor loading between an item and its corresponding dimension is less than 0.4, that indicator (questionnaire item) must be removed from the model. According to Hair et al. (2013), items with factor loadings between 0.3 and 0.7 should also be examined for possible removal, and the threshold value for acceptable factor loadings is 0.7 and above.
2. Once the correlations among the variables have been identified, a significance test must be conducted. To examine the significance of the observed correlations, resampling methods such as bootstrapping or jackknife cross-validation are used. In this study, the bootstrapping method was employed, which yields the *t* statistic. At a 5% significance level, if the bootstrapped *t*-value is greater than 1.96, the observed correlations are considered significant.

In general, the relationships among variables in the partial least squares technique are divided into two categories:

1. Outer model: The outer model is equivalent to the measurement model (confirmatory factor analysis) in structural equation modeling and represents the relationships between latent variables and observed variables.
2. Inner model: The inner model is equivalent to the structural model (path analysis) in structural equation modeling and examines the relationships among latent variables.

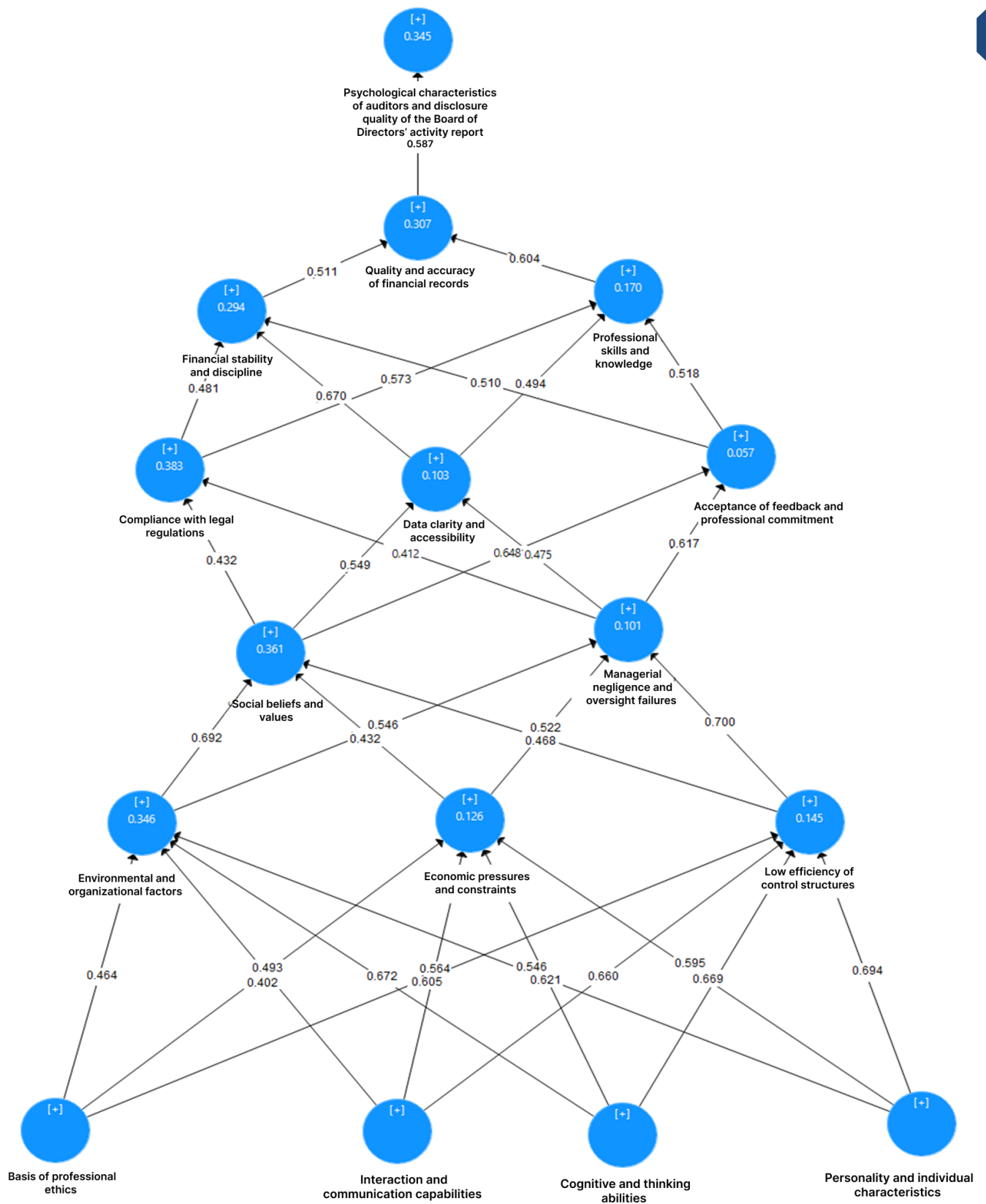


Figure 3. Overall Factor Loadings of the Research Model



Figure 4. Bootstrapping t-Statistics of the Research Model

To evaluate and assess the validity and reliability of the constructs in the measurement models in partial least squares structural equation modeling, factor loadings, Cronbach's alpha, composite reliability (CR), convergent validity (AVE), and discriminant validity (Fornell–Larcker criterion) are calculated and reported.

To examine the reliability of the variables, another key indicator used to assess internal consistency reliability in the model is Cronbach's alpha. The value of this coefficient ranges from 0 to 1, with values greater than 0.7 considered acceptable and values less than 0.6 deemed undesirable (Cronbach, 1951).

Composite reliability is regarded as a better and more valid criterion than Cronbach's alpha in structural models, because in computing Cronbach's alpha, all indicators of a construct enter the calculation with equal importance, whereas in composite reliability, indicators with higher factor loadings have greater weight. This leads CR values to provide a more realistic and accurate reliability estimate than Cronbach's alpha. Since this coefficient also ranges between 0 and 1, values greater than 0.7 are accepted and values less than 0.6 are considered undesirable (Werts et al., 1974).

Convergent validity has also been calculated. When one or more attributes are measured using two or more methods, the correlation between these measurements yields two important indicators of validity. If the correlation between test scores that measure the same attribute is high, the questionnaire is said to have convergent validity. The presence of this correlation is essential to ensure that the test measures what it is intended to measure. For assessing convergent validity, the Average Variance Extracted (AVE) is used. The value of this coefficient ranges from 0 to 1, and values greater than 0.5 are considered acceptable.

Table 6. Convergent Validity and Reliability of the Research Variables

Symbol	Variable	Cronbach's Alpha	AVE	CR
D1	Acceptance of feedback and professional commitment	0.745	0.537	0.759
D2	Low efficiency of control structures	0.790	0.537	0.754
D3	Economic pressures and constraints	0.769	0.512	0.740
D4	Managerial negligence and oversight failures	0.816	0.548	0.755
D5	Environmental and organizational factors	0.843	0.555	0.801
D6	Social beliefs and values	0.852	0.593	0.736
D7	Quality and accuracy of financial records	0.799	0.577	0.750
D8	Basis of professional ethics	0.863	0.563	0.763
D9	Compliance with legal regulations	0.814	0.576	0.758
D10	Interaction and communication capabilities	0.756	0.524	0.818
D11	Cognitive and thinking abilities	0.765	0.540	0.803
D12	Financial stability and discipline	0.798	0.553	0.825
D13	Personality and individual characteristics	0.815	0.587	0.769
D14	Data clarity and accessibility	0.740	0.561	0.754
D15	Professional skills and knowledge	0.762	0.524	0.763
D16	Psychological characteristics of auditors and disclosure quality of the Board of Directors' activity report	0.784	0.568	0.801

According to the results in the above table, Cronbach's alpha for all variables is greater than 0.7; therefore, all variables are confirmed in terms of reliability. The Average Variance Extracted (AVE) is also consistently greater than 0.5, confirming convergent validity. In addition, the composite reliability (CR) values are greater than both AVE and 0.7, indicating that each construct in the model has appropriate validity and reliability.

After ensuring the adequacy of the measurement models through reliability testing, convergent validity, and discriminant validity, the results of the structural model can be presented. In the structural part of the model—unlike the measurement models—observable variables and questionnaire items are not considered; instead, only the

latent variables and the relationships among them are examined. To assess the model fit, structural model fit indices such as the coefficient of determination (R^2), effect size (F^2), and predictive relevance (Q^2) are used.

The coefficient of determination (R^2) is an index used to link the measurement model and the structural model in structural equation modeling, indicating the amount of variance in each endogenous (dependent) variable that is explained by the exogenous (independent) variables. The critical point here is that R^2 is calculated only for endogenous constructs, and for exogenous constructs, this value is zero. The higher the R^2 value of the endogenous constructs, the better the model fit. Chin (1998) identified the values 0.19, 0.33, and 0.67 as weak, moderate, and strong model fit, respectively. Additionally, Henseler (2009) and Hair et al. (2011) defined the threshold values of 0.25, 0.50, and 0.75 as indicators of weak, moderate, and strong fit of the structural model based on the coefficient of determination.

$$R^2 = \frac{0.345 + 0.669 + 0.294 + 0.623 + 0.383 + 0.710 + 0.484 + 0.361 + 0.372 + 0.346 + 0.666 + 0.527}{12} = 0.481$$

The coefficient of determination (R^2) for the endogenous constructs of the research model is satisfactory. The R^2 value for the dependent components indicates that 48 percent of the variance in the model's variables is explained by the combined effects of the independent and dependent variables, which is strongly acceptable.

Discussion and Conclusion

The purpose of this study was to examine how auditors' psychological characteristics influence the quality of disclosure in Board of Directors' activity reports and to empirically validate a comprehensive audit psychology model. The findings of the structural equation modeling demonstrated that psychological traits—including cognitive ability, professional skepticism, personality type, ethical grounding, and interactional competencies—play a significant and direct role in determining the quality, accuracy, and transparency of board activity disclosures. These findings reveal that the psychological profile of auditors is not merely an individual characteristic, but a critical organizational and governance factor affecting financial reporting outcomes.

The strong predictive power identified in this study is consistent with the growing body of international scholarship emphasizing the behavioral foundations of audit performance. Prior research shows that professional skepticism is directly shaped by auditors' personality traits, ethical predispositions, and cognitive style, which in turn influence their ability to detect inconsistencies, assess risks, and properly evaluate evidential cues (1-3). The current results support these findings by demonstrating that auditors with stronger psychological resilience, conscientiousness, and analytical capacity contribute to higher disclosure reliability in board reports. These conclusions are also aligned with the broader theoretical framework developed in earlier auditing research, which shows that individual differences in cognitive processing affect how auditors interpret and prioritize financial information (4).

A particularly striking outcome of this study is the magnitude of influence exerted by professional skepticism and cognitive capabilities on disclosure quality. This result corresponds with evidence indicating that psychological factors such as skepticism, emotional stability, and conscientiousness define the precision of judgment and reduce susceptibility to client pressure (6, 19). Moreover, the influence of personality types on the tone, structure, and completeness of audit reports—established in previous Iranian studies—is reaffirmed here, suggesting that psychological characteristics have measurable consequences for governance communication (7, 8).

The results related to ethical grounding and legal compliance further confirm the centrality of psychological factors in disclosure behavior. Scholars have shown that ethical standards and moral commitment strongly influence

auditors' willingness to challenge management and expose irregularities, enhancing transparency and responsibility in financial reporting (20). This study aligns with that perspective, demonstrating that auditors with higher moral orientation and ethical clarity contribute to more credible board reports. The effects of ethics are also supported by studies documenting how psychological traits—particularly conscientiousness and openness—strengthen adherence to auditing norms and reduce reporting bias (5).

Another important finding is the role of interactional and communication skills in enhancing disclosure quality. Auditors with strong communication abilities more effectively articulate findings, negotiate with management, and bridge informational gaps between the board and stakeholders. These results mirror global findings suggesting that professional socialization, interactional exposure, and interpersonal competencies shape auditors' decision-making processes and reporting outcomes (21). Furthermore, digital communication and stakeholder interaction—particularly in ESG environments—have been shown to influence transparency and mitigate rating divergences, reinforcing the current study's conclusion that auditors' communication capacity is central to high-quality disclosures (15).

The empirical outcomes relating to environmental and organizational pressures also recur in global literature. For instance, the finding that contextual pressures—such as economic constraints and managerial oversight—affect auditors' behavior corresponds with international evidence showing that institutional environments shape reporting outcomes and transparency levels (17). The results emphasize that auditors' psychology interacts with situational pressures, creating a dynamic environment in which individual traits either mitigate or exacerbate contextual influences.

A key contribution of this study is the demonstration that psychological characteristics are not only relevant to audit quality outcomes but also directly influence governance disclosures, particularly those in the Board of Directors' activity report. This aligns with scholarship showing that high-quality sustainability and governance disclosures depend not only on organizational structures but also on the behavioral disposition of individuals responsible for preparing, reviewing, and validating reports (10, 12). The finding that psychological readiness improves board activity disclosure quality complements evidence suggesting that sustainability committees and governance mechanisms enhance environmental reporting by fostering accountability cultures (12).

The structural model results also resonate with macro-policy trends. Recent European Union policy developments emphasize simplification of sustainability reporting and reduction of administrative burdens to support long-term transparency and investment flows (11). Such regulatory reforms underscore the growing recognition that disclosure systems rely on human expertise—particularly auditors with high analytical and ethical competencies. The findings of this study provide a behavioral explanation for why such policies require psychological capacity-building within audit professionals. Similarly, studies have demonstrated that transparent disclosure systems drive innovation, reduce governance risk, and improve market efficiency (13). The present study extends this logic by showing that psychological competencies are an essential internal factor supporting effective policy implementation.

The results further align with research emphasizing that during crises such as the COVID-19 pandemic, auditor resilience and psychological preparedness significantly influence the quality of going-concern assessments and disclosure reliability (16). This suggests that psychological characteristics not only matter in stable conditions but also serve as buffers against uncertainty and organizational stress. The behavioral findings here thus capture a deeper insight: auditors' psychological qualities shape how they respond under pressure, which in turn affects organizational transparency.

Beyond individual-level psychological factors, several findings relate to broader corporate governance mechanisms. The connection between psychological characteristics and disclosure quality mirrors global evidence that auditor characteristics contribute to firm transparency through their involvement in sustainability reporting and ESG assessments (18). These international studies demonstrate that external assurance quality improves stakeholders' confidence in disclosure mechanisms, which the present study confirms in the context of board activity reporting.

There is also a meaningful connection between the present findings and research on the digital transformation of firms. A growing line of literature indicates that digital transformation enhances firm performance, increases information flows, and introduces new complexities into the reporting environment (14). Auditors operating in digital ecosystems require strong psychological adaptability—an insight mirrored in the results of this study, where cognitive flexibility and communication skill significantly predicted disclosure quality. Similarly, recent evidence from China suggests that investor-firm interactions can mitigate ESG rating divergence, implying that auditor communication is central to maintaining reporting consistency and reliability (15). These insights reinforce the conclusion that psychological and interactional skillsets are increasingly vital in technologically complex audit environments.

The overall findings of this research strongly support the argument that audit quality and disclosure accuracy are psychological as much as they are procedural or technical. The comprehensive model developed here synthesizes personality, cognitive ability, skepticism, ethics, communication, and contextual pressures into a unified explanatory framework, advancing both the behavioral auditing literature and the corporate governance disclosure literature. By demonstrating the predictive power of psychological characteristics in shaping Board of Directors' disclosure quality, this study responds directly to calls in the literature for integrated behavioral–governance models (10, 22).

Although the study provides valuable empirical insights, several limitations should be acknowledged. First, the research relies on self-reported questionnaire data, which may be susceptible to social desirability bias or subjective interpretation. Second, the data were collected within a single national context, which may limit the generalizability of the findings to other regulatory or cultural environments. Third, while the structural equation modeling provides strong statistical evidence, the cross-sectional nature of the data does not allow for causal inferences. Finally, psychological characteristics are inherently complex and may require triangulation with qualitative or experimental data to obtain a more comprehensive understanding.

Future studies should consider employing longitudinal designs to examine how auditors' psychological characteristics evolve over time and how such changes impact disclosure quality. Additional research across different cultural and regulatory environments would strengthen the external validity of the model. Future scholars may also integrate neurocognitive or behavioral-experimental methods to capture deeper psychological processes underlying professional skepticism and decision-making. Moreover, comparative studies between audit firms with varying governance structures, technological capacities, or sustainability priorities may provide new insights into context-specific psychological influences.

Audit firms should integrate psychological assessment and behavioral training into their recruitment and professional development programs. Governance bodies and regulators should support policies that enhance ethical reasoning, cognitive flexibility, and communication skills among auditors to improve disclosure quality. Organizations should also create supportive environments that reduce pressure-induced bias and encourage

skeptical, independent judgment. Strengthening these psychological and environmental factors will contribute to more reliable board activity disclosures and enhanced stakeholder trust.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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