The Influence of Analytical Intelligence on the Internal Auditor's Skill to Evaluate Risks.: Evidence from Iraq

Abdulrasool Abdulabbas Sahib¹, Asaad Mohammed Ali Wahhab²

¹² College of Administration and Economics, University of Kerbala, Iraq

abid.alrasool@uokerbala.edu.iq, asaad.m@uokerbala.edu.iq

Abstract. The study aims to improve the reality of internal auditing in Iraq by employing analytical intelligence after determining its impact and its relationship to the internal auditor's ability to assess risks and to include this evaluation in the auditor's report, which must be of a high level of skill to achieve the highest level of professionalism and stay abreast of developments in the profession. Review through the application of international auditing standards, and to achieve the objectives of the study, a questionnaire was used, 240 of which were distributed to a sample of internal auditors, and 220 of which were returned for analysis to measure the correlation and influence relationship between the variables of the study, and it was determined that successful intelligence has an apparent effect and relationship. Positive in enhancing the ability of internal auditors to assess risks, as the value of the correlation between the first independent dimension (analytical intelligence) and the power of the internal auditor to assess risks reached 0.275, which is a positive value with significant significance at the 5% level, and that analytical intelligence influences positively and significantly at the 5% level in the internal auditor's ability to assess risks by 0.18 if the internal auditor has a high level of analytical intelligence.

Keywords. analytical intelligence, Internal Auditor skill, evaluate risks

1. Introduction

The Iraqi economic units in the public and private sectors suffer from poor internal audit performance and a lack of scientific and practical experience, as demonstrated by numerous studies, including the survey by Abdulhussein et al. (2023), which negatively impacted the performance of those departments entrusted with the task of internal audit in particular and the performance of the economic units in general, resulting in the failure to complete the tasked audits. One of the motivations for conducting this research was to demonstrate and understand its impact on the auditor's ability to assess risks and the reality of internal auditing. In predicting, identifying, evaluating, and mitigating risks at the level of the organization and at the level of the work of the internal audit department, and in accordance with the international internal audit environment, and to the best of our knowledge, we were unable to find a study comparable to the current one, with the exception of the survey Sahib & Wahhab, (2023), which dealt with employing successful intelligence to improve the internal auditor's ability to assess risks.
2. Background

According to Babaei et al. (2016), the development of successful intelligence skills among students through a program based on these skills is possible, as the study discovered a low level of thinking skills among linguistically gifted students as well as inadequate care for linguistically gifted students, which negatively impacted their language excellence due to the loss of the appropriate environment for the superior and the right curriculum and teacher. Azid and Mohammed Ali (2020) examined the impact of a successful interactive intelligence unit on the analytical, creative, and practical thinking abilities of the University of Uttara Malaysia students. The University of Uttara Malaysia administered pre-and post-tests to 70 college students. Participants have been chosen. The respondents were arbitrarily divided into two groups: a control group and an experimental group. The test results demonstrated that the successful interactive intelligence unit increased the respondents' practical and creative analyses. In addition, Sahib & Wahhab's (2023) study found that internal auditors have access to the requisite skills, training, and credentials, such as certifications. This is the ability to work and be inventive in artificial intelligence, which qualifies them to become change agents in the contemporary accounting business environment. Moreover, by analyzing, evaluating, and interpreting the events, problems, and risks confronting the economic unit, strategies that foster creative and practical intelligence can contribute to an increase in academic achievement. Taking courses that emphasize these strategies can increase one's intelligence.

Ayvaz & Pehlivanli (2010) examined a sample of internal audit officials and accountants from 320 Turkish companies to determine the role of the internal audit function in risk management. The study concluded that the internal audit function positively utilizes risk management system information to evaluate activities' traditional risks. The internal audit function can provide advice and consultation on risk management activities. The study by Qiao (2021) examined the effect of company strategy on the level of corporate risk, the moderate impact of audit quality, and their relationship. The strategic choice of a company is positively correlated with the level of institutional risk; the more aggressive the company's strategy, the greater the institutional risk compared to audits.

2. Literature Review

2.1 Analytical Intelligence and Strategies

Analytical intelligence presupposes the capacity to collect, retain, modify, and manipulate data. In terms of devising plans and managing knowledge resources, it is thus closer to the concept of intelligence as a whole. Mental operations such as identifying, making decisions, and generating solutions are possible due to analytical intelligence, and this information enables locating the primary components that facilitate these mental operations. From allowing work on the cognitive representation of reality, modifying it, and passing it through processing that enables the response of Sternberg & Grigorinko (2019), either the goal of the strategy is to link current knowledge with prior knowledge or to encourage trainees or learners to learn independently and search for information on their own, and it includes the following: The subsequent questions: Saeedi and Huda (2017)

- What do I already know about the subject?
- What do I wish to learn about the subject?
- What did you discover?
- How can I get more information?

One of the most prominent educational applications of Ozels' theory is conceptual maps. The scientist (Novak) is the first to refer to this strategy in teaching, as it includes shapes,
charts, plans, and frames, which are visual forms that depict the study's or educational material's most essential main ideas. In an organized manner in which the information sequences from the most general to the most specific, from left to right and from top to bottom, and appears in circles or squares between which are horizontal and vertical straight lines that express the relationships that link these ideas Alwan et al. (2014), and that they help link new concepts. The knowledge structure of the learner or trainee assists in identifying the relationships between new concepts, comparing the similarities and differences between the concepts, and providing a focused summary of the concepts he has acquired Al-Khalili, (1996). Although the Think, Pair, and Share strategy is associated with active learning, it engages the students' prior knowledge of the educational situation or events. After solitary reflection and contemplation, each pair of students discusses and analyzes their proposed solutions to the problem. Then, another pair of students discusses the same concept and records what they conclude to form a single solution for the group Zaitoun (2007). This strategy encourages students to ask questions, discuss and exchange ideas, offer and receive assistance, investigate situations, and look for patterns and relationships in data. Nasr, (2003). As for the dialogue and discussion strategy, it refers to the exchange of opinions and ideas and the interaction of experiences between the teacher and the student, and it contributes to the development of analytical and critical thinking through the evidence provided by the student to support his answer during the dialogue and discussion, thereby placing the student at the centre of effectiveness. Instead of the teacher, it stimulates the learners' pondering Ali, (2007). In addition to training them in speech, conversation, and expression fosters a spirit of cooperation and responsibility among the learners, cultivates positive attitudes, and motivates and encourages them to learn from others. According to Abdel Rahman (2020), the fishbowl strategy is one of the small-group strategies that focuses on developing the learners' analytical, reflective, and critical thinking abilities. Leading learning and enhancing the exchange of conversation, perspectives, and dialogue among learners It also holds learners accountable for their individual and collective learning. It encourages the development of respectful listening skills, the acceptance of the opinions of others, and the responsibility of learners to acquire data on the subject of learning. Qatami (2013)

Based on what has been proposed about strategies that develop analytical intelligence, it can be concluded that these strategies can be used to enhance the ability of internal auditors to analyze and interpret problems, events, and risks experienced by the economic unit by providing practical training through courses about these strategies.

2.1 Internal audit risks in the business environment and the evaluation process

According to Nikolovskia, et al. (2016), The audit risk is the possibility that the financial statements as a whole are not accurately represented. Audit risk is the likelihood that auditors will miss material errors in financial statements. They must provide reasonable assurance that such defects do not exist. In the simplest terms, audit risk is a risk associated with financial statements; specifically, they are unrealistic and objective, and the auditor cannot detect this. According to Spira & Page (2004), the risk is the possibility of expressing an incorrect opinion on the financial statements under audit due to the auditor's incapacity to identify material errors in the statements on which he gives an opinion. Therefore, the negative impact on the integrity of these financial statements and the accounting data they contain. According to Al-Hijami (2015), the risk of misleading information in an account credit or group of transactions may be significant or, when combined with incorrect transactions in other credits or groups. The accounting or internal control systems can only prevent, detect, or correct it.
expeditiously. A further risk associated with internal audits is unethical behaviour on the part of the audit specialist due to the difficulty he may encounter in conducting correct work and auditing current transactions in the economic and regulatory spheres of the monetary unit. Both risks and the nature of the endeavour must be evaluated. Audit risk consists of control, discovery, and latent (latent) risk. Several factors influence these audit risks, including the number of operations conducted by a single individual, the number of operations that occur near the end of the year, the organizational complexity of the entity, and the number of transactions that occur near the end of the year. Yaqoob & Ali (2017) note that the auditor's inappropriate opinion on the financial statements is grossly distorted so that the auditor can express his opinion on the financial statements while designing the procedures to provide reasonable assurance that the financial statements have been correctly prepared. In all material respects, it does not contemplate the possibility of material misstatements that may not be detected due to the nature of the audit procedures or the internal control system's choices and inertia.

Additionally, he must expand his procedures in order to corroborate or refute this evidence when signs point in that direction. According to Ibrahim (2018), this may result in the auditor expressing an incorrect opinion when there are material errors in the financial statements. Audit risk consists of three components: inherent risk, control risk, and non-disclosure risk. It is evident from the preceding sentence that internal audit risks originate from material accounting errors. The inability of the internal auditor to detect them causes management to make irrational decisions. In order to determine the audit procedures required to verify each account balance or type of transaction, each element of the financial statements determines the level of risk associated with each account balance or type of transaction included in the financial statements.

2.2 The function of the internal auditor in internal audit risk management

According to Steven et al. (2022), it can clarify the internal auditor's role in risk management. Constructing a framework for business risks that prioritizes, organizes, and provides a common language for thinking about risks and a structure for making management decisions is challenging. According to Anette (2009), the two dimensions of risk are their potential impact on achieving objectives and their likelihood of occurrence. Additionally, measure it based at least on subjective experience. Additionally, response strategies can be categorized as follows:

a. Risk avoidance (higher probability and impact).

B. Risk mitigation by means of supervision and insurance.

c. Risk acceptance (lower probability, lesser impact).

Technology is utilized to facilitate the documentation of risks and controls, adherence to self-regulatory controls, and the production of management reports, according to Bougherra (2017). The internal auditor plays a crucial role in activating risk management. This role is an objective guarantee regarding the effectiveness of risk management activities to help ensure that significant business risks are appropriately managed and that the internal control system functions effectively, to avoid any activity that threatens the independence and objectivity of an internal audit, and to provide assurances. Regarding the development of risk management operations, Sheikhi (2018) reported that economic units seek to fully implement the internal audit model in order to manage audit risks efficiently and effectively by expanding the objectives of internal audit to include strategic objectives and auditing non-financial data in addition to financial data2017 while expanding Elements of risk assessment and presenting various concepts about these risks, as well as emphasizing the importance of a risk-based...
approach to audit risk management. It is evident from the foregoing that the internal auditor plays a crucial role in managing and evaluating audit risks by obtaining documents that demonstrate the methodology of the economic unit in managing its risks and ensuring this information and the comprehensiveness of operations, researching, reviewing, and re-evaluating basic information and sources on which management relied in risk management techniques to serve as a foundation to the auditor to ensure the validity of the operation.

2.3 Assess and identify risk management objectives.

Examining the risk management policy adopted by the economic unit and identifying the program's objectives constitutes the initial phase of evaluating the risk management program. (2014), and during this stage, a review process is conducted for the previously applied identification procedures; however, if some of the most significant risks to which the institution is exposed are overlooked, the auditor must identify the measures that can be used to address them and recommend the most suitable alternatives. In the event he was not previously identified, corrective measures should be suggested. Brody & Lowe (2010), as the internal auditor studies the alternatives that can be used to address each risk, and this stage should also include a review of the organization's handling of risks, such as preventing and minimizing their occurrence. (2020).

Evaluating past decisions regarding resolving each risk and confirming that the decision has been fully implemented. This step also involves examining loss prevention and financing measures. It should decide to review the risk management program, as loss prevention and control measures have been implemented. Effectively, Brahma (2014), and the risk management audit is typically given a formal character in the form of a written report detailing the results of the analysis, making recommendations for changes and modifications to improve the risk management program, and sending the report to senior management, the Board of Directors, and the Audit Committee (2016), and internal auditing has evolved from being a tool of internal control to becoming broader and more comprehensive. Regarding this, Al-Hadi and Hisham (2018).

Consequently, the internal audit's confirmatory and advisory functions contribute to the effective management of the economic unit's risks.

2.4 The Significance of international internal auditing standards in risk management and Assessment

Risk management evaluation and improvement are required for the economic unit's success and survival. The process of risk management begins with the identification and evaluation of the risks encircling the monetary unit, followed by the identification of potential threats and opportunities. Steven et al. (2022) clarified that the role that international internal auditing standards play in managing and evaluating risks could be clarified by assisting internal auditors through the management and the audit committee in conducting testing, evaluating, and recommending improvements in terms of adequacy and effectiveness. The implementation of risk management procedures and the creation of evaluations and reports on those operations. The internal audit must also identify and present the essential risks in the ordinary course of their duties and benefit from the management's opinion on the role of internal audit, which is determined by several factors, such as the organization's culture, the internal audit team's ability and skills, and the external environment. Porcuna et al. (2021)

An internal audit must examine, identify, and assess risks to conduct work along two primary axes. The first objective is directly supporting management through preliminary risk
management reports and advisory services. The second step is considering risk factors when devising an audit plan and concentrating and intensifying procedures in high-risk areas.

3. Methodology

3.1 Applied study methodology and Tools.

This study addresses the problem and its solutions in the following ways: objective testing of hypotheses, the achievement of goals, the presentation and identification of goals, significance, the putative solution to the problem, and its application method.

3.1.1 The Importance of Studying

View of what the internal audit departments in the economic units need from auditors with a high analytical ability that qualifies them to understand and interpret the current and future events of their units and assess the risks facing the work of these units, including the work of the internal audit departments themselves, as well as to keep up with the evolution of this profession. The internal talent possesses analytical intelligence, one of the dimensions of the theory of effective intelligence, and this is reflected in the growth of his analytical skills and facilitation of the risk assessment procedure.

3.1.2 The Study's Objective.

This study aims to: 1. advance the reality of internal auditing by employing a component of the theory of successful intelligence and allocating work and assignments to auditors based on their compatibility with one of the theory's dimensions or components. Developing the work of the internal auditor and keeping it in step with global advancements in the internal auditing profession.

3. Increasing the capabilities of the internal auditor and including his reports on risk assessment, thereby overcoming obstacles and enabling the internal audit department and senior management to confront, surmount, and mitigate those risks, as well as monitor and predict future risks.

3.1.3. The Study Problem.

The problem with the study rests in the following questions:

Does analytical intelligence influence the auditor's ability to assess risks?

Do you know if the internal auditor's risk assessment report was submitted to senior management?

Do the internal audit departments of Iraqi economic entities employ personnel with experience and expertise?

4. Are the Iraqi economic entities interested in continuing education and training for the internal audit team, and do they support audit departments with highly educated personnel?

3.1.4. Study Hypotheses

This study was based on two main hypotheses to achieve the study's goals and discover solutions to the study's issues.

The first hypothesis is: "There is a significant correlation at the level of 0.5 between analytical intelligence and the internal auditor's ability to assess risks." It consists of three sub-hypotheses:

a. There is a statistically significant correlation between analytical intelligence and professional competence of 0.5.

The correlation between analytical intelligence and continuous training is statistically significant at 0.5.

c. Analytical intelligence and international internal auditing standards implementation have a statistically significant relationship ($r = 0.5$).
The second hypothesis states, "There is a statistically significant effect relationship at the level of 0.5 between analytical intelligence and the auditor's ability to assess risks."

4.1. Apparent validity of the study tool:
For the purpose of preparing the study scale (questionnaire), the researchers reviewed a variety of literature on the subject of the study. However, he needed help locating an existing scale authorized by previous studies, so he formulated the scale phrases and then presented them to specialists in the field of specialization.

4.2. Calculating internal consistency:
The researchers utilized the Pearson correlation coefficient to guarantee the internal consistency between each study dimension and its constituent questions.

Table 1 displays the values of the correlations between the questions that comprise the analytical intelligence variable, which reflects the variable's internal consistency.

Table 1: The values of the correlations between the questions that comprise the analytical intelligence variable.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation value</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>intelligence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.395</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>0.579</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>0.712</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>0.654</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>0.533</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>0.459</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>0.612</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>0.614</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>0.610</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>0.567</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>0.609</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>0.700</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>0.585</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>0.605</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>0.090</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>0.570</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>0.450</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>0.530</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>0.327</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>0.345</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>0.412</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>0.416</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

4.3 Analytical Description of Analytical Intelligence.
The arithmetic means for analytical intelligence was 3.44 when weighted. The researcher infers that the auditors have a high level of analytical intelligence, which is cause for
optimism regarding their analytical and evaluative skills. The average response intensity for the aforementioned dimension was 68.77%. It should be noted, however, that there is a divergence in their responses regarding the dimension, as the standard deviation value reached 1.07, indicating a lack of agreement on specific queries. Paragraph 8, which stipulated the simplicity of conducting a critical analysis of the performance of the economic unit and its evaluation using a weighted arithmetic mean of 3.69 and a standard deviation of (1.0), contributed the most to strengthening this dimension. This demonstrates the reliability and consistency of the auditors' responses to this paragraph. It should be observed that the intensity of her response was satisfactory, 73.82%. It attained the lowest weighted arithmetic mean (3.35), with a standard deviation of 1.21. Even though this paragraph achieved the lowest arithmetic mean within the dimension, the sample's responses fell within the moderate level, with the intensity of the paragraph's response being medium at a rate of (66.91%), indicating that the sample recognizes the importance of experience, practice, and skill in the auditor's work. A breakdown of the sample responses to the analytical intelligence dimension is provided in the table below.

4.4. Hypothesis testing:
The first hypothesis is "There is a significant correlation at the level of 0.5 between analytical intelligence and the internal auditor's ability to assess risks.", Table (2) below shows the result of testing the first hypothesis.

<table>
<thead>
<tr>
<th></th>
<th>Professionalism</th>
<th>Continuous Learning</th>
<th>Implementation of international Internal Auditing Standards</th>
<th>Ability of the Internal Auditor to assess risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical Intelligence</td>
<td>0.370</td>
<td>0.177</td>
<td>0.027</td>
<td>0.275</td>
</tr>
<tr>
<td>N.</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td>220</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
<td>0.065</td>
<td>0.779</td>
<td>0.004</td>
</tr>
</tbody>
</table>

The following is derived from Table (2):

The value of the correlation between the independent variable (analytical intelligence) and the first sub-dependent variable (professional competence) was 0.370, which is a positive and statistically significant value at the level of 0.5. The researcher infers from this result that the auditor's analytical intelligence can contribute to the enhancement of his professional abilities.

The correlation between the independent variable (analytical intelligence) and the second dependent variable (continuing education) was 0.177, which is positive but not statistically significant at the 5% level. Based on the above findings, the researcher concludes that the auditor's analytical intelligence can only partially contribute to the internal auditor's capability and desire to pursue further education.

The correlation coefficient between the independent variable (analytical intelligence) and the third sub-dependent variable (application of international internal auditing standards) was 0.027. Even though it is a positive value, it is tiny and not statistically significant at level...
e) a. From the above result, the researchers infer that the auditor's analytical intelligence cannot contribute to or be associated with the application of international internal auditing standards. This is logical, as the application depends on the state's general policies and the professional bodies’ strength and effectiveness in imposing the process of applying those standards and adhering to them with the state's authority.

In general, the correlation between the first independent dimension (analytical intelligence) and the internal auditor's risk assessment ability was 0.275, which is a positive and statistically significant value at the 5% level, indicating that the analytical intelligence of the internal auditor can contribute to his risk assessment ability. The researcher concludes that the first sub-hypothesis is supported based on the abovementioned four aspects.

The second hypothesis: “There is a statistically significant effect relationship at the level of 0.5 between analytical intelligence and the auditor's ability to assess risks”. The following table shows the second hypothesis test:

**Table (3) Testing the second hypothesis.**

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>ability of the internal auditor to assess the risks</th>
<th>Calculated for Regression</th>
<th>Regression model</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variable</td>
<td>a</td>
<td>B</td>
<td>2.97</td>
<td>8.82</td>
</tr>
<tr>
<td>Analytical Intelligence</td>
<td>3.08</td>
<td>0.18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Observing the previous table, the following are visible:

1. Analytical intelligence positively impacts the internal auditor's capacity to evaluate the risks and the amount of If the interest of internal auditors in enhancing their analytical intelligence increased by one unit, the result would be 0.18.

2. The effect specified in paragraph (1) is a significant effect at the level (0.5) because the calculated value of (t) was (2.97), which is a significant effect at the level in question.

3. The significance level of the estimated regression model was measured by the value (8.82) of F, which is significant at the level of (5%).

4. The value of the determination coefficient (R²), which measures the explanatory power of the regression model, was (0.08), indicating that the analytical intelligence explains 8% of the changes in the internal auditor's ability to assess risks, with the remaining percentage attributable to factors not included on the form.

From the foregoing, the researcher infers the acceptance of the first sub-hypothesis derived from the second central hypothesis, namely that analytical intelligence influences the internal auditor's ability to assess risks and that the estimated regression equation will take the following form:

(\( \text{The capacity of the internal auditor to evaluate risks} = (3.08 \text{ plus } 0.18) \text{ analytical savvy} \))
5. Conclusion

After reviewing the literature and statistical analysis, the researcher found a set of results, the most important of which the researcher reached a stage of conclusions, the most important of which are:

Successful intelligence has a clear impact and a positive relationship between it and raising the ability of internal auditors to assess risks, as the value of the correlation between the first independent dimension (analytical intelligence) and the ability of the internal auditor to assess risks reached 0.275, which is a positive value with significant significance at the level of 5%), and that analytical intelligence affects positively and significantly at the level of 5% in the ability of the internal auditor to assess risks and by an amount. (0.18) If the interest of the internal auditors in improving their analytical intelligence increased by one unit because the value of (t) calculated amounted to (2.97), which is a significant effect at the aforementioned level, and that this effect and relationship is reflected in turn on the quality of the work of the internal audit departments, focusing on taking into account interest Applying international internal auditing standards and the need for continuous training, especially on strategies for learning and developing the distinctive intelligence of the personality of each internal auditor. This means that the analytical intelligence of the internal auditor can contribute to enhancing his ability to assess risks.

References


Sternberg, R., & Grigorinko, E., (2019), “Teaching for Successful Intelligence:


