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## **The Influence of the External Auditor's Critical Thinking Skills on the Report's Quality**

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**Abstract.** The main aim of this study was to determine a relationship between the critical thinking skills of auditors and the caliber of their reports. The objective was to improve the auditors' expertise in this cognitive field, evaluate its effect on their professional competence, and analyze its influence on their capacity to express opinions. A descriptive-analytical technique was utilized to accomplish the study's goals. The research hypotheses were evaluated using simple linear regression analysis, precisely the least squares method. This goal was achieved using the SPSS v.26 program. To meet the research inquiries, the researchers developed a questionnaire with two dimensions to collect data. The core framework for the analytical thinking of an external auditor comprises four key aspects: inductive reasoning, deductive reasoning, exploratory thinking, and problem-solving thinking. The study sample comprised 205 individuals, including 113 auditors from the Federal Board of Financial Supervision and 92 auditors from auditing offices and enterprises in Iraq. The study's findings suggest a positive association between the independent variable, critical thinking skill, and the dependent variable, the quality of the report. This is because most auditors in the Board of Financial Supervision affirm that auditors from the federal and audit offices demonstrate curiosity and apply professional skepticism at every stage of the audit process. This exemplifies their aptitude for employing inductive reasoning and constructing. Nevertheless, they can produce inventive concepts that efficiently tackle work-related difficulties. Furthermore, the task of identifying appropriate solutions is complex, often necessitating the use of electronic programs to tackle challenges faced during the auditing of electronic systems effectively. The respondents agreed that the auditor's proficiency in critical thinking will improve the quality of the report he produces.

**Keywords.** External Auditor's, Critical Thinking Skills, Report's Quality

### **1. Introduction**

The auditing profession enjoys a strong reputation worldwide due to its adherence to ethical and professional standards that are unparalleled compared to other professions. Local and international professional associations must regularly update their standards to address the issues that professionals face as a result of fraudulent activities. Simultaneously, academic researchers are expected to collaborate with their colleagues in the auditing profession to generate impactful contributions in addressing present or potential future challenges. Therefore, this research aims to assess the cognitive abilities of Iraqi external auditors working in the Federal Financial Supervision Office and audit offices. Specifically, it seeks to evaluate their

level of critical thinking and examine the extent to which their current skills in this area influence the quality of their reports. Critical thinking is the capacity to discern an argument's main components, underlying assumptions, and the connections between them and make reasoned conclusions based on the facts (Nussbaum et al., 2021). This form of thinking entails collaborative engagement with individuals to devise answers for intricate challenges without depending on preconceived notions or opinions from others regarding the subject matter. The citation for this information (Mubarok et al., 2023). Additionally, it necessitates proficiency, comprehension, and the capacity to articulate facts and theories discerning and demanding. Proficiency at a sophisticated level is necessary (Mathiasen & Andersen, 2020), and cognitive approaches are crucial. Furthermore, it impacted the auditor's decision-making regarding the suitable opinion for the audit process. The methodologies also demonstrate the significance of individual variances and diverse cognitive approaches of auditors, which will be seen in the caliber of the audit outcomes (Rezaei et al., 2023). Due to the fast-paced advancements in information technology and the potential dangers associated with inaccuracies caused by computers, there is a growing necessity to enhance auditors' abilities in identifying fraud and significant mistakes (Ridzuan et al., 2022). The auditing literature reveals various elements that impact the quality of the auditor's report. To address information inequality, one can employ various strategies such as enhancing managerial supervision, curbing self-serving behaviours of managers, or enhancing the quality of information dissemination to ensure accurate and valuable evidence is obtained for forming opinions on the outcome of activities (Mostafa, 2023). These considerations also impact auditors' professional obligations, influencing their expertise and proficiency. In order to perform audit jobs effectively, auditors must possess adequate expertise in audit procedures, a comprehensive grasp of accounting principles, a thorough awareness of the company's operations, and a broad comprehension of the legal and regulatory framework (Noch et al., 2021). This study aims to yield findings that will enhance the development of auditors' behavioural and professional competencies.

## **2. Background**

The study conducted by (Poorsamiei et al., 2020) focused on creating a critical thinking framework for auditors to assess the financial performance of employers using comprehensive interpretive structural analysis (TISM). This research employs a hierarchical model to analyze the correlations between indicators by conducting pairwise comparisons, considering the population's participation. The evaluation of accounts based on the substance of documents and information, as well as the thorough examination of details of the description of each record in the company's financial statements, is widely acknowledged as a crucial measure of cognitive ability. The study by (Oladejo et al., 2020) examined the factors that influence the quality of external audits and their impact on the level of trust consumers have in the financial reports of specific deposit money banks (DMBs) in Nigeria. The conclusion was that auditors should be well compensated to have enough resources to carry out thorough audits to enhance the production of high-quality reports. The study by (Ghadimi et al., 2021) compared the impact of critical thinking on fraud risk assessment across auditors in the public and private sectors. This research was applied in nature, focusing on the purpose, and utilized quantitative methods, specifically descriptive analysis, to analyze data. The researchers determined that critical thinking is significant in evaluating fraud risks among public and private auditors. (León et al., 2023) conducted a study on the design of a learning methodology at CAGEI College for students in the accounting and auditing profession. The aim was to develop a methodology that promotes exploration, construction, and connection of knowledge and enhances critical and

creative thinking skills. The study also focused on applying an educational tool to facilitate the development of activities related to the accounting and auditing profession. The teacher implemented instructional tactics at both the classroom and extracurricular levels to effectively engage pupils. Task: A total of 66 questionnaires were distributed to teachers in the accounting and auditing profession, and 12 interviews were conducted with entities from the Faculty of Administrative Sciences, Business Administration, and Information Technology. Additionally, 250 questionnaires were given to students of all levels. Various elements were examined to create a learning methodology for the research, which aimed to enhance the abilities of exploring, constructing, and connecting knowledge and fostering critical and creative thinking. Research has demonstrated that when students collaborate in teams, they experience enhanced learning outcomes, greater job satisfaction, improved interpersonal relationships, increased self-esteem, and valuable values and social skills that are particularly advantageous in team-based settings. By engaging in collaborative exploration, students develop proactive thinking abilities, which, compared to individual and competitive approaches, leads to improved performance by facilitating a deeper understanding of the phenomena described. The study conducted by (Sahib Wahhab, 2023) found that internal auditors possess elements of implicit intelligence theory that can significantly enhance their ability to evaluate risks. This suggests that the dimensions of implicit theory can be utilized to enhance the effectiveness of internal auditors.

The passage above highlights that the cultivation of critical thinking, coupled with self-regulation and an inquisitive, attentive, sincere, and adaptable mindset, sets apart professionals who are equipped to tackle the demands of their field in a fast-paced world. In this context, auditors must possess exceptional thinking abilities to fulfill their professional responsibilities effectively. Prior research has substantiated the theoretical component of the current study by drawing upon a robust body of research that examined the variables under investigation. The objective was to discover the practical element of determining the standards, analysis methodologies, and statistical and mathematical models employed in prior research for data analysis and processing to ascertain the most effective approach. The criteria and procedures were highly suitable for the variables of the investigation. This study is among the limited number of studies conducted on external auditing in the Iraqi context.

## **2. Literature Review**

### **2.1 The philosophy of critical thinking**

Critical thinking aids in scrutinizing inconsistencies, questioning presuppositions, and assessing information from sources that may not directly connect to the current subject. Therefore, it is a mental process encompassing abilities to analyze, assess, deduce, and resolve problems. Formulating and evaluating insights from it necessitates a methodical and structured thinking process involving evidence-based assumptions and logical reasoning that can be substantiated (Sari et al., 2021). According to the American College of Nursing, critical thinking encompasses the processes of questioning, analyzing, synthesizing, interpreting, and employing inductive reasoning. The individual who appreciates critical thinking must possess deductive reasoning, intuition, practicality, and creativity (Susan et al., 2021). They should comprehend the logical connections between concepts and express ideas concisely and precisely. Additionally, they should pose essential questions and articulate problems clearly and comprehensively while generating novel, valuable, and pertinent ideas to accomplish the given task. Moreover, critical thinking necessitates using advanced cognitive abilities to dissect and assess information (Gafour & Gafour, 2020). Additionally, psychologists and researchers strive

to integrate critical thinking with creative thinking (Alghafri & Hairul, 2014). Teaching individuals to think critically is crucial to advancing scientific and technological development (Cahit, 2019). This is because it sets itself apart using analysis and logical reasoning to examine and understand things. Selecting the most optimal choice from multiple alternatives is objective (Gupta, 2011).

## **2.2 Acquiring knowledge through the lens of critical thinking**

Critical thinking necessitates comprehending information and the capacity to articulate knowledge and theories in a critical manner that depends on introspective and theoretical thinking, which is frequently more challenging and time-intensive than memorization (Mathiasen & Andersen, 2020). Critical thinking converts the passive process of acquiring knowledge into a cognitive activity, resulting in enhanced knowledge content and a more profound comprehension of said subject. This cognitive process provides individuals with accurate and satisfactory interpretations of the discussed issues. It also enables him to scrutinize concepts, enhancing their comprehensiveness and accuracy. In essence, this cognitive approach aids individuals in making rational choices in their day-to-day existence and safeguards them against impulsive decision-making and adopting radical viewpoints (Rarita, 2022). Developing this skill requires concentration, knowledge acquisition, generating ideas, and diligent effort, but this occurs gradually over several years. In order to cultivate exceptional cognitive abilities, an individual must initially assess their existing cognitive capacity and subsequently engage in deliberate efforts to enhance it. Societal forces can shape an individual's beliefs since they may perceive certain advantages in adopting illogical beliefs without fully comprehending their rationale (Razzakberdiyevna, 2022). Cognitive processes can be efficacious in resolving uncertainties but far less efficacious in generating uncertainties, albeit not entirely ineffective. Doubt can often arise due to an open mind, and one of the benefits of being open-minded is that it allows us to directly engage with the viewpoints of others (Southworth, 2022). Hence, this form of cognition is crucial in employment (Franco et al., 2018). Organizational culture is the most effective means of achieving knowledge management and organizational innovation. This is because organisational culture establishes the values, beliefs, and work systems that can either facilitate or impede the processes of knowledge creation and knowledge exchange within the company. It is a crucial factor (Al-Bahussin & El-Garaihy, 2013). Organizational culture is crucial in facilitating effective knowledge management, encompassing the creation, transfer, and application of new and existing knowledge (Lam et al., 2021). It is regarded as the underlying framework of ordinary perception, thinking, feeling, and reaction, often deeply ingrained in the human mind and largely unnoticed (Szczepańska, 2014). According to Lizarzaburu (2023), organisational culture and knowledge management moderately influence the connection between business capabilities and the business level. An important aspect of establishing and enhancing knowledge management is focusing on organizational culture, which involves reevaluating and using the strengths of the existing culture. Developing an organizational culture that supports knowledge management is crucial for effectively applying knowledge and achieving optimal performance. The article "Efficiency and Innovation in the Organisation" (De Araujo, 2020) explores the concepts of effectiveness and creativity within the organizational context. Examining the ideas of critical thinking and knowledge management allows for identifying linkages across three dimensions: relationships (interactions between individuals and organizations involved in the critical thinking and knowledge process). Critical thinking and knowledge management objectives are interconnected with the advancement and growth of individuals, organizations, and society. These objectives possess comprehensive and

ambiguous characteristics while being practical and highly specific (Indrašienė et al., 2021). The association between critical thinking and knowledge acquisition through comprehension and justification has emerged due to their inclusion in cognitive abilities. These abilities encompass acquiring knowledge to analyze, interpret, and draw conclusions from information to make informed decisions (Hidayati et al., 2020). It is important to recognize that critical thinking is not a spontaneous process but necessitates the cultivation of advanced cognitive skills. Moreover, information has a direct influence on critical thinking, thus affecting perceptions of behavioral control and critical thinking (Dharmastuti et al., 2020). Critical thinking encompasses more than just developing cognitive capacities to specific levels. Varied in intricacy and assimilation of attitudes and organizational procedures (Parra et al., 2021). Knowledge relies on preexisting knowledge that can be expanded upon, and creating knowledge involves enhancing previous knowledge through innovation. Consequently, as our knowledge expands, our capacity to cultivate and convey it to others grows (Lee & Hawamdeh, 2002). Moreover, the concept of critical thinking encompasses three components: critical thinking abilities, critical thinking acts, and knowledge. Demonstrating critical thinking skills is achieved by strategically employing cognitive talents (Yeh, 2012). Furthermore, a symbiotic connection exists between knowledge and critical thinking, wherein acquiring knowledge and applying critical thinking skills complement and enhance each other within a specific context (Mathiasen & Andersen, 2020).

### **2.3 The Correlation between Auditors' professional Skepticism and Cognitive Thinking**

Auditors frequently demonstrate professional skepticism by actively pursuing investigations and refraining from making judgments until they have gathered adequate and relevant evidence. Professional skepticism encompasses the critical and impartial mindset auditors must retain during the audit process to uphold a neutral stance toward the client (Bongcales, 2022). This pertains to individuals who possess cognitive capacities encompassing creativity, emotionality, multidimensionality, and unidimensionality and are responsible for developing thinking methodologies. The cognitive processes employed by auditors significantly impact their judgment, decision-making, and auditing practices, underscoring the significance of individual variances and diverse thinking approaches in determining the quality of audit outcomes (Rezaei et al., 2023). Professional skepticism is an essential audit priority that must be considered at every stage of the audit process. Auditors must prioritize professional skepticism during the preparation stage of an audit since the human mind becomes more engaged and alert when faced with doubt. This involves gathering evidence and seeking feedback (Rahimi et al., 2023). Professional skepticism is seen as a rigorous assessment and investigation of the mind about audit evidence (Johari et al., 2022). A suspension of judgment is the aptest representation of skepticism as a rational stance. Professional skepticism should be marked by impartiality and avoid inclinations toward skepticism and distrust. Undoubtedly, it is universally acknowledged that including reasonable doubt is an essential component in conducting an audit investigation, and this perspective is endorsed by standard-setting agencies (Vargas & Sáenz, 2023). Various cognitive approaches have been recognized. An individual will employ a particular repertoire of strategies based on the given circumstances. Nevertheless, each person will possess the style that they rely on. More often than other styles, practical thinking encompasses critical thinking and professional skepticism. These cognitive abilities benefit problem-solving, decision-making, and crisis prevention in the workplace (Urboniene et al., 2013). ISKANDAR et al. state that an individual's skeptical mentality is a feature that has

multiple dimensions. The six components include withholding judgment, maintaining a skeptical mindset, pursuing knowledge, comprehending interpersonal connections, possessing self-assurance, and demonstrating self-determination. The impact of each factor on the level of professional skepticism among auditors is anticipated. Engaging in various aspects of professional skepticism is anticipated to heighten skepticism, hence diminishing institutional violations (ISKANDAR et al., 2016). Professional skepticism is a complex personal trait that has multiple dimensions. Due to the absence of a universally accepted method for measuring professional skepticism, it is not easy to draw definitive conclusions from accounting research studies. Hence, it is imperative to comprehend that all audit entities, including audit firms, individual auditors, staff members, and the audit profession, must contribute to resolving the issue. The proposed solutions may fail to tackle the root causes, and the expenses incurred may surpass the advantages gained (SELİMOĞLU & ÇALIŞKAN, 2019).

#### **2.4 Critical thinking learning theory and auditor skepticism**

Acquiring proficiency in critical thinking is crucial for auditors in the audit setting as it enables them to assess audit evidence effectively. The auditor's skepticism does not imply a lack of trust in the auditee. Instead, it signifies the auditor's need to scrutinize the available audit evidence and maintain a questioning mindset. The auditor must exhibit this disposition as they must gather and assess evidence or information. Furthermore, the auditor must assess the extent to which the audit evidence aligns with the prescribed criteria for that audit evidence. When auditors assess this data, it necessitates the use of critical thinking. The citation (Apandi et al., 2020) refers to a publication by Apandi and colleagues in 2020. Auditors must consistently employ skepticism in every interaction, making critical thinking a vital component of the audit process. The auditor must refrain from supposing that the auditee is engaging in deception. However, this does not imply that the auditor accepts or questions the events occurring within the audited organization (Apandi & Sofia, 2022). We can understand skepticism more comprehensively by conceptualizing professional skepticism as a mindset and attitude. According to (Nolder Kadous, 2018), evaluating skepticism involves considering both process measures, which assess cognitive processing, and outcome measures, which evaluate cognitive and affective aspects using scales. Practical thinking is the amalgamation of critical thinking and professional skepticism. By employing critical thinking, auditors may make informed decisions, resolve existing company issues, and prevent potential fraud.

Skepticism is essential to the auditor's critical thinking process, particularly when examining financial and non-financial data. It is widely agreed that cognitive biases can impact skepticism in professional auditing, regardless of the constantly evolving principles and regulations established by auditing regulators (such as the European Securities and Markets Authority in the European Union). Furthermore, both the Securities and Exchange Commission in the European Union and the United States strive to enhance the sceptical abilities of professionals. It is essential to recognize that the belief that decision-making is always rational needs to be corrected. This phenomenon can be attributed to the existence of cognitive biases. Cognitive biases are often overlooked factors in the decision-making process conducted by auditors. Nevertheless, its capacity to weaken the efficacy of the conventional foundations of skepticism is highly significant (Almeida, 2023). Auditors must uphold their independence and exercise objectivity and skepticism, as these qualities are essential to professional skepticism and objectivity, which are distinctively emphasized in the field. Proficiency and expertise in creating decisions to enhance the worth within the economic entity (DeZoort & Pollard, 2023).

### **2.5 Developing the auditor's critical thinking skills**

Auditors should recognize the significance of critical thinking and develop their critical thinking skills from the outset, particularly considering the current times, while teaching practical information. Hence, auditors must alter their conventional notions of critical thinking and recognize the significance of this cognitive skill. In addition, they need to acquire expertise in critical thinking. (Zhou, 2018) Enhancing auditors' critical thinking skills can bolster their capacity to detect fallacious evidence by honing their ability to recognize and synthesize incongruous information across various audit domains. The auditor can enhance their cognitive capacity to address complex issues and develop a heightened resilience to stress and strain. Moreover, the assimilation of information takes place by employing posing inquiries. Furthermore, it encourages auditors to regard professional performance with doubt and skepticism during their audits (Poorsamiei et al., 2020). Moreover, the growing emphasis on conflicting evidence should encourage auditors to think critically about unresolved matters, hindering management's ability to meet its projections. This, in turn, leads auditors to make future assessments and evaluations (Austin et al., 2020). It is feasible to augment the cultivation of critical thinking in auditors, enabling them to boost essential skills and analytical talents such as interpretation and problem-solving (DÍAZ, 2023). While critical thinking can certainly expose flaws or faulty reasoning, it also serves a crucial function in facilitating collaborative efforts to identify sound justifications and accomplish productive objectives. Individuals who possess critical thinking skills can thoroughly examine and analyze potential biases. According to the perspective on critical thinking abilities, these skills encompass cognitive processes and encourage individuals to engage in reflective thinking when addressing challenges (Zamroni et al., 2020). Critical thinking necessitates the examination of logical reasoning to enhance cognitive abilities, and possessing critical thinking skills is vital for making deliberate, contemplative, and logical judgments regarding beliefs or practical issues that may arise in the future. The significance of critical thinking has increased due to the heightened complexity of contemporary life's core challenges (Anggraeni, 2021).

### **2.6 The factors influence the level of report quality.**

The report's quality relies on the capacity to establish a mechanism that reduces information asymmetry through enhanced management control or improved information flows. This ensures the acquisition of suitable and relevant evidence for forming an opinion (Mohamed, 2023). Several factors influence auditors' capacity to effectively perform their professional duties, such as their expertise, experience, and competence to execute audit tasks. Auditors must possess adequate proficiency in audit procedures, a comprehensive comprehension of accounting principles, a satisfactory understanding of the company's operations, and a thorough awareness of the legal and regulatory framework (Rochmatilah et al., 2021). The autonomy of the external auditor is a crucial aspect when assessing the caliber of audit services. The auditor's professional experience will also influence the quality of the report. Auditors with extensive experience are regarded as having the highest level of performance. They possess a more remarkable aptitude for uncovering and comprehending economic occurrences within the customer's internal and external surroundings and investigating the origins of fraudulent activities (Arie & Suryandari, 2021). Auditors encounter a multitude of intricate and interrelated tasks. The quality of their report is influenced by the complexity of the companies they audit. The more complex the audit task, the more it affects the report's quality, and vice versa. However, the auditors must not allow the high complexity of a company's operations to hinder their ability to fulfill their required duties. (Piter et al., 2020)

Based on the information provided, we observe a primary correlation between the audit process's effectiveness and the report's accuracy. Enhancing the caliber of audit offices will result in improved quality of the reports they produce, as their market reputation is derived from their adherence to international or local standards and their continuous efforts to enhance the effectiveness of their work teams.

### **3. Methodology**

#### **3.1 Research Importance**

The study's significance lies in the contribution of critical thinking to the external auditor's cognitive process, particularly in handling contradictory evidence and deriving enough relevant objective evidence for evaluating an element of the accounts. This study will enhance the effectiveness of auditors at the Financial Supervision Bureau and audit offices, thus improving their performance and ultimately elevating the quality of their reports.

#### **3.2 Problem of the Research**

Auditors globally encounter numerous obstacles because of fraudulent activities conducted by personnel or management, resulting in the manipulation of the financial statements released by these corporations. Suppose the auditor is unable to identify these investments and decisions. In that case, it will impact stakeholders, leading to a detrimental effect on the reputation of the entire auditing profession. Hence, it is imperative to consistently endeavor to enhance and refine the competencies of auditors in both professional and behavioural domains to effectively confront these problems and propel the auditing process towards superior quality. Hence, the research inquiry might be stated as follows:

Is there a correlation between the external auditor's capacity for critical thinking and the quality of the report?

#### **3.3 Objective**

This study aims to examine the association and correlation between the critical thinking abilities of external auditors and the quality of their reports. Additionally, the study aims to assess the extent to which Iraqi auditors in the Federal Financial Supervision Bureau and auditors in private sector audit offices and companies possess these skills. Furthermore, the research seeks to identify auditors' most significant challenges during the audit process and propose strategies to enhance their critical thinking skills. Their cerebral approach will be evident in the meticulousness of the audit process, guaranteeing the superior quality of their report.

#### **3.4 Hypotheses**

Based on the study question, the hypotheses are:

H<sub>0</sub>: The Critical thinking of the auditor significantly affects the report's quality.

H<sub>1</sub>: There is no significant effect of the auditor's critical thinking on the report's quality.

### **4. Measuring the reliability of the questionnaire for study variables and testing hypotheses**

#### **4.1 Measuring the reliability of the questionnaire for study variables.**

The researchers assessed the reliability of the questionnaire questions by computing the reliability coefficients using the split-half method. The obtained results are as follows:

**Table 1: Split-half reliability- Critical thinking of the auditor.**

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	.965
		N of Items	8 <sup>a</sup>
	Part 2	Value	.964
		N of Items	8 <sup>b</sup>
	Total N of Items		16
Correlation Between Forms			.984
Spearman-Brown Coefficient	Equal Length		.992
	Unequal Length		.992
Guttman Split-Half Coefficient			.990
a. The items are: QUST25, QUST26, QUST27, QUST28, QUST29, QUST30, QUST31, QUST32.			
b. The items are: QUST33, QUST34, QUST35, QUST36, QUST37, QUST38, QUST39, QUST40.			

The table above indicates that the reliability rate of the independent variable is that Spearman's coefficient is 99.2% and Guttman's coefficient is 99%. The two ratios are very close to the reliability coefficients for all questionnaire items.

**Table 2: Split-half reliability- Report quality.**

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	.899
		N of Items	7 <sup>a</sup>
	Part 2	Value	.811
		N of Items	6 <sup>b</sup>
	Total N of Items		13
Correlation Between Forms			.785
Spearman-Brown Coefficient	Equal Length		.879
	Unequal Length		.880
Guttman Split-Half Coefficient			.750
a. The items are: QUST54, QUST55, QUST56, QUST57, QUST58, QUST59, QUST60.			
b. The items are: QUST60, QUST61, QUST62, QUST63, QUST64, QUST65, QUST66.			

The table above indicates that the Spearman coefficient for the second axis, following the implementation of semi-filtering, is 88%, while the Guttman coefficient stands at 75%. Both rates are below the reliability rates for all questionnaire questions but are statistically acceptable as they exceed 70%.

**Table 3: Cronbach's Alpha to test the reliability of the questionnaire.**

Variable	Variable Name	Number of Questions	Cronbach's Alpha
Independent	Critical thinking of the auditor	16	%.96
Dependent	Report Quality	13	%.89

The table above displays the high-reliability coefficients for all dimensions of the questionnaire. The reliability coefficient for all axes surpasses 70%, indicating a statistically significant value.

**Table 4: Internal consistency of the non-independent variable - auditor's critical thinking.**

Correlations			
N	Sig. (2-tailed)	Pearson Correlation	Item
205	.000	.907**	x1
205	.000	.860**	x2
205	.000	.902**	x3
205	.000	.884**	x4
205	.000	.893**	x5
205	.000	.940**	x6
205	.000	.927**	x7
205	.000	.955**	x8
205	.000	.877**	x9
205	.006	.954**	x10
205	.000	.927**	x11
205	.000	.932**	x12
205	.000	.954**	x13
205	.000	.900**	x14
205	.000	.930**	x15
205	.000	.821**	x16
*. Correlation is significant at the 0.05 level (2-tailed).			
**. Correlation is significant at the 0.01 level (2-tailed).			

The table above indicates that all correlation coefficients between the non-independent variable, the auditor's critical thinking, and the questions comprising it were statistically significant. This is evident from the fact that all values of Sig. (2-tailed) were less than 0.05. All these values were positive, ranging between 0.821 and 0.954, indicating a strong positive correlation between each item and its corresponding variable. This reflects the tremendous internal consistency among the items of this variable.

**Table 5: Internal consistency of the dependent variable items - report quality.**

Correlations			
N	Sig. (2-tailed)	Pearson Correlation	Item
205	.000	.891**	x1
205	.000	.861**	x2
205	.000	.447**	x3
205	.000	.721**	x4
205	.000	.618**	x5
205	.007	.762**	x6
205	.000	.936**	x7

205	.000	.646**	x8
205	.000	.669**	X9
205	.000	.706**	X10
205	.000	.547**	X11
205	.000	.372**	X12
205	.000	.264**	X13
*. Correlation is significant at the 0.05 level (2-tailed).			
**. Correlation is significant at the 0.01 level (2-tailed).			

It is noted from the table above that all correlation coefficients between the independent variable, the quality of the report, and the questions it consists of were statistically significant values, as all values of Sig. (2-tailed) were smaller than 0.05. All these values were positive, ranging between 0.264 and 0.936, which indicates a direct correlation between each item and the variable to which it belongs, reflecting the high internal consistency between the items in this variable.

Once the scale's validity and reliability were confirmed, the questionnaire was given to the participants in the sample. The descriptive statistics for the aggregated responses were as follows:

The table above indicates that the weighted arithmetic mean for this variable is 3.728, which is more statistically significant than the default mean of 3 degrees on the scale. The standard deviation is also relatively low at 0.993, while the variance value is 1.038. There is a significant agreement among the participants in the sample on the items on this axis. Upon closer examination of this dimension, it becomes evident that most items in this variable exhibited arithmetic means significantly higher than the default mean of the scale. The paragraph concerning the 33rd question in the dimension of critical thinking highlights the need for the external auditor to cultivate a more receptive mindset to new ideas and perspectives, surpassing the limitations of their cognitive capacities. This paragraph exhibited the lowest degree of variation in this dimension, measuring 0.446. Consequently, most of the participants concurred with their responses. The average value was 4.46, with a measure of the amount of variation from the average being 0.660. The sample members claim that the external auditor must cultivate a greater inclination towards open-mindedness, surpassing the limitations of his cognitive talents. The paragraph in question 32, titled "Selection of Tools and Techniques for Data Collection and Extrapolation," exhibited the highest variance rate of 1.845 in the dimension of inductive reasoning skills. The arithmetic mean of the data set was 3.43, and its standard deviation was 1.358. This suggests that while the study participants agree that external auditors should be selected to utilize a range of manual and automated tools and procedures for data collection and analysis, their level of agreement on this specific paragraph was lower than the other paragraphs in this category.

#### 4.2 Testing hypotheses

H<sub>0</sub>: The Critical thinking of the auditor significantly affects the report's quality.

In order to evaluate this hypothesis, a fundamental linear regression analysis will be conducted utilizing the least squares method based on the regression model provided below:

$$FR = B_0 + B_1 + \varepsilon$$

FR = the non-dependent variable (Critical thinking of the auditor).

$\varepsilon$  = estimation errors, or so-called statistical residuals.

$B_0$  = constant of the regression equation, which represents the value of the dependent variable (report quality) when the value of the non-dependent variable equals zero.

The slope of the regression function measures the effect of the non-dependent on the dependent variable.

Using the statistical program SPSS, the results were as follows: The statistics program SPSS yielded the following results:

**Table 6: Regression matrix between the independent and the dependent variables**

Correlations			
		report quality	Critical thinking of the auditor
Pearson Correlation	report quality	1.000	.931
	Critical thinking of the auditor	.931	1.000
Sig. (1-tailed)	report quality	.	.000
	Critical thinking of the auditor	.000	.
N	report quality	205	205
	Critical thinking of the auditor	205	205

The table below displays the regression matrix variables, whereby the maximum correlation coefficient is 0.931, and its significance is less than 0.01. The association between the two variables is direct and statistically significant, as indicated by the Sig value of 0.00 for both the independent and dependent variables.

**Table 7: Summary of hypothesis testing**

Model Summary <sup>b</sup>										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson	
					R Square Change	F Change	df1	df2		Sig. Change
1	.931 <sup>a</sup>	.866	.866	1.57155	.866	1315.701	1	203	.000	.082

a. Predictors: (Constant), (Critical thinking of the auditor)  
b. Dependent Variable: (report quality)

The provided table displays the Pearson correlation coefficient, which measures the strength and direction of the linear relationship between the dependent and non-dependent variables. The correlation coefficient (R) between the variables was 0.931, indicating a strong positive correlation. The model achieved an R-squared value of 0.866, indicating a high level of explanatory power for the non-dependent variable. The Critical thinking of the auditor for 93.1% of the variation observed in the dependent variable is the quality of the report. The estimation error has a standard deviation of 1.57155, indicating a suboptimal value. A lesser occurrence of this error is preferable from a statistical perspective since it indicates the model's robustness.

**Table 8: Hypothesis test variance**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3249.485	1	3249.485	1315.701	.000 <sup>b</sup>
	Residual	501.364	203	2.470		

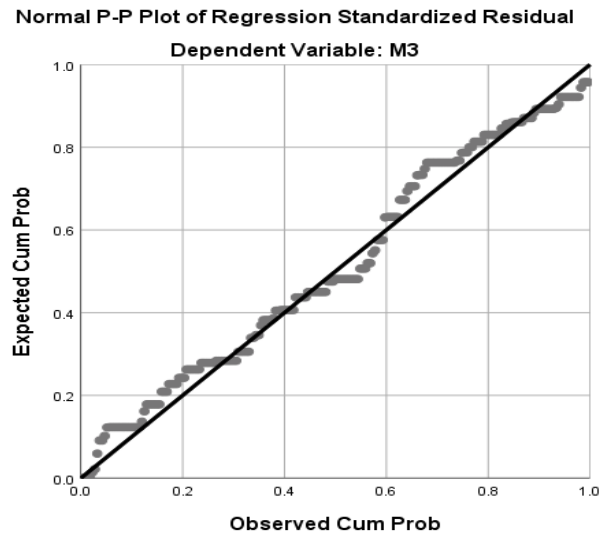
Total	3750.849	204			
a. Dependent Variable: (Critical thinking of the auditor)					
b. Predictors: (Constant): (report quality)					

The table above displays the outcomes of the ANOVA test conducted to assess the significance of the regression. The F value obtained was 1315.701, surpassing the value indicated in the table for the corresponding degrees of freedom (203.1). Additionally, the mean square of the residuals was determined to be 2.470 at a significance level of 5%. The test's significance level, Sig. 0.000 is below the predetermined threshold of 0.05, the recognized error rate in the field of social sciences. This signifies the acknowledgment of the null hypothesis and dismissing the alternative hypothesis, which posits that the regression is significant. Consequently, the non-dependent variable has an impact on the dependent variable.

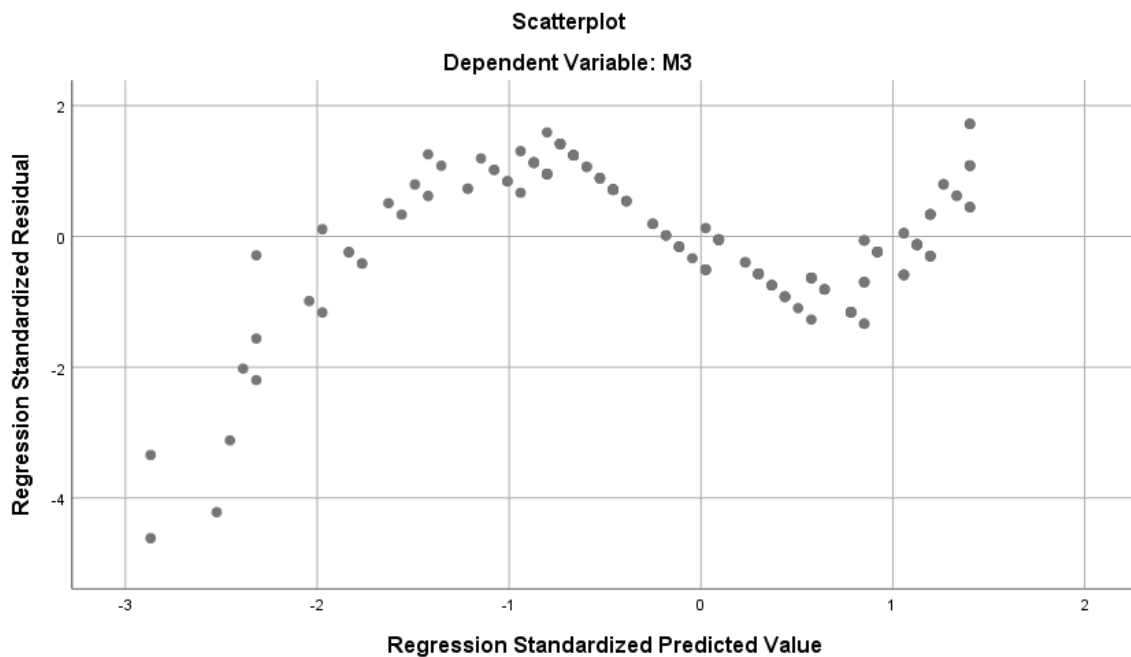
**Table 9: Regression function coefficients for the hypothesis**

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	40.306	.465		86.650	.000
(Critical thinking of the auditor)	.275	.008	.931	36.273	.000
a. Dependent Variable: (report quality)					

The table displays the coefficients for the standard and non-standard regression functions and the standard error, T-test value, probability value of the tests, VIF (variance inflation factor), and tolerance. The table indicates that the VIF value is 1.000, therefore demonstrating the absence of any multicollinearity issue between the variables and inflation factors. The value is below 3.00, which falls within the range of statistical acceptability. Furthermore, the constant in the regression equation had a value of 0.008. The regression equation's slope coefficient, represented by B, has a value of 0.275, indicating the impact of the non-dependent variable on the dependent variable. The positive coefficient signifies a direct relationship between the two variables, which are independent of each other. It received multiple approvals. To clarify, a one-degree increase in the unsupported variable, representing the auditor's critical thinking, results in a 27.5% increase in the authorized variable, representing the report's quality. The table above shows that the significance level of T for the independent variable is 0.00, indicating a significantly low value. In the social sciences, a commonly recognized level of error is 0.05. This indicates that if the sample data provides strong evidence, it is considered sufficient to accept the null hypothesis and reject the alternative hypothesis, thus demonstrating the statistical significance of the effect. Hence, the auditor's critical thinking has a statistically significant effect on the quality of the report.



**Figur 1: p-p plot (standardized regression of residuals for the independent variable)**



**Figure 2: Dispersion of the dependent variable**

### 5. Conclusion

The auditors in the Federal Bureau of Financial Supervision and the auditors of the audit offices demonstrate ample critical thinking skills beyond their cognitive capacity by cultivating a mindset receptive to diverse perspectives. However, most of them fail to carry out analytical methods that yield valuable judgments for evaluating the element, resulting in a state of weakness. These individuals demonstrate deductive reasoning during the audit by consistently maintaining interest and applying professional skepticism. This behavior suggests that they also possess the ability to think inductively.

While auditors at the Federal Financial Supervision Bureau and audit offices can generate innovative ideas and find suitable solutions to business problems, many lack

proficiency in utilizing electronic programs to address specific issues encountered while auditing electronic systems, despite their overall competence. The Federal Bureau of Financial Supervision and the auditors of the audit offices assess whether the financial statements are prepared by the relevant financial reporting framework, ensuring they meet the standards for quality reporting.

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