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Mathematical Analysis of Accounting Estimates Disclosure and Auditors Professional Judgment in Arab Saudi Stock Exchange

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Abstract: Purpose: The research aims to analyze the relationship between accounting estimates and professional judgment measures .To achieve the research objective, it is organized throughout literature review and background, then developing hypotheses to test them statistically in firms and its auditors in Saudi stock market exchange.
Design/Methodology/Approach: The research methodology is based on applied study, Since accounting estimates disclosures is a flexible requirement based on the accounting standards and the auditors' professional skepticism related to the prepared financial statements based on the accounting standards, the related data will not be in a time series form because of taking into consideration the final update of the accounting standards.
In this regard, the population of this study consists of 248 firms and its auditors in the year ended in 2022 in Saudi stock market exchange. The most suitable sample for this study is the industrial firms in the year ended in 2022 in Saudi stock market exchange which are 96 firm year observations and its auditors in the following sectors (Basic Resources, Durable Goods, Foods industry, Pharmaceutical, Communications, and Real Estate).
Research findings: It is obvious that the professional skepticism, auditors' industrial specialization, analytical procedures positively effect on the accounting estimates in the side of (fair values estimates, Impairment review and loss estimation, other estimations) in Saudi stock market exchange , where the coefficients of this variables is significant, moreover the control variables related to the trait of professional skepticism are significant except the self-determining &interpersonal understanding dimensions .
Recommendations : The researchers recommends it as necessary issuing an international auditing standard that regulates the relationship between the professional judgments of auditors and accounting estimations ; it is necessity of disclosing the essential matters of the audit because this achieves the quality of the auditor's practice of the provisions of professional skepticism during the implementation of the audit process.

Keywords: Auditor's Professional Judgment, Accounting Estimates, Saudi Stock Market Exchange.

1 Introduction

The foundation of financial reporting is thought to be accounting estimations. Therefore, the majority of financial statements particularly those that make up the balance sheet and the income statement rely on accounting estimates for things like fixed assets, net of depreciation, accounts receivables, and net of projected bad debts. Pensions, post-retirement benefits, as well as earnings from long-term projects, are liabilities stock option costs [1]. Accounting estimates are described as "an approximation of a monetary amount in the absence of a precise means of measurement" in International Standard on Auditing (ISA) 540, "Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and related disclosure."
According to the IASB , this phrase is used for both quantities that need estimating and amounts that are measured at fair value (FV) but have an estimation uncertainty. Accounting estimates are the responsibility of management, which is motivated to exaggerate rather than understate earnings and net assets [2], which lowers the quality of financial reporting by impairing their relevance

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and dependability. Auditors are under pressure to improve the quality of the auditing process and the objectivity of financial reports as a result [3].

1.1 Research problem

Financial statements must include accounting estimates. The financial statements of most businesses include accounts or amounts in disclosures that call for estimation. Accounting estimates are widely used in financial statements and frequently have a significant impact on a company's financial situation and operating results [1].

The SEC has advised that corporations include their significant accounting estimate policies in the annual report's Management Discussion and Analysis (MD&A). Both disclosure requirements stem from an explicit recognition of the unpredictability of measurements and subjectivity related to managers' accounting estimates [4], and are intended to assist financial statement users in discerning the impact of critical accounting estimates CAEs on firms' earnings and financial position, where the influence of the estimates or assumptions: 1) is highly subjective, unsure and subject to change; and 2) is material. As a result, for decades, public corporations have been particularly required to identify and report the key estimations that underpin financial statements [5].

Managers may be reluctant to disclose onetime adjustments, such as CAEs, in order to prevent additional public scrutiny and critical review of not only the CAE, but also all the prior reporting periods that might be linked with the change [6]. Supervisors may be concerned that their accounting estimates can be perceived as overly aggressive or even fraudulent by the public. Auditors, on the other hand, could prefer management to disclose a CAE in order to reduce their potential legal risk associated with seeming to have tolerated a client's opportunistic financial reporting practices. As a result, the firm and its auditor often agree on the level of materiality for CAE disclosure [7].

Both the current and new guidance urge auditors to examine management's consideration of various assumptions and outcomes when they test management's estimating process in order to evaluate accounting estimates. The hypothesis put forth by [8] that auditors may be swayed towards a management-preferred estimate by management's presentation of alternative estimate outcomes is based on the partition dependence theory, a psychological bias that emerges when decision makers assess a group of prospective outcomes.

Auditing fair values and other sophisticated estimations is challenging for auditors. The challenges are brought on, at least in part, by changes in audit work. Companies are required by reporting standards to include more complicated estimations and other forward-looking information in their financial statements. The unobservable character of some important essential assumptions that underpin the estimates makes it difficult to audit forward looking information [9].

This makes it challenging for authorities and audit companies to explicitly define the scope and content of audit work. It takes considerable judgment to decide how much evidence is necessary, what evidence is appropriate, and what analysis auditors should conduct [10]. Making auditors' intrinsic motivation for their work more apparent has the potential to significantly improve cognitive processing in ways that support high-quality judgment and professional skepticism, especially when performing challenging tasks like audits of complex estimates [9].

On the one hand, management is expected to prepare financial statements in a professional, objective, and independent manner. The great unpredictability and precision of accounting estimates, on the other hand, could result in substantial misstatements. The development accounting estimations are thus one of the most challenging tasks that auditors must complete. This is due to the flexibility of accounting principles, the possibilities available for the development of accounting estimates, the management's dependence on discretion in measuring the accounting estimates, and the unpredictability of the auditor's assessment in the future.

Based on the above*, the research questions can be summarized as follows:*

How can the auditor’s professional judgment affect the disclosure of accounting estimates?

So its scientific importance is that accounting estimates and the role of auditors in reviewing them and issuing professional judgments regarding them is one of the most raised issues in accounting thought. Therefore, the scientific importance is represented in providing a theoretical framework that analyzes and clarifies the relationship between research variables in light of this accounting literature and professional publications. Its practical importance is that accounting estimates help investors anticipate future cash flows, and contribute to improving the relevance of financial information and the future outlook for the financial situation and operational performance of companies listed on the Saudi Stock Exchange.

Therefore, the research aims to analyze the relationship between accounting estimates and professional judgment measures (professional skepticism, Auditors' Industrial specialization, and analytical procedures). To achieve the research objective, the remainder of it is organized throughout literature review and background, then developing hypotheses to test them statistically in firms and its auditors in the year ended in 2022 in Saudi stock market exchange.

2 Literature Review and Background

2.1 Accounting Estimates Disclosure

The international standard (IAS.8) on accounting policies, changes in accounting estimates, and errors stated that

because of the uncertainty inherent in the unit's activities, many elements of financial reporting cannot be measured precisely but can be estimated. This is true despite the importance of accounting estimates and their acquisition of accounting thought. However, this is not a definition of accounting estimates; rather, it is a veiled admission that the bulk of items in financial reports are estimated rather than precisely measured, i.e., accounting estimates.
A change in an accounting estimate is defined as "an modifications of the carrying value of an asset or a liability, or the quantity of recurring consumption of an asset, resulting from the assessment of the current status of, and expected future advantages and constraints associated with, assets and liabilities" [11] .

The SEC defines critical accounting estimates as those that are "substantial, highly uncertain, and require judgment. Common instances of quantitative CAE include receivables and warranty reserves, inventories, and defined-benefit pension plans. By providing a variety of potential earnings outcomes, qualitative CAE makes the receptivity of profits to modifications in uncertain estimations more clear [12] .
However, SEC guidelines give management significant leeway in deciding which, if any, estimate sensitivity to quantify. Prior research indicates that quantitative CAE rates are rather low, and the SEC remains concerned that numerous companies should, but do not; provide quantitative CAE [13].

According to [14] , the quantum interpretation of estimates, assumptions, and professional accounting judgment in the situation of exposing the company to risk, uncertainties, and other capital management vulnerabilities.

[15] Look at how managers' accounting estimates vary based on whether they receive information about an upcoming significant audit matter disclosure from a nearby or faraway auditor. When there is a close relationship between the auditor and the client, managers feel justified in reporting more aggressively because a critical audit matter (CAM) disclosure alerts investors to estimate subjectivity.

In practice, the materiality judgments for critical audit estimation (CAEs), as well as all financial statement disclosures, are determined by how the reporting firm and its auditors work together to reach an agreement on the problem [16] . Accounting estimates are used to indicate the amount of particular goods when there is no reliable way of measuring them.
[17] Discovered more than 150 references to accounting estimates, owing to the reasonable uncertainty recognized while compiling financial statements, which allows preparers to employ estimates. Accounting estimates, as indicated in IAS 8, paragraph 32, can be performed in a variety of areas, including accounts receivable, inventory depreciation, asset or debt fair value determination, the economic lifetime of equipment, and provision measurement.
The study [18] focuses on the errors that result from employing projections and judgments in forecasting future events. Many accounting estimations involve such forecasts and judgments, and thus GAAP-based financial reporting in current practice. As a result, forecasting under GAAP can lead to earnings manipulation and unethical or dishonest reporting.
According to the Public Company Accounting Oversight Board (PCAOB), "accounting estimates are often some of the elements of the highest risk in an audit," are "susceptible to management bias" [19], and the PCAOB has "observed many flaws in auditing accounting estimates."
Whereas [20] explores whether PACOB inspections result in more accurate financial statement projections. Based on a sample of 4,151 public bank-year observations in America from 2006 to 2017. Despite the PCAOB's goal of producing more efficient and objective estimates, the data reveal that allowance for loan losses (ALL) estimates grow less efficient and more conservative.
The uncertainty that arises when monetary quantities in financial reports must be inferred rather than instantly observed, according to the IASB's theoretical framework of Financial Reporting 2018 (CFW, 2018) is known as measurement uncertainty. However, the CFW 2018 emphasizes that the use of reasonable estimates is a crucial component of the compilation of financial information and that estimates can still provide pertinent information even in the presence of high levels of measurement ambiguity [21].
Developing accounting estimates is a very difficult procedure that necessitates gathering all relevant information. Estimates often found in financial statements include: provisions for depreciation and loss on impairment estimates, inventory value estimate, goodwill estimation, and projected useful life of assets [11].
According to [19] there are two sorts of accounting estimates. The first is the stock volatility assumption, which is employed in calculating equity-based compensation expenditure. When reporting stock option compensation expenditure, some corporations modify the assumptions used as inputs to the Black-Scholes Option Pricing Model. According to [22], declared option fair values can differ significantly from researcher-calculated option fair values, and those variances can be material to net income. The second type of pension assumptions contains significant measurement error since pension estimations are long-term in nature.
Accounting estimations are (impairments, Income taxes, Reserves, Pension, Revenue *recognition*, value of investments, Valuation of accounts receivable, Inventory value, Business combinations, Stock-based compensation), according to [5]. Whereas [23], the study looks into the relationship between accounting estimates (provision for bad debt, provision for employee benefits, and financial performance, profit after tax).

According to the study [23] , bad debt can be calculated in three ways. The first way is an Income Statement strategy, in which a bank or corporation estimates the percentage of its credit sales that will ultimately be *uncollectible*. The statement of financial situation methodologies is employed in the second and third procedures.

Furthermore, [19] examines the relationship between the Big 4's importance to its clients and unconditional conservatism in *complicated* accounting estimations (stock option volatility, pension projected asset rates of return, and pension discount rates). Using 7,704 observations from the Compustat Industrial Annual File between 2004 and 2015, the results. According to the research, accounting estimates are always more conservative the more significant the audit clients.

According to [19] ,researching particular accounting estimates has various advantages. Conservatism in accounting estimations is "relatively less direct" than other measures of audit quality. Accounting estimates are common and available for many organizations, unlike more tangible indicators of audit quality such restatements and Accounting and Auditing Enforcement Releases (AAERs), which makes them potentially more effective testing and more generalizable findings. Additionally, the use of precise estimates avoids measurement problems that could have a negative impact on alternative metrics like discretionary accruals. Finally, specific estimations "suggest with in GAAP manipulation, and may signal more egregious undetected misstatement"

Prior research has found limits to the usefulness of accounting estimates, even complicated estimates, for users of financial statements. There are two explanations for the limited usefulness of accounting estimates([24] ; [25] ; [26]). *First*, it should be noted that estimating is inherently challenging. Therefore, according to the auditing literature, auditors are always seeking for ways to strengthen their ability to verify management's intricate estimates [26].

Second, management can manipulate accounting estimates, and management bias in an estimate is likely to survive an audit [24] .When it comes to reported loss reserves, management has discretion. Investors are able to recognize managerial discretion to some extent and can deduct the discretionary elements from prices. These two factors together account for the fact that investors frequently perceive accounting estimates with high levels of subjectivity as being less credible [27].

Where, [27] studies how readers of financial statements perceive complex estimates (loss reserves) as a result of increased transparency about such estimates. The findings indicate that the firms' declarations of loss reserves have become more comparable and intricate. The net effect of disclosure of loss reserves also has a detrimental effect on investors' abilities and raises investor confusion .

According to studies ([7]; [13]), determinants of disclosure of accounting estimates, as the following:

Company size; larger organizations typically choose voluntary disclosure since they are more likely to do so and to give detailed information. [28] believes that the concept of relative materiality may enable major corporations to avoid the disclosure obligations for what could otherwise be substantial contracts, legal procedures, and spending on business ventures in order to lessen information asymmetry. Larger and more regular evaluations may be required for estimating methodologies used by larger corporations because these organizations are typically more complicated [7];

Sector specialization: Different sectors may have similar operating cycles, operational complexity, and litigation risks. These sector specific elements may have an impact on the disclosure choices for accounting estimations. Additionally, the complexity of corporate processes brought on by the existence of specific industries may increase the number of accounting estimate errors [7];

Management Incentives for the Misstatement Report: According to ([29]; [13]), when managers have an incentive to report earnings in a misleading manner, they are more driven to withhold or minimize accounting estimate disclosure.

The audit committees' accounting expertise, as the accounting estimate is intricate and highly uncertain, requiring high-level accounting expertise to comprehend the estimate's uncertainty and the relative importance of decisions based on accounting estimates. For this reason, there may be a positive relationship between the audit committee's accounting experience and the rise in accounting estimates [13];

The size of the audit firm, audit firms with additional clients, and audit firms may have greater knowledge and expertise to support the accounting estimate [7].

The implementation of IFRS13 presents difficulties for auditing fair value measurement and accounting estimations, according to [30]. The findings indicate that while auditors' perceptions of the audit challenges connected to FV measurement and accounting estimates do not significantly differ, the scope of audit challenges related to confirming FV measurements and accounting estimates varies significantly across industry sectors.

ISA.540, clarified that the auditor's objective is to obtain adequate and appropriate audit evidence as to whether accounting estimates have been reasonably recognized and adequately disclosed in the financial statements. ISA.540 provides guidelines for auditing and disclosing accounting estimates, the most important of which can be presented as follows [31]:

The auditors must obtain sufficient and appropriate audit evidence to ensure that the measurements and disclosures are ofconsistent with the financial reporting framework applied to the entity; the auditors should identify and evaluate the risks of significant and influential misrepresentation at the level of assurance associated with

the measurements and disclosures of estimates in the financial statements to determine the nature, timing, and extent of additional audit procedures, according to ISA.330. The auditor must assess whether the measurements and disclosures of estimates in the financial statements are consistent with the financial reporting framework applied to the entity, obtain evidence of the implementation of the measurement method, and examine and test the methods used in the estimates by the management and make an estimate independent of the management and compare it with its estimates [31].

When the auditor finds that there is a material risk associated with accounting estimates, whenever possible, he must assess whether the important assumptions used by management in measuring the accounting estimate are taken individually or as a whole, which provides the basis for measurements and disclosures of the accounting estimate in the entity's financial statements. Finally, the auditor must contact those responsible for governance to inform them of matters in the audit of importance to governance, according to ISA.260.

According to what has been addressed from the concept of accounting estimates, it is based on the estimated values of the items of the financial statements that are difficult to measure and determine their real value accurately in the light of past, current, and future information, and the approximate value of the item in the absence of an accurate means of measuring it, and is used under uncertainty circumstances associated with events that actually occurred or are likely to occur and require personal judgment.

2.2 Professional Judgments under ISA

Because an auditor differs from other professionals in terms of mental philosophy, which defines an auditor as a professional in auditing, auditor judgments do not always adhere to preset methods or standards. The criteria and traits of judging in the auditing profession, which are not included in any standard books, are one of the complications of accounting and auditing that currently require attention. Because judgment is a component of all audit operations and because it is important to pay attention to qualities like professionalism, there are higher expectations for the quality of auditors' judgment [32].

In actuality, evaluating the process is a decision or a choice that motivates action. This is an easy way to define judgment. But there may be more to the judgment process than meets the eye. According to a conceptual definition, judgment entails initial comprehension and knowledge of the subject, information gathering, evaluation and weighting of the information already found, consideration of the importance and desirability of prospective outcomes, and decision-making [33].

Professional judgment is a term that is frequently used across disciplines, but in the context of auditing, it refers to the use of knowledge and experience to make decisions within the confines of accounting standards, auditing, and the practice of professional conduct [34] .Professional judgment is defined by the International Auditing and Assurance Standards Board (IAASB) as the use of experience, knowledge, and rules of professional conduct to make decisions that are suitable. An important competency in the accounting and auditing profession is professional judgment.

According to [35] skilled decision makers like executives, auditors, analysts of finances, auditors, and standardizers will base their choices on their assessments in the current Iranian context, which is shifting to the application of international standards for financial reporting and accounting standards based on principles. The foundation of the accounting profession and a requirement for effective professional standards is the capacity for making good decisions. Without a doubt, judgment is difficult.

According to [36] judgment is defined as mental processes that result in the formation of an idea, opinion, or estimate about an item, an event, or a phenomena and that have the potential to lead a person to predict the course of future occurrences. due to its emphasis on the strategy used and the selection process carried out by auditors and accountants when carrying out the audit processes and procedures relating to risk assessments, materiality level, selection of the audit process, appropriateness of audit evidence, and types of the audit report to be issued.

Professional judgment is influenced by a number of important aspects, such as the audit environment, audit evidence, decision-making process, and qualitative attributes of judgment. Also essential to professional judgment in auditing are knowledge, experience, honesty, independence, dedication to ethical standards, and professional skepticism [37].

Auditors should be equipped with the fundamental information necessary for their professional duties, as well as the specific knowledge required to keep up with the advancement of new technologies and the ability to address pressing issues in their work. Auditors with professional degrees are better qualified to render judgment or opinions. According to ([38]; [37]), various professional degrees typically aid in extending one's understanding and providing adequate knowledge, which in turn aids in making the proper decisions, taking the proper actions, and doing well throughout audit tasks. According to [39], some studies assess an auditor's knowledge based on their experience, training, workshop, seminar, and educational background.

For future research to investigate potential auditor bias, it is crucial to have a strong foundation of knowledge about auditor biases. If this bias is found, it may be necessary to educate auditors about the use of enormous amounts of data and in gaining insights [40].Firms' growing and complicated information exposure to auditors probably makes them more susceptible to prejudice in judgment [40] .New information and abilities help the auditor become more competent and enhance their decision-making and judgment during audits. As a result, a favorable correlation

between the mastery approach aim and audit judgment performance is anticipated [41].

From the standpoint of cognitive load theory, [42] investigated the elements that affect auditor judgment. According to this theoretical viewpoint, having too much information might make people feel too stressed out, which leads them to make decisions based less on information processing and more on heuristics or stopping information processing earlier to lessen cognitive stress.

In contrast, the study by [43] examines it from the viewpoint of the cognitive fit theory. This theory puts forth the notion that a suitable framework must be developed in order to reduce cognitive strain. The cognitive burden will be lessened, allowing people to completely comprehend the information, if the task presentation's structure is in line with how decision-makers view the task.

Empirically, numerous researchers have shown a favorable association between self-efficacy and auditors' judgment ([41]; [44]). According to [45] , self-efficacy refers to a person's assessment of their capacity to plan and carry out a sequence of tasks in order to fulfill specific functions. Self-efficacy is a sort of intrinsic motivation, a structure of motivation that affects how individuals choose their activities, their level of success and victory, and their ability to persist and perform in a variety of contexts [34].

The professional judgment of an auditor is influenced by five main elements, according to the Canadian Institute of Chartered Accountants. These criteria are roughly summarized as follows: a task environment audit, characteristics of auditors, decision making in auditing, qualitative aspects of audit judgments, and Audit Evidence in Relation to Materiality and Audit Risk [46].

According to a study [47], a female auditor is more capable than a male auditor in terms of audit judgment. This finding supports the idea that gender of the auditor influences professional judgment. Gender of the auditor has an impact on judgment quality, and women make better decisions than men. The study's [48] findings that both male and female auditors made the same professional judgment in response to the following professional demand led to the conclusion that there is no discernible gender difference in the audit judgment.

2.2.1 Components of professional judgments

Some elements of the decision-making process have an impact on it. The Professional Judgment Framework presented by KPMG includes a number of elements, including coaching, mentality, consultation, knowledge and professional standards, influences and biases, and knowledge and standards. The framework's central component is a five-step judgment process that includes the following steps: (a) identify the issue and objectives; (b) explore options; (c) obtain and assess information; (d) arrive at a conclusion; and (e) clearly state and record justification [37] .

Professional regulations define an auditor's good judgment as being free from bias, concern, or association with the client and call for auditors to be objective, professional, or inquisitive. However, these regulations face many challenges in practice and implementation because of the internal complexities of people from various perspectives, including personality, behavior, perception, and others. The following are the elements of auditors' professional judgments, per numerous researches ([49]; [50]; [51]; [52]):

Using expertise and the nature of the evidence provided, Using this method, auditors attempt to assess the proof offered by owners using tracking account data. Additionally, auditors watch accounts and carefully go over documentation in order to offer audit reports with correct, fact based judgments [50].Due to its lengthy and methodical approach, this judgment can be considered a solid foundation for making decisions, but it has drawbacks such sluggishness in deliberation and pressure on the process [52].

Professional judgment based on professional actions: In reality, auditors attempt to uphold the principles of professional conduct through an integrated and holistic interpretation, free from any partisanship or affiliation, and by managing their emotions and pressures from owners or intermediaries in audit statements [49] .It is possible to say that this professional judgment method is based on a set of ethical and behavioral traits that an auditor with a broader perspective of carrying out a specialized job possesses rather than taking extensive steps of the analytical method or making decisions solely based on intuition [52].

Professional judgment based on intuitive ability: According to this mental model, auditors occasionally use their intuition and decision-making abilities to control the accounts and performance of the company [51]. This mental model may theoretically be defined as a kind of judgment based on the insights and inspirations of the individual. The auditor can utilize this judgment in his reports with a cursory glance over the entirety of the accounts even though it may not be scientifically based on particular evidence because it is based on the auditor's knowledge and expertise [52].

The professional judgments of auditors are divided into a set of judgments according to the steps of the audit process, which starts from accepting assignment to provisions related to planning, implementation, expressing opinion, and preparing the auditor’s report [53].

The *commissioning acceptance stage* is characterized by a high degree of professional judgment because of its impact on the audit firm's business risks and reputation. The decision to accept the assignment and the professional judgments it includes apply the international quality control standard ISA.220, which clarifies the necessity of applying continuity policies and accepting new work and what professional judgment requires in assessing the capabilities of the accounting and auditing facility, whether material or human.

The planning stage requires the issuance of professional judgments on the basis of which the auditor determines the audit plan and programed, and the auditor issues judgments

in accordance with his responsibilities regarding the International Auditing Standard ISA.315. This standard requires the auditor to understand the entity and its environment, assess the risk of material misstatement, and determine the materiality level in accordance with [54].

While the *implementation stage requires* the auditor to implement the planned audit programed and it includes control tests, basic tests of operations, detailed tests of balances, and analytical procedures; finally, *the stage of issuing the report*, in which the professional judgment is issued regarding the auditor's report and the paragraphs that must appear in it, based on an assessment of the extent of the existence, materiality, and spread of material misstatements in the financial statements, where the auditor expresses an opinion Amended according to ISA.700.

3 Hypothesis Development

The professional judgment of the auditor affects the quality of the audit while collecting evidence and carrying out analytical audit procedures and risk assessment, as the audit process includes the issuance of a series of consecutive professional judgments that start from accepting the assignment until the issuance of the audit report [55] .

The quality of auditing is determined by the quality of auditing professional judgments, and access to more desirable professional judgments necessitates identifying the measures influencing auditor judgment and decision-making, and reflects the auditor's ability to detect and announce material errors and irregularities in financial statements, in addition to reducing information asymmetry between management and shareholders.

3.1 Auditors' Professional Skepticism and Accounting Estimates

To preserve audit quality, auditors must critically analyze the persuasiveness of audit evidence ([56]; [57]). If auditors' professional skepticism (or lack thereof) is a primary driver of accounting estimate-related auditing deficiencies, firms must devise remediation strategies to increase the likelihood that auditors plan and perform audits with the necessary levels of professional skepticism.

For example, the International Standard on Quality Management (ISQM) 1 requires enterprises to "respond to circumstances when results indicate that there is an engagement in which required procedures were omitted during the performance of the engagement." Furthermore, organizations must document and incorporate evidence that proves the success of corrective steps taken to resolve detected auditing flaws. Understanding how to properly manage required levels of auditors' professional skepticism to improve audit quality is thus a relevant and essential problem in practice that requires academics' attention [58].

Professional judgment is vital in making decisions related to an audit, accounting standards, and ethical code, and it should be implemented objectively, totally, and with caution, as well as being accountable for the repercussions of the judgment. An auditor is required to assess a certain level of risk, but he should also maintain a certain level of skepticism regardless of whether customers have sufficient information. Skeptical reasoning should be used because there is a potential of erroneous information, and even professionals can make mistakes. [59] Revealed that the auditor's experience and professional skepticism were effective in detecting fraud [60].

Auditors' professional skepticism is influenced by their inquisitive minds, suspension of judgments, seeking knowledge, understanding interpersonal relationships, self-confidence, determination, and social conservatism [61] .According to ISA 240, in order to gain reasonable assurance, an auditor must exercise professional skepticism during audit planning and execution. When an auditor gathers audit evidence to substantiate a mistake or material misstatement, professional skepticism is essential.

When auditing accounting estimates, key audit matters (KAMs) reporting might influence auditors' judgments and decision-making (JDM). The primary goal of KAM reporting is to deliver more relevant information to users depending on the audit that was completed. "Real effects" may also arise [62].

Real effects, according to [63] ,are situations in which the disclosing person or reporting entity adjusts the allocation of resources and judgment as a result of the disclosure requirement. Real effects may occur while reporting KAMs if auditors anticipate that certain accounting concerns will be revealed as a KAM while making financial statement assertion judgments. As a result of this additional disclosure, auditors' JDM of the respective financial matters to be reported as a KAM may be influenced [62].

The skepticism mentality is one of the main factors that affect the auditor's practice, and these practices are the expansion of the search for information, increasing the work to detect discrepancies, increasing the ability to generate alternatives, and increasing the audit of personal information, and then the professional skepticism mentality of the auditor is the main driver behind the practices of professional skepticism, and it is considered one of the most important variables that contribute to the formation of the skepticism mentality, characteristics of the auditor's professional skepticism, professional knowledge, experience and sectorial specialization, training, auditor turnover rate, and period Link to the review process [64] .

We see professional skepticism as consisting of two elements, a skeptical mindset and a skeptical attitude, in line with [65] .The mindset component is reflected in the auditors' cognitive processing measures (such as mental representation and information search), whereas the attitude component is reflected in the auditors' cognitive (such as beliefs about reasonableness) and affective (such as confidence and concern) evaluative judgments associated with financial statements (such as risk judgments and what constitutes appropriate sufficient evidence).

Whereas, SAS.99 clarified that professional skepticism requires an ongoing inquiry about whether audit evidence indicates that material misstatements are due to fraud, that

the auditor should not accept less than convincing evidence when exercising professional skepticism, that it includes information that supports and confirms management's assertions and information that contradicts those assertions [66] , and that the external auditor must have professional skepticism when evaluating the assumptions on which management relied in Perform accounting estimates of fair value, evaluate the prices used by management in the estimates of fair value and their proportionality for the item being valued, and evaluate the consistency of the disclosure of fair value estimates with generally accepted accounting principles.

The auditor's professional skepticism necessitates a thorough evaluation of management's fair value estimates because it calls for the auditor to have convincing proof of the validity of the assumptions on which management based these estimates. It also calls for the auditor to be aware of conflicting audit evidence and to cast doubt on the veracity of management documents or decisions. In order to gather and evaluate enough data to provide a fair and objective audit opinion about fraud detection, an auditor must exercise appropriate skepticism and judgment. **According to the previous evaluation of the literature, the study's first hypothesis is :**

H1: Auditors' Professional Skepticism as one of the measures professional judgment positively effects on accounting estimates.

3.2 Auditors' Industrial Specialization and Accounting Estimates

Due to their better skills, industry specialist auditors are expected to produce high-quality audits, and earlier research supports this expectation ([67]; [68]). The adoption of risk-based auditing methodologies is expected to provide specialized auditors more experience evaluating complicated accounting estimates, such as impairments for assets that are comparable within an industry [2]. Specialist auditors improve audit quality, according to a growing body of research ([67]; [69]; [68]).

Due to his professional knowledge, experience, and in-depth understanding of the client's industry and the company risks associated with the audit, the auditor's industry specialization increases his competence as he makes professional judgments ([70]; [71]). Because it is predicted that an auditor's skill interacts with the complexity of the work to improve judgment performance, industry specialists may be especially crucial in the audit of complicated estimations like asset impairments. In other words, when a task becomes more challenging, expertise and knowledge generally become more valuable [2].

And by increasing the specialization of the controller in the audit client industry, it results in increasing his knowledge of the technical aspects of the entity's assets and liabilities and the extent to which there are or no active markets for these elements, thus strengthening the efficiency of his professional judgment with regard to management's estimates of fair value, which results in improving the quality of reviewing those estimates, and with regard to the items of customers, suppliers, banks, and other related parties, which results in improving the quality of auditing those estimates [55] .

The role of auditor competences acquired through industry specialization in assessing client firms' accounting estimations (asset impairment) is examined by [2].However, because of managers' incentives to hide these kinds of losses and the PCAOB's complaints of auditors' testing in this area, the research concentrates on asset impairment. According to 2,817 firm-year observations made between 2003 and 2010. According to the findings, there is a link between industry specialization and the filing of impairment losses.

[55] ,the industrial specialization supports the efficiency of professional judgment in cases where management relies on accounting practices for profit management to hide the misuse of resources from shareholders and thus strengthens professional judgment with regard to management's estimates of fair value, which results in improving the quality of reviewing those estimates, and with regard to the transactions of the company's shares and bonds on the stock exchange and the developments in the company's share prices and thus the efficiency of its professional judgment with regard to management's estimates of fair value, which results in improving the quality of estimates auditing. **According to the previous evaluation of the literature, the study's second hypothesis is**

H1: Auditors' Professional Skepticism as one of the measures professional judgment positively effects on accounting estimates.

3.2 Auditors' Industrial Specialization and Accounting Estimates

Due to their better skills, industry specialist auditors are expected to produce high-quality audits, and earlier research supports this expectation ([67]; [68]). The adoption of risk-based auditing methodologies is expected to provide specialized auditors more experience evaluating complicated accounting estimates, such as impairments for assets that are comparable within an industry [2]. Specialist auditors improve audit quality, according to a growing body of research ([67]; [69]; [68]).

Due to his professional knowledge, experience, and in-depth understanding of the client's industry and the company risks associated with the audit, the auditor's industry specialization increases his competence as he makes professional judgments ([70]; [71]). Because it is predicted that an auditor's skill interacts with the complexity of the work to improve judgment performance, industry specialists may be especially crucial in the audit of complicated estimations like asset impairments. In other

words, when a task becomes more challenging, expertise and knowledge generally become more valuable [2].

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H2: Auditors' Industrial specialization as one of the measures professional judgment positively effects on accounting estimates.

3.3 Analytical Procedures and Accounting Estimates

Analytical procedures are considered one of the factors helping the auditor evaluate fair value accounting estimates and determine the reasonableness of the assumptions relied upon by management in making such estimates. Where analytical procedures support the auditor's judgment in accounting estimates by planning the audit process, determining the timing and extent of validity of audit procedures, identifying balances that require extensive detailed testing, identifying various risks and areas that require further verification, obtaining evidence during the implementation stage, discovering fraud errors, and identifying items that need more disclosure during the final stage [55].

Professional experience, auditor independence, and continuing professional education are among the most important factors affecting the relationship between accounting estimates and analytical procedures. Where the professional experience of the auditor affects the professional judgment of the controller and leads to strengthening the efficiency of the professional wisdom in assessing the reasonableness of management's assumptions of accounting estimates, the greater the experience, the greater his knowledge of active or passive financial markets, the extent to which prices for similar elements exist in the case of passive markets, and the basis on which the fair value of each element must be estimated ([54]; [55]).

The evolution of expertise is mentioned as a potential mediator of the challenge in auditing complex estimations by [2].Auditors get industry knowledge by combining focused direct experience (such as working solely on engagements in a certain area) with specialized indirect experience (such as industry training). The growth of expertise is one factor that might act as a mediator for the challenge of auditing complex estimates .

Strengthening the auditor's independence requires the gathering of sufficient and suitable proof to verify the reasonableness of accounting estimates of fair value and disclosure in the financial statements, improving the quality of auditing accounting estimates. The independence of the auditor is also regarded as a key supporter of professional judgment, as it represents a key factor to give confidence and credibility in the financial statements.

The analysis shows, in accordance with [72], that increased auditor independence boosts fraud detection. Independent auditors always conduct themselves honestly, impartially, and critically in order to find fraud [73]. Numerous studies have found a strong and favorable association between fraud and autonomy [74]. The two aspects of independence, in accordance with [75], are real independence and the appearance of independence. According to the auditor, independence is conducting audits in an unbiased, truthful, and free manner.

When it comes to the auditor's continuing professional education, ISA.701 has led to the introduction of a set of professional judgments that present significant challenges for auditors and call for excellence in skill, experience, and a variety of knowledge that can be realized through continuing professional education and aids auditors in meeting those challenges. In addition, it is claimed by ([76]; [77]) that the workload of audit partners, the gender of auditors, and accounting professional education all have a major effect on the professionalism of auditors.

Since accounting estimates are one of the most important basic auditing matters that require professional judgments and special skills, they need the cooperation of various efforts, as it does not depend on the development of the capabilities, skills, and knowledge of the auditor through continuing education but extends to the audit facility and its fulfillment of the requirements of professional solvency, as well as at the level of the professional practice environment

itself and the professional authorities responsible for developing standards that allow the auditor to issue professional judgments of high quality, especially in relation to accounting estimates [54] .

According to the previous evaluation of the literature, the study's third hypothesis is :

H3: Analytical procedures as one of the measures professional judgment positively effects on accounting estimates

4 Research Design

4.1 Sample Selection

Since accounting estimates disclosures is a flexible requirement based on the accounting standards and the auditors' professional skepticism related to the prepared financial statements based on the accounting standards, the related data will not be in a time series form because of taking into consideration the final update of the accounting standards. Consequently, this constrain will create a different population consists of auditors and firms. In this regard, the population of this study consists of 248 firms and its auditors in the year ended in 2022 in Saudi stock market exchange, since the Saudi stock market exchange concluded Dominant market in the GCC region and MENA, One of the largest stock exchanges among the 67 members of the World Federation of Exchanges, the 3rd largest stock market among emerging markets, , 345 listed securities among all Saudi Exchange platforms as of November 2022, Market capitalization reached US $2.72 trillion (SAR 10.21 trillion). November 2022 Data for these companies were obtained from: https://www.mubasher.info/markets/TDWL/indices/TMTI
In fact, the accounting estimates are more related with the industrial firms, so the most suitable sample for this study is the industrial firms in the year ended in 2022 in Saudi stock market exchange which are 96 firm* year observations and its auditors which can be distributed as follow:

Table 1: Observations distribution.

Sectors the Saudi stock market exchange	Observations (Firms & its auditors)
Basic Resources	44
Durable Goods	12
Foods industry	15
Pharmaceutical	9
Communications	4
Real Estate	12
Total	**96**

*For example (ADVANCED , ALUJAIN , ALYAMAMAH STEEL , AMAK, ASLAK , ATHEEB TELECOM, EPCCO , ETIHAD ETISALAT, LIME INDUSTRIES, LUBEREF, MOBI INDUSTRY, MOLAN, NAJRAN CEMENT , RIYADH CEMENT, SABIC, SAUDI KAYAN, STC ,TAKWEEN, ZAIN KSA ……..etc.)

4.2 Variables Measurement:

This study aim to examine the impact of professional skepticism , auditors' industrial specialization, and analytical procedures on the accounting estimates. Consequently, we can define the measurement tools as follow:

4.2.1 Auditors' Professional Skepticism:

We look at ways that professional scepticism appears during an audit ([78]; [79]) and how such appearances connect to ideas about how susceptible fraud is to happening and how reliable the evidence is. According to [80], our judgement assignment takes into account the financial statements' alleged susceptibility to material falsification resulting from each of the 12 frauds included in the fraud ideation notes. The table below provides a summary of these 12 frauds:

4.2.2 Auditors' Industrial specialization

Auditors' Industrial specialization provides auditors important knowledge when they are dealing with their clients, so the auditors' Industrial specialization can be measured as a dummy variable which is take 1 in case of the existence of specialization and zero otherwise [81].

4.2.3 Analytical procedures

Many scholars note the following types of analytical procedures (Non-qualitative procedures, Simple quantitative procedures, Complex quantitative procedures), According to these types of analytical procedures, we can measure the Analytical procedures by the number of used Analytical procedures in the audit engagement [82].

4.2.4 Accounting estimates

According to [83], accounting estimates are projected to increase the usability of accounting information for making decisions and are becoming more and more significant in financial statements. On the other hand, measurement uncertainty and management bias are two fundamental problems that are connected to their utilisation. As a result, the accounting estimates can be quantified by the quantity of potential accounting estimations matters in the financial statements as seen by the auditors [21], and this information is summarised in the following table:

4.2.5 Control Variable

[84] Model recognizes that personality traits, such as trait skepticism, can affect skeptical judgments. Consequently, we measure trait skepticism using the scale [85]; and in examining our hypotheses and research questions, we treat trait skepticism as a control variable.

Table 2: List of Potential Frauds**.**	
1	It's possible the management made up sales figures.
2	It's possible that expenses that weren't actually associated with buying new domestic stores were capitalised erroneously.
3	It's possible that expenses not directly related to the new loan were capitalised inappropriately.
4	Management might have intentionally broken the rules of packing and trash but failed to recognise the liability and cost.
5	The cost of products sold may have been understated as a result of management's possible recognition of non-existent inventories.
6	It's possible that management has underestimated the sales return provisions for both wholesale and retail clients.
7	It's possible that fixtures and fittings' projected useful lives were artificially extended to lower depreciation costs.
8	It's possible that management overstated the allowance for dubious loans inadvertently.
9	In order to avoid having to write down inventory down below cost, management may have inflated the market value of the inventory.
10	Concession stand revenue may have been improperly and prematurely recognised by management.
11	By overstating prepayments, management might have delayed the realisation of current-year expenses.
12	Since the company has a process for returning defective goods, management may have mistakenly recorded non-cash sales that have not yet been made as "returns" and reversed them after year-end.

Table 3: Potential accounting estimates matters.

Potential accounting estimates matters
Fair valuation Financial assets (non-derivatives) Derivative contracts Business combinations Investment properties **Impairment review and loss estimation** Property plant and equipment Purchased goodwill and other intangible assets Inventory Trade receivable and other financial assets Other non-current assets (including natural resources) **Other estimations** Deferred tax assets Pension liabilities Provisions Capitalization of development costs and PPE Depreciation/amortization Tax liabilities

Table 4: Trait Professional Skepticism Scale.

		Strongly Disagree					Strongly Agree
Interpersonal Understanding (IU)	*Inter_Und1*: I like to understand the reason for other people's behavior.	1	2	3	4	5	6
	Inter_Und2: I am interested in what causes people to behave the way that they do.	1	2	3	4	5	6
	Inter_Und3: The actions people take and the reasons for those actions are fascinating.	1	2	3	4	5	6
	Inter_Und4: I seldom consider why people behave in a certain way.	1	2	3	4	5	6
	Inter_Und5: Other people's behaviour does not interest me.	1	2	3	4	5	6
Questioning mind (QM)	*QM1*: My friends tell me that I usually question things that I see or hear.	1	2	3	4	5	6
	QM2: I frequently question things that I see or hear	1	2	3	4	5	6
	QM3: I often reject statements unless I have proof that they are true.	1	2	3	4	5	6
Self-Confidence (SC)	*Self_Con1*: I have confidence in myself.	1	2	3	4	5	6
	Self_Con2: I do not feel sure of myself.	1	2	3	4	5	6
	Self_Con3: I am self-assured.	1	2	3	4	5	6
	Self_Con4: I am confident of my abilities.	1	2	3	4	5	6
	Self_Con5: I feel good about myself.	1	2	3	4	5	6
Self-Determining (SD)	*Self_Det1*: I tend to immediately accept what other people tell me	1	2	3	4	5	6
	Self_Det2: I usually accept things I see, read, or hear at face value.	1	2	3	4	5	6
	Self_Det3: I often accept other people's explanations without further thought.	1	2	3	4	5	6
	Self_Det4: It is easy for other people to convince me.	1	2	3	4	5	6
	Self_Det5: Most often I agree with what the others in my group think.	1	2	3	4	5	6
	Self_Det6: I usually notice inconsistencies in explanations.	1	2	3	4	5	6
Search for knowledge (SK)	*SK1*: I think that learning is exciting.	1	2	3	4	5	6
	SK2: I relish learning.	1	2	3	4	5	6
	SK3: Discovering new information is fun.	1	2	3	4	5	6
	SK4: I like searching for knowledge.	1	2	3	4	5	6
	SK5: The prospect of learning excites me.	1	2	3	4	5	6
	SK6: I enjoy trying to determine if what I read or hear is true.	1	2	3	4	5	6
Suspension of Judgement (SJ)	*SJ1*: I take my time when making decisions.	1	2	3	4	5	6
	SJ2: I do not like to decide until I've looked at all of the readily available information.	1	2	3	4	5	6
	SJ3: I dislike having to make decisions quickly	1	2	3	4	5	6
	SJ4: I like to ensure that I've considered most available information before making a decision	1	2	3	4	5	6
	SJ5: I wait to decide on issues until I can get more information.	1	2	3	4	5	6

4.3: Empirical Model:

4.3.1: Regression specification for testing H1:

To investigate the effect of Auditors' Professional Skepticism on the accounting estimates, the following regression estimation is conducted:

$$AE\ (FV) = \alpha + \beta 1\ PF + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (1\text{-}1)$$

$$AE\ (IMPAIR.) = \alpha + \beta 1\ PF + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (1\text{-}2)$$

$$AE\ (OE) = \alpha + \beta 1\ PF + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (1\text{-}3)$$

Where, AE stand for the accounting estimates, FV related to the fair valuation for the accounting estimates, IMPAIR. related to the assets impairment for the accounting estimates, OE is the other estimates of accounting estimates, PF is the professional skepticism , and the remaining variables are related to the control variable trait of professional skepticism which are defined above.

4.3.2: Regression specification for testing H2:

To investigate the effect of Auditors' Industrial specialization on the accounting estimates, the following regression estimation is conducted:

$$AE\ (FV) = \alpha + \beta 1\ Spec. + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (2\text{-}1)$$

$$AE\ (IMPAIR.) = \alpha + \beta 1\ Spec. + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (2\text{-}2)$$

$$AE\ (OE) = \alpha + \beta 1\ Spec. + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (2\text{-}3)$$

Where, Spec. stand for the Auditors' Industrial specialization and the remaining variables are defined above.

4.3.3: Regression specification for testing H3:

To investigate the effect of Analytical procedures on the accounting estimates, the following regression estimation is conducted:

$$AE\ (FV) = \alpha + \beta 1\ Anal. + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (3\text{-}1)$$

$$AE\ (IMPAIR.) = \alpha + \beta 1\ Anal. + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (3\text{-}2)$$

$$AE\ (OE) = \alpha + \beta 1\ Anal. + \beta 2\ SD + \beta 3\ SJ + \beta 4\ SC + \beta 5\ SK + \beta 6\ IU + \beta 7\ QM + \varepsilon. \quad (3\text{-}3)$$

Where, Anal. Stand for the Analytical procedures and the remaining variables are defined above.

4.4 Results

4.4.1 Reliability

The tables below demonstrate that all items have corrected item-total correlation values above 0.3, which is considered to be an acceptable level of internal consistency. The scale was distributed by the researchers to the entire sample of auditors, who were instructed to complete it online using a Google form. The results were used to evaluate the scale's reliability and validity. The following table provides a summary of each construct's Cronbach's alpha and corrected item-total correlation results:

Table (5) shows some results for all variables as follow:

- For the Trait Professional Skepticism Scale the Cronbach's alpha is 0.687, 0.721, 0.651, 0.693, 0.715, 0.727 for the six dimensions respectively (Interpersonal Understanding, Questioning mind, Self-Confidence, Self-Determining, Search for knowledge and Suspension of Judgement) which means high level of reliability for all dimensions.
- For the Professional Skepticism Scale (Potential Fraud) the Cronbach's alpha is 0.758 which represents a good indicator of the reliability of this construct.
- Additionally, the value of corrected item- total correlation of all items exceeds 0.3 which constituted good internal consistency.
- Moreover, increasing the means of scale dimensions which means that the auditors' sample agree about the traits of Professional Skepticism and the potential fraud items.
- Finally, low levels of the standard deviations refers to decreasing the dispersion level of respondents, in addition the normal distribution of data can be achieved when the absolute values of skweness range between ±3, and the values of kurtosis range between ±10. Therefore, according to table (5), these two conditions are satisfied and the data are normally distributed.

4.4.2 Validity tests

Validity refers to what characteristic the test measures and how well the test measures that characteristic, so we conduct the validity tests for the multidimensional scales of this study as follow:

1- Trait Professional Skepticism Scale:

Table 5: reliability Tests.

Main Variables	Dimensions	Sub Scale	Alpha	Correlation	Mean	Std. Dev.	Skewness	Kurtosis
Trait Professional Skepticism Scale	Interpersonal Understanding	*Inter_Und1*	*0.687*	0.551	4.882	0.614	1.962	2.245
		Inter_Und2		0.499	4.401	0.614	2.291	2.561
		Inter_Und3		0.619	4.498	0.528	2.183	4.160
		Inter_Und4		0.527	4.599	0.538	2.138	4.079
		Inter_Und5		0.375	3.899	0.678	1.947	2.868
	Questioning mind	*QM1*	*0.721*	0.623	5.016	0.439	1.958	4.428
		QM2		0.474	4.791	0.669	2.042	4.194
		QM3		0.656	4.531	0.440	1.893	3.042
	Self-Confidence	*Self_Con1*	*0.651*	0.596	4.175	0.528	2.289	4.734
		Self_Con2		0.620	5.016	0.679	1.634	4.216
		Self_Con3		0.638	4.487	0.427	1.957	3.993
		Self_Con4		0.470	4.442	0.476	2.199	4.956
		Self_Con5		0.337	4.472	0.487	1.460	5.118
	Self-Determining	*Self_Det1*	*0.693*	0.514	4.018	0.461	1.587	4.037
		Self_Det2		0.401	4.296	0.468	1.826	1.644
		Self_Det3		0.626	4.546	0.561	1.669	4.543
		Self_Det4		0.613	3.827	0.659	1.477	5.377
		Self_Det5		0.375	5.004	0.442	2.348	2.833
		Self_Det6		0.435	4.130	0.654	1.597	5.188
	Search for knowledge	*SJ1*	*0.715*	0.377	5.012	0.465	1.994	4.973
		SJ2		0.424	4.222	0.629	1.521	1.555
		SJ3		0.648	3.869	0.549	1.629	2.222
		SJ4		0.353	4.267	0.502	1.780	2.931
		SJ5		0.448	4.210	0.609	1.434	3.892
	Search for knowledge	*SK1*	*0.727*	0.333	4.258	0.572	2.297	2.389
		SK2		0.531	4.212	0.674	2.286	3.831
		SK3		0.614	4.491	0.523	1.817	5.038
		SK4		0.508	4.474	0.554	2.346	4.090
		SK5		0.522	4.217	0.559	2.072	4.477
		SK6		0.624	4.708	0.545	1.466	5.370
Professional Skepticism Scale (Potential Fraud)	*PF 1*	*0.758*		0.596	7.072	0.662	1.467	4.203
	PF 2			0.611	7.284	0.642	1.578	3.493
	PF 3			0.355	7.588	0.556	2.347	2.539
	PF 4			0.425	6.483	0.439	1.628	5.041
	PF 5			0.416	7.713	0.611	1.776	2.377
	PF 6			0.430	6.985	0.65	2.221	4.671
	PF 7			0.457	6.696	0.57	2.235	4.733
	PF 8			0.342	7.875	0.538	2.115	3.054
	PF 9			0.556	6.219	0.549	2.245	2.671
	PF 10			0.428	6.598	0.458	1.975	2.957
	PF 11			0.383	6.643	0.594	1.634	1.741
	PF 12			0.572	7.041	0.543	1.907	4.915

Table 6: Validity results of Trait Professional Skepticism Scale.

		Factor Loading	Kaiser-Meyer-Olkin (KMO)	Bartlett's Test of Sphericity		AVE	SQRT AVE	CR
				Chi Square	Sig.			
1	*Inter_Und1*	0.778	0.736	2425.381	0.000	0.659	0.812	0.671
2	*Inter_Und2*	0.620						
3	*Inter_Und3*	0.760						
4	*Inter_Und4*	0.740						
5	*Inter_Und5*	0.559						
6	*QM1*	0.720						
7	*QM2*	0.745						
8	*QM3*	0.770						
9	*Self_Con1*	0.563						
10	*Self_Con2*	0.706						
11	*Self_Con3*	0.621						
12	*Self_Con4*	0.654						
13	*Self_Con5*	0.597						
14	*Self_Det1*	0.730						
15	*Self_Det2*	0.696						
16	*Self_Det3*	0.568						
17	*Self_Det4*	0.625						
18	*Self_Det5*	0.671						
19	*Self_Det6*	0.572						
20	*SJ1*	0.572						
21	*SJ2*	0.706						
22	*SJ3*	0.651						
23	*SJ4*	0.684						
24	*SJ5*	0.615						
25	*SK1*	0.625						
26	*SK2*	0.643						
27	*SK3*	0.570						
28	*SK4*	0.770						
29	*SK5*	0.642						
30	*SK6*	0.599						

The Trait Professional Scepticism Scale was then subjected to confirmatory factor analysis using the statistical programme AMOS. Despite the small sample size, the results were satisfactory (CFI=0.961, RMSEA=0.037). Given our short sample size, we employ standards for good fit of CFI = 0.90 and RMSEA = 0.08 [86] . Furthermore, factor loadings are important and higher than 0.50 [86]. The data are of good quality and may be relied upon because the Bartlett's Test of Sphericity was significant and the Kaiser-Meyer-Olkin (KMO) test for reliability was 0.736 when the scale was seen as a single factor.

A factor average variance extracted (AVE) that is larger than 0.50 indicates further convergent validity; the AVE for this sample was 0.659 [87]. Additionally, discriminant validity is shown if each construct's square root of AVE is higher than the correlation of that construct with other components [87]. The composite measure's square root of AVE for our sample is 0.812, and 0.656 is the strongest correlation between the composite or individual dimensions and the corresponding trait scale measurements. The composite reliability we arrived at is 0.671 times greater than 0.5, indicating the strong dependability of this scale.

2- Professional Skepticism Scale (Potential Fraud):

Table 7: Validity results of Professional Skepticism Scale (Potiential Fraud).

		Factor Loading	Kaiser-Meyer-Olkin (KMO)	Bartlett's Test of Sphericity		AVE	SQRT AVE	CR
				Chi Square	Sig.			
1	*PF 1*	0.745	0.697	2697.891	0.000	0.685	0.828	0.624
2	*PF 2*	0.690						
3	*PF 3*	0.769						
4	*PF 4*	0.732						
5	*PF 5*	0.583						
6	*PF 6*	0.628						
7	*PF 7*	0.667						
8	*PF 8*	0.697						
9	*PF 9*	0.724						
10	*PF 10*	0.659						
11	*PF 11*	0.689						
12	*PF 12*	0.640						

Despite the limited sample size, confirmatory factor analysis using AMOS statistical software for all Professional Scepticism Scale (Potential Fraud) Scale dimensions produced a reasonable match (CFI=0.965, RMSEA=0.042). Given our short sample size, we utilise benchmarks of CFI = 0.90 and RMSEA = 0.08 for adequate fit [86]. According to ([86], factor loadings are also significant and higher than 0.50. The data are of a high standard and may be trusted because the Kaiser-Meyer-Olkin (KMO) measure of reliability was 0.697 and the Bartlett's Test of Sphericity was significant.

A factor average variance extracted (AVE) that is larger than 0.50 indicates further convergent validity; the AVE for this sample was 0.685 ([87]. Additionally, discriminant validity is shown if each construct's square root of AVE is higher than the correlation of that construct with other components ([87]. The composite measure's square root of AVE for our sample is 0.828, and the correlation between the composite or individual dimensions and the corresponding trait scale measures that is highest is 0.611. The composite reliability we arrived at is 0.624 times greater than 0.5, indicating the strong dependability of this scale.

3- Accounting Estimates

Table 8: Validity results of accounting estimates.

		Factor Loading	Kaiser-Meyer-Olkin (KMO)	Bartlett's Test of Sphericity		AVE	SQRT AVE	CR
				Chi Square	Sig.			
1	*Fair valuation*	0.749	0.711	2897.147	0.000	0.672	0.820	0.698
2	*Impairment review and loss estimation*	0.671						
3	*Other estimations*	0.595						

Despite the short sample size, confirmatory factor analysis using AMOS statistical software for all accounting estimates Scale dimensions produced a reasonable match (CFI=0.971, RMSEA=0.051). Given our short sample size, we utilise benchmarks of CFI = 0.90 and RMSEA = 0.08 for adequate fit [86]. Furthermore, significant factor loadings that exceed 0.50 exist [86]. The data are of a high standard and may be trusted because the Kaiser-Meyer-Olkin (KMO) measure of reliability was 0.711 and the Bartlett's Test of Sphericity was significant.

A factor average variance extracted (AVE) that is larger than 0.50 indicates further convergent validity; the AVE for this sample was 0.672 ([87]. Additionally, discriminant validity is shown if each construct's square root of AVE is higher than the correlation of that construct with other components ([87]. The composite measure's square root of AVE for our sample is 0.820, and 0.618 is the strongest correlation between the composite or individual dimensions and the corresponding trait scale measurements. The composite reliability that we finally arrived at is 0.698 times greater than 0.5, indicating the strong dependability of this scale.

4.4.3 Descriptive Statistics

A descriptive statistic (in the count noun sense) is a summary statistic that quantitatively describes or summarizes features from a collection of information,

From this standpoint, the researchers prepared the so we can show the summary of descriptive statistics for all dimensions and variables though the following table as follow:

Table No. (9): Validity results of accounting estimates

		Mean	Std. Dev.	Min.	Max.	Skewness	Kurtosis
Trait Professional Skepticism Scale	*Self-Determining*	5.997	0.644	1	6	2.037	4.437
	Suspension of Judgement	5.913	0.766	1	6	1.221	5.908
	Self-Confidence	5.078	0.796	1	6	1.508	3.730
	Search for knowledge	4.751	0.749	1	6	1.509	4.201
	Interpersonal Understanding	6.319	0.758	1	6	1.240	5.837
	Questioning mind	4.927	0.674	1	6	2.028	2.825
Professional Skeptisism	*PF 1*	7.072	0.662	1	9	1.438	3.687
	PF 2	7.284	0.642	1	9	1.979	4.857
	PF 3	7.588	0.556	1	9	2.182	4.337
	PF 4	6.483	0.439	1	9	1.877	4.701
	PF 5	7.713	0.611	1	9	1.950	3.231
	PF 6	6.985	0.650	1	9	1.292	3.976
	PF 7	6.696	0.570	1	9	1.581	1.860
	PF 8	7.875	0.538	1	9	1.822	3.182
	PF 9	6.219	0.549	1	9	1.599	3.687
	PF 10	6.598	0.458	1	9	1.407	5.309
	PF 11	6.643	0.594	1	9	1.887	3.681
	PF 12	7.041	0.543	1	9	1.476	1.533
Accounting Estimates	*Fair valuation*	7.450	0.758	5	12	1.651	3.771
	Impairment review and loss estimation	115.516	0.547	71	198	1.587	4.389
	Other estimations	28.321	0.818	15	47	1.982	4.300
Auditors' Industrial specialization		0.610	0.125	0	1	1.329	2.946
Analytical procedures		4.250	0.318	3	6	1.311	2.226

for this is that the measures of Trait Professional Skepticism Scale & Professional Skepticism Scale (Potiential Fraud) are multidimensional scales and each of these dimensions is measured with a standard score different from the others, and then it becomes an ordinal scale that proves the importance of using the coefficient. Spearman correlation to identify the extent to which the dimensions of a variable are related to each other.

correlation matrix between the variables through two main sections: the first section, which is the upper right section, which is the Spearman correlation coefficients, and the lower left section, which is the Pearson correlation coefficients, through Table No. (10), the results of this table indicate the validity of the statistical hypotheses initially, otherwise the validity of hypotheses testing models where the coefficients of correlation among all variables are less than, 0.8.

Table 10: Correlation Matrix.

	SD	SJ	SC	SK	IU	QM	PF 1	PF 2	PF 3	PF 4	PF 5	PF 6
SD	1	0.326	0.541	0.536	0.471	0.387	0.411	0.387	0.502	0.429	0.591	0.600
SJ	0.357	1	0.457	0.337	0.614	0.413	0.536	0.410	0.368	0.335	0.594	0.524
SC	0.498	0.547	1	0.551	0.506	0.459	0.442	0.583	0.377	0.496	0.413	0.407
SK	0.506	0.348	0.452	1	0.494	0.386	0.471	0.402	0.546	0.334	0.381	0.504
IU	0.513	0.327	0.485	0.376	1	0.409	0.381	0.546	0.527	0.472	0.563	0.611
QM	0.412	0.540	0.330	0.509	0.614	1	0.536	0.608	0.551	0.446	0.447	0.345
PF 1	0.331	0.530	0.329	0.378	0.503	0.405	1	0.607	0.327	0.388	0.473	0.607
PF 2	0.455	0.416	0.512	0.540	0.397	0.405	0.451	1	0.391	0.611	0.372	0.440
PF 3	0.507	0.375	0.578	0.594	0.571	0.401	0.369	0.356	1	0.542	0.382	0.326
PF 4	0.549	0.525	0.387	0.571	0.470	0.600	0.379	0.348	0.382	1	0.515	0.495
PF 5	0.433	0.573	0.433	0.584	0.560	0.522	0.584	0.577	0.563	0.615	1	0.427
PF 6	0.439	0.488	0.354	0.518	0.607	0.372	0.570	0.536	0.399	0.580	0.458	1
PF 7	0.556	0.406	0.539	0.615	0.370	0.370	0.352	0.436	0.544	0.440	0.368	0.554
PF 8	0.331	0.570	0.513	0.452	0.590	0.457	0.522	0.588	0.438	0.600	0.401	0.485
PF 9	0.456	0.602	0.563	0.465	0.600	0.544	0.414	0.411	0.356	0.358	0.553	0.509
PF 10	0.614	0.395	0.454	0.357	0.464	0.459	0.391	0.599	0.363	0.370	0.594	0.507
PF 11	0.358	0.408	0.455	0.444	0.368	0.384	0.613	0.522	0.346	0.507	0.458	0.429
PF 12	0.396	0.564	0.551	0.374	0.491	0.414	0.528	0.427	0.411	0.354	0.384	0.511
FV	0.580	0.493	0.547	0.458	0.541	0.574	0.613	0.376	0.452	0.572	0.525	0.433
IMPAIR	0.614	0.434	0.600	0.470	0.543	0.356	0.575	0.496	0.607	0.438	0.384	0.487
OE	0.335	0.329	0.371	0.377	0.615	0.474	0.351	0.501	0.370	0.397	0.459	0.519
Spec.	0.496	0.381	0.346	0.469	0.359	0.329	0.454	0.402	0.382	0.548	0.593	0.469
Anal.	0.470	0.453	0.417	0.363	0.596	0.550	0.538	0.392	0.604	0.567	0.484	0.557

	PF 7	PF 8	PF 9	PF 10	PF 11	PF 12	FV	IMPAIR.	OE	Spec.	Anal.
SD	0.536	0.411	0.590	0.572	0.482	0.450	0.436	0.496	0.593	0.515	0.467
SJ	0.542	0.456	0.521	0.451	0.461	0.578	0.447	0.405	0.505	0.455	0.449
SC	0.499	0.342	0.368	0.562	0.340	0.357	0.585	0.606	0.452	0.430	0.359
SK	0.428	0.420	0.396	0.473	0.332	0.547	0.372	0.519	0.509	0.409	0.556
IU	0.365	0.498	0.565	0.409	0.511	0.541	0.396	0.528	0.379	0.408	0.569
QM	0.540	0.578	0.569	0.359	0.530	0.606	0.465	0.326	0.373	0.418	0.445
PF 1	0.367	0.339	0.511	0.589	0.483	0.361	0.566	0.593	0.590	0.488	0.501
PF 2	0.364	0.555	0.503	0.416	0.552	0.353	0.527	0.562	0.574	0.419	0.543
PF 3	0.372	0.475	0.431	0.435	0.476	0.508	0.527	0.614	0.462	0.617	0.361
PF 4	0.552	0.587	0.356	0.494	0.328	0.598	0.386	0.471	0.330	0.441	0.560
PF 5	0.402	0.604	0.440	0.609	0.468	0.403	0.592	0.570	0.480	0.563	0.519

PF 6	0.494	0.498	0.501	0.452	0.609	0.477	0.485	0.470	0.456	0.372	0.389
PF 7	1	0.551	0.384	0.502	0.443	0.375	0.346	0.427	0.416	0.616	0.477
PF 8	0.445	1	0.438	0.585	0.545	0.551	0.564	0.531	0.408	0.429	0.519
PF 9	0.568	0.496	1	0.370	0.534	0.471	0.393	0.494	0.492	0.558	0.584
PF 10	0.399	0.526	0.517	1	0.551	0.476	0.361	0.430	0.351	0.350	0.426
PF 11	0.574	0.584	0.578	0.394	1	0.337	0.397	0.450	0.482	0.332	0.602
PF 12	0.445	0.374	0.517	0.531	0.552	1	0.417	0.491	0.426	0.386	0.362
FV	0.508	0.418	0.597	0.452	0.549	0.420	1	0.444	0.473	0.525	0.594
IMPAIR	0.572	0.488	0.445	0.470	0.343	0.569	0.376	1	0.447	0.507	0.489
OE	0.461	0.536	0.547	0.496	0.553	0.378	0.448	0.433	1	0.506	0.615
Spec.	0.470	0.549	0.453	0.595	0.585	0.616	0.604	0.506	0.477	1	0.513
Anal.	0.457	0.474	0.549	0.462	0.526	0.571	0.565	0.590	0.393	0.548	1

4.5 Regression analysis results

While descriptive statistics and correlation analysis are informative, more conclusive evidence can be obtained through multivariate regression analysis that controls for a number of firm-specific variables affecting accounting estimates:

4.5.1: The professional skepticism & Accounting estimates (H1):

Table 11: Results of H1.

Variables	**Panel (A) : Fair valuation**			**Panel (B) : Impairment review and loss estimation**		
	β Coef.	**T**	**P-Value**	**β Coef.**	**T**	**P-Value**
Cons.	0.081	0.927	0.118	0.058	0.977	0.111
PF 1	0.189	2.529	0.023	0.089	0.945	0.125
PF 2	0.067	0.481	0.139	0.308	2.539	0.033
PF 3	0.120	2.680	0.014	0.058	0.936	0.130
PF 4	0.087	0.979	0.112	0.259	2.594	0.025
PF 5	0.263	2.695	0.031	0.061	0.494	0.283
PF 6	0.210	2.226	0.002	0.116	2.987	0.023
PF 7	0.203	3.044	0.012	0.156	2.315	0.007
PF 8	0.028	0.261	0.213	0.163	2.429	0.036
PF 9	0.115	2.492	0.013	0.281	3.067	0.042
PF 10	0.287	2.671	0.019	0.163	2.226	0.020
PF 11	0.208	2.966	0.040	0.186	2.815	0.028
PF 12	0.059	0.444	0.129	0.027	0.963	0.244
Total Professional Skeptisism	**0.289**	**2.264**	**0.003**	**0.327**	**3.136**	**0.023**
Self-Determining	0.205	2.997	0.032	0.161	2.383	0.026
Suspension of Judgement	0.214	2.616	0.030	0.150	2.631	0.039
Self-Confidence	0.084	0.909	0.124	0.315	2.289	0.011
Search for knowledge	0.148	2.629	0.021	0.250	3.206	0.008
Interpersonal Understanding	0.250	3.127	0.026	0.094	0.512	0.226
Questionning mind	0.149	2.344	0.005	0.095	0.555	0.219
Total Trait Professional Skepticism	**0.357**	**2.630**	**0.032**	**0.352**	**2.345**	**0.033**
R2	37.1%			35.1%		
VIF (MAX)	1.418			1.518		
N	96			96		

Variables	Panel (C) :Other estimations			Panel (D) : Total Accounting estimates		
	β Coef.	T	P-Value	β Coef.	T	P- Value
Cons.	0.018	0.985	0.135	0.012	0.848	0.199
PF 1	0.285	2.451	0.003	0.298	2.779	0.034
PF 2	0.277	2.903	0.034	0.209	2.767	0.038
PF 3	0.083	0.864	0.140	0.315	0.836	0.218
PF 4	0.247	2.675	0.005	0.205	3.084	0.034
PF 5	0.071	0.400	0.112	0.190	0.974	0.236
PF 6	0.192	2.728	0.002	0.282	3.171	0.009
PF 7	0.150	2.643	0.038	0.334	3.083	0.020
PF 8	0.184	2.314	0.041	0.307	2.606	0.039
PF 9	0.101	2.519	0.010	0.164	2.728	0.000
PF 10	0.245	3.153	0.017	0.105	2.793	0.039
PF 11	0.082	0.713	0.141	0.286	2.528	0.005
PF 12	0.122	2.439	0.011	0.068	0.619	0.110
Total Professional Skeptisism	**0.398**	**3.764**	**0.000**	**0.450**	**3.577**	**0.000**
Self-Determining	0.239	2.700	0.038	0.266	2.289	0.004
Suspension of Judgement	0.195	2.737	0.018	0.251	2.266	0.018
Self-Confidence	0.137	3.096	0.038	0.220	2.823	0.019
Search for knowledge	0.039	0.564	0.137	0.259	2.851	0.022
Interpersonal Understanding	0.265	2.398	0.045	0.294	2.940	0.027
Questionning mind	0.274	2.834	0.042	0.189	2.481	0.021
Total Trait Professional Skepticism	**0.349**	**3.659**	**0.001**	**0.221**	**3.215**	**0.037**
R2	36.5%			38.4%		
VIF (MAX)	1.217			1.697		
N	96			96		

Based on the above results of H1, It is obvious that R^2 for the models equal 37.1%, 35.1%, 36.5% and 38.4% respectively, which means that the independent variables of Auditors' professional skepticism & the trait of professional skepticism can explain 37.1%, 35.1%, 36.5% and 38.4% from the change of fair valuation, Impairment review and loss estimation and other estimations as dimensions of accounting estimates. In addition, there is no multicollinearity problems in the first regression model where (VIF (MAX) = 1.418, 1.518, 1.217, 1.697) respectively.

From Panel (A), It is obvious that the dimensions of professional skepticism positively effect on the accounting estimates in the side of fair values estimates which represented in PF1, 3, 5, 6, 7, 9, 10, 11 where all the coefficients of theses dimensions are significant, moreover the control variables related to the trait of professional skepticism are significant except the Self-Confidence dimension. *This result means that Auditors' Professional Skepticism positively effects on fair valuation as one of the dimensions of accounting estimates in Saudi stock market exchange.*

The results of Panel (B), It is obvious that the dimensions of Professional Skepticism positively effect on the accounting estimates in the side of Impairment review and loss estimation which represented in PF2, 4, 6, 7, 8, 9, 10, 11 where all the coefficients of theses dimensions are significant, moreover the control variables related to the

trait of professional skepticism are significant except the Interpersonal Understanding & Questioning mind dimensions. *This result means that Auditors' Professional Skepticism positively effects on Impairment review and loss estimation as one of the dimensions of accounting estimates in Saudi stock market exchange.*

The results of Panel (C) revealed that the dimensions of Professional Skepticism positively effect on the accounting estimates in the side of other estimations which represented in PF1, 2, 4, 6, 7, 8, 9, 10, 12 where all the coefficients of theses dimensions are significant, moreover the control variables related to the trait of professional skepticism are significant except the Search for knowledge dimension. *This result means that Auditors' Professional Skepticism positively effects on other estimations as one of the dimensions of accounting estimates in Saudi stock market exchange.*

Finally, results of panel (D) ensure that the dimensions of Professional Skepticism positively effect on the total accounting estimates which represented in PF1, 2, 4, 6, 7, 8, 9, 10, 11 where all the coefficients of theses dimensions are significant, moreover the control variables related to the trait of professional skepticism are significant. *This result means that Auditors' Professional Skepticism positively effects on total accounting estimates in Saudi stock market exchange.*

Based on the results of panels (A, B, C, D), we can accept the first hypothesis of this study on the alternative form as follow: ***H1, Auditors' Professional Skepticism as one of the measures professional judgment positively effects on accounting estimates.***

4.5.2: Auditors' Industrial specialization & Accounting estimates (H2):

Variables	**Panel (A) : Fair valuation**			**Panel (B) : Impairment review and loss estimation**		
	β Coef.	**T**	**P-Value**	**β Coef.**	**T**	**P- Value**
Cons.	0.115	3.177	0.019	0.293	2.424	0.002
Auditors' Industrial specialization	**0.117**	**2.262**	**0.023**	**0.134**	**2.328**	**0.036**
Self-Determining	0.250	2.265	0.042	0.089	0.995	0.131
Suspension of Judgement	0.207	3.184	0.026	0.077	0.677	0.128
Self-Confidence	0.061	0.623	0.105	0.070	0.815	0.135
Search for knowledge	0.132	3.168	0.028	0.301	3.038	0.004
Interpersonal Understanding	0.311	2.844	0.011	0.095	0.973	0.177
Questionning mind	0.053	0.674	0.114	0.087	0.934	0.108
Total Trait Professional Skepticism	**0.281**	**2.568**	**0.007**	**0.131**	**2.469**	**0.020**
R2	38.6%			35.2%		
VIF (MAX)	1.236			1.318		
N	96			96		

Variables	Panel (C) :Other estimations			Panel (D) : Total Accounting estimates		
	β Coef.	T	P-Value	β Coef.	T	P-Value
Cons.	0.198	2.848	0.034	0.200	2.798	0.026
Auditors' Industrial specialization	**0.304**	**2.328**	**0.026**	**0.189**	**2.587**	**0.013**
Self-Determining	0.270	2.338	0.002	0.200	2.287	0.031
Suspension of Judgement	0.082	0.637	0.143	0.066	0.535	0.111
Self-Confidence	0.044	0.862	0.162	0.017	0.616	0.135
Search for knowledge	0.304	2.901	0.031	0.243	2.372	0.026
Interpersonal Understanding	0.282	2.905	0.014	0.159	3.033	0.005
Questionning mind	0.248	3.168	0.002	0.200	3.122	0.042
Total Trait Professional Skepticism	**0.110**	**2.361**	**0.023**	**0.129**	**2.804**	**0.029**
R2	35.8%			37.9%		
VIF (MAX)	1.425			1.115		
N	96			96		

Based on the above results of H2, It is obvious that R^2 for the models equal 38.6%, 35.2%, 35.8% and 37.9% respectively, which means that the independent variables of Auditors' Industrial specialization & the trait of professional skepticism can explain 38.6%, 35.2%, 35.8% and 37.9% from the change of fair valuation, Impairment review and loss estimation and other estimations as dimensions of accounting estimates. In addition, there is no multicollinearity problems in the second regression model where (VIF (MAX) = 1.236, 1.318, 1.425, 1.115) respectively.

From Panel (A), It is obvious that the Auditors' Industrial specialization positively effect on the accounting estimates in the side of fair values estimates where the coefficient of this variable is significant, moreover the control variables related to the trait of professional skepticism are significant except the Self-Confidence & Questioning mind dimensions. *This result means that Auditors' Industrial specialization positively effects on fair valuation as one of the dimensions of accounting estimates in Saudi stock market exchange.*

The results of Panel (B), It is obvious that the Auditors' Industrial specialization positively effect on the accounting estimates in the side of Impairment review and loss estimation where the coefficient of this variable is significant, moreover the control variables related to the trait of professional skepticism are insignificant except the Search for knowledge dimension. *This result means that Auditors' Industrial specialization positively effects on Impairment review and loss estimation as one of the dimensions of accounting estimates in Saudi stock market exchange.*

The results of Panel (C) revealed that the Auditors' Industrial specialization positively effect on the accounting estimates in the side of other estimations where the coefficient of this variable is significant, moreover the control variables related to the trait of professional skepticism are significant except the Suspension of Judgement & Self-Confidence dimensions. *This result means that Auditors' Industrial specialization positively effects on other estimations as one of the dimensions of accounting estimates in Saudi stock market exchange.*

Finally, results of panel (D) ensure that the Auditors' Industrial specialization positively effect on the total accounting estimates where the coefficient of this variable is significant, moreover the control variables related to the trait of professional skepticism are significant except the Suspension of Judgement & Self-Confidence dimensions. *This result means that Auditors' Industrial specialization positively effects on total accounting estimates in Saudi stock market exchange.*

Based on the results of panels (A, B, C, D), we can accept the second hypothesis of this study on the alternative form as follow: ***H2, Auditors' Industrial specialization as one of the measures professional judgment positively effects on accounting estimates.***

Table 13: Results of H3.

Variables	Panel (A) : Fair valuation			Panel (B) : Impairment review and loss estimation		
	β Coef.	**T**	**P-Value**	**β Coef.**	**T**	**P-Value**
Cons.	0.107	2.473	0.029	0.276	2.424	0.021
Analytical procedures	**0.286**	**2.428**	**0.045**	**0.306**	**2.591**	**0.036**
Self-Determining	0.016	0.329	0.137	0.034	0.441	0.107
Suspension of Judgement	0.296	2.234	0.041	0.197	2.492	0.009
Self-Confidence	0.254	2.477	0.036	0.157	2.944	0.040
Search for knowledge	0.207	2.879	0.042	0.119	2.821	0.009
Interpersonal Understanding	0.026	0.455	0.123	0.030	0.571	0.142
Questioning mind	0.244	2.995	0.009	0.150	2.558	0.007
Total Trait Professional Skepticism	**0.060**	**3.028**	**0.037**	**0.203**	**2.550**	**0.021**
R2	32.3%			34.6%		
VIF (MAX)	1.468			1.532		
N	96			96		

Variables	Panel (C) :Other estimations			Panel (D) : Total Accounting estimates		
	β Coef.	**T**	**P-Value**	**β Coef.**	**T**	**P-Value**
Cons.	0.111	2.805	0.026	0.242	2.665	0.027
Analytical procedures	**0.064**	**2.460**	**0.031**	**0.192**	**2.428**	**0.001**
Self-Determining	0.160	2.689	0.026	0.057	0.787	0.131
Suspension of Judgement	0.041	0.711	0.115	0.185	2.496	0.025
Self-Confidence	0.171	2.283	0.043	0.205	2.782	0.019
Search for knowledge	0.070	0.557	0.109	0.264	2.780	0.030
Interpersonal Understanding	0.174	3.015	0.040	0.206	2.968	0.024
Questioning mind	0.042	0.896	0.116	0.068	0.902	0.225
Total Trait Professional Skepticism	**0.123**	**2.637**	**0.021**	**0.297**	**2.466**	**0.039**
R2	33.4%			37.2%		
VIF (MAX)	1.671			1.712		
N	96			96		

Based on the above results of H3,It is obvious that R^2 for the models equal 32.3%, 34.6%, 33.4% and 37.2% respectively, which means that the independent variables of Analytical procedures & the trait of professional scepticism can explain 32.3%, 34.6%, 33.4% and 37.2% from the change of fair valuation, Impairment review and loss estimation and other estimations as dimensions of accounting estimates. In addition, there is no multicollinearity problems in the third regression model Where (VIF (MAX) = 1.468, 1.532, 1.671, 1.712) respectively.

From Panel (A), It is obvious that the Analytical procedures positively effect on the accounting estimates in the side of fair values estimates where the coefficient of this variable is significant, moreover the control variables related to the trait of professional skepticism are significant except the Self-Determining & Interpersonal Understanding dimensions. *This result means that Analytical procedures*

positively effects on fair valuation as one of the dimensions of accounting estimates in Saudi stock market exchange.

The results of Panel (B), It is obvious that the Analytical procedures positively effect on the accounting estimates in the side of Impairment review and loss estimation where the coefficient of this variable is significant, moreover the control variables related to the trait of professional skepticism are significant except Self-Determining & Interpersonal Understanding dimensions. *This result means that Analytical procedures positively effects on Impairment review and loss estimation as one of the dimensions of accounting estimates in Saudi stock market exchange.*

The results of Panel (C) revealed that the Analytical procedures positively effect on the accounting estimates in the side of other estimations where the coefficient of this variable is significant, moreover the control variables related to the trait of professional skepticism are significant except the Suspension of Judgement & Search for knowledge & Questioning mind dimensions. *This result means that Analytical procedures positively effects on other estimations as one of the dimensions of accounting estimates in Saudi stock market exchange.*

Finally, results of panel (D) ensure that the Analytical procedures positively effect on the total accounting estimates where the coefficient of this variable is significant, moreover the control variables related to the trait of professional skepticism are significant except the Self-Determining & Questioning mind dimensions. *This result means that Analytical procedures positively effects on total accounting estimates in Saudi stock market exchange.*

Based on the results of panels (A, B, C, D), we can accept the third hypothesis of this study on the alternative form as follow: ***H3, Analytical procedures as one of the measures professional judgment positively effects on accounting estimates.***

5 Conclusion and Future Research

The research aims to analyze the relationship between accounting estimates and professional judgment measures (professional skepticism, Auditors' Industrial specialization, and analytical procedures), in firms and its auditors in the year ended in 2022 in Saudi stock market exchange. Through theoretical and practical study, the researchers can conclude that:

The auditor’s obtaining sufficient and appropriate audit evidence about the reasonableness of accounting estimates and the adequacy of their disclosure achieves the quality of professional judgment in accordance with ISA.540 and the determinants of disclosing accounting estimates are industrial specialization, management's motives for disclosing accounting estimates, the size of the company and the size of the audit firm.

The use of estimates may have a negative impact by circumventing measurement issues that can negatively affect alternative measures, estimates may distort accounting principles, and may indicate more undetected material misstatements Identifying and evaluating the risks of material misstatements resulting from accounting estimate is necessary when reviewing them, especially fair value estimates.

The auditor's professional skepticism, as one of the measures of professional judgment, achieves the quality of his evaluation of management's estimates and arrives at convincing evidence regarding the reasonableness of accounting estimates, by increasing the tendency of the auditor's professional skepticism, improving his understanding of the client organization's environment, and improving the auditor's assessment of audit risks related to accounting estimates.

Where the statistical results illustrate that the independent variables of Auditors’ Professional Skepticism & the trait of professional skepticism can explain 37.1%, 35.1%, 36.5% and 38.4% from the change of fair value, Impairment review and loss estimation and other estimations as dimensions of accounting estimates in most sector companies listed on the Saudi stock market (Basic Resources, Durable Goods, Foods industry, Pharmaceutical, Communications, Real Estate).

It is obvious that the dimensions of professional skepticism positively effect on the accounting estimates in the side of fair values estimates, impairment review and loss estimation and other estimations ,moreover the control variables related to the trait of professional skepticism are significant except the Self-Confidence dimension. This result means that Auditors’ professional skepticism as one of the measures professional judgment positively effects on accounting estimates in Saudi stock market exchange .

Industrial specialization is one of the important measures of professional judgment that contributes to the efficiency of professional judgment with regard to reviewing accounting estimates. Where the statistical results illustrate the independent variables of Auditors' Industrial specialization & the trait of professional skepticism can explain 38.6%, 35.2%, 35.8% and 37.9% from the change of fair valuation, Impairment review and loss estimation and other estimations as dimensions of accounting estimates.

It is obvious that the Auditors' Industrial specialization positively effect on the accounting estimates in the side of fair values estimates, Impairment review and loss estimation, other estimations, where the coefficients of this variables is significant, moreover the control variables related to the trait of professional skepticism are significant

except the Self-Confidence & Questioning mind dimensions. This result means that Auditors' Industrial specialization as one of the measures professional judgment positively effects on accounting estimates in Saudi stock market exchange.

According to the findings of the study (Boone et al 2023), the auditor's experience in reviewing accounting estimates may affect the effectiveness and efficiency of the audit and the quality of his professional judgment. Where the statistical results illustrate the independent variables of Analytical procedures & the trait of professional skepticism can explain 32.3%, 34.6%, 33.4% and 37.2% from the change of fair valuation, Impairment review and loss estimation and other estimations as dimensions of accounting estimates.

It is obvious that the Analytical procedures positively effect on the accounting estimates in the side of (fair values estimates , Impairment review and loss estimation , other estimations) where the coefficients of this variables is significant, moreover the control variables related to the trait of professional skepticism are significant except the Self-Determining &Interpersonal Understanding dimensions. This result means that Analytical procedures as one of the measures professional judgment positively effects on accounting estimate in the study sectors.

The researchers recommends it as necessary issuing an international auditing standard that regulates the relationship between the professional judgments of auditors and accounting estimations ; it is necessity of disclosing the essential matters of the audit because this achieves the quality of the auditor's practice of the provisions of professional skepticism during the implementation of the audit process; developing curricula in colleges of business on the importance of reviewing accounting estimates, and the effects of the auditor's professional judgment when reviewing these estimates in Saudi Arabia. .

Preparing future research on measures of the quality of professional judgment of auditors and their impact on the value of the enterprise in light of the globalization of economic activity, analyzing the relationship between accounting estimates and auditors' judgments and their implications for litigation risks, and the impact of bias in preparing accounting estimates on investors' judgments and decisions. The researcher also recommends conducting research on the relationship between accounting estimates and the auditor's professional judgment in companies listed in the insurance sector in Saudi Arabia.

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