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Exploring the influence of sceptical mindset on professional scepticism among accounting students in Malaysia

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ABSTRACT

This study investigates the influence of a sceptical mindset on the level of professional scepticism among accounting students at a public university in Malaysia. Specifically, it examines whether the components of a sceptical mindset, namely questioning mind, search for knowledge, and suspension of judgment, significantly affect students' professional scepticism. Based on a survey of 374 accounting students, the findings reveal that both questioning mind and search for knowledge exert a significant and positive influence on students' level of professional scepticism. In contrast, suspension of judgment does not demonstrate a statistically significant effect. These results suggest that while students are inclined to critically question information and actively seek further knowledge, they may find it challenging to delay forming conclusions in the absence of sufficient evidence. This research contributes to the current literature by providing real information on the effects that different elements of a sceptical attitude have on professional scepticism during the formative, pre-professional stage. Distinguishing between the advantages and disadvantages of the sceptical positions of students assists in creating particular teaching strategies. The implications in practice can be used by faculty teaching accounting and individuals designing curricula who desire to impart critical thinking, ethical decision-making, and ethical reasoning to students to enable them to work in auditing and finance professions. Lastly, the paper highlights the relevant role of professional scepticism in order to raise audit quality and confidence among the population on financial reporting.

Contribution/ Originality: This study contributes to the existing literature by examining sceptical mindset among accounting students before formal audit education. It extends Hurtt's professional scepticism model to a pre-professional Malaysian context and empirically identifies which cognitive traits significantly influence professional scepticism using PLS-SEM.

1. INTRODUCTION

According to the International Auditing and Assurance Standards Board [1], one of the major values of the auditing profession and crucial to the quality of the audit and the trust of an intended audience in financial reporting is professional scepticism. It is the task of questioning, critically evaluating the evidence of auditing, and being conscious of possible fraud or error-related damage [2, 3]. According to Knechel et al. [4], this skepticism plays a

significant role in tricky audit cases when auditors need to make judgments with incomplete evidence and are subject to bias.

Besides their higher ability to detect serious misstatements, auditors with a strong level of professional skeptical behavior also better develop leadership against management presumptions and influence by clients [5, 6]. Based on this, regulatory bodies, such as the Public Company Accounting Oversight Board (PCAOB) [7] and the IAASB has been calling on all auditors to enhance positive behavior of skepticism in their work through professional standards and training programs. Because it is so important for audits to succeed, teaching professional skepticism has become a major focus of accounting education. Scholars increasingly argue that skepticism is not only a professional requirement but also a stable cognitive trait that can be cultivated through structured pedagogical approaches [2, 8, 9]. Educational interventions such as case-based learning, ethical dilemma simulations, and reflective exercises have been shown to enhance students' skeptical dispositions [10]. Importantly, the early development of professional scepticism is critical for accounting students, especially those pursuing careers in assurance services, as it prepares them to meet the ethical, technical, and judgmental demands of the auditing profession [11, 12]. Without this foundational mindset, future auditors may lack the capacity to critically evaluate evidence or remain objective in high-pressure audit situations, thereby compromising audit quality and stakeholder confidence.

Despite increasing global interest in professional scepticism, empirical research on the baseline levels of scepticism among accounting students in Malaysia remains limited [13]. Existing studies have predominantly focused on professional auditors, with comparatively little attention given to how professional scepticism emerges and develops at the pre-professional stage before students are formally introduced to audit-related coursework [12, 14]. This gap is significant, as students' early cognitive dispositions and attitudes toward skepticism may shape how they internalize professional standards and respond to audit training later in their academic and professional trajectories [10]. This study aims to examine the effect of a skeptical mindset on the level of professional skepticism among accounting students in Malaysia. Specifically, this study aims to determine whether questioning the mind, searching for knowledge, and suspension of judgment influence the level of professional skepticism among accounting students in Malaysia.

The findings of this study can provide valuable input for accounting educators and curriculum developers by identifying specific areas, particularly the ability to suspend judgment, that may require pedagogical reinforcement. By pinpointing which aspects of a skeptical mindset are underdeveloped, the study supports the design of more targeted and effective instructional strategies to nurture well-rounded professional skepticism in future accountants. Moreover, it lays the groundwork for longitudinal studies to track the development of skepticism from academia to practice, ultimately contributing to audit quality and public trust in financial reporting. The next section offers a thorough examination of the relevant literature. Section 3 elucidates the research design used in this study. Section 4 presents the findings and further analysis. Section 5 concludes the study.

2. CONTRIBUTIONS OF THE STUDY

This study contributes to the advancement of research on professional scepticism by empirically examining how sceptical mindset influences the level of professional scepticism among accounting students at the pre-professional stage. While professional scepticism has been widely studied among practicing auditors in developed economies (e.g., [5, 6, 8]), limited empirical work has focused on how these traits develop before students enter the auditing profession, particularly in emerging economies. This study addresses that gap by examining three cognitive traits: questioning mind, search for knowledge, and suspension of judgment as conceptualised in Hurtt's [2] multidimensional model of professional scepticism.

Theoretically, this study extends Hurtt's [2] model by testing its applicability in a higher education context, providing a developmental perspective on skepticism formation. Previous studies have largely examined professional skepticism among experienced auditors (e.g., [6, 8, 15]), but little is known about baseline levels of skepticism before

formal audit education. Focusing on pre-audit students, this study provides evidence on how cognitive skeptical traits emerge during early academic stages, highlighting the development of skepticism prior to specialized training, supporting calls by Shaub et al. [12] and Siriwardane et al. [16] to explore how professional values and attitudes are shaped during university training. It further adds to the growing literature that recognizes professional skepticism as both a stable trait and a trainable cognitive disposition [14, 17].

Methodologically, the study enhances existing research by using a rigorous quantitative design, employing validated instruments based on Hurtt's scale and SmartPLS for structural equation modeling. This approach allows for a robust analysis of the strength and significance of the relationships between cognitive traits and professional skepticism, moving beyond descriptive or correlational analysis common in earlier educational studies (e.g., [10, 18]). With a sample size of 374 students, the study ensures statistical power and reliability, addressing the need for more empirically rigorous studies in student populations highlighted by Ismail and Yusof [13].

Practically, the findings highlight that questioning the mind and searching for knowledge significantly influence professional skepticism, whereas suspension of judgment remains underdeveloped. This mirrors findings by Rasso [19], Hussin et al. [20], and Yustina and Sutarsa [21], which suggest that delaying judgment is a more advanced skeptical trait, often shaped through professional experience rather than early academic exposure. This insight provides a strong basis for curriculum innovation, supporting calls by Ghani et al. [22] and Pham [23] to strengthen inquiry-based learning, ethical reasoning, and critical thinking in accounting education. Educators and professional bodies can use these insights to develop targeted interventions, such as case-based learning, reflective exercises, and audit simulations, to strengthen skeptical capacities that are currently underdeveloped at the student level.

Finally, this research contributes to a more globally inclusive understanding of professional scepticism. Much of the existing literature is dominated by Western contexts, but this study provides evidence from Malaysia, a country with an evolving regulatory landscape that aligns closely with international auditing standards (e.g., [1, 3, 7, 24]). This enhances the international relevance of the findings and offers comparative insights for other emerging economies seeking to strengthen audit quality and public trust in financial reporting. By highlighting how cognitive traits manifest before professional practice, this study provides a developmental bridge between higher education and professional scepticism in practice, contributing to both the global auditing literature and educational policy discussions.

3. LITERATURE REVIEW

For accounting students, professional scepticism is a critical quality, particularly as they prepare to work in auditing. It can be divided into two related but not identical elements, including a sceptical mind and a sceptical attitude [14, 17]. Both have been discussed later. Scepticism is a state of mind, which means the aptitude to have a disposition to critically critique the information, explore evidence, and avoid preconceptions. The sceptical attitude, on the other hand, is typified by the emotional and motivational willingness to engage in activities, which entails evaluation. This preparedness includes properties like honesty, perseverance, and diligence, which is reported by Perdana [25] and Fabiańska et al. [26]. When put together, these components enhance a person's ability to judge audit information objectively and to develop professional opinions that are informed. These skills must be consciously developed through training programs that are specifically focused.

Regulatory groups like the Public Company Accounting Oversight Board (PCAOB) and the International Auditing and Assurance Standards Board (IAASB) [24, 27] have repeatedly emphasized the importance of auditors being skeptical. Numerous significant issues with audits and financial reports have been linked to a lack of skepticism. It is evident that teaching students to be skeptical as a fundamental skill from the beginning of their professional careers is crucial for accounting students [22, 28]. The general goal is to improve the reliability of audits and the public's trust in financial reporting. Increasing students' skepticism also helps them think more critically and make better moral decisions.

According to research, people with a strong skepticism disposition are better able to spot deceptive financial data and make informed audit judgments [8, 29]. These individuals are more alert to distinctions, engage in deeper evidence-based reasoning, and are less likely to accept information at face value, all of which are crucial in today's complicated auditing environment. Moreover, what is up to date with the school of thought of auditing is the fact that a skeptical approach is not purely intuitive but sometimes can be developed as a result of early accountancy training [30]. However, it is also important to note that a negative outlook on issues is not always an intuitive concept but could be cultivated even at the early stages of studying accounting [30]. Students can enhance both their strengths in inquiry and analytical thinking through case-based learning, critical thinking exercises, and audit simulations [18, 31]. To illustrate this, Quadackers et al. [8] found that more sceptical ones did a better job of becoming aware of unusual financial auditing records and making judicious audit decisions. Similar results were also stated by Widyaningsih et al. [29], who discovered that in case a high score is obtained in the skeptical attitude scale, students are more inclined to analyze information critically, particularly in ambiguous audit situations. These results indicate the need for skepticism-promoting pedagogies in accounting to cultivate competent, self-reliant future auditors.

Various studies have been conducted to examine how instructional techniques promote skepticism. According to Suryani et al. [31], another simulated audit assignment (such as an audit case) and a reflective assignment enhanced students' fact-checking and questioning skills. Based on Fatmawati et al. [18], active learning experiences such as audit role-playing and group problem-solving increased professional scepticism among accounting students. These results suggest scepticism is not an inherent behaviour but that organised curricula focusing on critical thinking, practical learning, and evidence-based decision-making can encourage scepticism. The statistics indicate that professional scepticism is generated and manifests itself in various ways in different situations. According to Hurtt et al. [14], a sceptical attitude is needed; however, the complexity of the task, a lack of time, and authority can influence one's behavior. Critics can become less critical or questioning when pressured, even sceptics, by mental burnout or a sensation that they are obliged to follow orders. Scepticism, Nolder and Kadous [17] state, is both a trait and a condition that deserves this kind of strategy. The work can influence people's ability to capitalize on their scepticism, although they are sceptical by nature. These results show educational programs should play a crucial role in developing scepticism and intelligence to continue in real life.

One of the widely spread concepts, that is, professional scepticism, was created by Hurtt [2], who pointed out six essential peculiarities that make the concept expand. The two main categories within which these characteristics fall are both scepticism in attitude as well as in mindset. The three mental qualities that make up the sceptical mindset are the ability to withhold judgment, the use of an inquisitive mind, and seeking truth. These qualities can be used to deduce the intellectual ability of a person to analyze material critically and keep an open mind to other perspectives. Sceptical attitude, conversely, is marked by the existence of self-determination, self-confidence, and understanding with each other. The traits are indicative of the relational and motivating traits required in the continued use of scepticism in professional spheres. The sceptical attitude represents the major focus of the study since it concerns the thinking processes needed in interpreting audit information in complex and confusing situations. Professional judgment must be approached rationally and analytically to improve the quality of the audit and detect fraud or misstatements within the scope. The three attributes related to the mind that promote this approach are challenging the mind, seeking knowledge, and suspending judgment.

According to Hurtt [2] a questioning mind is characterized by the tendency to examine presumptions, the need to seek clarification, and the avoidance of accepting information at face value. During audits, where you need to be inquisitive and critical to detect faults and inconsistencies in financial data, this quality is very important because it allows you to spot mistakes and anomalies. Popova [32] asserts that individuals who frequently question information are less likely to be influenced by confirmation bias and more resistant to manipulation, both of which contribute to increased consistency and objectivity in professional judgment. Additionally, having a curious personality makes it

easier to make better decisions in ambiguous, risky circumstances. People who constantly challenge the accuracy of information are less likely to engage in cognitive heuristics, such as relying excessively on management comments or anchoring on initial facts, as stated by Peytcheva and Warren [33]. Auditors maintain vigilance and are less likely to make quick decisions when asked questions, even when they perform the same task repeatedly or engage in the same activity.

Studies suggest that this trait can be developed through teaching strategies. For example, Blix et al. [34] and Ciołek [35] found that students who participated in open-ended audit case discussions and critical thinking exercises had a more skeptical and curious mindset. In the Malaysian setting, Ghani et al. [22] found that students with a strong questioning style outperformed their peers in identifying anomalies in fictitious bank accounts. These results suggest that students' professional skepticism may be significantly enhanced by developing a questioning mentality.

Based on the gaps identified in prior research and the growing need to strengthen professional scepticism at the pre-professional stage, this study is guided by the following research objectives: (1) To determine whether sceptical questioning mind influences the level of professional scepticism among accounting students in a public university in Malaysia; (2) To determine whether search for knowledge influences the level of professional scepticism among accounting students in a public university in Malaysia; and (3) To determine whether suspension of judgment influences the level of professional scepticism among accounting students in a public university in Malaysia.

Correspondingly, this study addresses three key research questions.

RQ1: Does a questioning mind significantly influence the level of professional skepticism among accounting students?

RQ2: Does search for knowledge significantly influence the level of professional skepticism among accounting students?

RQ3: Does suspension of judgment significantly influence the level of professional skepticism among accounting students?

This study is original in its focus on the pre-audit educational stage, a phase that remains underexplored in professional skepticism literature. By empirically examining cognitive skeptical traits among students before they are exposed to formal audit training, this research extends theoretical frameworks such as Hurtt's [2] model to a new educational context. It also provides practical implications for educators and regulators seeking to enhance the effectiveness of audit education in developing countries. This perspective contributes to a more globally inclusive understanding of how professional scepticism is cultivated in future auditors. The following theory is proposed in light of this.

H_1: There is a significant relationship between questioning mind and the level of professional scepticism among accounting students in a public university in Malaysia.

A person's innate desire to learn new things, seek deep comprehension, and delve deeper than what is readily available is embodied by the pursuit of knowledge. This attribute is essential for the auditing sector, as it enables the collection of evidence, the determination of credibility, and the development of well-supported audit conclusions. Razzaque [36] found that those students who demonstrated a greater level of knowledge-seeking behavior excelled in audit risk game-based simulations, which highlights the practicality of the trait. The capacity to probe deeper and find other evidence grows in importance as audit responsibilities become more complex. Students, according to Widyaningsih et al. [29], who actively engaged in practical audit cases and simulations, revealed improved professional judgment and confidence when detecting audit problems that might go unrecognized by other students. Ghani et al. [22] contend that in a dynamic and growing audit environment, ongoing learning and the exploration of varied information sources are essential for successful sceptical practice. In the same way, Dimase [37] and Rahim [38] show that including research-oriented and inquiry-based activities in the accounting curriculum encourages more analytical and skeptical thinking. These results substantiate the formulation of the subsequent hypothesis.

H_2: There is a significant relationship between the search for knowledge and the level of professional skepticism among accounting students at a public university in Malaysia.

Suspension of judgment is the capacity to postpone judgments until adequate and relevant evidence has been gathered and examined [2]. This attribute prevents making decisions too quickly and encourages thoughtful consideration, which are both important when dealing with unclear evidence or audit situations. Zinke [39] emphasizes that the suspension of judgment improves objectivity and results in more justifiable audit outcomes. In support of this perspective, Quadackers et al. [8] discovered that auditors exhibiting greater judgment constraint were more proficient in detecting misstatements when client information was insufficient or ambiguous. Similarly, Shaub and Lawrence [40] found that auditors skilled at putting their judgment on hold were more likely to seek evidence supporting the client's statements rather than simply believing them. This approach reduced the likelihood of audit failure.

Even though it could be more difficult to cultivate, this quality is crucial. According to Yustina and Sutarsa [21], students usually struggle to control their judgment when they are pressed for time or given unclear instructions, which could lead them to become overconfident or draw conclusions too quickly. Bandiyono [41] went on to say that this attribute is particularly crucial in high-risk audit scenarios when meticulous, fact-based reasoning is required. The following theory is proposed in light of these findings.

H_3: There is a significant relationship between suspension of judgement and the level of professional scepticism among accounting students in a public university in Malaysia.

Accounting students at a Malaysian public university exhibit professional cynicism. Hurtt's [2] multifaceted model of professional scepticism serves as the theoretical foundation for this study. According to this hypothesis, the level of professional scepticism among accounting students is directly influenced by the sceptical mentality, which is operationalised through three basic traits: questioning the mind, seeking information, and suspending judgment. By focusing on these cognitive dimensions, the framework facilitates an examination of how each trait individually contributes to the development of professional scepticism during the formative stages of professional education. It also provides a structured basis for empirical testing, allowing for the identification of specific cognitive dispositions that may be enhanced through targeted pedagogical interventions. The conceptual framework guiding this study is illustrated in Figure 1.

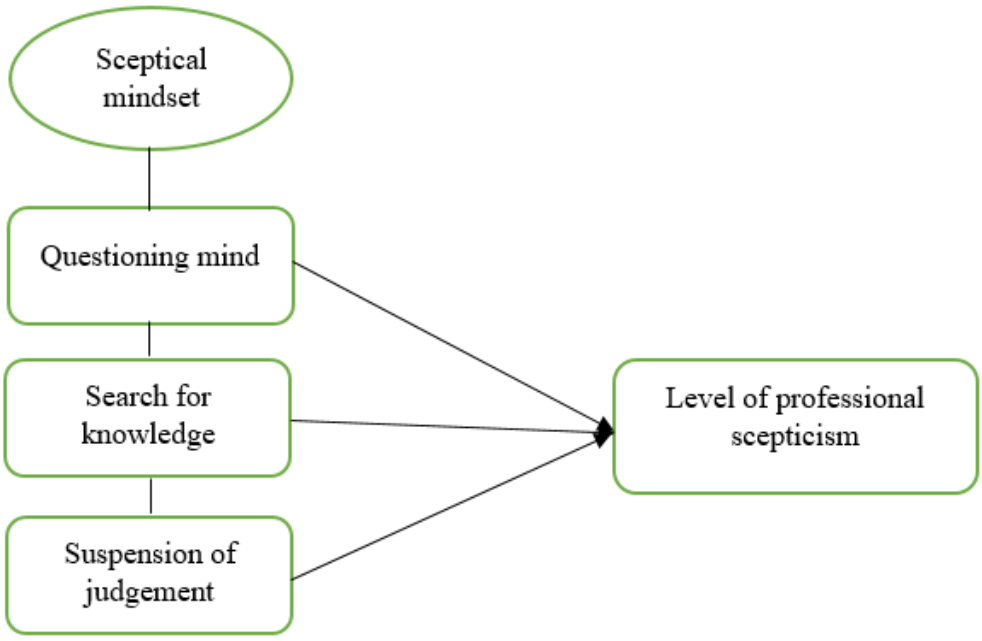

Figure 1. Conceptual framework.

4. RESEARCH DESIGN

4.1. Sample Selection

The sample for this study comprises third-year accounting students from one of the public universities in Malaysia. As of 1 March 2025, the total number of third-year accounting students enrolled at the university is 2,278. This specific cohort was chosen because they are at a critical transition point in their academic journey—on the verge of beginning their formal audit coursework. At this stage, the students have not yet received audit-specific education or training, which makes them ideal subjects for assessing the baseline level of professional skepticism without the potential bias introduced by formal audit instruction.

The selection of the sample size was guided by the Krejcie and Morgan [42] sample size determination table, which recommends a minimum of approximately 330 respondents for a population of this size. To ensure adequate representation and account for possible non-responses or incomplete data, the researcher decided to distribute a total of 400 questionnaires to the targeted respondents. This approach aims to achieve a statistically significant sample while maintaining a manageable scope for data collection and analysis.

4.2. Research Instrument

This study used a questionnaire survey as its research instrument. The items in the questionnaire were adapted from Hurtt [2] and Nolder and Kadous [17] to meet the setting of this study. There are two parts to the survey. Respondents are asked to provide demographic information in Section A, such as gender, age, academic year, and previous audit-related courses or activities. Section B, on the other hand, contingent upon respondents providing a rating system of how much they agree with different remarks related to their degree of professional skepticism.

The level of agreement with participants will be measured using a six-point Likert scale, where 1 indicates strongly disagree, and 6 indicates strongly agree. The statement, "I vigorously test the viability of evidence before accepting it," reflects professional skepticism. The objectives of the items are to assess various evaluations of professional skepticism. Part B, covering information verification, analytical thinking, and cautious judgment, is successfully completed by respondents on a 6-point Likert scale.

Moreover, the principle of an interrogative mind is understood as the inclination of an individual to analyze evidence, ask questions, and demand clarity and explanations before coming to conclusions.

The research is informed by research conducted by Hurtt [2], and the questioning mind measuring inventory consists of five principal parts that evaluate the inclination of the individual in conducting complete research on sources, a tendency to dispute premature claims and ideas, and research alternatives to come to a conclusion. They will be requested to provide a rating according to the six-point Likert scale applied on the idea of agreement, where 1 (Strongly disagree) to 6 (Strongly agree). An example of an item in this construct would be, I critically evaluate the credibility of the source of information, and only after that, place my trust in them.

Knowledge pursuit is the urge an individual has to seek more sources, data, and explore more theories to acquire deeper knowledge. This concept was created by Hurtt [2]. The evaluation scale regarding the pursuit of knowledge includes five key questions that define a student's inclination to actively search for new sources, turn to various sources, and study uncertain issues.

Respondents will be asked to respond to each item using a 6-point Likert scale (Strongly disagree on 1 and strongly agree on 6). This is exemplified by the statement: "I will actively pursue more to learn about something."

Lastly, writing to, or having the capability of delaying arriving at a conclusion until enough and reliable information is known, is called suspension of judgment. This idea underpins the research conducted by Hurtt [2]. The five components of the measuring scale of suspension of judgment aim to evaluate a respondent's tendency to contemplate several positions, delay reaching a topic sentence, and remain peaceful until all information is examined. A six-point Likert scale will be used to determine the extent to which participants believe the propositions, where 1

is strongly disagree, and 6 is strongly agree. An example of this is having these words written: "I do not make any decisions before I contemplate all the evidence available to me."

4.3. Data Collection Procedure

After obtaining ethical clarity and institutional consent, the data collection process commenced, where the questionnaires were dispatched to third-year accounting students studying at Universiti Teknologi Mara Puncak Alam campus. They were distributed at the start of the academic semester with the aid and participation of the individual teachers employed by the students. With the help of these teachers, students were able to get answers to the questions meant to reach them. To avoid improper completion and inaccuracy, the questionnaires were sent and submitted manually within the expected lecture sessions. This approach ensured that the researcher could provide instant explanations where necessary, which subsequently reduced the chances of receiving incomplete or erroneous responses.

Around ten minutes was the average amount of time that students required to complete the questionnaire, which indicates that the cognitive load and time commitment were manageable. There was a total of 373 questionnaires filled out and submitted, resulting in an impressive response rate of 93.25%. This rate exceeds the minimum threshold recommended for thorough statistical analysis. The findings of the study are more reliable and applicable to a wider population due to the exceptionally high response rate.

5. RESULTS AND DISCUSSION

5.1. Demographic Profile

This section delineates the conclusions of the demographic profile of the respondents, emphasizing two principal characteristics: gender and age group. The comprehensive distribution is encapsulated in Table 1. The sample comprised predominantly female respondents (71.04%), with male students representing 28.96%. This indicates a greater proportion of female students within the third-year accounting cohort participating in the survey. Regarding age, 75.07% of respondents were between 20 and 22 years old, while 24.93% were aged between 23 and 25 years. The age distribution indicates that the majority of participants are from the younger demographic, aligning with the standard academic trajectory of third-year undergraduate accounting students at the university.

Table 1. Demographic profile of respondents.

Demographic	Category	Frequency	Percentage (%)
Gender	Male	108	28.96%
	Female	265	71.04%
Age Group	20-22	280	75.07%
	23-25	93	24.93%

5.2. Descriptive Statistics

This section delineates the descriptive statistical analysis performed for this investigation. Descriptive statistics summarize, simplify, and offer an overview of the dataset, facilitating a greater understanding of the distribution, core tendencies, and variability of the study variables. This study provides insights into participants' responses to each assessed concept, establishing a basis for later inferential analysis.

Table 2. Descriptive statistics.

Variable	Min	Max	Mean	Std. Dev
Questioning mind	1.00	6.00	4.823	0.748
Search for knowledge	1.00	6.00	4.837	0.774
Suspension of judgement	1.00	6.00	4.754	0.728
Level of professional scepticism	1.00	6.00	4.872	0.708

Table 2 presents essential statistical metrics for each construct, including the minimum and maximum values, mean, median, mode, and standard deviation. These metrics jointly describe the range, central tendency, and variability of the data, aiding in the identification of significant patterns, trends, or anomalies within the responses. Table 2 shows that all variables had a minimum answer value of 1 and a maximum of 6, consistent with the six-point Likert scale used in the questionnaire. The average scores for all variables range from 4.754 to 4.872, indicating that respondents, on average, agreed or strongly agreed with the assertions related to all assessed constructs. Additionally, the mode for all constructs is 5, and the median values are uniformly 5, indicating a strong central tendency toward affirmative responses.

All of the standard deviation numbers are less than 1.0, indicating little variation in responses. This suggests that respondents' opinions on questions evaluating professional scepticism and related cognitive traits like analytical thinking, open-mindedness, and inquisitiveness remained largely consistent. According to the descriptive statistics, the concepts of professional scepticism and critical thinking were largely in agreement with the sample of accounting students. These findings align with the study's aim of assessing baseline critical thinking tendencies among students before formal exposure to audit education.

5.3. Measurement Model

This part evaluates the outer measurement model, focusing on the convergent validity of the constructs used in the investigation. Convergent validity indicates the degree to which multiple indicators of a construct align, representing the same fundamental notion. In this study, convergent validity was assessed using two primary criteria: (1) the outer loadings of individual indicators and (2) the Average Variance Extracted (AVE) for each construct. According to guidelines by Hair et al. [43], outer loadings should ideally exceed 0.708. However, in exploratory research contexts, items with loadings between 0.50 and 0.70 may still be acceptable, provided that the overall AVE for the construct is greater than 0.50, ensuring sufficient shared variance among the items.

Figure 2 displays the outer loadings for all observed indicators measuring the three independent variables (i.e., cognitive traits) and the dependent variable (i.e., level of professional skepticism). The results are summarised as follows.

- Questioning Mind: All five items exhibit acceptable item reliability, with loadings ranging from 0.564 (QM1) to 0.803 (QM3). Although one item falls below the ideal threshold, the construct meets the minimum AVE requirement, justifying its retention.
- Search for Knowledge: The five indicators for this construct demonstrate consistently strong loadings, ranging from 0.753 (SK2) to 0.829 (SK1), indicating robust reliability and convergence.
- Suspension of Judgement: This construct also shows satisfactory performance, with indicator loadings ranging from 0.705 (SJ5) to 0.807 (SJ2), all exceeding the recommended threshold for acceptable reliability.
- Level of Professional Scepticism: The ten indicators show strong outer loadings between 0.698 (PS8) and 0.793 (PS10). Although a few items are marginally below 0.708, they still meet the criteria for exploratory studies and contribute to a satisfactory AVE.

In sum, the findings confirm that most indicators demonstrate adequate convergence on their respective latent constructs, supporting the convergent validity of the measurement model. All constructs meet the necessary standards and are deemed appropriate for further structural model analysis.

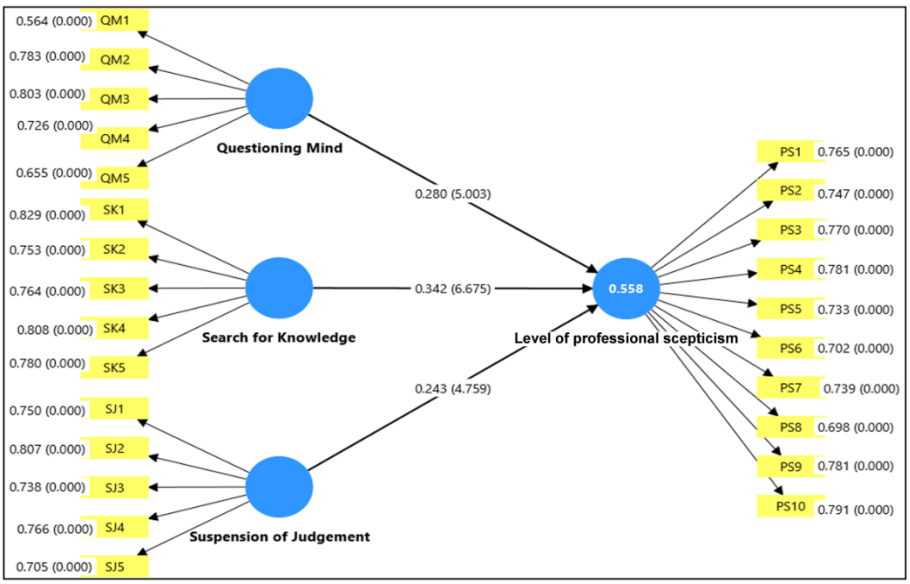

Figure 2. Initial measurement model (Outer model) output.

After it was established that all of the indicator loadings were greater than the minimum acceptable threshold of 0.50, the subsequent phase in the evaluation of the measurement model consisted of determining the convergent validity of the value of the average variance extracted (AVE). The amount of variance that is captured by a latent concept is referred to as the AVE, and it is measured in comparison to the amount of variance that may be attributed to measurement error. According to Hair et al. [43], the AVE should pass a value of 0.50 in order to create satisfactory convergent validity. The fact that the concept accounts for over fifty percent of the change in observable measures provides further evidence that all four of the now-studied constructs, i.e., the questioning mind, information demand, judgmental suspension, and level of professional skepticism, have AVE values above 0.50 that they can be represented in Table 3. This implies that the measures of the different constructs adhere to and describe correctly the theoretical concept itself. Conclusively, these results help to credit the reliability and validity of the measurement tool used in this study. The constructs form a good basis for examining additional structural models and testing hypotheses, which most sufficiently represent the intelligence of the mind and the degree of professional skepticism needed.

Table 3. Average variance extracted.

No	Construct	AVE value
1	Questioning mind	0.506
2	Search for knowledge	0.620
3	Suspension of judgement	0.569
4	Level of professional scepticism	0.563

Source: Processed primary data (2025).

The outer loadings of the indicators for each construct are presented in Table 4 and analyzed to determine the validity of each item. Most indicators passed the minimum requirement of 0.50, indicating good dependability according to standards outlined by Hair et al. [43]. The only product with a payload slightly below this threshold was Questioning Mind (QM1). According to Hulland [44], indicators with a loading between 0.40 and 0.70 should be carefully evaluated to determine whether they should be dropped, especially when doing so can improve the composite reliability and AVE of the construct. In this study, QM1 was selected because it has well-developed theoretical foundations, incorporating an essential component of the enquiring mind construct. Additionally, the decision to retain the item was supported by findings indicating that its retention did not affect the overall validity and reliability of the measurement model. Consequently, it is possible to assert that each additional indicator possesses

adequate item validity and is suitable for inclusion in the final analysis. Their preservation reinforces the measurement model's resilience and preserves the theoretical integrity of the constructs being evaluated.

Table 4. Outer loadings validity test results.

Construct	Indicator code	Outer loading	Information
Questioning mind	QM1	0.564	Valid
	QM2	0.783	Valid
	QM3	0.803	Valid
	QM4	0.726	Valid
	QM5	0.655	Valid
Search for knowledge	SK1	0.829	Valid
	SK2	0.753	Valid
	SK3	0.764	Valid
	SK4	0.808	Valid
	SK5	0.780	Valid
Suspension of judgement	SJ1	0.75	Valid
	SJ2	0.807	Valid
	SJ3	0.738	Valid
	SJ4	0.766	Valid
	SJ5	0.705	Valid
Level of professional scepticism	PS1	0.765	Valid
	PS2	0.791	Valid
	PS3	0.747	Valid
	PS4	0.770	Valid
	PS5	0.781	Valid
	PS6	0.703	Valid
	PS7	0.697	Valid
	PS8	0.779	Valid
	PS9	0.742	Valid
	PS10	0.732	Valid

To determine whether a notion is discriminantly valid, the Fornell-Larcker criterion was used. It indicates the extent to which a concept is distinct from others within the model. This approach explores correlations among constructs by squaring the square root of the Average Variance Extracted (AVE) of each construct. When the inter-construct correlations in the off-diagonal elements are less than the square root of the AVE on the diagonal, it indicates discriminant validity. Table 5 also presents the items that are not diagonally aligned as the correlations that exist between the constructs and the elements that are diagonally aligned as the square roots of the AVE values. The findings indicate that the square root of each Average Variance Extracted (AVE) for the three constructs, questioning mind, desire for information, and suspension of judgment, is greater than the inter-construct correlations that correspond to those constructs. The fact that each concept exhibits a greater degree of variation with its related indicators than with those of other constructs is demonstrated by this observation, which lends credence to the empirical differentiation that exists between the idea categories. In addition to bolstering trust in the conceptual distinctions that exist between the cognitive qualities tested, the findings demonstrate that the discriminant validity is adequate, hence verifying the validity of the measuring model.

Table 5. Discriminant validity (Fornell-Larcker Criterion).

Indicator	QM	SK	SJ	PS
QM	0.737	0.343	0.303	0.394
SK	0.343	0.787	0.479	0.427
SJ	0.303	0.479	0.766	0.455
PS	0.394	0.427	0.455	0.757

In addition to the Fornell-Larcker criterion, a cross-loading analysis was conducted to further assess the discriminant validity of the measurement model. Hair et al. [43] assert that discriminant validity is confirmed when each indicator has a stronger loading on its corresponding latent construct than on any other constructs within the model. This approach ensures that each item makes a distinct contribution to the construct it is intended to evaluate, without significant overlap with unrelated constructs.

Table 6. Cross loading.

Indicator	PS	QM	SK	SJ
PS1	0.765	0.536	0.519	0.545
PS2	0.791	0.505	0.518	0.435
PS3	0.747	0.462	0.483	0.377
PS4	0.770	0.508	0.591	0.489
PS5	0.781	0.550	0.508	0.593
PS6	0.733	0.439	0.459	0.483
PS7	0.702	0.445	0.491	0.382
PS8	0.739	0.446	0.475	0.348
PS9	0.698	0.385	0.439	0.372
PS10	0.781	0.541	0.527	0.461
QM1	0.312	0.564	0.289	0.268
QM2	0.502	0.783	0.482	0.524
QM3	0.569	0.803	0.599	0.521
QM4	0.425	0.726	0.419	0.354
QM5	0.445	0.655	0.499	0.324
SK1	0.439	0.455	0.461	0.750
SK2	0.527	0.523	0.534	0.807
SK3	0.439	0.417	0.442	0.738
SK4	0.414	0.427	0.425	0.766
SK5	0.449	0.337	0.329	0.705
SJ1	0.526	0.555	0.829	0.435
SJ2	0.508	0.508	0.753	0.468
SJ3	0.472	0.464	0.764	0.426
SJ4	0.544	0.554	0.808	0.434
SJ5	0.576	0.509	0.780	0.530

The cross-loadings of all measurement items associated with the latent constructs are illustrated in Table 6. The value analysis indicates that each indicator has the highest loading on the construct with which it is theoretically associated, thereby verifying the discriminant validity of the model.

In comparison to other constructs, items designated to the questioning mind construct (e.g., QM1–QM5) consistently exhibit elevated loadings on the questioning mind. Indicators associated with the pursuit of knowledge, suspension of judgment, and professional skepticism exhibit significant correlations with their respective constructs, thereby confirming the appropriateness of item allocation. The results substantiate the claim that the measuring items are distinctive and appropriately associated with their theoretical foundations.

By the cross-loading condition being met, which indicates that the discriminant validity is achieved, the construct structure of the measurement model is further validated, and the overall reliability and interpretability of the model are enhanced.

The dependability of the constructs is determined through the final phase of analyzing the outer measurement model. The aspect of reliability depends on two well-established indicators: composite dependability and Cronbach's Alpha. Ghozali and Latan [45] assert that a construct is considered reliable when the ratings of Cronbach's Alpha and composite reliability exceed 0.70.

Table 7 represents the analysis results of the reliability of all those constructs. It provides three indicators: Composite Reliability, Cronbach's Alpha, and Average Variance Extracted (AVE). According to Hair et al. [43], values of both Cronbach's alpha and Composite Reliability above 0.7 indicate strong internal consistency, and items

in each construct are assumed to always quantify the same latent construct. The convergence of validity is reflected in the table, which also shows the value of AVE alongside dependability. A higher AVE value, especially when exceeding 0.50, suggests that each indicator is explained by over fifty percent of the total variance of the construct, thus supporting the validity of the measurement model.

The statistics in Table 7 indicate that the measurement model is theoretically robust and statistically valid for further structural model analysis, as all constructs in the study exhibit appropriate reliability and validity.

Table 7. Reliability test.

Construct	Cronbach's alpha	Composite reliability (rho_c)	AVE
Level of professional scepticism	0.914	0.928	0.564
Questioning mind	0.754	0.835	0.507
Suspension of judgement	0.847	0.891	0.620
Search for knowledge	0.810	0.868	0.568

5.4. Structural Model

This part discusses the evaluation of the inner (structural) model, which is an important part of Partial Least Squares Structural Equation Modeling (PLS-SEM). The structural model examines the suggested connections between the latent dimensions laid out in the study structure. During this test, the model's ability to predict and explain is evaluated. To evaluate the inner model, three basic measures must be considered. The path coefficients (^{2}) indicate how strong and in which direction the connections between the parts are. These numbers show how changes to one term are likely to affect another. Second, t-statistics and p-values are used to determine how statistically significant these path relationships are. Most of the time, the numbers come from bootstrapping methods that make the estimation process more reliable. The coefficient of determination (R^2) measures how well the model explains the data by showing how much of the variation in the dependent variable(s) can be explained by the independent variable(s). When you combine these factors, you get a comprehensive view of how well the structural model explains and supports the study's theoretical links.

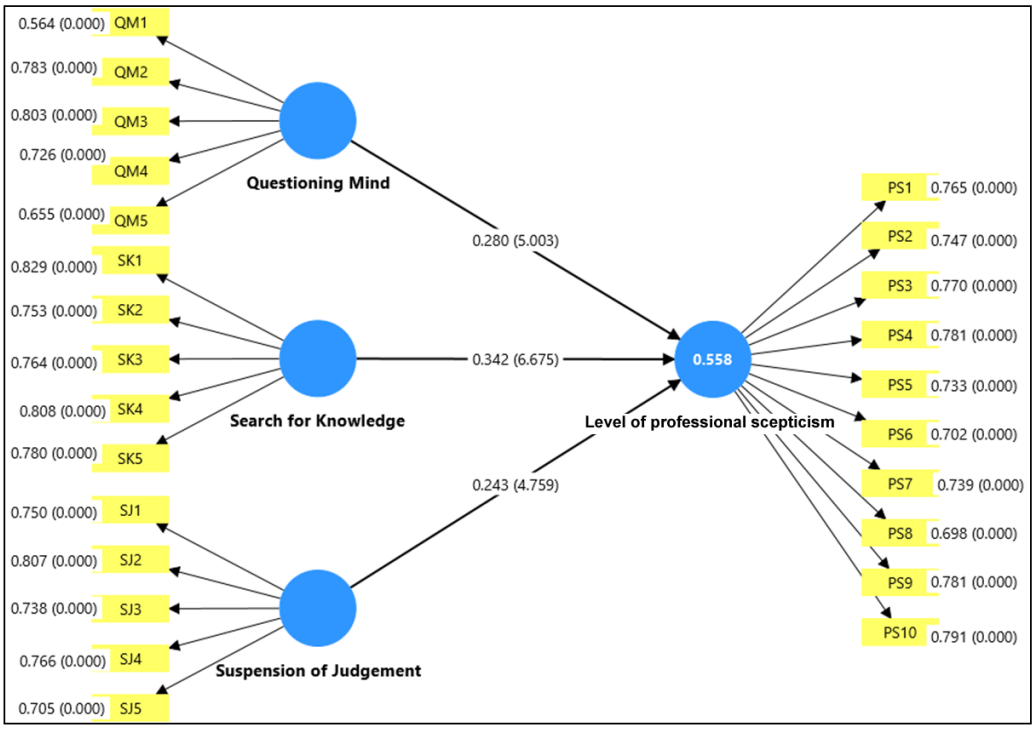

Figure 3. Structural Model Results.

The structural model shown in Figure 3 and Table 8 has an R^2 value of 0.558 for the dependent variable, which is the level of professional skepticism. This means that the three cognitive traits examined, open-mindedness to learning, a desire to know, and the ability to hold judgment, may explain about 55.8% of the differences in professional mistrust among accounting students.

Hair et al. [46] say that in behavioral and social science research, an R^2 value above 0.10 is acceptable, with higher values demonstrating greater explanatory power. An R^2 of 0.558 suggests the model is moderately to highly accurate in predicting outcomes. This underscores the significance of the selected cognitive traits in influencing professional skepticism. The findings support the study's theoretical framework, providing evidence that these mental traits are strong indicators of doubtful behavior among accounting students.

Table 8. R^2 value.

Dependent variable	R^2 value
Level of professional scepticism (PS)	0.558

Table 9 displays the path coefficients (β) and associated t-statistics, which were used to assess the significance of construct interactions. In PLS-SEM, a construct is considered to have a significant connection with another when its path coefficient exceeds 0.10 [43]. The significance of these associations was assessed using the bootstrapping method with 5,000 resamples, resulting in robust standard error estimates and accurate statistical inference.

Table 9 presents a summary of the analysis results, detailing the path coefficient values, t-statistics, and p-values for each proposed relationship. The findings enable the researcher to determine whether the proposed hypotheses are supported and to what extent the independent constructs significantly influence the dependent construct—Professional Scepticism. These results serve as the basis for hypothesis testing and further discussion of the study's theoretical implications.

Table 9. Path coefficient.

Hypothesis	Relationship	Path coefficient (β)	t-value	p-value	Supported
H1	Questioning mind → PS	0.173	2.937	0.003	Yes
H2	Search for knowledge → PS	0.178	3.316	0.001	Yes
H3	Suspension of judgment → PS	0.062	1.003	0.316	No

Note: A path is considered significant if $p < 0.05$ and $t > 1.96$ (two-tailed test).

The results in Table 9 indicate that two of the three hypothesized relationships are statistically significant. The construct that did not demonstrate a significant effect on professional scepticism was suspension of judgment (H3), as its p-value exceeded 0.05, indicating a lack of statistical support for the proposed relationship.

The analysis indicated that a questioning mind has a significant positive effect on professional scepticism ($\beta = 0.173$, $t = 2.937$, $p < 0.003$). This indicates that students who critically challenge information and question assumptions exhibit higher levels of scepticism, which is a crucial trait in audit judgement and evidence evaluation. The finding aligns with Hurtt's [2] perspective that scepticism is based on a questioning disposition. Putri and Ghozali [47] present similar data, demonstrating that Indonesian auditors who exhibit stronger questioning qualities have higher degrees of professional skepticism. Quadackers et al. [8] discovered that inquisitive auditors are more effective at finding irregularities and less likely to uncritically endorse management's statements. Recent research supports this claim. Ghani et al. [22] and Rosnidah et al. [48] emphasised that instilling curiosity in students and encouraging them to question management assertions might help minimize bias and promote analytical reasoning. These findings indicate that a questioning attitude serves as both a theoretical framework and a practical incentive for informed judgment in auditing.

The study found a significant positive correlation between the need for knowledge and professional skepticism ($\beta = 0.178$, $t = 3.316$, $p < 0.001$). Students motivated to gather knowledge and gain a deeper understanding are more likely to utilize skepticism in their evaluations. This is consistent with previous research by Hurtt et al. [14] and Quadackers et al. [8], which stressed curiosity as a key predictor of sceptical behaviour. Nelson [5] and Asare and Wright [49] found that auditors who do thorough investigations are less likely to accept incomplete or biased evidence. Recent studies by Amiruddin and Adang [50] and Ghani et al. [22] demonstrate that knowledge-seeking behavior improves vigilance when reviewing audit evidence. Siriwardane et al. [16] emphasized the value of reflective learning in improving critical evaluation. The findings empirically validate two of the three hypothesized connections, demonstrating that a questioning mindset and a desire to learn highly predict professional skepticism among accounting students. This emphasizes the need to incorporate inquiry-based strategies into accounting education, as acquiring these skills can help students prepare for the demands of audit work. Pham [23] observes that a high need for information improves the ability to question assumptions and find discrepancies. The findings emphasize the necessity to design educational practices that stimulate exploratory thinking and analytical depth as a foundation for critical judgment.

The correlation between suspension of judgment and professional skepticism was statistically negligible ($\beta = 0.062$, $t = 1.003$, $p = 0.316$). The theoretical framework asserts that suspension of judgment is crucial for professional skepticism [2]; yet, research suggests that undergraduate accounting students may struggle to defer conclusions in intricate or confusing audit situations. This discovery corresponds with the research of Rasso [19] and Hussin et al. [20], who suggested that the suspension of judgment may be inadequately cultivated in educational environments devoid of practical, real-world application. Hammersley [15] noted that students often seek swift resolutions in case-based projects, which may hinder their ability to withhold judgment until sufficient information is collected. The non-significant outcome on the suspension of judgment suggests that this characteristic may not be fully cultivated in undergraduate accounting students. A plausible explanation is that the ability to postpone conclusions until sufficient data is acquired signifies a more advanced cognitive capability that evolves with professional experience and practice. Putra et al. [51] asserted that the suspension of judgment is particularly evident in real audit environments, where participants encounter ambiguity, time limitations, and client encounters that require deliberate restraint. Thus, while the theoretical significance of this feature in professional scepticism is recognized, its lack of relevance in this study highlights a developmental shortcoming in sceptical thinking during the pre-professional stage.

Accounting students' skepticism is significantly improved by questioning and seeking understanding, but not by suspending judgment. Malaysian students have a natural tendency to evaluate material critically and seek supporting evidence, which is essential for effective audit judgment. Suspension of judgment may be limited by students' experience, confidence, or cognitive development, as evidenced by its lessened significance.

This enhances understanding of the operational features of scepticism before professional participation. Pedagogical techniques that cultivate curiosity and critical inquiry are crucial for educating students to negotiate uncertainty and avoid making hasty decisions during audits.

6. CONCLUSION

This study investigated the impact of three sceptical mindset characteristics, questioning, seeking knowledge, and suspending judgment, on professional scepticism among Malaysian final-year accounting students. The research of 374 students offers insights into how cognitive dispositions influence sceptical thinking during the pre-professional phase. Findings indicate that an inquisitive mindset and a desire to learn positively affect professional scepticism.

The study found that an inquisitive mentality and a desire for knowledge considerably increase students' professional cynicism. The study found that students' professional skepticism is positively influenced by two traits: questioning and seeking knowledge. Put simply, students who regularly challenge assumptions and actively seek additional information are more inclined to apply skeptical judgment in both their academic work and future

professional roles. This suggests that, even before entering the workforce, many accounting students already demonstrate elements of skeptical thinking that mirror the expectations of the auditing profession. This suggests that students inclined to challenge assumptions and actively seek new information are more likely to exhibit critical thinking and skeptical inquiry, attributes central to sound audit judgment and decision-making. In contrast, suspension of judgment did not show a significant effect, implying that students may struggle to delay conclusions until sufficient and appropriate evidence is gathered. This indicates a potential developmental gap that may require more deliberate pedagogical intervention.

From a theoretical perspective, this study contributes to the literature by extending [2] conceptualization of professional scepticism to the context of Malaysian higher education, a relatively underexplored area. Most previous research has concentrated on professional auditors or students who have undergone formal audit training. By focusing on students before audit coursework, this study offers a unique perspective on how sceptical traits begin to form in the academic setting. Furthermore, the use of a structured quantitative survey approach enabled a robust assessment of Hurtt's scepticism dimensions, including questioning mind, search for knowledge, suspension of judgment, and their influence on overall sceptical behaviour.

Practically, the findings highlight the critical role of accounting education in fostering skeptical thinking. The results suggest that curriculum designers and educators should integrate more activities that encourage reflective judgment, critical questioning, and evidence-based decision-making. Educational strategies that promote intellectual curiosity and analytical rigor, such as problem-based learning, case analysis, and scenario-based simulations, can help strengthen skeptical attitudes among students. This is particularly important given the non-significant influence of suspension of judgment, which may require targeted instructional strategies to cultivate.

This study is subject to several limitations.

First, it focused exclusively on final-year accounting students from a single public university in Malaysia. While the sample size was statistically adequate, the findings may not be fully generalizable to students from other institutions, such as private universities, polytechnics, or colleges, which may have different academic environments and pedagogical approaches.

Second, the study employed a cross-sectional survey design, capturing perceptions at a single point in time. While useful for identifying relationships among constructs, this approach limits the ability to observe how sceptical traits evolve, particularly following formal audit education or exposure to real-world professional experiences. Future research should consider expanding the sample across multiple institutions and incorporating diverse educational settings to enhance generalizability.

Looking ahead, future research could benefit from adopting longitudinal or experimental designs to provide deeper insights into how professional scepticism evolves across different stages of a student's academic journey and into early professional practice. In light of this study's finding that suspension of judgment was not a significant predictor, further work is needed to examine the conditions under which this trait develops and how targeted educational interventions might strengthen it. Complementary qualitative or mixed-method approaches would also offer valuable perspectives by capturing the nuances of students' cognitive processes and decision-making behaviors in ways that survey data alone cannot reveal.

In sum, this study makes both theoretical and practical contributions by enhancing our understanding of how sceptical mindsets are formed within the accounting education context. The findings affirm the importance of cultivating questioning and knowledge-seeking dispositions among students, while also identifying suspension of judgment as a potential area for pedagogical improvement.

By addressing these dimensions, the study contributes to ongoing efforts to ensure that accounting education equips future auditors with the competencies needed to navigate the complex, dynamic, and ethically demanding environment of the auditing profession.

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Institutional Review Board Statement: This study was approved by the Institutional Review Board of [Universiti Teknologi MARA, Malaysia], under protocol number (IRB Protocol Number: REC/11/2025 (PG/MR/616), dated November 7, 2025. Informed verbal consent was obtained from all participants, and all data were anonymized to protect participant confidentiality.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
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