

REPeC, Brasília, v. 11, n. 1, art. 4, p. 69-88, Jan./Mar. 2017 Available online at www.repec.org.br DOI: http://dx.doi.org/10.17524/repec.v11i1.1446

Revista de Educação e Pesquisa em Contabilidade

Journal of Education and Research in Accounting

Periódico Trimestral, digital e gratuito publicado pela Academia Brasileira de Ciências Contábeis



ISSN 1981-8610

Relevant Skills for Criminal Accounting Expertise: the perception of Federal Police experts and delegates

Abstract

This research aimed to identify which skills are considered most relevant to the practice of criminal accounting expertise in Brazil. As in international research, the skills perceived as most relevant were written communication, deductive analysis and critical thinking. Among the less relevant skills were the interview and the solution and negotiation of conflicts. In the second part, while experts and delegates jointly consider written communication to be the most present skills, delegates diverge from experts in terms of critical thinking and serenity. In addition, the respondents indicated skills that had not been investigated, and the most cited skills were proactivity, objectivity and updating. In the light of forensic accounting, the research method used was the survey, using a predefined questionnaire with open and closed questions, which 144 respondents answered. The study was divided into three parts: the first about the perceived relevance of the skills, the second about the perceived practical application of skills and the third part allowed the respondents to contribute with suggestions of skills that were considered relevant but did not figure among the skills investigated. The study contributes to the establishment of curricular guidelines for undergraduate and postgraduate courses related to the training of skills considered relevant for the training of future professionals and for the improvement of criminal accounting experts. Finally, we observe that the skills investigated and suggested can contribute to all areas of accounting expertise.

Key words: forensic accounting; criminal accounting expertise; skills.

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Published in Portuguese and English. Original Version in Portuguese.

Received in 10/20/2016. Ask to Revise on 12/3/2016. Resubmitted on 1/11/2017. Accepted on 1/18/2017 by Dr. Orleans Silva Martins (Editor). Published on 03/31/2017. Organization responsible for the journal: Abracicon





1. Introduction

Due to the scandals involving companies and governments around the world and also in Brazil, it is natural that steps should be taken to detect and prevent fraud, as well as to produce evidence. To meet this demand, the accounting profession has undergone changes and draws attention to a new market, with a new generation of accountants, the forensic accountants (Davis, Farrell & Ogilby, 2010).

Some studies propose to discuss the competences, knowledge and technical skills the forensic accountants need to have to adequately perform their functions, as well as the profile of this professional (Astutie & Utami, 2013, Boys, 2008; Davis et al., 2010; Digabriele, 2008; Harris & Brown, 2000). Considering that one of the objectives of forensic accounting is to identify how crimes are perpetrated, expertise in accounting principles and auditing standards, without the ability to identify correlations between such rules and any irregular transactions that affect the equity of companies and private persons reveals a trend in the training of accountants to disregard the importance of studying the prevention and detection of fraud, embezzlement and inadequate accounting practices (Silva, 2012).

In the explanation of the fraud, the forensic accountant can contribute to the understanding of the general conditions that permitted its occurrence, working with the concept of cause and effect, facilitating the formulation of theses, theories and assumptions until its confirmation (Silva, 2012). Given the international discussion about the skills the forensic accountant needs (Digrabiele, 2008, Davis et al., 2010, Astutie & Utami, 2013) and the similarity of the objectives of his performance with that of the federal criminal criminal expert, it should be investigated whether these abilities are truly perceived as important. In addition, we sought to use the experience of experts and delegates of the Federal Police to investigate how they perceive the existence of these skills in the conduct of criminal accounting expertise.

The Federal Police Department (DPF), with a focus on combating fraud in the federal criminal area, has a technical staff of fraud investigation experts, who work to clarify several accounting and financial crimes of great national repercussion. Thus, the research problem of this study arose: what are the most relevant skills of a Federal Criminal Accounting Expert according to the users and practitioners of expertise in Brazil? The objective of this research was to compare the perception of federal criminal experts and Federal Police delegates on the most relevant skills expected from a federal criminal accounting expert in the light of forensic accounting, as well as the perceived skills in the current context in which they develop their activity.

The relevance of this study rests on two main pillars: the first because it is a research on the perception of professionals working with federal criminal accounting in Brazil, being one group of practitioners and another of users, picturing the skills considered important and those considered to be present in the federal criminal accounting expertise, an essential element in the criminal prosecution process. The second, by working on a rising and latent theme, which is forensic accounting, whose abilities and definitions indicate that it is somewhat different from what is treated as accounting expertise, thus being a subject that is still flourishing in Brazil.

Research has shown that Brazilian users and professionals perceive writing skills, deductive analysis and critical thinking as more relevant, in line with international empirical research (Digrabiele, 2008). However, the comparison of the perceptions on the existing skills revealed convergences, such as considering written communication and deductive analysis among the most present, and divergences between practitioners and users in relation to specific legal knowledge skills, serenity, interview and unstructured problem solving.

In this scenario, the results contributed to the knowledge on the skills considered relevant and the existing gap, with a view to planning actions to improve the qualification of criminal experts, and also gave rise to the discussion by the users of the system about the characteristics that need to be re-evaluated, also in the curriculum of future forensic accountants at the undergraduate and post-graduate levels.



2. Theoretical Framework

Accounting expertise in Brazil constitutes the set of technical-scientific procedures intended to bring to the decision-making entities evidence necessary to support the fair settlement of the litigation or the actual verification, by means of an expert accounting and / or technical accounting opinion, in accordance with legal and professional standards and with specific legislation wherever relevant (Federal Accounting Council [CFC], 2015). There is a broad approach in defining the performance of accounting expertise, since it can act in Labor, Civil and Criminal justice and in the extrajudicial area.

In the international area, criminal accounting is called Forensic Accounting (Oliveira, 2002). The first person to create the name Forensic Accounting, in print, was probably Maurice E. Peloubet in 1946 (Crumbley, Heitger & Smith, 2013). Forensic is defined as belonging to the court of justice (Black, 1971). Forensic accounting is the action of identifying, recording, settling, extracting, classifying, reporting and verifying past financial data or other accounting activities to solve current or potential legal disputes, or using such past financial data to project future financial data to solve disputes (Crumbley et al., 2013).

The term fraud derives from the Latin word "fraus" and indicates an action taken in bad faith, which corresponds to an intentional act or omission intended to deceive individuals or legal entities, resulting in losses to the victim and / or gains to the fraudster (Silva, 2012). In theory, a forensic accountant has been trained and has expertise in investigating and resolving suspicions or allegations of fraud by analyzing documents to include financial and non-financial information, interviews, third party inquiries, including commercial databases (Skalak, Golden, Clayton & Pill, 2011).

The correlation between forensic accounting and auditing in the work of preventing and combatting fraud should also be noted. However, auditors have no responsibility to plan and perform audit procedures to detect errors that are not considered significant (including those caused by error as well as fraud). Business management also increased the responsibility of designing and implementing internal controls to prevent and detect fraud as a result of the Sarbanes-Oxley Act (West Virginia University [WVU], 2007).

Forensic accounting complements the gap in expectation of the audit result, which raises issues on a number of aspects, such as: (1) the role and responsibilities of auditors; (2) the nature and significance of the audit report releases; (3) the quality of the auditor's role; and (4) the structure and regulation of the profession (Humphrey, Mozier & Turley, 1993). The interrelationship between auditing, fraud and forensic accounting is dynamic and has been changing over time due to political, social and cultural events. In addition, often, the skill set required in one area is able to leverage skills and abilities while working in another area (WVU, 2007).

With regard to the skills required to perform the forensic accounting function, there is a need to come up with solutions to the complicated accounting maneuvers that have overshadowed the financial statements. Forensic accounting skills are becoming increasingly invoked within a business communication system that emphasizes accountability and accountability of the stakeholders (Bhasin, 2013). Skill is the ability to perform some activity, it is the way to undertake an action more quickly, easily and efficiently. It is a capacity developed through physical, motor and psychosocial training, techniques, methods, rules and exercises. Similarly to competences, skill is influenced by human nature and varies from person to person, depending on the innate personal characteristics (Peleias, 2006).

Based on the literature, the following set of skills could be identified, investigated to highlight their importance for the practice of forensic accounting, as shown in Table 1:



Table 1

Skills Investigated and Research Sources

| Item | Skill | Origin |
|---------|---|--|
| 1 | Deductive analysis – ability to focus on financial contradictions that do not fit into the normal pattern of a task. | Digabriele, 2008; Astutie and Utami, 2013. |
| 2 | Critical thinking - ability to decipher the difference between opinion and fact. | Digabriele, 2008; Davis et al., 2010; Bhasin, 2013; Astutie and Utami, 2013; |
| 3 | Unstructured problem solving – ability to address each (unique) situation and be prepared to solve problems using a non-structured approach. | Digabriele, 2008, Davis et al., 2010; Bhasin, 2013; |
| 4 | Technical Flexibility - ability to take distance from standardized procedures and carefully examine the situations through atypical signs of alert. | Digabriele, 2008; |
| 5 | Analytic proficiency – ability to examine what should be provided instead of what is provided (feasibility analysis). | Digabriele, 2008 |
| 6 | Oral communication – ability to communicate effectively in discourse through an expert's testimony and general explanation of opinion bases. | Digabriele, 2008; Davis et al., 2010; Bhasin, 2013; Astutie and Utami, 2013; |
| 7 | Written communication – ability to communicate effectively, in writing, through reports, tables, graphs and opinion bases. | Digabriele, 2008; Davis et al., 2010; Bhasin, 2013; Astutie and Utami, 2013; |
| 8 | Specific legal knowledge – ability to understand basic legal procedures and legal aspects, including rules of evidence. | Digabriele, 2008; Bhasin, 2013; Davis et al. 2010; Astutie and Utami, 2013; |
| 9 | Serenity – ability to stay calm under pressure. | Digabriele, 2008; |
| 10 | Asset screening – ability to identify hidden or concealed goods or amounts. | Davis et al., 2010. |
| 11 | Interview skills – ability to collect personal testimonies. | Davis et al., 2010. |
| 12 | Investigation skills – ability to posses a highly inquisitive attitude. Be willing to investigate opinions and/or facts that may suggest fraud. | Davis et al., 2010; Bhasin, 2013; |
| 13 | Conflict solving and renegotiation – ability to solve controversies. | Davis et al., 2010. |
| Courses | laborated by the authors | |

Source: elaborated by the authors.

Digabriele (2008) investigated relevant skills for forensic accountants, based on the perception of forensic accounting professionals, accounting academics and forensic accounting service users. The author found that critical thinking, deductive analysis and written communication are the most relevant, while specific legal knowledge, serenity and unstructured problem solving are among the least relevant skills. Also, based on the analysis of the main components, the author identified two groups, which were named "knowledge and skill" and "performance".

Astutie and Utami (2013), based on research conducted with forensic accountants, academics, lawyers and society, found that the most relevant skills are investigative flexibility, analysis and synthesis of findings discovered and legal knowledge and insight. Davis et al. (2010) investigated 17 skills, based on respondent lawyers, academics and forensic accountants. The most relevant skills encountered were critical and strategic thinking, oral communication, the ability to simplify information and written communication.



3. Method

This research is classified as descriptive, as it shows how part of the research population perceives the skills expected from a federal criminal accounting expert in comparison with the skills identified in the international literature for forensic accounting, establishing correlations between some research variables and the perceptions verified (Oliveira, 2011).

3.1 Research Population

The present study was carried out within the scope of the National System of Criminalistics, including federal criminal experts, graduated in Accounting and / or Economics, in a universe of 250 professionals.

Considering that the research aimed to identify the perception of the largest group of users of the accounting reports, the research was also applied to Federal Police delegates, seeking to identify, according to their needs, the skills that will be discussed in this study. Currently, it is estimated that 450 delegates of the Federal Police in Brazil act at the police stations on financial crimes, such as pensions, misappropriation of public funds, tax evasion, money laundering and fraud in biddings.

3.2 Data Collection

For the field work, the survey method was used, since a predefined questionnaire was used to issue quantitative descriptions of a population (Freitas, Oliveira, Saccol & Mascarola, 2000). Open and closed questions were used, in which the respondents chose between two or more fixed alternatives presented.

A pre-test of the research questionnaire was performed in a sample and, based on the answers, the formulation of the questions could be adjusted. The initial questionnaire was submitted face-to-face to the experts and delegates with expertise in the area, as they were responsible for the PF accounting expertise guidelines (chief accounting and financial experts) or for the guidelines of the financial research process (head delegates of the police stations for financial crimes), with a view tothe aim of conducting a preliminary test on the content and form. Among the adjustments made, the assembly of the questions about the skills investigated in two blocks is highlighted. In the first one, the perceived importance of the skills was questioned and, in the second, the perceived practical application of the skills.

We chose closed questions in which the perceived importance and the existence of the skills for the criminal experts in the exercise of criminal accounting expertise was discussed, in order to produce an instrument that could, in a relatively short period of time, reach a significant number of respondents (Lakatos & Marconi, 2003). Open-ended questions were included though to absorb opinions on skills the respondents considered necessary, which may not have been listed in the baseline studies.

A Likert scale was chosen, since this scale permits presenting a set of items in the form of assertions. These statements were presented to the respondents to express themselves as follows: "not applicable", "I disagree", "I partially disagree", "neutral", "I partially agree" or "I agree". The questionnaire was divided into four parts: the first part aimed at outlining a profile of the respondents and contained basic information, such as: position, gender, age group, level of academic education, training area and time of experience in the position; the second part of the questionnaire aimed to identify the level of importance attributed to the skills defined in recent studies on forensic accounting for federal criminal accounting expertise, according to the professionals and the main users of this information.



In order to use the practical experience of the respondents and with a view to broadening the understanding of this subject, a third part of the questionnaire was created, also in relation to international research (Digrabiele, 2008; Davis et al., 2010) Its aim was to verify the perception on the current level of existence of the same skills in federal criminal accounting expertise. Finally, an open question was presented, representing the fourth part of the questionnaire to give the respondents the freedom to suggest the importance and existence of other skills not listed, but that should be correlated with the federal criminal accounting expertise activity.

A total of 350 electronic questionnaires were sent via e-mail (Google form) and physical forms were applied, as can be verified in Appendix A (Brasilia, Espírito Santo, Rio de Janeiro, Rio Grande do Norte and Alagoas). In response, 152 answers were obtained, being 44 physical and 108 electronic forms. Eight physical forms were discarded as some questions were left blank. The final sample consisted of 144 respondents, being 93 experts and 51 delegates.

3.3 Tests applied

Considering the means chosen and the objectives outlined, the quantitative data were analyzed to permit a comparison with the results obtained in previous studies (Digrabiele, 2008; Davis et al., 2010; Astutie & Utami, 2013), in which the ANOVA test was used, as follows:

- Pearson's Chi-Square test was used to compare the perceptual differences between the two groups analyzed (practitioners and users of criminal accounting expertise) in relation to important and existing skills. These tests are considered appropriate to verify if two variables are independent, that is, they evaluate if two or more independent samples differ relatively in a certain characteristic (Bracarense, 2012). Thus, the quantitative analysis identified and quantified points that indicated or helped to capture and interpret the respondents' perceptions about the subject, demonstrating whether they recognize some aspects pointed out in the bibliographic research carried out as pertinent, as well as the comparison between them.
- As regards qualitative data (open question), content analysis was applied as a set of constantly improving methodological instruments, which apply to the various forms of communication that exist (Bardin, 1997). The content analysis performed in the present study was based on the calculation of frequencies of the additional skills mentioned (Bardin, 1977), followed by their interpretation, associating the results with the theoretical framework used.

4. Results Found and Analysis

4.1 Profile characteristic of research sample

A total of 350 questionnaires were sent, of which 152 were answered (43.43%), eight of which were discarded, using 144. In this group, 51 (35.42%) were Federal Police Delegates and 93 (64.58%) Federal Criminal experts. In addition, 90.28% of the respondents are male and 9.72% of respondents female.

As for the age group of the respondents, half is between 31-40 years of age (50%), followed by 41-50 years (33.33%). Concerning the level of training, 44.44% have a bachelor's degree, followed by specialization lato sensu (34.72%), a master's degree (13.89%) and only two have a doctorate degree, which represents 1.39%. Regarding the time of experience in their respective positions, most respondents possess between six and 10 years of experience (56.25%), followed by 11-15 years (27.08%).

The geographic concentration of the participants per region was Central-West (37.5%), Northeast (26.24%), Southeast (22.2%), North (7.6%) and South (6.2%). It is worth noting that respondents from all states and the Federal District participated, with a majority from the Federal District (25.69%), followed by Rio de Janeiro (9.03%).



With regard to training, 13.73% of the delegates and 16.13% of the experts hold a second degree. Most experts have a degree in Accounting (83.87%), followed by Economics (13.98%) and only two experts have a degree in Economics and Accounting at the same time (2.15%). It was evidenced that four-teen experts possess a degree in Law (15.05%).

4.2 Descriptive statistics

To identify the perceived importance and practical application of the skills, according to the respondents, data were consolidated in three ways: aggregated perception of users and practitioners; perception of practitioners only; and perception of users only. First, Cronbach's alpha coefficient was calculated to verify the reliability of the questionnaire used in the research. It was verified that, in the evaluation of the importance and practical application of the skills, the questionnaires are reliable, according to the coefficients of 0.81 and 0.91, respectively.

4.2.1 Joint perception of skills' importance

Regarding the joint view of practitioners and users, according to Table 02, the three most important skills were: (1) written communication, (2) deductive analysis and (3) critical thinking. This finding was in line with Digabriele's (2008) research, which only diverged in terms of order, pointing out the following most important skills: (1^{st}) critical thinking, (2^{nd}) deductive analysis and (3^{rd}) written communication.

Relevant differences were verified in relation to the study by Astutie and Utami (2013), showing the following ranking of the investigated skills in terms of importance: (1) technical flexibility, the skills ranked second was not investigated in this research and (3) legal and specific knowledge. The convergence identified with the study by Digabriele (2008), both for the activities considered more relevant and less relevant, may result from the approximation between Brazilian procedures and the bases of the theories and practices adopted by the Americans, also with regard to the proximity of the Federal Police with the Federal Bureau of Investigation (FBI).



Table 2
Perception of users and professionals on importance of skills and international studies

| Professionals | Digabriele | Astutie and Utami | | | |
|------------------------------|------------|-----------------------|---------|--------|--------|
| l – Importance of activities | Mean | Standard Deviation | Ranking | (2008) | (2013) |
| Written communication | 4.85 | 0.49 | 1 | 3 | 7 |
| Deductive analysis | 4.75 | 0.60 | 2 | 2 | ** |
| Critical thinking | 4.72 | 0.65 | 3 | 1 | 4 |
| Asset screening | 4.69 | 0.65 | 4 | * | ** |
| Technical flexibility | 4.59 | 0.79 | 5 | 5 | 1 |
| Unstructured problem solving | 4.56 | 0.75 | 6 | 7 | ** |
| Analytic proficiency | 4.50 | 0.92 | 7 | 4 | ** |
| Serenity | 4.38 | 0.97 | 8 | 8 | ** |
| Investigation | 4.10 | 1.24 | 9 | * | ** |
| Oral communication | 4.00 | 1.15 | 10 | 6 | 7 |
| Specific legal knowledge | 3.91 | 1.16 | 11 | 9 | 3 |
| Conflict solving | 3.49 | 1.40 | 12 | * | ** |
| Interview | 3.16 | 1.50 | 13 | * | ** |

Source: research data. Obs.: * Skills not investigated by Digabriele (2008); ** Skills not investigated by Astutie and Utami (2013), who further investigated the skills analysis and synthesis of result found (2nd), detail oriented (5th) and Skepticism (6th).

In the study by Digabriele (2008) nine skills were investigated, and Astutie and Utami (2013) investigated seven skill variables that may influence the comparison of the results. Skills the respondents identified as most relevant are findings that may be important for the training of professionals and the education of students. Written communication is also worth mentioning, an essential skill for the production of expert reports.

The skills ranked as less important in the joint vision of users and practitioners were: (13th) interview, (12th) conflict solution and negotiation and (11th) specific legal knowledge. Digabriele (2008) pointed out as less relevant skills among the nine skills investigated, (9th) specific legal knowledge, (8th) serenity and (7th) unstructured problem solving. The results of Astutie and Utami (2013) presented the following skills as less relevant among the seven skills investigated: (7th) oral and written communication, (6th) skepticism and (5th) orientation to details.

The different number of skills surveyed can lead to distortions in the comparison of the less relevant skills, as the study by Astutie and Utami (2013) presents oral and written communication as the least relevant, when considering that the product of the criminal expert is the report, in which the writing skills should be evidenced.



4.2.2 Joint perception of practical application of skills

In relation to the joint perception of users and practitioners on the practical application of the investigated skills, in Table 3, the following were classified as more present: (1) written communication, (2) deductive analysis and (3) critical thinking. It should be noted that the three most important are the same as the first three most existing, in the same ranking. It is verified, however, that the respondents were more critical in their perception of the existence of the skills, with lower averages in comparison with the average importance of these same skills.

Table 3
Users and professionals' perception on practical application of skills

| Professionals and users (N=144) | | | | | | | | | | |
|---------------------------------|--|------|----------------------------------|-----------------------|------|--|--|--|--|--|
| Practical application of skills | cation of skills Mean Standard Practical application of skills | | Mean | Standard deviation | | | | | | |
| Written communication | 3.97 | 1.02 | Technical flexibility | 3.52 | 1.25 | | | | | |
| Deductive analysis | 3.90 | 1.15 | Oral communication | 3.10 | 1.23 | | | | | |
| Critical thinking | 3.87 | 1.10 | Investigation | 3.06 | 1.36 | | | | | |
| Serenity | 3.71 | 1.10 | Conflict solving and negotiation | 2.92 | 1.21 | | | | | |
| Unstructured problem solving | 3.61 | 1.17 | Specific legal knowledge | 2.86 | 1.27 | | | | | |
| Asset screening | 3.55 | 1.18 | Interview | 2.68 | 1.35 | | | | | |
| Analytic proficiency | 3.53 | 1.33 | - | - | - | | | | | |

Source: research data.

The skills the respondents perceive less include: (13th) interview and (12th) specific legal knowledge. In this case, the inclusion of specific legal knowledge among the less present skills can be considered as a reason for attention for the managers of the Forensic System and the forensic accountant trainers, since the specific legal knowledge corresponds to the ability to understand the basic legal procedures and legal issues, including rules of evidence, which may be essential for the pursuit of the activity.

4.3 Comparison between users and professionals' perception on forensic accounting expertise

Non-parametric tests were applied to compare the medians (Wilcoxon's rank sum) to check for differences in the users and practitioners' perspective on the importance and practical application of the skills.

4.3.1 Perception difference between users and professionals on importance of skills

Concerning the importance of the investigated skills, significant (95% confidence) differences can be observed in five skills according to Table 04, demonstrating higher medians for the experts than for the delegates. These are: "specific legal knowledge", "investigation", "interview", "serenity" and "critical thinking".



Table 4

Comparison between users and professionals' perception on importance of skills

| Variables of skills' importance | Usei | · (N=51) | | essional N=93) | Difference | |
|----------------------------------|------|-----------------------|------|-----------------------|------------|---------|
| Variables of skills' importance | Mean | Standard deviation | Mean | Standard deviation | z | P-value |
| Deductive analysis | 4.76 | 0.62 | 4.74 | 0.59 | 0.71 | 0.48 |
| Critical thinking | 4.51 | 0.92 | 4.84 | 0.40 | -2.45 | 0.01* |
| Unstructured problem solving | 4.39 | 0.96 | 4.66 | 0.58 | -1.53 | 0.12 |
| Technical flexibility | 4.67 | 0.62 | 4.55 | 0.87 | 0.60 | 0.55 |
| Analytic proficiency | 4.25 | 1.29 | 4.63 | 0.60 | -1.02 | 0.30 |
| Oral communication | 4.12 | 1.32 | 3.94 | 1.05 | 1.88 | 0.06 |
| Written communication | 4.90 | 0.41 | 4.82 | 0.53 | 1.27 | 0.20 |
| Specific legal knowledge | 3.37 | 1.25 | 4.20 | 1.01 | -4.18 | 0.00* |
| Serenity | 4.10 | 1.14 | 4.53 | 0.84 | -2.62 | 0.00* |
| Asset screening | 4.69 | 0.81 | 4.70 | 0.55 | 0.90 | 0.36 |
| Interview | 2.59 | 1.70 | 3.47 | 1.28 | -3.03 | 0.00* |
| Investigation | 3.55 | 1.54 | 4.41 | 0.92 | -3.63 | 0.00* |
| Conflict solving and negotiation | 3.20 | 1.59 | 3.65 | 1.27 | -1.48 | 0.13 |

Source: research data. Obs.: * Significant at 0.05.

The daily skills required from forensic accountants in the context of the Federal Police are mostly executed internally, due to the need for document analyses and the production of reports, which can restrict the users' usage and assessment possibilities of the interview and criminal investigation skills. The latter should not be mixed up with the scientific investigation the forensic accountants perform daily.

4.3.2 Perception differences between users and professionals on practical application of skills

Concerning the perceived presence of the skills, in Table 5, a higher median was verified for the experts related to "specific legal knowledge", as well as for the "solution of unstructured problems". The delegates revealed higher medians for "interview" and "serenity" skills.



Table 5

Comparison between users and professionals' perception on the practical application of the skills

| | User | (N=51) | Profession | onal (N=93) | Difference | | |
|--|------|-----------------------|------------|-----------------------|------------|---------|--|
| Variables of practical application of skills | Mean | Standard Deviation | Mean | Standard Deviation | z | P-value | |
| Deductive analysis | 3.73 | 1.23 | 4.00 | 1.09 | -1.25 | 0.21 | |
| Critical thinking | 3.65 | 1.18 | 3.99 | 1.05 | -1.79 | 0.07 | |
| Unstructured problem solving | 3.35 | 1.21 | 3.75 | 1.13 | -2.07 | 0.04* | |
| Technical flexibility | 3.33 | 1.28 | 3.62 | 1.22 | -1.42 | 0.15 | |
| Analytic proficiency | 3.47 | 1.41 | 3.56 | 1.30 | -0.28 | 0.77 | |
| Oral communication | 3.22 | 1.30 | 3.04 | 1.20 | 0.69 | 0.49 | |
| Written communication | 4.08 | 1.02 | 3.91 | 1.03 | 1.02 | 0.31 | |
| Specific legal knowledge | 2.43 | 1.20 | 3.10 | 1.24 | -3.14 | 0.00* | |
| Serenity | 3.94 | 1.21 | 3.58 | 1.01 | 2.18 | 0.03* | |
| Asset screening | 3.41 | 1.30 | 3.62 | 1.11 | -0.84 | 0.40 | |
| Interview | 2.27 | 1.42 | 2.90 | 1.27 | 2.54 | 0.01* | |
| Investigation | 2.80 | 1.47 | 3.21 | 1.28 | -1.51 | 0.13 | |
| Conflict solving and negotiation | 2.69 | 1.29 | 3.05 | 1.16 | -1.68 | 0.09 | |

Source: research data. Obs.: * Significant at 0.05.

The "specific legal knowledge" was the only skills that confirmed a difference in the perceived importance and perceived practical application of the skill. As this skill is needed to develop forensic accounting, the result reveals the need for criminal experts to inform their clients better on the meaning of this skill for the accomplishment of their activity, sorting out the possible confusion with legal activity, which is reserved to Law graduates.

4.4 Pearson's Correlation

Pearson's correlation was applied to the variables inquiring on the importance of the skills for criminal accounting expertise, with a p-value of 0.05 or less. Based on Pearson's test, in Table 6, the highest correlations with statistical significance at 5% were: "written communication" with "deductive analysis", "conflict solution and negotiation" with "interview" and "serenity" with specific legal knowledge. Lower correlations that were also significant at 5% were: "interview" with "technical flexibility" and "serenity" with "analytic proficiency".



Table 6

Pearson's correlation on importance of skills*

| Skills | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|----|
| 1-Deductive analysis | | | | | | | | | | | | | |
| 2-Critical thinking | 0.31 | | | | | | | | | | | | |
| 2-Chucai thiriking | 0.00 | | | | | | | | | | | | |
| 3-Unstructured problem | 0.22 | 0.35 | | | | | | | | | | | |
| solving | 0.01 | 0.00 | | | | | | | | | | | |
| 4-Technical flexibility | 0.26 | 0.21 | 0.41 | | | | | | | | | | |
| 4-Technical nexibility | 0.00 | 0.01 | 0.00 | | | | | | | | | | |
| E Analytic proficionay | 0.13 | 0.21 | 0.25 | 0.35 | | | | | | | | | |
| 5-Analytic proficiency | 0.13 | 0.01 | 0.00 | 0.00 | | | | | | | | | |
| 6-Oral communication | 0.28 | 0.14 | 0.12 | 0.15 | 0.27 | | | | | | | | |
| 6-Oral Communication | 0.00 | 0.10 | 0.14 | 0.07 | 0.00 | | | | | | | | |
| 7-Written communication | 0.49 | 0.32 | 0.35 | 0.32 | 0.20 | 0.31 | | | | | | | |
| 7-written communication | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | | | | | | | |
| O. Crossifie local language | 0.15 | 0.17 | 0.30 | 0.06 | 0.28 | 0.39 | 0.22 | | | | | | |
| 8-Specific legal knowledge | 0.08 | 0.04 | 0.00 | 0.49 | 0.00 | 0.00 | 0.01 | | | | | | |
| O Caranita | 0.27 | 0.35 | 0.45 | 0.12 | 0.16 | 0.19 | 0.28 | 0.48 | | | | | |
| 9-Serenity | 0.00 | 0.00 | 0.00 | 0.15 | 0.05 | 0.03 | 0.00 | 0.00 | | | | | |
| 10 Accet cereaning | 0.27 | 0.16 | 0.31 | 0.37 | 0.29 | 0.34 | 0.36 | 0.31 | 0.16 | | | | |
| 10-Asset screening | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | | | | |
| 441. | 0.14 | 0.32 | 0.28 | 0.16 | 0.22 | 0.35 | 0.12 | 0.47 | 0.38 | 0.25 | | | |
| 11-Interview | 0.10 | 0.00 | 0.00 | 0.05 | 0.01 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | | | |
| 12 Investigation | 0.18 | 0.34 | 0.22 | 0.25 | 0.12 | 0.24 | 0.26 | 0.31 | 0.15 | 0.41 | 0.44 | | |
| 12-Investigation | 0.03 | 0.00 | 0.01 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | | |
| 13-Conflict solving and | 0.12 | 0.27 | 0.25 | 0.25 | 0.24 | 0.33 | 0.21 | 0.35 | 0.32 | 0.22 | 0.49 | 0.33 | |
| negotiation | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | |

Source: research data. Obs.: * significances highlighted in italics

Regarding the most significant correlation, written communication with deductive analysis, forensic accountants should not only be able to identify financial contradictions with expertise, but should also be attentive to the ability to effectively translate their findings to the lay public that will make use of the expert report. Regarding the significant correlation of conflict solution and negotiation with the interview, it can be inferred that these are skills related to the forensic accountants' skill, while performing their work, to create an environment conducive to the understanding and collecting of information that can be important, due to the establishment of trust in the professional.

4.5 Principal Components Analysis

Principal components analysis was applied to the perceived importance of the 13 skills and their perceived existence in today's experts, with a view to identifying clusters of variables and their meanings.



4.5.1 Principal components analysis of the importance of the skills

Concerning the importance of the skills, four groups of principal components were found, followed by Varimax rotation.

In the first component rotated, the sum of the squared loadings corresponds to 2.68, explaining 20.65% of the variance among the thirteen items. Five of the items had loadings of 0.32 or higher in this component ("oral communication", "specific legal knowledge", "interview skills", "conflict solution and negotiation" and "investigation"). This component was named "legal, investigative and attitudinal knowledge", representing skills that require knowledge of legal and interpersonal relationships, which may be necessary to formalize and obtain scientific evidence, in Table 7.

Table 7

Rotation of loadings of principal components of skills' importance

| Skills | Legal, investigation and attitudinal knowledge | Analytic performance | Reflection and strategy | Method |
|----------------------------------|--|-------------------------|-------------------------------|--------|
| Oral communication | 0.49 | -0.09 | -0.29 | 0.29 |
| Specific legal knowledge | 0.47 | -0.17 | 0.14 | -0.02 |
| Interview skills | 0.45 | -0.01 | 0.19 | -0.21 |
| Conflict solving and negotiation | 0.36 | 0.11 | 0.14 | -0.18 |
| Investigation skills | 0.32 | 0.19 | -0.03 | -0.02 |
| Technical flexibility | -0.11 | 0.67 | 0.02 | 0.02 |
| Analytic proficiency | 0.14 | 0.45 | -0.04 | -0.12 |
| Asset screening | 0.25 | 0.35 | -0.24 | 0.19 |
| Unstructured problem solving | -0.09 | 0.31 | 0.47 | 0.01 |
| Serenity | 0.12 | -0.18 | 0.57 | 0.09 |
| Critical thinking | -0.03 | 0.07 | 0.47 | 0.13 |
| Deductive analysis | -0.01 | -0.05 | 0.06 | 0.66 |
| Written communication | 0.00 | 0.11 | 0.06 | 0.57 |
| Sum of squared loadings | 2.68 | 1.81 | 1.78 | 1.63 |
| Explained variance percentage | 20.65 | 13.89 | 13.69 | 12.54 |

Source: research data.

For the second component rotated, the sum of the squared loadings is 1.81, explaining 13.89% of the variance among the 13 items, with four of the items showing loadings of 0.31 or higher in this component ("technical flexibility", "analytical proficiency", "Asset screening" and "unstructured problem solving"). This component was called "analytical performance" and corresponds to a group with technical bias of forensic accounting.

For the third component rotated, the sum of the squared loadings equals 1.78, explaining 13.69% of the variance among the 13 items. Three of the items had loadings of 0.47 or higher in this component ("unstructured problem solving", "serenity" and "critical thinking"). This component was called "reflection and strategy", since it includes skills that can contribute to the definition of technical strategies, aiming at solving problems in the practice of forensic accounting.

Finally, for the fourth rotated component, the sum of the squared loadings is 1.63, explaining 12.54% of the variance among the 13 items. Two of the items had loadings of 0.57 or higher in this component ("deductive analysis" and "written communication"). This component has been called "method", as it involves analysis and communication skills, which can contribute to the effective solution of financial contradictions and to communicate with the claimant of the criminal accounting expertise.



On the whole, the four components account for 60.76% of the variance among the 13 important skills items. Regarding the comparison with the international surveys, it is verified that Digabriele, 2008 processed the Principal Components Analysis and found two relevant groups, which are:

- **Knowledge and skill**, including the following skills: deductive analysis; critical thinking; unstructured problem solving; research flexibility and analytic proficiency;
- **Performance**, including the skills: oral communication; written communication; specific legal knowledge and serenity.

4.5.2 Principal component analysis of perceived practical application of the skills

Regarding the perceived practical application of the skills, three clusters of principal components were found, after which the Varimax rotation was performed.

For the first component rotated, the sum of the squared loadings is 3.48, explaining 26.81% of the variance among the thirteen items. Five of the items had loadings of 0.38 or higher in this component ("deductive analysis", "critical thinking", "unstructured problem solving", "technical flexibility" and "analytical proficiency"). This component was called "analytical and strategic performance", because it represents skills that allow the forensic accountant to master the analytical techniques necessary to solve the case under examination, thus permitting the establishment of an adequate strategy, as shown in Table 8.

Table 8

Varimax rotation of variables regarding practical application of skills

| Skills | Analytic and strategic performance | Communication and serenity | Diligence |
|----------------------------------|------------------------------------|----------------------------|-----------|
| Deductive analysis | 0,49 | 0,10 | -0,18 |
| Unstructured problem solving | 0,48 | -0,06 | 0,04 |
| Technical flexibility | 0,47 | -0,17 | 0,12 |
| Analytic proficiency | 0,38 | 0,03 | 0,05 |
| Critical thinking | 0,37 | 0,12 | -0,05 |
| Written communication | 0,02 | 0,59 | -0,14 |
| Oral communication | -0,11 | 0,51 | 0,10 |
| Serenity | 0,03 | 0,40 | -0,01 |
| Interview | -0,07 | -0,02 | 0,59 |
| Investigation | 0,05 | -0,05 | 0,53 |
| Conflict solving and negotiation | 0,05 | 0,00 | 0,46 |
| Asset screening | 0,09 | 0,29 | 0,17 |
| Specific legal knowledge | 0,04 | 0,27 | 0,23 |
| Sum of squared loadings | 3,48 | 2,55 | 2,53 |
| Explained variance percentage | 26,81 | 19,66 | 19,51 |

Source: research data.



For the second component rotated, the sum of the squared loadings is 2.55, explaining 19.66% of the variance among the 13 items. Three of the items had loadings of 0.40 or higher in this component ("oral communication", "written communication" and "serenity"). This component was called "communication and serenity" because it represents skills that allow the forensic accountant to report the findings due to expert examinations, even in situations of pressure, like in the case of a testimony in court.

For the third component rotated, the sum of the squared loadings is 2.53, explaining 19.51% of the variance among the 13 items, three of the items had loadings of 0.46 or higher in this component ("interview", "investigation" and "Conflict solution and negotiation"). This component has been called "due diligence" as the skills are related to the need for the forensic accountant to seek information and / or solutions.

Together, the three components account for 65.99% of the variance among the 13 skills items that exist.

5. Other skills appointed as important

Respondents were asked to indicate three skills considered important for the development of the federal criminal accounting activity and which were not listed in the previous questions. Next, they were asked to evaluate the perceived practical application of the skills suggested by the respondents themselves. It was not compulsory to indicate three skills, as 0, 1, 2 or 3 were allowed, which resulted in 194 suggested skill items. As the respondents felt comfortable writing, some of the skills had to be summarized and other correlated ones were joined in order to consolidate the data.

Table 9 shows the 16 most suggested skills and the respective assessments by the respondents. The skills pointed out by at least three respondents were selected.

Table 9

Ranking of main skills not investigated and suggested as important (in %)

| Main skills suggested | l disagree | l partially disagree | Neutral | l partially agree | l agree | Total frequency* |
|------------------------------------|---------------|-------------------------|---------|----------------------|---------|---------------------|
| Proactivity | 13.33 | 13.33 | 20.00 | 46.67 | 6.67 | 15 |
| Objectivity | 15.38 | 15.38 | 15.38 | 53.85 | 0.00 | 13 |
| Updating | 12.50 | 12.50 | 0.00 | 75.00 | 0.00 | 8 |
| Integration with the research team | 37.50 | 12.50 | 0.00 | 50.00 | 0.00 | 8 |
| Commitment | 33.33 | 16.67 | 0.00 | 50.00 | 0.00 | 6 |
| Clarity | 0.00 | 20.00 | 40.00 | 40.00 | 0.00 | 5 |
| Work in team | 0.00 | 0.00 | 20.00 | 80.00 | 0.00 | 5 |
| Celerity | 50.00 | 25.00 | 25.00 | 0.00 | 0.00 | 4 |
| Use of worksheets and database | 0.00 | 0.00 | 25.00 | 50.00 | 25.00 | 4 |
| Deductive analysis | 33.33 | 0.00 | 33.33 | 0.00 | 33.33 | 3 |
| Concentration | 0.00 | 33.33 | 0.00 | 66.67 | 0.00 | 3 |
| Cooperation | 0.00 | 66.67 | 0.00 | 33.33 | 0.00 | 3 |
| Creativity | 0.00 | 33.33 | 0.00 | 66.67 | 0.00 | 3 |
| Impartiality | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 3 |
| Independence | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 3 |
| Persistence | 0.00 | 33.33 | 0.00 | 66.67 | 0.00 | 3 |

Source: research data. Obs.: *The "Total frequency" column is not expressed as a percentage.



The skill the respondents recalled most was "proactivity", followed by "objectivity" and "updating" and "integration" with the research team. Most assessments indicated partial agreement with these skills, about 46%, perceiving their existence in the execution of federal criminal accounting expertise activities.

5.4 Discussion of results

The research questioned the experts and delegates of the Federal Police about their perceptions regarding the relevance of some skills investigated in the international literature and, due to the experience of the respondents, the research could be elaborated in further depth through questions about the practical application of the same skills, including the possibility to suggest other abilities not listed in the research.

Discussing the importance of the skills required for the forensic accountant to engage in investigative practice allowed users and practitioners to list the following most relevant activities (Table 2): "written communication", "deductive analysis" and "critical thinking". The results permitted comparisons with the research by Digabriele (2008), in which an alignment of the results was observed, but diverged from the research by Astutie and Utami (2013), in which technical flexibility was the most important.

It was also observed that critical thinking ranks among the first skills in international research, corroborating the perception of the practitioners when the result is separated from the users' perception, who perceive critical thinking as the fifth most relevant skill. This divergence shows a distancing between practitioners and users in what criminal accounting experts consider essential in the exercise of their duty, the ability to decipher the difference between opinion and fact.

Regarding the perception of the less relevant skills among the participants, the experts and delegates, in the joint or separate results, listed the interview and the solution and negotiation of conflicts. This finding is in line with the result found by Davis et al. (2010), while the specific legal knowledge also figured among the less relevant skills, converging with the work by Digabriele (2008). It can be inferred that the ability "specific legal knowledge" was influenced by the users being legal operators, because this question does not investigate the possibility of legal action by the experts, but the ability to understand basic legal procedures and legal issues, Including rules of evidence.

Concerning the interview and the solution and negotiation of conflicts, although it is not common for the criminal accounting expert to carry out the field work, as many data necessary for the materialization of a crime can be reached through a database search, as a result of the technological advances and electronic records of accounting and financial transactions, the forensic accountant should not give up being prepared to perform these skills, as their use may be necessary. In addition to the training of professionals already working in the field, there is a need to develop forensic accounting courses to meet a growing demand of professionals trained in the fight against fraud. In curriculum building, the results of the perceived practical application of skills can be used, according to Table 3, in which the experts and delegates considered that written communication, deductive analysis and critical thinking are more present.

Forensic accountants can be summoned to clarify their findings, which can be done in writing or verbally, and the appearance before a jury, judges, prosecutors and lawyers is a situation of pressure. In this case, one of the most required skills, in addition to "oral communication", is "serenity", the seventh skill the professionals consider most present, while delegates consider it to be the second most present. This finding demonstrates that the users consider the experts as professionals able to maintain a calm attitude under pressure.

Materializing the proof of a crime is not one of the simplest tasks. Therefore, various skills need to be developed. In view of this diversity, the respondents were asked to suggest unlisted skills, revealing 16 according to Table 9, the three most remembered being "proactivity", "objectivity" and "updating". Criminal accounting expertises are mostly complex and voluminous, which makes one think of the need for "proactivity" and "objectivity" to solve cases.



Regarding the principal components analysis, clusters of skills were found with emphasis on "technical", "analytical" and "strategic performance", in which the experts showed a different perception than the delegates. As for strategic insight, legal knowledge, investigative and analytical performance, the result demonstrates that the experts held a more positive perception of the clusters relevant for the construction and development of the skills that can strengthen forensic accounting. The comparison of the principal components with the research by Digabriele (2008) is also noteworthy, in which there is no alignment of the clusters found regarding the importance of the skills.

Notwithstanding the limitations in terms of the other criminal accounting expertise users who were not submitted to the research, this study contributes to decisions aimed at strengthening the skills of criminal experts, through training and capacity building, as well as curriculum development for new university courses in forensic accounting at the undergraduate and postgraduate level.

6. Conclusion

Based on international research, skills considered relevant to the practice of forensic accounting were identified and, when submitted to the perception of criminal accounting experts and federal police delegates, it was verified that there is an alignment in the results found, as the skills "critical thinking", "written communication" and "deductive analysis" are considered the most relevant. There is a need for a discussion in the country about the training and preparation of this professional as a result of the growing demand and these professionals' direct involvement in solving financial crimes of great repercussion. In addition, scientific production on the subject needs to be stimulated. Although the discussions and productions were incipient, there was no loss in relation to the perception of the relevant skills the Brazilian professionals and users identified in comparison with the international results.

The experts believe that, for an effective contribution to criminal prosecution, critical thinking skills are fundamental, i.e. the ability to distinguish between opinion and fact in criminal accounting expertise, as well as "written communication" makes all the difference in the production of the report. Skills related to fieldwork, such as interviews and the solution and negotiation of conflicts, were not considered relevant among the investigated skills.

There is a need for better clarification to users and society about what criminal accounting expertise is and does, since the skill "specific legal knowledge" also ranked among the least relevant, although a competent forensic accountant is unthinkable without the ability to understand basic legal procedures and legal issues, including rules of evidence. It should be noted that even the experts themselves did not consider this skill among the most relevant, which seems contradictory. Taking advantage of the respondents' experience was positive because, besides being more critical in the perception of the practical application of the skills, they were able to suggest unlisted abilities, among which "proactivity", "objectivity" and "updating" were the three most recalled skills.

The results obtained contribute to the improvement of the professionals who already work in the area, as well as to training guidelines, new undergraduate and postgraduate courses, to the structuring of curricula for the preparation of new forensic accountants, since it has been verified that it is not only the knowledge of how things should be done. The forensic accountant should well develop the solution of "unstructured problems," "investigative skills," "technical flexibilities," among other skills that are not part of today's curricula. Finally, the skills investigated and suggested contribute to all areas of accounting expertise.

Considering that the study capitalized on the practical perception of the skills and the respondents' suggestions, future research could be carried out to complement the findings obtained thus far and to deepen the results on the practical perceptions and skills the respondents suggested.



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Capacity: ___



☐ Federal criminal expert

Appendix A – Questionnaire

Questionnaire about the perception of federal criminal accounting experts and Federal Police delegates about the competences needed for criminal accounting expertise within the Federal Policy in the light of the forensic accounting concept investigated in the North American literature.

☐ Federal Police Delegate

| □ Bachelor □ Specialist □ Master's □ Doctoral □ Ph.D. What is your educational background? Principal and others. □ Accounting □ Economics □ Law □ Other (specify) | |
|---|--|
| What is your educational background? Principal and others. Accounting Economics Law Other (specify) What is the length of your experience as a delegate or expert? O-5 years G-10 years G11-15 years G16-20 years Next, assess the importance of the skills below, attributing scores between 1 and 6: (1) (2) (3) (4) (5) (6) Does not apply I disagree I partially disagree Neutral I partially agree I agree Part 1 - Concerns on the importance of the skills below for accounting expertise I 2 3 4 9 1. Deductive analysis – ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2. Critical thinking – ability to decipher the difference between opinion and fact. | |
| What is your educational background? Principal and others. Accounting Economics Law Other (specify) What is the length of your experience as a delegate or expert? O-5 years G-10 years G11-15 years G16-20 years Next, assess the importance of the skills below, attributing scores between 1 and 6: (1) (2) (3) (4) (5) (6) Does not apply I disagree I partially disagree Neutral I partially agree I agree Part 1 - Concerns on the importance of the skills below for accounting expertise I 2 3 4 9 1. Deductive analysis – ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2. Critical thinking – ability to decipher the difference between opinion and fact. | |
| □ Accounting □ Economics □ Law □ Other (specify) What is the length of your experience as a delegate or expert? □ 0-5 years □ 6-10 years □ 11-15 years □ 16-20 years Next, assess the importance of the skills below, attributing scores between 1 and 6: (1) (2) (3) (4) (5) (6) Does not apply I disagree I partially disagree Neutral I partially agree I agree Part 1 - Concerns on the importance of the skills below for accounting expertise 1. Deductive analysis – ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2. Critical thinking – ability to decipher the difference between opinion and fact. | |
| What is the length of your experience as a delegate or expert? O-5 years | |
| Next, assess the importance of the skills below, attributing scores between 1 and 6: (1) (2) (3) (4) (5) (6) Does not apply I disagree I partially disagree Neutral I partially agree I agre Part 1 - Concerns on the importance of the skills below for accounting expertise 1 2 3 4 9 1. Deductive analysis – ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2. Critical thinking – ability to decipher the difference between opinion and fact. | |
| Next, assess the importance of the skills below, attributing scores between 1 and 6: (1) (2) (3) (4) (5) (6) Does not apply I disagree I partially disagree Neutral I partially agree I agre Part 1 - Concerns on the importance of the skills below for accounting expertise 1 2 3 4 9 1. Deductive analysis – ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2. Critical thinking – ability to decipher the difference between opinion and fact. | |
| (1) (2) (3) (4) (5) (6) Does not apply I disagree I partially disagree Neutral I partially agree I agree Part 1 - Concerns on the importance of the skills below for accounting expertise 1 2 3 4 9 1. Deductive analysis - ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2. Critical thinking - ability to decipher the difference between opinion and fact. | |
| (1) (2) (3) (4) (5) (6) Does not apply I disagree I partially disagree Neutral I partially agree I agree Part 1 - Concerns on the importance of the skills below for accounting expertise 1 2 3 4 9 1. Deductive analysis - ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2. Critical thinking - ability to decipher the difference between opinion and fact. | |
| Part 1 - Concerns on the importance of the skills below for accounting expertise 1 2 3 4 1. Deductive analysis - ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2 3 4 2. Critical thinking - ability to decipher the difference between opinion and fact. 4 | |
| Part 1 - Concerns on the importance of the skills below for accounting expertise 1 2 3 4 9 1. Deductive analysis – ability to focus on financial contradictions that do not fit into the normal pattern of a task. 2. Critical thinking – ability to decipher the difference between opinion and fact. | |
| Deductive analysis – ability to focus on financial contradictions that do not fit into the normal pattern of a task. Critical thinking – ability to decipher the difference between opinion and fact. | |
| 2. Critical thinking – ability to decipher the difference between opinion and fact. | |
| 3. Unstructured problem solving – ability to address each (unique) situation and be prepared | |
| to solve problems using a non-structured approach. | |
| 4. Technical Flexibility – ability to take distance from standardized procedures and carefully examine the situations through atypical signs of alert. | |
| 5. Analytic proficiency – ability to examine what should be provided instead of what is provided (feasibility analysis). | |
| 6. Oral communication – ability to communicate effectively in discourse through an expert's testimony and general explanation of opinion bases. | |
| 7. Written communication – ability to communicate effectively, in writing, through reports, tables, graphs and opinion bases. | |
| 8. Specific legal knowledge – ability to understand basic legal procedures and legal aspects, including rules of evidence. | |
| 9. Serenity – ability to stay calm under pressure. | |
| 10. Asset screening – ability to identify hidden or concealed goods or amounts. | |
| 11. Interview skills – ability to collect personal testimonies. | |
| 12. Investigation skills – ability to possess a highly inquisitive attitude. Be willing to investigate opinions and/or facts that may suggest fraud. | |
| 13. Conflict solving and negotiation – ability to solve controversies. | |



| Concerns on the existence of the skills in federal criminal accounting expertise | 1 | 2 | 3 | 4 | 5 | 6 |
|---|-------|-------|------|------|------|---|
| 14. Do the criminal federal accounting experts have DEDUCTIVE ANALYSIS skills? Ability to focus on financial contradictions that do not fit into the normal pattern of a task. | | | | | | |
| $15.\ Do\ the\ criminal\ federal\ accounting\ experts\ have\ CRITICAL\ THINKING\ skills?\ Ability\ to\ decipher\ the\ difference\ between\ opinion\ and\ fact.$ | | | | | | |
| 16. Do the criminal federal accounting experts have UNSTRUCTURED PROBLEM SOLVING skills? Ability to address each (unique) situation and be prepared to solve problems using an unstructured approach. | | | | | | |
| 17 Do the criminal federal accounting experts have TECHNICAL FLEXIBILITY skills? Ability to take distance from standardized audit procedures and carefully examine the situations through atypical alert signs. | | | | | | |
| 18 Do the criminal federal accounting experts have ANALYTIC PROFICIENCY skills? Ability to examine what should be provided instead of what is provided (feasibility analysis). | | | | | | |
| 19. Do the criminal federal accounting experts have ORAL COMMUNICATION skills? Ability to communicate effectively in discourse through an expert's testimony and general explanation on the opinion bases. | | | | | | |
| 20. Do the criminal federal accounting experts have WRITTEN COMMUNICATION skills? Ability to communicate effectively, in writing, through reports, tables, graphs and opinion bases. | | | | | | |
| 21. Do the criminal federal accounting experts have SPECIFIC LEGAL KNOWLEDGE? Ability to understand the basic legal processes and legal aspects, including rules of evidence. | | | | | | |
| 22. Do the criminal federal accounting experts have SERENITY skills? Ability to stay calm under pressure. | | | | | | |
| 23. Do the criminal federal accounting experts have ASSET SCREENING skills? Ability to identify hidden or concealed goods or amounts. | | | | | | |
| 24. Do the criminal federal accounting experts have INTERVIEW skills? Ability to collect personal testimonies. | | | | | | |
| 25. Do the criminal federal accounting experts have INVESTIGATION skills? – Ability to possess a highly inquisitive attitude. Willing to investigate opinions and/or facts that may suggest fraud. | | | | | | |
| 26. Do the criminal federal accounting experts have CONFLICT SOLUTION AND NEGOTIATION skills? Ability to solve controversies. | | | | | | |
| 27. Inform three skills not listed above which you consider important to develop criminal federal a Specify | iccoi | untir | ng e | xper | tise | ? |
| 28. Do the federal criminal accounting experts possess the skills you suggest? | | | | | | |