



Behavioral aspects of auditing and the auditor's decision-making as a key cognitive process in the case of fraud

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Abstract

Fraud is like a disease for organizations. One of the key people meant to detect fraud is the auditor. A detected fraud is the most stressful case, and therefore, there are written standards of actions. According to professional standards, an auditor should have enough “professional skepticism,” which should help to organize his way of thinking and his actions. However, even such organized people are only people; human nature influences their behavior. The aim of the paper is to show the behavioral aspect of auditing and to find out how cognitive characteristics of decision-making could help auditors detect and investigate fraud. This theoretical research is a theory-driven interpretative literature review, based on a synthesis of the academic literature. The key finding of the research is that the cognitive process plays a key role in auditing because processes of judgment and decision-making are basic cognitive processes. When fraud is detected, according to cognitive theory, the auditor recalls the last experience of fraud detection, forms a judgment, and then makes a decision based on this experience. Trying to provide the best solution for the case, it could be relevant to share the experience and opinions among auditors.

Keywords: auditor, fraud, professional skepticism, behavioral accounting, cognitive theory.

Streszczenie

Aspekty behawioralne audytu i podejmowania decyzji przez audytora jako kluczowy proces poznawczy w przypadku nadużyć finansowych

Oszustwo dla organizacji jest rodzajem choroby. Jedną z kluczowych osób, której zadaniem jest wykrycie oszustwa jest audytor. Wykryte nadużycie jest najbardziej stresującym przypadkiem i dlatego określono pisemnie standardy postępowania. Zgodnie z nimi, audytor powinien mieć wystarczająco dużo „zawodowego sceptycyzmu”, który wpływa na jego sposób myślenia i działania. Celem artykułu jest ukazanie behawioralnego aspektu audytu i poznanie, w jaki sposób cechy poznawcze procesu decyzyjnego mogą pomóc audytorom w wykrywaniu i badaniu oszustwa. Badania te są oparte na analizie i interpretacji literatury przedmiotu. Wnioskiem płynącym z badań jest to, że proces poznawczy odgrywa kluczową rolę w audycie, ponieważ procesy osądu i podejmowania decyzji są podstawowymi procesami poznawczymi. W przypadku wykrycia oszustwa, zgodnie z teorią kognitywną, audytor przywołuje ostatnie doświadczenia w zakresie wykrywania oszustw, formułuje osąd, a następnie podejmuje decyzję opartą na doświadczeniu. Dla znalezienia najlepszego rozwiązania w danej sprawie istotna może być wymiana doświadczeń i opinii między audytorami.

Słowa kluczowe: audytor, oszustwo, zawodowy sceptycyzm, rachunkowość behawioralna, teoria poznawcza.

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Introduction

There are many organizational theories that explain the basics of how organizations operate. Kast and Rozenzweig (1972) proposed the General System Theory as an organizational theory. Their idea was that organizations act like organisms. Organizations with material and immaterial components act like real organisms, where every part has its own place and purpose, working together as one. Nevertheless, no organism is totally protected from any virus or disease. Talking about the organization, one “disease,” which can be hidden for years, is fraud. There are different kinds of fraud – different by type, by perpetrator, by damage, and by consequence. However, they have one similar bad feature – fraud is destructive. One powerful definition of fraud says that “fraud is a worldwide phenomenon that ruins the profitability, reputability, and legitimacy of organizations wherever it occurs” (Rossouw, 2000, p. 885). Fraud is complicated and problematic, but not impossible to detect and investigate. One of the key people meant to detect fraud is the auditor. Nonetheless, sometimes, the auditor can play another role. Here, one more definition is worth mentioning: “Fraud in financial reporting is based on the conscious intent of the perpetrator (directors, auditors, employees, etc.) to wrongfully present the reality” (Vlad et al., 2011, p. 264). According to this statement, the auditors themselves became potential perpetrators. Fortunately, the auditor as the perpetrator is an extreme case, rather than something that readily happens in reality.

The profession of auditor is not among the easiest, at least regarding the list of things and people they are responsible for/to. Nevertheless, auditors have many opportunities to detect fraud. For example, to determine reasons for committing fraud, different fraud models have been created over the last 70 years. The authors of the paper have composed a timeline and concept of 15 fraud models. Regarding the topic of the paper, two models should be mentioned (Vassiljev, Alver, 2016). In 1950, Donald Cressey created the so-called “fraud triangle,” which was meant to help investigators detect fraud. As the problem of fraud becomes greater and greater over time, Trompeter et al. (2013) synthesized a model that illustrates the auditor’s approach to fraud. Their model forms a kind of framework, where the fraud triangle is the pre-fraud state. The post-fraud state focuses on the specific elements of fraud like the act, the effort to conceal the act, and the conversion of the benefits. There are anti-fraud measures between the stages – “aimed at reducing the probability and impact of fraudulent acts” (Trompeter et al., 2013, p. 290). The auditor’s job has strict instructions or standards of how to act during the process of auditing. As detection of fraud is a part of auditor’s work, it is also regulated by standards and instructions. According to professional standards, an auditor should have “professional skepticism” to help organize how he thinks and acts. But even such organized people are only people; human nature influences their behavior. The detection of fraud is the most complicated case for an auditor. Auditors do not really know how should react to fraud; every case is different, as are the circumstances, and an auditor should decide on the actions he/she will take. There are several behavioral theories that help to explain human behavior using postulates of psychology. One of these theories is cognitivism, which focuses on people’s thinking and decision-making.

The aim of the theory-driven interpretative review is to show the behavioral aspect of auditing and try to find out how cognitive characteristics of decision-making could help auditors detect and investigate fraud. The following research questions are asked in the paper:

1. How is the behavioral aspect of auditing expressed?
2. What are the connection points between an auditor's behavior and cognitive theory?
3. Regarding decision-making as a cognitive process – what are the applications of cognitive theory in order to help an auditor in the case of fraud?

The structure of the paper is as follows. First, behavioral accounting and auditing as one of the processes of behavioral accounting are considered. The behavioral aspect of the requirement of “professional skepticism” is then discussed, followed by the problem of the auditor's independence. The next part is devoted to cognitive theory and the cognitive bases of the decision-making process. The researchers' proposals for future research and solutions to the problems, as well as the conclusions, are presented at the end of the paper.

1. Research methods

The paper is based on a ‘realist review’ of the literature (Paré et al., 2015, p. 186), where the research method is to synthesize the scientific literature on topics of behavioral accounting, auditing, professional skepticism, decision-making problems in auditing, and cognitive-behavioral theory. This is done to find contact points between the theories which might provide a solution to the problem of detecting fraud in auditing.

The authors have conducted a search of the scientific literature in various databases using the terms “behavioral accounting”, “auditing”, “behavioral theory in auditing”, “professional scepticism in auditing”, “professional scepticism and behavioral theory”, “decision-making in auditing”, “auditor independence and fraud detection” and other terms relevant to the topic. In selecting the literature for the review, preference was given to papers with the greatest similarity to the research questions of the paper and the relevant number of citations by other authors.

2. Literature review

2.1. Behavioral accounting

Nobody regards accounting and accountants only through numbers anymore. Accountants are people with a specific occupation, but human nature affects even practical people such as accountants and those who deal with accounting information. People behave according to their feelings and thoughts, and this should be taken into account. With every year behavioral accounting is becoming increasingly important. The theory has

constantly evolved over the last 50 years, and research in this field has become increasingly popular among scientists: “The development of behavioral accounting is one of the most significant trends in contemporary accounting research and theory” (Nowak, 2016, p. 119). There is no single definition of behavioral accounting. In a recent paper on the topic, Awasthy and Mishra (2018, p. 691) introduce different functions and definitions of behavioral accounting: “The basic objective of behavioural accounting is to explain and predict human behaviour in all accounting context and to relate human behaviour, accounting information and problems.” According to this statement, behavioral accounting aims to explain the behavior of auditors in the context of audit and process-related problems.

The audit process is not a unique topic of interest. According to Se Tin et al. (2017), auditing has been one of the most popular topics in the *Behavioral Research in Accounting* journal since 1989. As behavioral accounting increases in popularity, researchers develop their research in the field. Thus, Birnberg and Shields identified five schools within behavioral accounting research: managerial control, accounting information processing, accounting information system design, audit process research, and organizational sociology (Nowak, 2016, p. 122). Thus, the audit process is an important part of behavioral accounting, and the behavior of auditors has been a point of interest of researchers for many years.

2.2. The auditor’s profession

“In its early days, the primary objective of the independent audit was the detection of fraud and error. Nowadays, its primary objective is to determine whether the financial statements give a true and fair view. Nevertheless, surveys of users find that many still believe fraud detection to be the primary objective of the audit” (Cossierat, 2000, p. 81). Auditing is still a complicated process, with the highest degree of responsibility. It may sound like a repetition, but the auditor’s profession is full of responsibilities as well as the expectations of the clients, the public, and the auditor’s firm. There are some compelling opinions about what makes the profession so special and complex. Regarding the huge responsibility of the auditor’s profession, Lowe (1994, p. 39) states: “the public in general has come to view audits as guarantees of the integrity of financial statements and as an insurance policy against fraud and illegal acts.” Regarding the level of responsibility, “a business failure is often interpreted to be an audit failure, regardless of the level of procedures and tests performed by the auditor” (Lowe, 1994, p. 39). Even in 1994, when Lowe was conducting his research, he mentioned that the expectation gap between what service auditors offer and what public expectations are “has been caused by diverging perceptions by the auditing profession and third-party litigants regarding the profession’s role, responsibilities, and related performance” (Lowe, 1994, p. 40). Later, Peurseem (2005, p. 2) discussed the importance of the profession: “What happens to the audit profession is economically and socially important. Where information assumptions under which free enterprise operates become threatened due to audit

failure, the damage to markets and, more particularly the individuals within them, can be devastating.” There are several contradictions between the aims and responsibilities of the profession. Peursem (2005, p. 2) emphasizes this: “yet the paradox for professions is that they are pressured into a competitive environment by the very forces which encourage them to serve the public good.” She goes on to say that despite the audit’s conservative image, very different dramatic swings can happen in the audit market (Peursem, 2005, p. 2). In one of the latest studies, Harding et al. (2016, p. 214) stated: “the audit profession faces considerable contemporary pressure in dealing with an increasingly complex business environment that is reflected in the subject matter on which auditors provide assurance.”

All researchers working on the topic agree that the profession of auditor is complex and with great responsibility, followed by too high expectations of third parties. To help auditors perform their best, auditing standards were created. “Auditing standards mandate that auditors comply with rules of professional conduct and that audits be planned and performed to provide reasonable assurance that the financial statements are free of material misstatement, whether due to error or fraud” (Gist et al., 2013). Warning-Rasmussen and Windsor (2003, p. 77), in their research on Danish auditors’ judgments, said: “The community has legislatively conferred on external auditors a special but lucrative responsibility to provide fair and independent opinions about management’s preparation of a company’s financial statements. In return, auditors are obliged by professional standards to act with integrity, independently, and in the public interest.”

Focusing on fraud, the International Standard on Auditing (ISA 240), *The Auditor’s responsibilities relating to fraud in an audit of financial statements*, defines the responsibilities of the auditor as: “the auditor [...] is responsible for obtaining reasonable assurance that the financial statements taken as a whole are free from material misstatement, whether caused by fraud or error” (IFAC, 2019).

It is important to emphasize that according to the standard, “the auditor shall maintain professional scepticism throughout the audit, recognizing the possibility that a material misstatement due to fraud could exist” (IFAC, 2019).

2.3. Professional skepticism

Professional skepticism itself has various characteristics – on the one hand, it is a part of the auditing standard and should be like a strict written rule; on the other hand, it is a kind of attitude, which is more like a personal characteristic. There is a great deal of research in the field. Some of the colorful studies are presented further in the paper, the best known at the beginning and latest ones at the end. A summarizing table ends this section of the paper.

Nelson (2009), who has researched professional skepticism related to auditing, produced one of the most famous studies on professional skepticism. He brings some definitions about professional skepticism in his work where he preferred to define professional skepticism as an “auditor’s judgments and decisions that reflect a heightened

assessment of the risk that an assertion is incorrect, conditional on the information available to the auditor” (Nelson, 2009, p. 1). He stated that too much skepticism may lead to unnecessary actions and an unjustified high cost of audit. The aim of his research was to provide a “model that describes how audit evidence combines with auditor’s knowledge, traits, and incentives to produce judgments that reflect professional skepticism” (Nelson, 2009, p. 1). His model describes how judgment, which should be created based on professional skepticism, combines with the auditor’s knowledge, traits, incentives and judgements. As a result, this should perform in auditor’s actions, fulfilled by professional skepticism. Here are the basic attributes of his model (Nelson, 2009, p. 2):

1. Knowledge – specialization and experience of auditing have both positive and negative effects on professional skepticism.
2. Traits – a problem-solving ability, ethical predisposition, and other traits like self-confidence and a tendency to doubt are all related to professional skepticism in judgment and action.
3. Incentives – they can affect the extent of professional skepticism in judgment in conscious and unconscious ways.
4. Judgment – cognitive limitations affect professional skepticism in predictable ways.
5. Action – auditors’ actions influence audit quality.

In Nelson’s opinion, the academic literature was inconsistent in defining professional skepticism. He refers to other authors who define a skeptic as being someone who is “highly sensitive to negative evidence but ignores positive evidence” (Nelson, 2009, p. 4). He views “a skeptic as indicated by auditor’s judgments and decisions that reflect a heightened assessment of the risk that an assertion is incorrect, conditional on the information available to the auditor” (Nelson, 2009, p. 4). He went on to say that high professional skepticism may result in an audit which is ineffective. Nelson stated that “[an] auditor’s knowledge of errors and error patterns can serve to enhance professional scepticism” (Nelson, 2009, p. 8). Nelson referred to the paper of Awasthi and Pratt, who provided “evidence that incentives improve judgment only for decision-makers that have the requisite cognitive traits” (Nelson, 2009, p. 15).

Another known paper in the field of professional skepticism was published by Hurtt (2010, p. 150), who proposed that “professional skepticism is a multi-dimensional individual characteristic.” She developed a scale to measure an individual’s level of professional skepticism based on characteristics which are themselves base on audit standards, psychology, philosophy, and consumer behavior research. “The first three characteristics of professional skepticism (a questioning mind, suspension of judgment, and search for knowledge) relate to the way an auditor examines evidence. All three indicate a willingness to search for and fully examine sufficient evidence before making a decision... The fourth characteristic, interpersonal understanding, identifies the need to also consider the human aspects of an audit when evaluating evidence... The last two characteristics, self-esteem and autonomy, address the ability of the individual to

act on the information obtained” (Hurt, 2010, p. 152). In her opinion “[there is] no doubt that one aspect of professional skepticism is a questioning mind-set” (Hurt, 2010, p. 152). Hurt (2010, p. 154) adds a weighty argument about audit evidence that what is important is “interpersonal understanding, which deals with understanding the motivation and integrity of the individuals who provide evidence.”

In the same year, Endraves (2010, p. ix) devoted his doctoral thesis to the topic of professional skepticism, which in his opinion is “necessary to assess the risk of material misstatements due to fraud and error.” He suggested that professional skepticism might affect the efficiency of the audit because it could make the auditor more conservative. He believes that professional skepticism can improve the quality of an audit as it forces auditors to step up testing rather than rely on the directors’ explanations (Endraves, 2010, p. ix). Endraves (2010, p. 14) also emphasizes that there should be a balance between trust and suspicion: “An appropriate level of skepticism is important for auditors during all stages of the audit, including risk assessment.” He stated that one very important feature of an auditor with professional skepticism is the ability to judge the integrity of the directors. He also discusses a peculiarity of the modern audit service where “auditors who provide both audit and non-audit services to a client may apply different levels of skepticism and focus on the efficiency of the audit” (Endraves, 2010, p. 17). He also goes beyond countries and cultures, stating that “the results show that professional skepticism differs from culture to culture and recommends that international auditing standards should consider these differences” (Endraves, 2010, p. 178).

In 2014, Quadackers et al. stated that “there is no universally accepted definition of professional skepticism,” but in their opinion, two perspectives have emerged in the current literature and auditing standards: neutrality and presumptive doubt (Quadackers et al., 2014, p. 639). They supposed that both perspectives may drive an auditor’s skeptical judgments and decisions. The results of their study show that “auditors with higher levels of presumptive doubt exhibit pronounced skeptical judgments and decisions in the higher control environment risk setting” (Quadackers et al., 2014, p. 649).

In the same year, Schmitt et al. added a measure of client advocacy as a possible opposite to professional skepticism, and they examined whether an accounting professional can be both a professional skeptic and a client advocate. With reference to Hurt, they defined professional skepticism as the propensity to obtain and search for evidence before making a decision (Schmitt et al., 2014, p. 162). “The results indicate that while tax professionals have higher levels of client advocacy than auditors, both groups have similar levels of professional scepticism” (Schmitt et al., 2014, p. 162).

Harding et al. (2016) also considered the topic of professional skepticism. In the authors’ understanding, professional skepticism can be elevated by decreasing the level of trust, and/or increasing the level of distrust. Lower levels of trust or increased levels of distrust are associated with greater awareness that things may not be as they seem.

Other authors explain professional skepticism, but focusing on other aspects of auditing. For example, Sin et al. (2015, p. 17) conducted research on the topic of critical thinking, and defined critical thinking in the following way: “Critical thinking skills,

from an auditing perspective, are based around professional scepticism, you can't get away from it, it's in everything we do – we don't trust. It's not that we always think they're trying to cheat us – it is part of an unwritten law.” In other words, professional skepticism is a specific kind of critical thinking. All studies on professional skepticism mentioned in this section are summarized in Table 1.

Table 1. Summary of studies on professional skepticism, related to auditing and behavioral accounting

Author(s), year	The aim of the research	The concept/definition of professional skepticism	The results
Nelson (2009)	To provide a model that describes how audit evidence combines with auditor's knowledge, traits, and incentives to produce judgments that reflect professional skepticism.	Professional skepticism is indicated by the auditor's judgments and decisions, which reflect a heightened assessment of the risk that an assertion is incorrect, conditional on the information available to the auditor.	The model describes how judgment, which should be created on the basis of professional skepticism, is combined with the auditor's knowledge, traits, incentives and judgements. As a result, this should perform in auditor's actions, fulfilled by professional scepticism.
Hurttt (2010)	To develop a scale that measures an individual's level of professional skepticism.	Professional skepticism is a multi-dimensional individual characteristic.	A scale with characteristics – a questioning mind, suspension of judgment, and search for knowledge – relate to the way an auditor examines evidence. Interpersonal understanding identifies the need to consider the human aspects of an audit when evaluating evidence. Self-esteem and autonomy address the ability of the individual to act on the information obtained.
Endrawes (2010)	To examine the effect of culture, the risk of fraud and errors, accountability and audit knowledge on professional skepticism.	Professional skepticism is necessary to assess the risk of material misstatements due to fraud and error. Professional skepticism	The results show that professional skepticism differs from culture to culture, and international auditing standards should

Table 1. (cont.)

Author(s), year	The aim of the research	The concept/definition of professional skepticism	The results
		ticism may have an impact on audit efficiency because it may make the auditor more conservative.	consider these differences. Also, the author discussed a peculiarity of the modern audit service where auditors who provide both audit and non-audit services to a client may apply different levels of skepticism and focus on the efficiency of the audit.
Harding, Azim, Jidin, Muir (2016)	To consider the central role of trust and distrust in auditing, especially with reference to professional skepticism.	A review of the commentary on professional skepticism reveals regular references to trust.	Professional skepticism can be elevated by decreasing the level of trust, and/or increasing the level of distrust. A lower level of trust, or an increased level of distrust, is associated with greater awareness that things may not be as they seem.
Quadackers, Groot, Wright (2014)	To examine the relationship between an auditor's skeptical perspective and an auditor's skeptical judgments and decisions across client risk settings.	Under either the neutrality or presumptive doubt perspective, an auditor who has a trait toward greater skepticism would generally want more evidence to be persuaded sufficiently than one who has less.	Auditors with higher levels of presumptive doubt exhibit pronounced skeptical judgments and decisions in the higher control environment risk setting.
Schmitt, Hageman, Radtke (2014)	To explore the relationship between professional skepticism and client advocacy: can an accounting professional simultaneously be both a professional skeptic and a client advocate, or are these indeed opposing constructs?	Auditors are biased toward the option that is most favorable to management; this indicates a lack of professional skepticism and implies an inverse relationship between client advocacy and professional skepticism.	The results indicate that while tax professionals have higher levels of client advocacy than auditors, both groups have similar level of professional skepticism.

Table 1. (cont.)

Author(s), year	The aim of the research	The concept/definition of professional skepticism	The results
Sin, Jones, Wang (2015)	To define the meaning of critical thinking in accounting.	Critical thinking skills are based around <i>professional skepticism</i> , you can't get away from it, <i>it's in everything we do – we don't trust.</i>	Professional skepticism is a unique kind of critical thinking.

Source: authors' own elaboration.

Professional skepticism supposes a questioning mind that can balance doubts, trust, and distrust, which ideally should result in independent decision-making. As an auditor has to report to an audit firm, a client, third parties, and the public – is (s)he independent in practice? Taking into account these pressures – what does an auditor really do when (s)he detects fraud? Is it possible to stay calm and follow the rules laid down in auditing standards?

2.4. The auditor's independence/dependence on the client and auditing quality

Chiang (2016, p. 180) analyzed the link between professional skepticism and auditor independence and declared, "The auditor's independence is impossible due to the auditor-client structure and conscious and unconscious personal bias. The threats to auditor's independence are powerful incentives that reduce professional scepticism, making it difficult to exercise professional scepticism while making professional judgement." Her study extends the studies on professional skepticism by Nelson (2009) and Hurtt et al. (2013): "The two fundamental components of the Nelson Model and the Hurtt Framework are professional skepticism judgment and professional skepticism action. Professional skepticism judgment occurs when the auditor realizes that the situation needs more critical thinking and a thoughtful decision-making. Professional skepticism action occurs when the auditor modifies his behavior based on professional skepticism judgment... The translation of professional skepticism judgment to professional skepticism action depends largely on the auditor's incentives" (Chiang, 2016, p. 182). Chiang gives her definition of auditor independence: "[the] auditor's independence enhances the auditor's ability to act with integrity, be objective and maintain an attitude of professional skepticism (Chiang, 2016, p. 183). She adds: "[The] auditor's independence is a necessary pre-condition for professional skepticism judgments and actions that are both essential to the audit and professional skepticism outcomes" (Chiang, 2016, p. 184). The model created by Chiang supposes that there are two dimensions to

auditor independence. The first dimension is organizational independence, which “relates to auditors’ willingness to act according to professional standards and to report errors found during the audit ... The second dimension to the auditor’s independence is operational independence. It relates to the auditors’ capacity to work diligently and effectively to detect material anomalies regardless of the auditee’s behavior” (Chiang, 2016, p. 185). She went on to say: “[The] auditor’s independence is a fundamental antecedent to professional scepticism. However, authors criticised that auditor’s independence is impossible due to auditor’s self-interest and conflicts of interest as a consequence of the auditor-client structure. Moreover, the professional judgements of auditors are affected by conscious and unconscious personal bias. Such threats to the auditor’s independence are powerful incentives that reduce professional scepticism” (Chiang, 2016, p. 193). As a result, auditor independence is affected by the auditor’s personal biases and auditor-client relationship.

Several authors have researched the topic of auditor independence in general. Knapp (1985, p. 203) reviewed the topic of audit conflict with management and came to the conclusion that “the following factors may significantly affect users’ perceptions of likely audit conflict outcomes: nature of conflict issue, client’s financial condition, provision of management advisory services (MAS) by the audit firm, and the degree of competition in the audit services market.” During the research, he confirmed the hypothesis that “a greater subjectivity in technical standards decreases the audit firm’s perceived ability to withstand pressure exerted by the client” (Knapp, 1985, p. 208). “Financial statement users are becoming aware of the existence of considerable conflict in audit engagements, and such awareness may eventually damage the credibility of audit firms” (Knapp, 1985, p. 210).

Schweikart (1992, p. 473) focuses on the latter problem: “The auditor is selected by the client company and paid by that company. Therefore, the auditor often faces a conflict of interest between client service and administering fairness within an environment of many choices.” According to this statement, the main question is: to whom is the auditor responsible? The author asks, “Is the auditor responsible to the client who is paying for the audit or to the public who relies on financial statements and opinions expressed about them for investment decisions?” (Schweikart, 1992, p. 473). The truth today is that the auditing market is highly competitive. “There are firms waiting to take an auditor’s client away, and it is a well-known practice for companies to go ‘audit shopping’” (Schweikart, 1992, p. 473).

Schweikart was not alone in his opinion concerning auditor independence and audit fees. Gist et al. (2013) also questioned the independence of auditors: “Some have argued that auditors align their interest with that of corporate management instead of investors and the general public because audit fees are paid by management. This leads to the following question: do auditors appear to compromise their independence and align with their clients’ interest rather than shareholders’ interest?” (Gist et al., 2013, p. 665). Further in their work they define what is necessary for auditor independence:

“The concept of independence requires that the auditor perform his/her work objectively without having any bias in reaching conclusions about the audit, and that the public perceives the auditor as such” (Gist et al., 2013, p. 672).

In her research, Peursem (2005) focused on the audit environment and audit, measured in an economic equivalent. She argued: “If, for example, the auditor is dependent upon the revenue provided by the client-company, they may be less inclined to come to an opinion that would render that company reluctant to enlist their services in the future” (Peursem, 2005, p. 4). She emphasizes that if the auditor is financially dependent on his client, he may accidentally bias the direction of his actions: “If his/her client-company has not paid the auditor’s bill for services, if it has issued promissory notes in lieu, or if the audit services comprise a large portion of the auditor’s revenue overall, then the auditor would have a natural inclination to avoid actions that threaten the losing the client-company relationship” (Peursem, 2005, p. 4). Further, she examined this point using an economic framework: “The impact of competition is that it will ultimately drive down the cost of audit to a point of equilibrium at a ‘normal’ profit... Audit price incorporates all elements of ‘quality’ including the cost of maintaining integrity and independence as well as the more tangible costs of staff training and overall management of the audit process. ‘Integrity’ and ‘independence’ are not cost-free” (Peursem, 2005, p. 5). It may sound strange that merits such as integrity and independence are not obvious and that they cost, but in this context, they really do. A conflict arises because integrity and independence are requirements for auditors; nevertheless, they have costs that force audit firms to behave according to market conditions.

Espinosa-Pike and Barrainkua conducted a study on the pressures and ethical dilemmas in the audit conflict in 2013: “The audit market has become increasingly competitive in the last decades and, even more so in the wake of the current economic crisis.... In order to cope with the increasing price competition, audit firms will seek to minimize the costs of the audit engagement to obtain the maximum profitability of the service. An audit budget reduction will more likely imply that fewer resources are devoted to the search for errors and irregularities, which ultimately would threaten the audit quality” (Espinosa-Pike, Barrainkua, 2016, p. 11). Their opinion is that “once the errors and irregularities have been detected, the auditor could suffer pressures from the client to not reveal the same in the audit report. These pressures may affect the auditor’s judgment” (Espinosa-Pike, Barrainkua, 2016, p. 12). The authors go on to discuss moral judgment, which refers to the “ethical judgments individuals make about the courses of action identified previously.” In other words, the auditor’s level of ethics influences his behavior. “Conversely, if the auditor is more committed to the professional values, he or she will more likely withstand the pressures from the firm or from the client, maintaining the professional values above the business goals of the audit firm” (Espinosa-Pike, Barrainkua, 2016, p. 13).

As mentioned earlier, the necessary requirements of independence in judgment and professional skepticism are under pressure because of market conditions and due to the auditor’s level of commitment to professional values. Taking into consideration the

requirements on professional values demanded of auditors and existing auditing standards on action, when a fraud is detected – it seems there should not exist any opportunity, to make a mistake, to make the wrong decision. However, it seems to be naive to ignore human nature in the audit process. It seems easier when some procedures are performed without any thoughts, doubts, or decisions, but in cases when a person has to make a decision, the concept of behavior is important.

Schweikart (1992) also focused on the problem of auditor independence in his work, but in addition to the behavioral aspect, he mentioned the meaning of thought and cognition in auditing. In the same work, he referred to Libby, Lewis, and Wright: “Lens Model research has dominated accounting and until the late 1980s was the primary theory for behavioural research dissertations in accounting. The importance of this is that the Lens Model does not consider cognition heavily. This is perhaps one major reason why ethics has been absent from behavioural research, as ethics requires thought and cognition” (Schweikart, 1992, p. 471). As already discussed in this paper, ethics is an inalienable requirement of the auditor's profession. Thus, cognition and cognitive theory can help to explain an auditor's behavior. Nowak (2016, p. 125) shared the same opinion in her paper: “An auditor's behaviour can depend on cognitive style and biases.”

2.5. Cognitive research in accounting. Cognitive styles

Hogarth (1992, p. 277) considered the perspectives of cognitive research in accounting. He started with the influence of subjectivity on the auditor's opinion: “Auditors express opinions based on investigations that, no matter how thorough, inevitably involve subjective judgment.” He extended his understanding by defining the process of decision-making from the cognitive theory point of view (Hogarth, 1992, p. 278): “Cognitive psychologists who specialize in judgment and decision making typically focus their work on three questions:

1. How well do people perform particular judgmental tasks?
2. How do people perform particular judgmental tasks?
3. How can you help people perform better?”

He stated that “cognitive research in auditing has leveraged these findings by identifying situations in auditing where limitations in human information-processing abilities might lead to judgmental biases or difficulties in making certain kinds of judgment” (Hogarth, 1992, p. 278). Hogarth concluded that an important task for cognitive research in auditing is to investigate how sensitive auditors' decisions are to errors. Although he focused on the individual level of auditing, he found that “although much audit work is carried out by individuals, audit opinions are signed by firms. Thus, an important dimension of auditor's expertise and judgment, particularly at the level of partner and manager, lies in more general management decisions and specifically in the coordination and motivation of teams of auditors” (Hogarth, 1992, p. 286). He also

referred to Spires, who showed that “at the level of specific audit procedures, the way auditors make judgments can depend on the nature of different practices within audit firms” (Hogarth, 1992, p. 287). Concluding his paper, he stated: “Auditing is a multi-faceted process in which judgment plays a key role.” This statement is very important as it shows that the cognitive process plays a key role in auditing.

One of the most important cognitive characteristics is cognitive style. Fuller and Kaplan (2004, p. 131) stated that in previous research, auditors have been classified as possessing intuitive, analytic, or hybrid cognitive styles. They referred to Ho and Rodgers, who differentiated three cognitive characteristics: abilities, cognitive style, and strategy. Unlike cognitive ability and strategy, cognitive style represents a trait variable. Cognitive style is a person’s cognitive mode of perceiving and organizing information about the environment, and it represents a relatively stable characteristic of an individual (Fuller, Kaplan, 2004, p. 133). The results of their study have contributed to the overall understanding of the auditor’s task performance by demonstrating a systematic relationship between a stable personality trait and the auditor’s task performance. A cognitive style cannot be excluded from task performance models (Fuller, Kaplan, 2004, p. 133).

Bernardi (1994, p. 70) analyzed the influence of the auditor’s cognitive style on fraud detection. This research examined three cognitive styles that, according to previous studies, should be relevant to auditing:

- field dependence-independence can be thought of as an individual’s ability to sort out the relevant data in a complex information environment;
- the focus of control refers to how individuals perceive their ability to influence the events that make up their lives;
- moral development relates to the reasoning process individuals use to frame their responses to ethical issues.

The results of the research are that “for auditing firms, this research provides strong evidence for methods to increase the probability of detecting fraud. The fact that the level of moral development influenced managers’ fraud detection ability and the continued significance of the auditor on the detection of fraud are especially important. Since high-moral-development managers are more sensitive to integrity and competence issues, firms should attempt to include high-moral-development managers in auditing teams for special fraud audits or for questionable clients” (Bernardi, 1994, p. 78). Summing up Espinosa-Pike and Barrainkua’s conclusion on the influence of an auditor’s ethics on behavior and the statement about the requirement of a high-moral-development manager in the audit team, it is relevant to emphasize that high morals and ethics are the basic cognitive features which ensure the right decisions are made in the process of fraud detection. As decision-making is the key process in auditing, cognitive bases of decision-making are further discussed in the paper.

2.6. The cognitive bases of the decision-making process

“Decision making is one of the basic cognitive processes of human behaviours by which a preferred option or a course of actions is chosen from among a set of alternatives based on certain criteria” (Wang, Ruhe, 2007, p. 73).

Many authors have focused on the meaning of the decision-making process for auditing. Some also focused on the process from the point of view of behavioral theory because decision-making is one of the basic cognitive processes. Schweikart (1992, p. 476) stated in his study that “the cognitive aspects of ethical decision-making in accounting can be examined within the standard cognitive psychology theories of perception and attention, memory, and problem solving as applied in accounting. The perception and attention aspects determine which of the external influences get into memory and then the decision process and under what conditions.” Wood and Bandura (1989, p. 369), in their research on social cognitive theory, mentioned that “decision-making research conducted within the framework of cognitive psychology has contributed to the understanding of how perceptual and cognitive processes affect decision-making.”

Libby and Lipe (1992, p. 249) investigated how the performance-related incentive effects of monetary payments depend on the cognitive processes involved in the accounting judgment task. In their opinion “complex decisions and judgments involve a variety of cognitive processes which are differentially sensitive to effort” (Libby, Lipe, 1992, p. 250). There are three “different cognitive processes which play a role in many accounting judgments: information encoding, and two retrieval processes – recognition and recall” (Libby, Lipe, 1992, p. 251). “Many professional judgments require the encoding and retrieval of information from memory. For example, auditors have to rely in part on the memory of prior evidence combined with general knowledge of auditing to judge the implications of current evidence” (Libby, Lipe, 1992, p. 254). In this way, the authors’ opinion confirms Kleinman’s statement about the auditors’ ability to use their experience to the full.

Peecher (1996, p. 126) defined justifying as “the act of providing evidence to support one’s judgments or decisions.” Other authors also emphasize the role of judgment in the auditor’s task performance. For example, Warning-Rasmussen and Windsor (2003, p. 77) said: “An important attribute of professional judgement is the auditor’s ability to make fair judgements.” Similarly to Peecher, they stated, “Auditors’ level of moral reasoning can influence their professional obligations and social responsibility performance” (Warning-Rasmussen, Windsor 2003, p. 78)

Kleinman et al. (2007) created a theoretical model of cognitive factors that affect auditors’ performance and perceived independence. “An auditor’s independence is a guiding principle of the relationship between auditors and clients, and a key component of outsiders’ acceptance of firms’ financial statements.” Their model (Kleinman et al., 2007, pp. 9–23) includes the following elements:

- Ability (inter- and intrapersonal abilities, logical-mathematical abilities);

- Experience (decision-makers at audit firms must continually invest time and energy to remain intellectually current);
- Knowledge (knowledge that is properly used can lead the decision-maker to choose appropriate decision rules. Some decision rules are normative. Others are adequate, yet non-normative, according to decision theory);
- Performance (conducting an activity that is instrumental toward achieving an end);
- Memory matching (domain experts have mental representations of the problem area – they quickly match situational facts to their mental representation, compare and contrast the two, and draw conclusions from the differences and similarities that they note);
- Thinking dispositions (the degree of open-mindedness, willingness to exert effort, and lack of bias with respect to the contrary opinions of others);
- Cognitive heuristics (sometimes it makes sense not to use normative models of decision-making, for example, when time is of the essence or the cost-benefit of collecting additional information is too high);
- Perceptual clarity (the ability to perceive the world as it exists – it influences the link between knowledge and performance);
- Desired end state (the desired end state has a similar effect on behavior as motives have on reasoning);
- Affect heuristics (affect, the emotional content that an individual associates with a given situation, can generate its own heuristics).

They concluded that “the problems inherent in auditor decision-making, whether on the individual or team level, are difficult to solve. Generally, individuals muddle through and learn as best they can from their ability to make sense of their experiences” (Kleinman et al., 2007, p. 27). As follows, the ability to analyze and use their own experience allows an auditor to make the right decision expediently.

In addition to research on decision-making in auditing, some very interesting research in the field of decision-making has been carried out. Chen and Lee (2003, p. 148) focused on computer-based decision support systems and conducted a research project that “looks into the cognitive process of strategic decision making to identify some cognitive simplification processes that decision-makers employ in dealing with complex decision-making situations.” They stated that “cognitive orientation or mental models play a very important role in a decision maker’s understanding of business environments and ill-structured problems” (Chen, Lee, 2003, p. 147). They based their model on research in the fields of cognitive psychology, behavioral decision theory, and strategic decision-making, and they identified several cognitive processes which decision-makers use when they deal with complex, ambiguous, and uncertain situations (for example, in the case of fraud detection). These processes include the following (Chen, Lee, 2003, pp. 150–151):

1. Availability – people tend to assign more importance (weight) to recent events or knowledge because they are easy to recall and imagine from memory.

2. Adjustment and anchoring – “in strategic decision making, executives often make initial judgments about certain decision variables and adjust the initial judgments when new data become available... The final judgment is biased toward the initial estimate. When executives plan for the uncertain future, they anchor on past experience” (Chen, Lee, 2003, p. 150).
3. Prior hypothesis bias – individuals tend to seek and use information that is consistent with their beliefs rather than information that is inconsistent.
4. Reasoning by analogy – when making judgments and decisions under uncertainty, decision-makers often compare new problems with previous cases or experiences, which can be used to derive useful information, strategies, and courses of action. This process can greatly benefit effective decision-making. However, reasoning by analogy is also problematic. For example, human beings have difficulty retrieving past experiences. The associations between existing circumstances and past events can be inappropriate and misleading at times (Chen, Lee, 2003, p. 150).
5. Overconfidence – research has shown that people have a tendency to be overconfident in their beliefs and judgments. Overconfidence can be dangerous. It indicates that people often do not know how little they know and how much additional information they need (Chen, Lee, 2003, p. 151).

According to this model, people tend to assign more importance to past events and anchor on experiences. Talking about the case of fraud, this means that when fraud is detected, the auditor recalls his last experience with fraud detection, forms a judgment, and then makes a decision based on this experience. Trying to provide the best solution to the case, it would be relevant to share experiences and opinions between auditors because, at first, not every auditor has such experience in his practice and, secondly, the last decision/action taken may not be the right or the best decision. It is possible to avoid the problem of overconfidence by sharing different practices and different cases of fraud detection in auditing, confirming them with court decisions.

3. Researchers' proposals for future research and actions to be taken

Summing up the problems of auditors' insufficient professional skepticism, insufficient independence in the auditor-client relationship, and incomplete cognitive abilities needed for auditing, researchers on the topic have proposed advice on how these problems could be alleviated. All researchers who have discussed topics on auditing in the context of auditor independence, professional skepticism, or ethics and morals, have come to the conclusion that there are very serious problems which lead to dilemmas and the auditor's conflict with his client, third parties, or himself. Here are some points on what research could be done in the field and what should be done in auditing practice.

For example, when thinking about the problem of professional skepticism, Nelson (2009, p. 23) set some questions for future research: “To what extent does the form of the contract structure (e.g., fixed price versus cost-plus) affect auditor’s incentives relevant to professional skepticism? Also, how is professional skepticism exhibited by the audit team affected by rotation of staff, partners, and firms? These different rotation possibilities differ in their implications for knowledge loss, mitigation of formal and social incentives for continuance, and responsibility for past actions. What circumstances determine the optimal rotation level and frequency?” Later, he refers to Ronen, who advocates a system in which the auditor is hired by insurance companies rather than their clients.

On the problem of auditor independence, Gist et al. (2013, p. 683) say: “One approach to enhance audit quality and auditor independence is through requiring joint audits (e.g., a large company audited by one or more smaller firms jointly with a large audit firm). Each firm will have a vested interest (e.g., avoiding legal liability for substandard audits) in ensuring compliance with rules of professional conduct and auditing standards.” Another avenue to strengthen audit quality and auditor independence is through requiring periodic rotation of the audit firm (Gist et al., 2013, p. 684).

Conclusion

The aim of the paper was to show the behavioral aspect of auditing and to try to analyze how cognitive characteristics of decision-making could help auditors detect and investigate fraud. According to the first research question, devoted to behavioral accounting – the auditor’s profession, professional skepticism, and independence show that the audit process is one of the processes of behavioral accounting where the audit is a highly complicated process with a very high degree of responsibility, and one which is followed by too high expectations of third parties. In order to ensure that audits are performed in compliance with professional rules, auditing standards have been established. Despite the very high degree of formality, the auditing standard on detecting fraud refers to the requirement of professional skepticism, which is indisputably one of the most needed qualities of an auditor. Professional skepticism requires critical thinking, which, in extreme cases, can lead to unnecessary actions. This, in turn, raises the price of the audit and cuts the quality of the audit. Professional skepticism supposes a questioning mind that can balance doubts, trust, and distrust, and which should result in independent decision-making. Nevertheless, auditor independence concerning the auditor-client relationship is also questionable. All researchers on the topic have concluded that if an auditor is economically dependent on the client, the decisions taken by the auditor might be biased.

Several authors have conducted research on the topic of the role of cognitive processes in auditing. They came to the conclusion that according to cognitive theory, complex decisions and judgments involve a variety of cognitive processes. A necessary

requirement of professional judgment is the auditor's ability to make fair judgments. A theoretical model of cognitive factors that affect auditor performance and perceived independence has been created. According to this model, the impact of cognitive processes on auditor behavior is confirmed. This answers the second research question about the connection points between auditor behavior and cognitive theory.

As for the answer to the third research question, it should be mentioned again that decision-making is a key cognitive process which involves consecutive actions. According to cognitive theory, auditors mostly turn to their last experience in fraud detection, forming a judgment, and then making a decision based on this experience. The authors propose that auditors share their experiences and opinions with each other because not every experience may be the right or the best decision. In general, researchers on the topic of auditor independence and professional skepticism have proposed rotating staff within the audit firm as well as joint audits.

This paper is a theory-driven interpretative review, where other authors' studies on the topic were synthesized with the aim of answering the research questions and proposing some solutions to the problem of the behavioral aspect of detecting fraud in auditing. The authors plan to conduct future quantitative research on the topic.

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