

# Effective Methods for Detecting Fraudulent Financial Reporting: Practical Insights from Big 4 Auditors

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**Abstract:** *Purpose: Using a qualitative grounded theory approach, this study explores the methods experienced external auditors use to detect fraudulent financial reporting (FFR) during standard audits.*

*Methodology: Semi-structured interviews were conducted with twenty-four experienced external auditors to explore the methods they used to detect FFR successfully during standard external audits. Results: We find 58 methods used for FFR detection, out of which the following methods are frequently used and helped in detecting more than one type of FFR: (i) specific analytical procedures, (ii) positive confirmation, (iii) understanding of the client's business and industry, (iv) the inspection of specific documents, (v) a detailed analysis of the audit client's anti-fraud controls; and (vi) investigating tip-offs from suppliers, employees, and customers. Additionally, we observed that technology is not one of the reported methods, implying that auditors might not feel the need for sophisticated technology to detect fraud.*

*Theoretical Implications: Based on our grounded theory approach, we theorise that although auditors may not need technology to detect fraud, they must return to the basics and focus on specific audit procedures highlighted in this study for effective fraud detection.*

*Practical Implications: The study provides practical guidance, including fifty-eight methods used in audit practice to detect FFR. This knowledge can improve auditors' skills in detecting material misstatements due to fraud. Besides, analytical procedures and positive confirmation helped external auditors in this study detect all forms of FFR, yet they are overlooked in the external audit practice. Therefore, audit firms should emphasise the significance of these audit procedures in their professional audit training programmes. Given the significance of modern technology in auditing, auditors may need training on how technology could help counter fraud.*

*Policy Implications: Audit regulators should advise auditors to consider positive confirmation instead of negative confirmation in financial audits to increase the likelihood of FFR detection. Moreover, audit standards (ISA 240 and SAS 99) should explicitly require auditors to conduct a detailed analysis of the client's anti-fraud controls.*

*Originality: This is the first study to identify actual, effective methods used by external auditors in detecting FFR during the ordinary course of an audit.*

**Keywords:** Grounded theory; fraudulent financial reporting; fraud risk assessment; fraud detection methods; external auditors

## I. INTRODUCTION

Fraudulent financial reporting (FFR) adversely affects published audited financial statements' integrity, quality, and reliability, and it seriously threatens market participants' confidence in the audit profession and corporate governance systems (Rezaee, 2005). External auditors provide reasonable assurance that an organisation's financial statements are free from material misstatement, whether due to fraud or error. Reasonable assurance is a high-level assurance rather than a 100% assurance or a guarantee that an organisation's financial statements are free from material misstatements due to fraud or error. Auditors cannot provide a guarantee due to the complex nature of fraud, which cannot be avoided in all cases (Arens et al., 2017). However, to provide this reasonable or high level of assurance, external auditors must assess and respond to fraud risks arising from fraudulent financial reporting due to their impact on financial statements'

reliability (see audit standards – ISA 240<sup>1</sup>; SAS 99<sup>2</sup>). From that perspective, if conducted properly, external audits could act as a fraud deterrent by discouraging fraudulent behaviour, helping in FFR detection, or at least alerting stakeholders (e.g., investors, regulators, and organisations) to FFR risk. Therefore, external auditors must learn and employ effective methods to detect FFR.

Although previous research suggested various methods for detecting FFR in external audits, including red flags (Alon & Dwyer, 2010), analytical procedures (Glover et al., 2015), fraud models or factors (Cressey, 1950; Kassem & Higson, 2012), and technology (Kapardis et al., 2010), a notable literature gap is the lack of empirical evidence from the external audit field asserting the effectiveness of such methods. Another literature gap is the conflicting views concerning the effectiveness of these proposed methods. The current study addresses these gaps by exploring methods used by experienced external auditors to successfully detect FFR during standard external audits using a qualitative grounded theory approach. Interviewing is a frequently deployed data collection method in grounded theory research (Foley et al., 2021). We conducted semi-structured interviews with twenty-four experienced external auditors who successfully managed to detect FFR instances during standard external audits. The grounded theory approach can be applied to discover participants' actions and mechanisms used in the workplace. It aims to obtain a deeper understanding of real-life problems and their solutions by allowing the researcher(s) to see the research problem and how it can be addressed through the eyes of the practitioners, thus providing more practical and targeted solutions (Makri & Neely, 2021). The scarcity of research conducted on this topic suggests that a grounded theory approach would be appropriate, given that it seeks to generate theoretical insights grounded in raw data and shed light on a phenomenon that to date has remained largely unexplored (Ning et al., 2019; Makri & Neely, 2021).

Our results show that 58 methods are used for FFR detection. Out of these, the following methods are frequently used and helped in detecting more than one type of FFR: (i) specific analytical procedures, (ii) positive confirmation, (iii) understanding of the client's business and industry, (iv) the inspection of specific documents, (v) a detailed analysis of the audit client's anti-fraud controls; and (vi) investigating tip-offs from suppliers, employees, and customers. Additionally, we uncover that the use of technology is not one of the methods reported, implying that auditors might not feel the need for sophisticated technology to detect fraud. Thus, based on our grounded theory approach, we theorise that although auditors may not need technology to detect fraud, they must go back to the basics and focus on specific audit procedures highlighted in this study for effective fraud detection. Our findings also imply that given the significance of modern technology in auditing (FRC, 2017), auditors may need training on how technology could help counter fraud. Our results provide insights for external auditors, audit firms, and regulators as they aim to improve audit quality and reinforce accountability. These findings also have important implications for future research, audit policy, and practice, later discussed in this paper.

This study makes two key contributions. First, this is the first study we are aware of to identify actual, effective methods used by external auditors in detecting FFR during the ordinary course of an audit. Auditors' actual practice detecting FFR has rarely been considered in the audit literature. Therefore, this study offers an invaluable contribution to the auditing literature by introducing practice-based evidence in FFR detection. By doing so, it expands the audit literature on fraud risk assessment. Second, it contributes to the audit practice by providing practice-based guidance on detecting FFR, which can be embedded in audit programmes, professional audit qualifications, or continuing professional education curricula to improve auditors' skills in fraud detection. This study argues that learning from experienced external auditors who successfully detected FFR could help improve the fraud detection skills of other less experienced external auditors. As such, the public may ultimately see fewer audit failures due to improved auditor skills or competencies in detecting material fraud. This will, in turn, play a significant part in reducing the audit expectations gap, reinforcing audit stakeholders' confidence and the legitimacy of external auditing, and reducing the reputational risk for audit firms and the fines they have to pay due to failure in material fraud detection. This contribution matters because the effectiveness of audits in detecting misstatements due to fraud is of significant concern to the auditing

<sup>1</sup> The International Standards on Auditing (ISA) 240: *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements* (IASB 2009)

<sup>2</sup> 'SAS 99': *Consideration of Fraud in a Financial Statement Audit* (AICPA, 2002)

profession and other stakeholders. For instance, the UK's Financial Reporting Council (FRC) recently identified fraud risk assessment as one of its audit inspection priority areas (FRC, 2021). Similarly, the Institute of Chartered Accountants in England and Wales (ICAEW, 2020) asserted the significance of improving external auditors' skills in FFR detection.

The rest of the paper is organised as follows. The following section critically reviews relevant literature, and section three describes the data collection and analysis methods. The findings are then presented and discussed in section four, and section five presents the study's conclusion and implications.

## **II. LITERATURE REVIEW**

The first stage in a grounded theory approach is to locate and justify the research (Dunne & Buse, 2020). This section identifies gaps in the literature, justifies the need for this study, and elucidates how the current study addresses these gaps.

Although previous research suggested various methods for detecting FFR in external audits, including red flags, analytical procedures, fraud models, and technology, a notable literature gap is the lack of empirical evidence from the external audit field asserting the effectiveness of such methods. A wide range of studies documents varying degrees of evidence from both qualitative and quantitative sources on the effectiveness of several methods in detecting FFR (Kirkos et al., 2007; Kapardis et al., 2010; Kassem, 2021). However, their results are predominately based on secondary data. For example, Classification and Regression Trees (CART) are established by Bai et al. (2008) as an effective framework for distinguishing companies between those with and without FFR. Nevertheless, their findings are not supported by empirical evidence, and the fraud cases used in their study only focus on revenue manipulation. Kapardis et al. (2010) find that auditors can use artificial neural networks to identify companies vulnerable to fraud with high accuracy levels. Kirkos et al. (2007) conclude that the Bayesian Belief Network model outperformed Decision Trees and Neural Networks. However, the results from both Kapardis et al. (2010) and Kirkos et al. (2007) lack empirical evidence. Similarly, Knechel (1988) concludes that regression-based analytical review models detect potential material misstatements efficiently. Spathis (2002) examines published data to develop a model for detecting factors associated with false financial statements (FFS) and argues that the models effectively detect FFR and could assist internal and external auditors.

Still, their results were based on secondary data and lacked empirical evidence.

By examining 2,190 Securities and Exchange Commission Accounting and Auditing Enforcement Releases (AAERs) issued between 1982 and 2005, Dechow et al. (2010) developed a theoretical model called the F-Score to predict misstatement likelihood. Glover et al. (2015) argue that analytical procedures can be an essential and effective audit tool to gather evidence and highlight areas of potential misstatement if appropriately used by external auditors. However, Glover et al.'s conclusion was based on secondary data, mainly public company revenue data and analyst forecast errors. Murcia and Borba (2007) develop a theoretical framework of 45 red flags for detecting FFR divided into six clusters: internal structure or environment, sector/industry, management, financial situation, accounting reports, and auditing services. In general, the formulation of this framework permitted the identification of risk factors found in fraudulent environments. Nevertheless, their proposed framework was based on published academic articles, dissertations, books, and pronouncements from regulatory bodies. Churyk et al. (2008) propose textual analysis to examine the words and grammatical cues used in business reporting for detecting fraud by management. Yet, their proposed method is neither informed nor tested in the external audit practice.

In this connection, some theoretical fraud models based on the fraud triangle framework (initially introduced by Cressey, 1950) have been widely investigated (see Loebbecke et al., 1989; Bell & Carcello, 2000) alongside the fraud diamond by Wolfe and Hermanson (2004); the fraud scale by Albrecht et al. (2008); Srivastava et al. (2009); and the new fraud triangle model by Kassem and Higson (2012). While the proposed models are mainly theoretical architecture for fraud detection, they are not informed by external auditors' views and practices.

This makes their applicability in practical audit environments highly challenging. Besides, none of these fraud models is tailored to FFR, even where the studies consider the views of the external auditors. For example, Kassem (2021) explores external auditors' views on assessing rationalisation for fraud to improve auditors' skills in fraud detection. However, the study fails to explore specific FFR types.

One study by Webber et al. (2004) sought the views of other experts on the effectiveness of red flags in fraud detection and found them helpful. However, Webber et al.'s results are informed by the views of forensic experts rather than external auditors, which do not guarantee the effectiveness of this method in the external audit practice. A similar conclusion was noted by Alon and Dwyer (2010), but it was based on the perceptions of auditing students instead of practising external auditors.

In addition to the lack of empirical evidence, another issue in the current literature is the conflicting views regarding the effectiveness of some proposed FFR detection methods. For example, while some view red flags as a helpful method (e.g. Webber et al., 2004; Alon & Dwyer, 2010), others, such as Murcia and Borba (2007), argue that red flags are merely fraud risk indicators and do not guarantee fraud occurrence. Owusu-Ansah et al. (2002) indicate that red flags are too general and difficult to operationalise in empirical research, while others (such as Apostolou et al., 2001; Hogan et al., 2008) reported that red flags are difficult to weigh in assessing overall fraud risk and formulating an audit plan. Kapardis (2002) notes that red flags are not valuable for alerting auditors to material irregularities at the planning stage if used alone. Bierstaker et al. (2006) highlight that red flags focus on specific cues, distracting external auditors from identifying other reasons that cause fraud. Arguably, one reason for these conflicting results could be that the most common red flags have not been rigorously tested for any significant correlation to fraudulent financial reporting, as documented in Uddin (2000).

Equally, Glover et al. (2015) argue that analytical procedures can be an essential and effective audit tool for gathering evidence and highlighting areas of potential misstatement if appropriately used by external auditors. In contrast, Kaminiski and Wetzel (2004) suggested that analytical procedures should not be solely used to satisfy audit objectives. Churyk et al. (2008) found that quantitative models often cannot detect deception early enough and point only to activities related to quantitative results, potentially ignoring attitudes and intentions that might be signals of fraudulent behaviours. Gepp et al. (2020) found empirical support for financial and non-financial variables covering the three Fraud Triangle factors. Still, their findings were based on secondary data analysis and not informed by external auditors' practices.

While Özevin and Yazdifar (2020) proposed using Benford Law in financial fraud detection, others reported several limitations casting doubt on Benford's law suitability in fraud detection. For instance, Durtschi et al. (2004) argued that Benford's law is not likely to be fruitful in transactions that are not recorded or accounts with a built-in threshold. It is also argued that Benford law does not provide evidence for fraud (Todter 2009) nor detect a certain level of financial statement manipulation (Tilden & Janes, 2012). Rad et al. (2021) found that Benford's law cannot separate companies with fraud risk from those without fraud risk in financial statements.

Another tool that conforms with the 21<sup>st</sup> century trends is the use of technology in fraud detection; however, Umar et al. (2017) concluded that information technology does not affect auditors' ability to detect fraud. Gepp et al. (2018) analysed the use of big data techniques in auditing and found that auditing lags behind the other research streams in using valuable big data techniques. They argued that a possible explanation is that auditors are reluctant to use techniques that are far ahead of those adopted by their clients, but they disagreed with this possible explanation. Others (Durtschi et al., 2004; Zhou & Kapoor, 2011) question the effectiveness of data analytics in fraud detection. Data mining techniques require extensive training, often resulting in highly time-consuming and costly business operations that may overlook new fraud instances (Edge & Sampaio, 2009; Zhou & Kapoor, 2011). The neural networks are inaccurate if the data is volatile or if the causal functionality evolves in a not predefined direction (Edge & Sampaio, 2009; Zhou & Kapoor, 2011).

To sum up, it is evident from this review that while previous studies suggested numerous methods for detecting FFR in the auditing context, they are rarely informed by the views and practices of external auditors. There is no empirical evidence on how the experience of external auditors influences their approach to fraud examinations and detection in the process of regular external audits. Additionally, the documented tools for detecting FFR produce mixed outcomes or fail to conceptualise the central role of external auditors' experience in building tools that are practically applicable and supported with empirical evidence. Therefore, the qualitative grounded theory approach and method of interviewing experienced auditors is an appropriate process to reveal such empirical evidence and practical but pragmatic perspectives on the firm's FFR detection. Our paper differs from previous studies in that we provide empirical evidence and focus on the actual practices of external auditors with experience detecting FFR in the ordinary audit course.



Providing empirical research is the way to resolve research conflicts by generating evidence-based conclusions (Hosmer, 2000). This should reinforce the role auditing could play in strengthening corporate accountability and entrenching its legitimacy in the eyes of audit stakeholders.

### III. METHOD

A qualitative grounded theory approach was employed for this research. This approach was believed to be ideal because this study aims to explore methods used by experienced external auditors to detect FFR during the routine audit exercise, an underexplored topic in the audit literature. While previous studies proposed various FFR methods, they were predominantly based on secondary data, lacking empirical evidence from external audit work. Grounded theory can help develop new insights into a phenomenon with little extant literature rather than confirming previously generated concepts (Matteucci & Gnoth, 2017). The grounded theory approach can be applied to discover participants' actions and mechanisms used in the workplace. It aims to obtain a deeper understanding of real-life problems and their solutions by allowing the researcher(s) to see the research problem and how it can be addressed through the eyes of the practitioners, thus providing more practical and targeted solutions (Makri & Neely, 2021).

Interviewing is a frequently deployed data collection method in grounded theory research (Foley et al., 2021) used to generate concepts and tease out the relationships between these concepts to build theory (Morse & Clark, 2019). We conducted semi-structured interviews with twenty-four Big 4 auditors with experience in fraud risk assessment and FFR detection during the audit. All interviews were conducted in English between May 2017 and March 2018 and lasted 40 minutes on average. Fourteen interviews were conducted via Skype, and ten interviews were conducted via Viber, a free international call mobile application. Given the study's focus on external auditors' practices and views, interviewing external auditors was considered the most appropriate method to address the current research issue. Semi-structured interviews allow interviewees to provide their views through free-flowing discussions (Bryman, 2012; Saunders et al., 2009). Besides, auditors are best positioned to tell us how they conduct a fraud risk assessment and respond to fraud risk. Therefore, the interview was the best method to explore auditors' practices and views on the most effective methods for detecting FFR.

The primary purpose of these interviews is to gain in-depth insights into experienced external auditors' methods to detect FFR successfully. Respondents with insufficient knowledge or experience may have deliberately guessed the answer, a tendency known as an 'uninformed response,' which reduces data reliability (Saunders et al., 2009). Therefore, external auditors' auditing and FFR detection experience were essential considerations in sample selection, given the nature of the research questions. All the auditors who participated in this study had at least five years of audit experience, were professionally qualified, and managed to detect instances of FFR. All participants also have international audit experience and have worked in various countries, including the US, the UK, Canada, Egypt, UAE, Qatar, Bahrain, and Saudi Arabia. Therefore, the participants have significant audit practice experience in different contexts, which could provide meaningful insights. Big 4 auditors were chosen for their knowledge and audit quality compared to non-Big 4 audit firms, as noted in prior studies (see Fuerman, 2004; Chen et al., 2016; Jiang et al., 2019).

Four interviews were conducted with audit partners, eleven with audit managers, and nine with senior auditors. Table 1 reports demographic information for each auditor interviewed, including rank, years of audit experience, and education, to provide context about this study's auditors' backgrounds. To ensure anonymity, a participant's profile in an interview is given after each quote using the participant code specified in Table 1 (e.g., P1; P2). (Insert Table 1 here)

The snowballing technique was used to find more convenient participants for the current study. Snowballing requires the random invitation of subjects to participate in the study and hence does not create estimation issues and biases (Krishen et al., 2019). We started by approaching two personal contacts who are experienced audit partners working for Big 4 audit firms. Then, we asked them to seek the permission of other auditors interested in participating in the current study. In auditing, the snowballing approach can work well, even when researching firms, as the pool of experts in some areas is so tiny that they know their peers in other firms (Malsch & Salterio 2016).

We followed qualitative research recommendations regarding sample size to continue interviewing until no new information was collected with additional interviews, a term called "saturation" (Teddlie & Tashakkori 2009). Qualitative researchers have found that saturation occurs well before reaching the end of the sampling plan, which generally involves between 15 and 30 interviews (Malsch & Salterio 2016). Theoretical sampling is a core feature of

the grounded theory method. Generating and analysing data through interviewing allows the researcher to probe into, expand on, and saturate critical concepts and categories, which collectively steer the course of the inquiry and subsequent sampling (Foley et al., 2021). Several measures were taken to ensure the trustworthiness of the data. A semi-structured interview script with open-ended questions was developed in consultation with two senior academics, one senior partner at PwC, and three audit managers at KPMG, Ernst and Young, and Deloitte. This review helped ensure the wording, structure, and questions were easy to understand. Permission was sought to record each interview digitally, granted in all cases except one. Notes were taken during the interviews to reduce errors and ensure reliability. The research addressed all relevant ethical issues, including anonymity, confidentiality, anxiety/stress to participants, and loss or damage to data. Ethical approvals were obtained before using any human participants in this study.

Our interview approach was to position ourselves as learners and active listeners to allow the researchers to speak openly and freely. We used prompts and follow-up questions to obtain elaborations and clarifications on the interviewees' responses and critical areas in our research. Each interview began with the interviewer describing the research's objective and emphasising that complete anonymity would be provided to the interviewees and their employing organisation. The interviewer then enquired into the interviewee's background (e.g., professional career and current position, years of audit experience, and academic knowledge) and whether they had ever detected any cases of FFR while conducting the standard audit of financial statements. Those participants who had indicated a positive response were then asked to share the specific types of FFR that they had managed to detect.

Table 2 shows that all the participants (n=24) managed to detect cases of FFR, particularly improper revenue recognition (n=24). Most of them managed to detect improper assets valuation cases (n=22), concealed expenses (n=20) and concealed liabilities (n=18). Cases of improper disclosure were detected by 42% of the participants (n=10).

Following prior studies' approaches to qualitative data analysis (Gioia et al., 2013; Yamahaki & Fyrnas, 2016; Apriliyanti & Randoy, 2017), thematic analysis was used to examine the data.

The thematic analysis provides a flexible tool to analyse qualitative data in a rich and detailed manner (Yamahaki & Fyrnas, 2016). It is a "method for identifying, analysing and reporting patterns or themes within data" (Braun & Clarke, 2006: 79). The interviews were conducted and coded in English to avoid translation bias or any changes in the meaning of the interviewees' responses.

The themes were selected based on inductive content analysis, meaning the codes were derived from and linked to data analysis. We coded the transcripts using open coding, a free data coding requiring carefully reading participants' responses line by line and word by word to interpret the data (Berg, 2009; Hoque et al., 2017). In qualitative research, coding identifies a passage in the text, searches and identifies concepts, and finds relations between them (Tracy, 2019). The coding and categorisation process is a core method in the grounded theory approach. Through coding and categorisation, the researcher identifies emerging themes within the data and, based on this, seeks out existing theoretical constructs that may enrich this iterative analytical process and assist in developing the grounded theory (Dunne & Buse, 2020).

A researcher from the research team with significant experience in qualitative research coded all the interviews to ensure a consistent approach. We then asked an independent researcher, another expert in qualitative data, to review the coding process to ensure consistency and reliability. Cohen's kappa coefficient (k) was calculated to measure inter-rater and intra-rater reliability for the qualitative codes. It is generally considered a more robust measure than simple per cent agreement calculation, as  $\kappa$  considers the possibility of the agreement occurring by chance if the raters are in complete agreement then  $\kappa=1$ . Suppose there is no agreement among the raters other than what would be expected by chance (as given by  $p_e$ ),  $\kappa=0$  (Braun & Clarke, 2006). Cohen's kappa for this study was 0.83, indicating a high agreement level.

In the first step of the analysis, the transcripts were coded into two main categories: (i) Methods used frequently by auditors to detect FFR and (ii) Methods used by auditors to detect specific FFR types. Afterwards, based on careful analysis and observation of interviewees' responses, another category was added: (iii) Methods used by auditors to detect more than one FFR type. Relevant participants' responses were then matched with relevant codes/categories. Quotations supporting the key indicators and the related themes were identified and incorporated into the coding scheme. The data were further analysed with the aid of NVivo to determine frequencies of responses related to the use of FFR methods. A key characteristic of data analysis in grounded theory is the constant comparative analysis between

the data and the literature (Makri & Neely, 2021), which we have done and presented in the following section through our discussion of the findings.

#### **IV. RESULTS, DISCUSSIONS, AND GROUNDED THEORY**

The second stage in grounded theory is to leverage existing literature by adding new knowledge rooted primarily in the raw research data (Dunne & Buse, 2020). This study explores the methods used by experienced external auditors to detect FFR successfully during the ordinary audit course. As mentioned in the methods section, the analysis of the results revealed three themes concerning the methods for FFR detection, which are presented and discussed in this section. Our discussion of the findings includes a comparative analysis of our results and prior studies' findings.

##### **4.1 Methods Used Frequently by Auditors to Detect FFR**

We first asked auditors to share the methods they use to detect FFR successfully during the ordinary audit course. We find that there is a consensus among participants that the following eight methods helped in detecting FFR during the ordinary course of audits: (i) the use of specific analytical procedures; (ii) obtaining positive confirmations instead of negative confirmation with suppliers, customers, and banks; (iii) the inspection of specific documents; (iv) understanding the client's business and industry; (v) a detailed analysis of audit client's anti-fraud controls; (vi) the investigation of tip-offs from suppliers, employees, and customers; (vii) checking the supplier's company location and ownership to determine if there is a shell company scheme, and (viii) paying attention to management's attitude and level of cooperation with auditors. These methods are summarised in Table 3 below. (Insert Table 3 here)

However, we observe from Table 3 that more than 50% of the participants reported the use of the following six methods: (i) The use of specific analytical procedures, (ii) positive confirmations, (iii) understanding of the client's business and industry, (iv) an inspection of specific documents, (v) conducting a detailed analysis and evaluation of the client's anti-fraud controls that failed internal control testing by the audit firm, and (vi) paying attention to tipoffs from employees, customers, and suppliers. Analytical procedures mainly come at the top of the list of effective FFR detection methods, as it was used by 93% of participants. Therefore, our findings support the results of other studies that have suggested analytical procedures for FFR detection (see Knechel, 1988; Glover et al., 2015). However, our findings differ from prior studies in that the practices of experienced external auditors inform them. We also provide specific examples of analytical procedures that helped auditors detect FFR during the ordinary audit course, which is not reported in previous studies. These examples of analytical procedures were identified through probe questions during the interviews. Auditors' responses show the following specific analytical techniques: (i) Comparing management's responses and disclosures with the responses of key employees to determine any discrepancies; (ii) comparing a company's revenues with the industry average; (iii) using trend analysis to identify unusual transactions; (iv) using horizontal analysis.

In explaining how analytical procedures helped the audit team to detect a case of revenue overstatement, an audit manager said:

*I highly recommend comparing the company's revenue with the industry average as this could help auditors detect if the client is overstating the company's performance or if the client is performing poorly and, therefore, might be under pressure to manipulate the revenue account to survive the competition (P6)*

An audit partner added that it is also important to use analytical tools and substantive tests to assess the likelihood of fraud if management imposes restrictions on an auditor's work scope. He explained that this could sometimes be a sign of management motivation to commit fraud or a sign of low management integrity, which can then be assessed using analytical procedures:

*Management used to impose restrictions on the audit scope by setting tight deadlines. This situation made me feel there might be an intention to commit fraud, so I performed more analytical procedures and substantive tests that helped discover the overstatement of revenues (P1).*

Another audit manager emphasised the significance of seeking reliable audit evidence, particularly analytical procedures and positive confirmation, regardless of how adequate a client's controls are:

*Comparing the finance department report with the operation department's message and asking suppliers for a positive confirmation helped us identify concealed expenses and inventory manipulations. It turned out that the finance manager*

*was lying about the amount and price of raw materials purchased by the operation manager. My advice to other auditors is always to seek reliable audit evidence, even if internal controls are robust (P12)*

A different audit manager (P14) explained that understanding the business and the nature of the client's industry was very important as it helped discover a case of overstated commission revenue:

*In one of the cases where the client's revenue is derived from commissions, the client recorded the total sales revenues instead of commission fees. This resulted in inflating revenues over five years. Because the company was performing well above the industry norm, the audit team was sceptical and managed to discover the fraud by reviewing its contracts. Thanks to analytical procedures and a knowledgeable audit team in the client's industry, this was not difficult (P14)*

The participants were also probed to disclose the specific documents inspected for FFR detection. Auditors' responses reveal the following documents: (i) Minutes of board meetings; (ii) company's contracts with banks and other financial institutions; (iii) company's fixed assets depreciation policy; (iv) reports from the operation and finance departments; (v) assets ownership and lease contracts; (vi) sales contracts and proof of sales; (vii) bank debt covenant agreements; and (viii) payroll records.

One audit partner (P2) explained how reviewing the company's policy for depreciation has helped his audit team in detecting a case of overstatement of assets:

*Reviewing the company's policy for depreciation in one of the cases showed that the finance manager had approved the wrong depreciation method. We had inquired management about this, and the issue had been raised to the board of directors. After their investigations, we discovered that management overstated assets through manipulations in the depreciation method to get a bonus.*

A closer look at the results in Table 3 shows that the use of specific analytical procedures comes on the top of the list of effective FFR detection methods (92%), followed by the use of positive confirmation (83%) and understanding of the client's business and industry (76%), indicating the significance of these methods in FFR detection. However, while these are standard audit procedures that auditors are expected to employ in auditing financial statements, evidence from the literature suggests auditors usually overlook them. For instance, prior studies (Erickson et al., 2000; Trotman & Wright, 2012) and corporate fraud cases (Sweet, 2019; FRC 2019a, 2019b, 2019c) indicate that auditors are reluctant to apply adequate analytical procedures. Apostolou et al. (2001) concluded that if auditors had carefully performed analytical procedures on Enron's financial statements, they would have detected or identified certain inconsistencies and prompted additional investigations. In the case of Redcentric in the UK in 2019, the FRC found that auditors used superficial analytical procedures lacking proper analysis. The FRC indicated that if the auditors had conducted appropriate analytical techniques, they would have easily discovered material FFR (Sweet, 2019). Auditors have also failed to properly inspect records in Redcentric and Baker Tilly's cases in the UK (Sweet, 2019; FRC, 2019b).

Equally, even though positive confirmation is traditional audit evidence, as prescribed by IFAC, it is hardly used in practice. Trotman and Wright (2012) found that auditors did not rely on external evidence when management-controlled internal evidence suggested low fraud risk; this does not indicate a sceptical mindset. In the Lincoln Savings and Loan Scandal, auditors inadequately understood the client's business and the economic forces that influenced that industry (Erickson et al., 2000). Besides, in the recent case of Miller Energy Resources, the auditors failed to fully assess the risks of taking on Miller Energy Resources as a client, resulting in an incorrect audit opinion to investors (Murphy, 2017). By understanding the company, the industry, and the operating environment, external auditors can focus on those fraud schemes most likely to occur in each environment, thus improving fraud risk assessments (Dorminey et al., 2012).

Auditors are required to assess and evaluate a client's internal control system. However, there is no explicit requirement in the audit standards (ISA 240; SAS 99) for conducting a detailed analysis of clients' anti-fraud controls and investigating whistle-blower reports, which are worth considering given their effectiveness in detecting FFR, as shown in this study. Our findings align with the Association of Certified Fraud Examiners (ACFE, 2022) global fraud study, which reported that anti-fraud controls and tip-offs from whistle-blowers are two of the leading fraud detection methods globally. However, the ACFE (2018) classifies tip-offs as a passive audit method, while a deliberate search for internal control is designed to detect fraud as a proactive method for fraud detection. It also reports that active audit methods helped in the earlier detection of fraud and resulted in lower fraud costs. Hence, we recommend that external auditors



aspire to embed active audit methods in the audit process, particularly a detailed analysis of the client's anti-fraud controls.

The comment of a senior auditor who believed that tip-offs from employees, customers, or suppliers are worth investigating by the auditors was:

*Tip-offs from two employees have helped in detecting a case of revenue overstatement. Two anonymous employees submitted a report about a suspected fraud in the company involving revenues. After auditing the revenue cycle, the audit team concluded that revenues had been overstated. We were unsure who had committed the fraud, but we suspected the finance manager knew it. The matter was raised to the board of directors, who assured confidentiality until the investigation was complete. We have requested a thorough follow-up and an update from the board of directors. After six months, the investigation revealed that the finance manager had conspired with two financial accountants to inflate revenues to receive bonuses (P18).*

Another critical observation shows that the participants did not mention technology as a method to detect FFR. This finding implies that auditors do not need sophisticated technology to detect FFR. In that respect, our findings support the conclusion of Umar et al. (2017) that information technology does not affect auditors' ability to detect fraud. However, given that auditors face vast amounts of data, and the expectation is for them to embrace some of the technology available (ICAEW 2016; Omotoso, 2016; FRC 2017; Popović et al., 2018; Motiwalla et al., 2019), the results indicate that auditors need training on how technology could help in fraud detection.

#### **4.2 Methods Used by Auditors to Detect Specific FFR Types**

We used probe questions to explore whether certain methods have successfully helped auditors detect specific FFR types. The various categories of FFR include improper revenue recognition and timing differences, improper asset valuations, concealed liabilities and expenses, and improper disclosure (Wells, 2011). In response to this question, the interviewees shared several methods they have used and have proven to detect specific types of FFR effectively. These methods are summarised in Table 4 below.

However, it can be observed from Table 4 that some of these methods were used more than others. For instance, the following techniques were reported by 42% of participants to detect improper revenue recognition and timing differences: (i) The inspection of sales contracts and proof of sales; (ii) performing the cut-off test to determine if sales transactions have been recorded within the correct reporting period; and (iii) the use of specific analytical procedures. Also, more than 50% reported the following methods to detect improper asset valuation: (i) Comparing gross margin in the current year with that of previous years to determine manipulations in inventory (mentioned by 92% of participants); (ii) conducting a physical examination and examining assets valuation (cited by 58% of participants).

In the case of concealed expenses, the following methods were more popular: (i) inspection of payroll records to identify ghost employees and the examination of a complete list of expenses to identify fictitious expenses such as consultancy fees (mentioned by 58% of participants); (ii) using trend analysis to identify unusual expenses (mentioned by 42% of participants); (iii) the use of positive confirmation with suppliers (cited by 42% of participants); and (iv) checking the supplier's company location and ownership to detect shell company schemes (identified by 37% of participants).

One audit manager shared his experience detecting a case of concealed expenses where the operation manager conspired with the business owner to create a shell company. His comment was:

*In one of the cases, an operation manager conspired with a family-owned business owner to use a shell company to overcharge his company to overstate expenses and avoid paying taxes. By checking the supplier's company location, I detected a shell company scheme, given that the company did not have an actual physical location (P10)*

Regarding concealed liabilities, the most commonly used methods include (i) The use of specific analytical procedures (mentioned by 92% of participants), (ii) inspection of bank debt covenants agreements and a complete list of liabilities (mentioned by 71% of participants); (iii) reviewing tax regulations to understand a company's tax liability (cited by 42% of participants).

An audit manager and a senior auditor shared what happened in two cases of concealed liabilities:

*In one of the cases, reviewing a company's loans and bank covenant agreements helped us discover that the finance manager deliberately misclassified short-term liabilities as long-term liabilities to meet bank debt covenants (P5).*

*Comparing management disclosure about contingent liabilities to information in contracts provided by the legal department showed unrecorded litigation costs in one of the companies we audited (P16).*

As for improper disclosures, the following methods were reported the most: (i) Comparing reports from the operations and finance departments with management disclosures (mentioned by 92% of participants); (ii) paying attention to management's attitude towards disclosing information about related party transactions (cited by 38% of participants).

#### **4.3 Methods Used by Auditors to Detect More Than One FFR Type**

A closer analysis of the methods used by auditors to detect specific types of FFR shows that some of these methods helped auditors to detect more than one FFR type. A summary of these methods is provided in Table 5 below.

As outlined in Table 5, analytical procedures, positive confirmation, and the inspection of specific documents have helped detect all FFR types, including improper revenue recognition and timing differences, improper assets valuation, concealed liabilities, concealed expenses, and improper disclosure.

Investigating tip-offs from employees, suppliers, and customers was instrumental in detecting improper disclosure, improper asset valuation, and improper revenue recognition. Understanding the client's business and industry helped detect concealed expenses and improper revenue recognition.

Based on the findings, this study provides a practical guide including 58 methods used in audit practice to detect FFR, categorised as follows: (i) Methods used frequently by auditors to detect FFR, (ii) methods used by auditors to detect specific FFR types, and (iii) methods used by auditors to detect more than one FFR type (see Table 6).

Finally, from the grounded theory perspective, the following concepts emerge from our findings:

effective methods to detect FFR through standard external audit exercises,

some methods are capable of detecting multiple FFR types,

some methods are more effective for specific FFR types and

the use of technology is not central to FFR detection.

Consequently, we theorise that, although auditors may not need technology to detect fraud, they need to go back to the basics and focus on specific audit procedures highlighted in this study for effective fraud detection.

### **V. CONCLUSION AND IMPLICATIONS**

This study explores the methods experienced external auditors used to detect fraudulent financial reporting (FFR) during regular audits. While previous studies suggested various methods to detect FFR in external audits, including red flags, analytical procedures, fraud models, and technology, their results were rarely informed by the views and practices of external auditors. Using a qualitative grounded theory approach, we find that most auditors in our study succeeded in detecting FFR by using the following methods: (i) employing specific analytical procedures, (ii) positive confirmations, (iii) understanding the client's business and industry, (iv) an inspection of specific documents, (v) conducting a detailed analysis and evaluation of the client's anti-fraud controls that failed internal control testing by the audit firm, and (vi) investigating tip-offs from employees, customers, and suppliers.

A closer analysis of the results revealed that some of these methods helped detect all FFR types, while others were useful in discovering more than one type of FFR. For instance, analytical procedures, positive confirmation, and the inspection of specific documents have helped detect all FFR types, further indicating the significance of these methods.

Investigating tip-offs from employees, suppliers, and customers was instrumental in detecting improper disclosure, improper asset valuation, and improper revenue recognition. Understanding the client's business and industry helped detect concealed expenses and improper revenue recognition. Therefore, this study expands the audit literature on fraud risk assessment by providing practice-based evidence from the external audit field on effective FFR detection methods.

Additionally, the findings imply that some FFR methods proposed in the audit literature are not necessarily valuable for audit practice, specifically technology, as it was not mentioned by auditors who managed to detect FFR, implying that auditors do not need sophisticated technology to detect fraud. However, this could also indicate auditors' lack of knowledge of technology that can be useful in fraud detection. This observation supports Gepp et al.'s (2018) conclusion that auditing lags behind other research streams using sophisticated technology, such as big data techniques. Therefore, we recommend that future studies investigate possible