

# Small firm auditing using the analytical procedures (APs) in a politically challenging context

Small firm  
auditing

Muiz Abu Alia and Islam Abdeljawad

*Faculty of Business and Communication, An-Najah National University,  
Nablus, Palestinian Authority*

Mamunur Rashid

*Christ Church Business School, Canterbury Christ Church University,  
Canterbury, UK, and*

Renad Anwar Frehat

*Faculty of Business and Communication, An-Najah National University,  
Nablus, Palestinian Authority*

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## Abstract

**Purpose** – This study aims to explore the use, effectiveness, motives and obstacles of analytical procedures (APs) used by auditors in Palestine, a context characterised by a pool of small and medium enterprises (SMEs), a limited skill set, poor quality of data, political uncertainty and a community-based business culture.

**Design/methodology/approach** – The study considers the audit market in Palestine using a sequential mixed-methods approach combining a questionnaire survey and a series of in-depth interviews. A total of 129 Big-4 and non-Big-4 auditors were surveyed.

**Findings** – The use of APs is driven by the auditor size (Big-4 vs non-Big-4) and the client size (large vs SMEs). Even though the use of APs has increased over the past decade, audit objectives, know-how, and personal, family and social connections among auditors and clients influence the quality of the audit process.

**Practical implications** – Small firms take advantage of the lack of audit governance in Palestine. Our findings suggest that the regulators should help bridge the knowledge-sharing programmes between the small and large audit firms to help improve audit quality.

**Originality/value** – Studies on audit quality, particularly using APs, in the context of politically unstable cases such as Palestine are limited. The study has implications for the use of APs in the case of SMEs to prepare for the technological revolution that will modernise audit procedures and quality soon.

**Keywords** Analytical procedures, ISA 520, SMEs, Big-4, Palestine, Political instability

**Paper type** Research paper

## 1. Introduction

Audit quality (AQ) has faced significant public scrutiny due to several high-value corporate failures, including the infamous Enron case and the suboptimal role played by the creditors during the subprime crises. The intermittence of similar crises and malpractices raises questions about the auditors' objectivity and detriments public confidence (Francis, 2004). The audit process must result in a value that comes from impartial audit procedures away from human subjectivity to deliver high-quality financial reports (Martin, 2013).

Analytical procedures (APs) involve the assessment of financial information by analysing plausible relationships among data to identify unexpected deviations. APs enable



comparison against specific criteria and establish relationships between financial and non-financial data (ISA, 520, 2018). The APs have been certified internationally, even when auditing SMEs. The International Federation of Accountants (IFAC), by its ISA 500 and ISA 520, and the American Institute for Certified Public Accountants (AICPA), by Statement on Auditing Standards no. 56, obligate the use of APs at both the planning and completion phases and recommend their use in the fieldwork phase (AICPA, 1988; AICPA, 2001; Srivastava *et al.*, 2012; Ismoilov, 2020). Guidance on the APs is provided by ISA 520 (Analytical Procedures), which deals with the auditor's use of APs as substantive procedures and near the audit end to assist the auditor in forming an overall conclusion. Moreover, IFAC issued a special guide for using ISAs in the audit of SMEs.

APs dominate auditing literature on competitive environments (Khansalar *et al.*, 2015), effective and advantageous audit processes (Mansour and Kalib, 2019), sophisticated financial data modelling (Jans *et al.*, 2014) and skilled auditors from large, internationally active (Big-4) firms. SMEs are hesitant to use APs for auditing (Lin *et al.*, 2003; Abidin and Baabbad, 2015). Given that the SMEs have weak internal structures and poor information management, agency theory states that owners' "convenience" and "satisfaction" with APs impact auditing success (Mustapha *et al.*, 2015). Modern accounting practices often exceed SMEs' expertise, which may cause information asymmetry (Niskanen *et al.*, 2010). Thus, they prefer smaller auditing companies, but with limited expertise of auditing (Samaha and Hegazy, 2010). Even while APs add value, SMEs benefit more if auditing protects their owners' private interests.

This study explores the use of APs in SMEs by both large (Big-4) and small (local, non-Big-4) audit firms in a politically unstable context: Palestine. There are several factors driving the study. First, the APs literature is limited by the sophistication of the audit process and the extensive investment required to enhance corporate learning and reshape conventional auditing mechanisms to effectively use APs. While there is a growing literature on the use of APs among large firms, we know very little about how smaller audit firms use APs. Second, in smaller and politically volatile contexts like Palestine, personal and family connections dominate the audit relationship between SMEs and small audit firms. Extreme political uncertainty coupled with the size of and relationship with audit clients often makes it challenging to reach a concise ending, leading to misalignment among audit objectives, evidence and reports.

We provide evidence on SMEs and small auditors in an environment political volatility, extensive charities and NGOs. Despite its value-enhancing nature, regulatory compliance, cost over value, convenience over procedure and low time consumption over quality dominate AP adoption in Palestine. Insufficient client participation and the auditor's lack of AP experience impede the use of APs, which depend on the client's business sophistication and size. These practises resemble countries with inadequate facilities, skill shortages, agency problems and information asymmetry (Abidin and Baabbad, 2015; Samaha and Hegazy, 2010).

Military occupation restricts use of APs in Palestine. This contrasts with proactive factors like technology advancement or risk-based auditing. Size of auditor and client determines audit process. Large Big-4 audit firms use technology- and model-intensive audit evaluations more than local companies (Trompeter and Wright, 2010; Kritzinger and Barac, 2017; Mustapha *et al.*, 2015). Short-term, low-cost audit objectives, minimal internal control and insufficient data for APs describe smaller clients. They choose non-Big-4 auditors who do not like APs until required by the law. SMEs choose auditors based on personal connections too.

Our results indicate two significant dimensions. First, business culture of the client influences the adoption of APs. Palestine's political, social and economic structures affect how most enterprises start, maintain and file annual statements. Since the legal and governance framework is poor, most organisations' audit expectations are reactive and compliance driven. These factors may exacerbate knowledge asymmetry, manager-creditor agency conflict and weakness of the governance framework.

Second, awareness and skill development to overcome APs are vital to the AQ development. Despite some improvements in compliance and technological infrastructure, most local auditors still have a suboptimal auditing culture. Our results suggest that authorities should establish formal audit standards for SMEs to unify auditing processes. A single universal set of auditing standards for SMEs or local audit rules based on international principles and local conditions can help achieve harmony. A culture of competition and learning from superior methods should bring about real changes. High-quality guidelines improve AQ of the non-Big-4 enterprises and audit engagement of the SMEs.

In summary, the novelty of this study lies in its implications for SMEs, unlike existing literature that focuses on large-sized entities. Moreover, the study results stem from a unique environment in terms of its cultural, political, institutional and regulatory components. Therefore, it fills gaps in the related literature, not only at the level of the APs but also at the level of the auditing profession and standards in general.

We review literature in Section 2, explain data and methodology in Section 3, discuss findings in Section 4, explain implications in Section 5 and conclude the study in Section 6.

## 2. Background and relevant literature

### 2.1 *The Palestinian context*

Similar to many non-Western scenarios (Baydoun, 1999), the Palestinian environment has deep social links, an inadequate legal system, an inefficient market with greater transaction costs and more politically affiliated enterprises. Social ties between auditors and executives might affect audit opinions, fees and discretionary accruals, resulting in lower AQ (Guan *et al.*, 2016). The Palestinian market is full of SMEs, NGOs and charities (PCBS, 2023) and is affected by political instability, weak rule of law and low government effectiveness (Abu Alia *et al.*, 2022; World Bank, 2020). The Palestinian authority was established in 1994 to provide Palestine some autonomy on interior affairs, but the occupation authorities still controlled most of its resources and borders (Abdeljawad *et al.*, 2020).

After 1994, Palestine gained autonomy, attracting local and international audit firms. Although there are no requirements for auditing non-listed corporations, the Palestine Exchange and Palestine Capital Market Authority require listed companies to audit financial statements using ISAs (Securities Law No. 12, 2004). Palestine has 246 licenced auditors working for local and foreign audit companies, including the Big-4s PACPA (2024). The demand for larger audit firms by listed and other large enterprises has made Palestine a highly competitive but poorly concentrated audit market. This unhealthy audit environment may worsen agency problems and information asymmetry.

### 2.2 *Analytical procedures*

The AQ helps sustain economic growth. Auditors use convincing and reasonable evidence to conclude that financial statements are free of material misstatements (ISA. 500, 2018). APs help auditors find flaws and inconsistencies (Srivastava *et al.*, 2012). International corporate failures, auditor lawsuit risk and tight requirements specified in the Sarbanes-Oxley Act boost the usefulness and global popularity of the APs (Appelbaum *et al.*, 2018).

According to ISA 520, APs can be (1) comparisons of financial information with past information, with the auditors' budgets, forecasts or even ratios (relationships) between the entity and the sector values for similar-sized companies, and (2) relationships between the company's financial and non-financial data.

The auditor must determine APs' suitability for given assertions, evaluate the reliability of data on which the auditor's expectation is based, develop and evaluate precise expectations to identify material misstatements and determine the amount of any difference between recorded amounts and expected values that are accepted without further investigation (ISA, 520, 2018). Thus, APs require multiple stages to get a solid result (Mansour and Kalib, 2019). Professional and environmental knowledge, experience and education are needed for effective implementation of APs (Cho and Lew, 2000).

### *2.3 Motives behind the use of analytical procedures*

APs are cheaper and less time-consuming because they leverage technology and analytics. Use of audit software enables smart auditing and manipulation of big data sets, leading to increased AP usage (Kritzinger and Barac, 2017). IT advancement has also helped auditors obtain and access more non-financial data (Trompeter and Wright, 2010).

### *2.4 Use of analytical procedures in different audit phases*

The use of APs varies across audit phases (Arens *et al.*, 2017). APs are frequently used in the planning phase as a risk assessment procedure to obtain a deeper understanding of the client's business and industry and to assist in determining the nature, extent and timing of audit procedures (Moolman, 2017). In the field work phase, APs are used as substantive procedures in conjunction with other procedures (Arens *et al.*, 2017), aiming at obtaining reliable evidence on assertions related to account balances or transactions (IFAC, 2018). During the completion phase, auditors use APs in assessing the audit conclusions and in evaluating the overall reasonableness of the financial statement and the entity's ability to continue as a going concern (Appelbaum *et al.*, 2018).

### *2.5 Types of tools used in analytical procedures*

APs contain different tools, techniques and procedures – ranging from simple to sophisticated – aimed at obtaining useful conclusions or detecting unexpected data that direct auditors' attention to complex organisational areas and control deficiencies (ISA, 520, 2018; Mansour and Kalib, 2019; Tušek *et al.*, 2020; Ježovita *et al.*, 2018). Table 1 summarises the literature on the tools used while conducting APs. Simple analyses are commonly done for both large and small companies to ascertain the basic condition of the business. Advanced analysis includes a combination of Du Pont analysis, time series modelling, regression analysis, Altman Z Score and Benford's Law (Moolman, 2017).

### *2.6 Effectiveness of analytical procedures in achieving audit objectives*

APs improve collection of the audit evidence, particularly for large data sets with low misstatement risk (Tušek *et al.*, 2020; Ježovita *et al.*, 2018; Raximova *et al.*, 2020; ISA, 520, 2018). APs work well when the goal of audit is cost reduction in a short time (Ismoilov, 2020; Mansour and Kalib, 2019). APs assess risks effectively (Samaha and Hegazy, 2010). During the planning stage, APs draw attention to more specific procedures to uncover misstatements (Arens *et al.*, 2017). APs reduce tests required and detect material errors during fieldwork. APs support genuine and fair findings in the completion phase (Awadallah and Elsaid, 2020).

Tools used	Purposes	Relevant literature
Simple analyses (ratio analysis, common-size statements and trend analysis)	<ul style="list-style-type: none"> <li>• To gain a basic understanding of the client's business</li> <li>• To draw basic conclusions</li> <li>• To determine audit fees</li> </ul>	Calota and Vinatoru (2015), Arens <i>et al.</i> (2017)
Sophisticated analysis (time series modelling, forecasting, regression analysis, etc.)	<ul style="list-style-type: none"> <li>• To gain an in-depth understanding of the information</li> <li>• To establish correlations</li> <li>• To forecast future potentials and challenges</li> </ul>	Moolman (2017), Lin and Fraser (2003)

**Table 1.**  
Types of tools in AP

**Source:** Table by authors

### 2.7 Obstacles to the application of analytical procedures

Performing APs requires mastering specific knowledge and skills, often about the client, industry and macroeconomy, to assess inherent risks and control them (Brewster, 2011). Lack of harmonised, consistent and reliable data lessens the opportunity to benefit from its use (Alani and Matarneh, 2013). The size of the client and the sophistication of its internal control and financial reporting systems can be significant obstacles as well (Kritzinger and Barac, 2017). Furthermore, a lack of auditors' confidence in and knowledge of APs limits the effective use of APs (Appelbaum *et al.*, 2018; Tušek *et al.*, 2020). In addition, auditors are exposed to rapid changes in technology, such as the emergence of artificial intelligence, which requires more training (Brewster, 2011).

Given the differences in the use, effectiveness, motives and obstacles of employing APs in auditing, we specify a broader hypothesis as follows:

- H1.* The use, types, effectiveness, motives and obstacles are significantly different between the smaller and larger audit firms.

## 3. Methodology

This study examines APs' use, efficacy, motivations and challenges in Palestine. The study uses a two-phase sequential explanatory mixed-methods methodology where qualitative data is needed to support quantitative conclusions (Creswell and Creswell, 2018). Sequential mixed approaches have been used in other research but not in APs (Wipulanusat *et al.*, 2020). Our methodology is discussed in two phases: quantitative survey and qualitative in-depth interviews. The questionnaire and in-depth interview protocol were written in Arabic. The responses were translated into English for analysis and presentation.

### 3.1 Phase one: survey

**3.1.1 Data source and tool.** A relevant field-based questionnaire was developed based on the results of the prior studies, the requirements of ISA 520 and to reflect the unique context of Palestine. The questionnaire was designed using a five-point scale, which contains 41 questions classified into five aspects of APs: use, types, effectiveness, appropriateness and obstacles. The final questionnaire was reviewed by three practicing auditors to check for

relevance. Due to the busy schedule of the auditors, the survey could not take place face-to-face. The respondents were communicated with via email, and reminders were sent using the short messaging system. From our sample testing, we found that an average questionnaire took around 35–40 min to complete. Completed questionnaires were received by email, and responses were transferred by the researchers to SPSS software for further analysis.

*3.1.2 Sample.* The study targeted professional auditors (partners, managers, principals and assistants) from the Big-4 and non-Big-4 audit firms working in Palestine. We have sent questionnaires using email and other messaging alternatives to the entire population of 246 licenced auditors practicing auditing through eleven audit companies and some sole-proprietary firms. Initial communication was setup with 180 respondents equally weighted for the Big-4 and non-Big-4 auditors as they formally communicated and expressed their willingness to participate. However, given the time frame applied, a total of 129 valid questionnaires were received, implying a strong resemblance among the population. Seventy responses came from the Big-4 firms, while 59 responses were received from non-Big-4 firms. While dealing with non-response bias is complex, we attempted to resolve this issue both theoretically and by evaluating the stratification of the sample given in [Table 2](#) ([Toepoel and Schonlau, 2017](#)). [Table 2](#) shows that the response gap from the stratification of the respondents is very minimal (54% from Big-4 and 45.7% from non-Big-4; 37 partners and 35 managers). The use of a mixed method also helps reduce non-response bias ([Voogt and Saris, 2005](#)).

*3.1.3 Data analysis methods.* We analysed data using frequencies, means and standard deviations. Furthermore, a series of independent sample *t*-tests were used to investigate the differences between the two major groups of auditors (i.e. Big-4 versus non-Big-4), as stated in the broader hypothesis. As our objective was primarily exploratory, we have not conducted any inferential tests.

*3.2 Phase two: in-depth interviews*

Ten participants of equal variations from Big-4 and non-Big-4 from the survey were conveniently selected and interviewed in-depth using an interview protocol. Robustness and validity of the mapping were ensured using an “in-depth interview protocol”, which helped segregate the opinions of the respondents precisely into contexts and research questions for the study. Each interview session took around 40–50 min. These sessions were audio-recorded with the explicit consent of the participants. Separate field notes were recorded to supplement the audio recording of the interviews. The interview protocol included open-ended questions with probing queries to help stimulate the discussion and clarify any ambiguities found in the results of the questionnaire survey. Interview transcripts were compared to notes recorded during the interview to capture verbal and nonverbal messages by the participants. Responses from the interviews were transcribed and coded

**Table 2.**  
Main characteristics  
of the respondents

Firm type	No. of valid respondents	%	Partners	Managers	Principal auditor	Assistant auditor
Big-4	70	54.3	2	27	22	19
Non-Big-4	59	45.7	35	8	10	6
Total	129	100	37	35	32	25

**Source:** Table by authors

using “Loc *n*” for auditors from non-Big-4 firms and “Int *n*” for auditors from Big-4 firms, where “*n*” presents the frequency used for participants 1 to 5.

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## 4. Findings and discussion

### 4.1 Motives of analytical procedures use

Table 3 shows that Palestinian auditors use APs mainly “to comply with audit standards (mean = 2.02)” and “to reduce the audit time (mean = 2.2)”. Other less important drivers being in line with the current trend of increased reliance on APs (2.67); avoiding the departure from the guidance of local regulators (mean = 2.72); benefiting from advances in computer applications (mean = 2.9); reducing audit cost (mean = 3.01). These results are partly in line with previous results (Abidin and Baabbad, 2015; Kritzinger and Barac, 2017).

One Big-4 audit firm participant described the need to perform APs as follows: “Regulators want APs, clients want APs, and that makes sense. In my view, using APs leads to a cost-effective and high-quality audit” (Int 3). APs ensure a “warm and fuzzy feeling” (Int 4) while auditing. Most participants acknowledged using APs to “audit smarter” as “it speeds up the audit process” (Int 3, 4, 5, Loc 2, 4, 5).

Big-4 and non-Big-4 auditors have quite distinct motives. Big-4 auditors prioritise regulatory and professional compliance. Small audit firms realise fee pressures and find APs cost-effective (van Buuren *et al.*, 2014). The highly competitive but poorly concentrated audit market in Palestine may explain this. As all listed clients want the audit completed before the same deadline, Big-4 auditors must balance cost and time savings, which they call the “client crowd”. Non-Big-4 firms attempt to cut audit costs. Local auditors compete for SMEs and non-listed enterprises with personal ties and fee discounts (Haron *et al.*, 2016).

Motives To (achieve)	Auditor type	N	Mean*	t-stat.	Sig.	Rank**
Reduce costs	Big-4	70	3.2286	2.485	0.014	6
	Non-Big-4	59	2.7458			
	Total	129	3.01			
Compliance with the regulation	Big-4	68	2.3824	−4.447	0.000	4
	Non-Big-4	59	3.1186			
	Total	127	2.72			
Follow industry practice	Big-4	70	2.2857	−5.234	0.000	3
	Non-Big-4	59	3.1356			
	Total	129	2.67			
Ease and feasibility of APs	Big-4	68	2.1029	0.217	0.829	5
	Non-Big-4	59	2.0678			
	Total	127	2.9			
Compliance with audit standards	Big-4	70	2.0857	0.997	0.321	1
	Non-Big-4	59	1.9492			
	Total	129	2.02			
Reduce time	Big-4	70	2.4143	2.756	0.007	2
	Non-Big-4	59	1.9492			
	Total	129	2.2			

**Notes:** Scale of response: 1 = “strongly accept” to 5 = “strongly reject” (The least, the higher acceptance).

\*\* Ranking is based on the combined mean of the item (the lower, the better)

**Source:** Table by authors

**Table 3.**  
Motives behind the  
use of AP

4.2 Extent of the use of analytical procedures

Table 4 shows a variation in the overall use of APs, usually ranging between less than 20% and more than 80% of the audits, with a weighted overall average of 53.6%. This is like findings from other politically unstable countries, such as Egypt (54%) (Samaha and Hegazy, 2010), Yemen (51%) (Abidin and Baabbad, 2015), but lower than Canada (79%) (Lin and Fraser, 2003). Similar to the results of Abidin and Baabbad (2015), the use of APs is considerably higher by auditors of Big-4 firms (weighted average = 61.8%) when compared to non-Big-4 firms (weighted average = 44%). The rare use of APs by small audit firms may be attributed to the features of their clients, mainly SMEs, like the lack of information (Van Buuren *et al.*, 2014), the agency problem and information asymmetry (Mustapha *et al.*, 2015). Auditors' reports are less meaningful, firstly, when owners and managers are the same groups of people, and secondly, because of information asymmetry, as the SMEs lack the necessary skills to interpret financial information. Moreover, the lack of knowledge and experience of small auditors on the APs application, particularly the use of statistical models and computer applications, reduces their use (Samaha and Hegazy, 2010).

There is a connection between the use of APs, the nature of the client's business and the objective of the audit. As stated by Int 4, "client industry and size, (the) sophistication of their transaction, and rigour and the strictness of the regulations they adhere to are drivers of more use of APs". Non-Big-4 local firm auditors agree that they use APs less than the Big-4 firms since they "want to avoid facing the regulators, have difficulty interpreting the APs', and target to audit for tax-related matters" (Loc 3 and 5). Similar to Adeyemi *et al.* (2015), who indicated that the financial reporting of the SMEs is intended mainly for tax authorities, Loc 2 stated that "most audits are for tax purposes, which are mainly dependent on experience to justify lower taxes in front of the tax department". Hence, if the objective is to avoid tax payment, local non-Big-4 auditors will rely on documentation rather than APs.

Table 5 points out that more than 70% of the respondents identify that the use of APs has significantly increased over the last 10 years, with no significant difference among Big-4 and non-Big-4 firms. Aside from advancements in technology (Abidin and Baabbad, 2015), increased use of risk-based audit methodology (Pinho, 2014) and extensive regulation (Trompeter and Wright, 2010), the emphasis on non-financial information in financial reporting also contributed to this progression (Kritzinger and Barac, 2017). Int 3 added that:

APs use has been enhanced following qualification programmes initiated by the Palestinian Association of Certified Public Accountants (PACPA), the local professional body, and the increased restrictions imposed by the Israeli occupation on bank transfers, trades, and movement between parts of Palestine.

Percentage of audits where APs are used	Big-4		Non-Big-4		Overall	
	Freq.	%	Freq.	%	Freq.	%
1–20	4	6	14	24.6	18	14.6
21–40	12	18.2	12	21	24	19.5
41–60	15	22.7	15	26.3	30	24.4
61–80	11	16.7	9	15.8	20	16.3
81–100	24	36.3	7	12.3	31	25.2
Total	66	100	57	100	123	100
Weighted average*		61.8		44.0		53.6

Table 4.

Percentage of audits where APs are used

Noted: (\*) Weighted average is calculated based on the middle value of the interval  
Source: Table by authors

4.3 Analytical procedures and different phases of an audit

The results in Table 6 are strongly supported by ISA 520, which mandates or encourages the use of APs in all phases of auditing engagement. These are also consistent with the recent studies from Egypt (Samaha and Hegazy, 2010), Yemen (Abidin and Baabbad, 2015) and South Africa (Kritzinger and Barac, 2017). APs are more frequently used in the completion phase, indicating the need for further assurance once the auditors evaluate the results of the fieldwork tests (Samaha and Hegazy, 2010).

In all phases, as is expected, the use of APs by the Big-4 is significantly higher than non-Big-4, with the planning phase making the highest difference. There is strong support for the superiority of the Big-4 firms in academic literature (Samaha and Hegazy, 2010; Lin and Fraser, 2003). This result also clarifies that the type of audit firm is an important determinant of the choice of APs (Khansalar *et al.*, 2015; Abidin and Baabbad, 2015), given their client-related differences (Lin and Fraser, 2003; Kritzinger and Barac, 2017).

4.4 Effectiveness of analytical procedures in achieving audit objectives

Results in Table 7 are consistent with similar politically unstable environments (Mansour and Kalib, 2019; Samaha and Hegazy, 2010; Awadallah and Elsaid, 2020). The Palestinian auditors believe in the effectiveness of the APs in achieving the audit objectives, with significant differences between the perceptions of the Big-4 and non-Big-4 auditors. The familiarity of Big-4 auditors and their wide knowledge of APs are the likely reasons behind these significant differences. The interviewees find the nature of the client to be a reason behind this unequal perception. Loc 3 argues that “even if we decide to use APs intensively,

Change in APs usage	Big-4		Non-Big-4		Overall	
	Freq.	%	Freq.	%	Freq.	%
1. Increased dramatically	25	36.2	9	15.3	34	26.6
2. Increased	26	37.7	34	57.6	60	46.9
3. Remain unchanged	12	17.4	14	23.7	26	20.3
4. Decreased	5	7.3	2	3.4	7	5.5
5. Decreased dramatically	1	1.4	0	0	1	0.7
Total	69	100	59	100	128	100.0

Source: Table by authors

**Table 5.**  
Changes in APs  
usage over the last  
10 years

Phase	Auditor type	N	Mean	t-stat.	Sig	Rank
Planning	Big-4	70	1.7429	−8.615	0.000	3
	Non-Big-4	59	3.0339			
	Total	129	2.33			
Fieldwork	Big-4	70	1.7714	−6.132	0.000	2
	Non-Big-4	59	2.6610			
	Total	129	2.18			
Completion	Big-4	70	1.5286	−6.437	0.000	1
	Non-Big-4	59	2.4068			
	Total	129	1.93			

Notes: \*Scale of response: 1 = “strongly accept” to 5 = “strongly reject” (The least, the higher acceptance)

Source: Table by authors

**Table 6.**  
Use of APs in  
different phases of  
audit

Audit objectives	Auditor type	N	Mean	t-stat.	Sig	Rank
Understand client business	Big-4	70	1.7429	-7.526	0.000	1
	Non-Big-4	59	2.8644			
	Total	129	2.26			
Identify financial and operational weaknesses	Big-4	70	1.6143	-16.138	0.000	5
	Non-Big-4	59	3.7119			
	Total	129	2.57			
Identify fluctuations in financial statements	Big-4	70	1.5286	-14.558	0.000	3
	Non-Big-4	59	3.4068			
	Total	129	2.39			
Decide the nature, extent and time of substantive tests	Big-4	70	1.7429	-13.479	0.000	6
	Non-Big-4	59	3.6441			
	Total	129	2.61			
Determine misstatements in financial statements	Big-4	70	1.8286	-12.679	0.000	7
	Non-Big-4	59	3.7627			
	Total	129	2.71			
Assess the reasonableness of the accounts	Big-4	70	1.7429	-9.297	0.000	2
	Non-Big-4	59	2.9831			
	Total	129	2.31			
Assess the fairness of the overall presentation	Big-4	70	2.0857	-11.741	0.000	8
	Non-Big-4	59	3.8305			
	Total	129	2.88			
Strengthening the conclusions of detailed testing	Big-4	69	1.7681	-9.158	0.000	4
	Non-Big-4	59	3.2881			
	Total	128	2.47			

**Table 7.**  
Effectiveness of APs  
in achieving audit  
objectives

**Notes:** Scale of response: 1 = “extremely effective” to 5 = “least effective”  
**Source:** Table by authors

our clients lack sufficient internal and external data required to conduct them”. Accordingly, the effectiveness of APs in achieving audit objectives is less prominent if the client is an SME. Asserting the arguments of Loc 3, Int 5 states that:

The high degree of sophistication of our clients, given their size, operations, affiliations, subsidiaries, and locations, in addition to our relatively high awareness about APs, acted as drivers for their higher use of APs.

#### *4.5 Types of analytical procedures and their appropriateness in achieving audit objectives*

The results of Table 8 show that ratio analysis was the most used technique (mean = 1.95), followed by the simple reasonableness test (mean = 2.17). These results are supported by several existing studies (Samaha and Hegazy, 2010; Abidin and Baabbad, 2015; Kritzinger and Barac, 2017). Loc 2 supports ratio analysis because of its simplicity:

Ratio analysis is mine; I know exactly how to calculate it (and) when to use it, and I also completely understand its results. Simply put, I perfectly can benefit from it.

This statement also highlights the extent to which the auditors’ knowledge limits their choices when auditing. Regression and other advanced models ranked the lowest, with a mean value of 2.99. Int 3 commented on the results: “Although we were engaged in seminars to use some advanced techniques, we are unconfident that we master them perfectly as other APs”. On the other hand, Loc 2 argued:

AP type	Auditor type	Types of APs in applications					Appropriateness of APs in achieving audit objectives				
		N	Mean	t-stat.	Sig	Rank	N	Mean	t-stat.	Sig	Rank
Simple reasonableness of balances	Big-4	70	1.843	−4.619	0.000	2	70	1.914	−3.444	0.001	2
	Non-Big-4	59	2.559				59	2.390			
	Total	129	2.17				129	2.13			
Trend analysis and Time series	Big-4	70	1.843	−8.116	0.000	4	69	2.087	−7.505	0.000	4
	Non-Big-4	59	2.983				59	3.237			
	Total	129	2.36				128	2.62			
Ratio analysis	Big-4	66	1.773	−2.353	0.020	1	70	1.986	−0.223	0.824	1
	Non-Big-4	57	2.158				58	2.017			
	Total	123	1.95				128	2.00			
Common- Size Analysis	Big-4	68	2.044	−4.552	0.000	3	70	1.957	−7.488	0.000	3
	Non-Big-4	59	2.712				59	3.000			
	Total	127	2.35				129	2.43			
Regression and other advanced models	Big-4	70	2.300	−9.217	0.000	5	70	2.114	−18.123	0.000	5
	Non-Big-4	59	3.814				59	4.610			
	Total	129	2.99				129	3.26			

**Notes:** Scale of response: 1 = “strongly accept” to 5 = “strongly reject” (The least, the higher acceptance)  
**Source:** Table by authors

**Table 8.**  
Types of APs in applications and their appropriateness in achieving objectives

I do not trust myself to use regression and the other advanced models and interpret their results. This will transform them from a useful efficient tool into a costly misleading one.

Therefore, Palestinian auditors need training in advanced modelling to benefit from the advantages of the new technology and techniques.

Table 8 suggests that the Palestinian auditors, non-Big-4 in particular, find regression and other advanced sophisticated tests as the least effective techniques. Ratio analysis is the most effective test (mean = 2) followed by a simple reasonableness test (mean = 2.13). The study found a significant gap between the Big-4 and its counterparts in this regard. This is also supported by an interviewee from the local firms who highlighted the existence of the knowledge gap between “old auditors” and the younger ones. Loc 1 argued that many auditors obtained their license within the pre-real organization and regulation era which began after the issuance of Law No 9, 2004 about practicing auditing profession. At that time, auditors were licensed without any examination, and requirements were limited to an academic degree (60 credits were enough).

#### 4.6 Obstacles to the application of analytical procedures in Palestine

Considering the results presented in Table 9, obstacles are classified into three categories. The first is related to the auditors, their professional bodies and regulators, which includes weak knowledge and experience of the auditor about APs, a lack of awareness of their importance, low audit fees and a lack of training on APs. These obstacles highlight the lack of auditors' readiness and willingness to appropriately use APs and the insufficient role of professional bodies and regulators to make this use more beneficial. Several studies supported our findings (Alani and Matarneh, 2013; Kritzinger and Barac, 2017; Tušek *et al.*, 2020).

Second, the most notable obstacle restricting the use of APs was insufficient cooperation from clients. In the words of Int 1: “Clients frequently restrict audit engagements by non-cooperation. They restrict timely access to needed information, as an example”. Other client-

Obstacles	Auditor type	N	Mean	t-stat.	Sig.	Rank
Limited knowledge and experience	Big-4	68	2.7059	3.524	0.001	2
	Non-Big-4	59	2.0847			
	Total	127	2.42			
Unawareness of APs importance	Big-4	68	2.6618	2.396	0.018	4
	Non-Big-4	59	2.2373			
	Total	127	2.46			
Low audit fees	Big-4	69	3.2029	2.991	0.003	8
	Non-Big-4	58	2.6724			
	Total	127	2.96			
Limited training courses	Big-4	64	2.6875	2.003	0.047	5
	Non-Big-4	58	2.3448			
	Total	122	2.52			
Insufficient cooperation from clients	Big-4	68	2.6324	3.086	0.002	1
	Non-Big-4	59	2.1525			
	Total	127	2.41			
Weak internal control	Big-4	68	2.5882	-0.913	0.363	6
	Non-Big-4	59	2.7458			
	Total	127	2.66			
Poor reliability of financial information for analysis	Big-4	68	2.5735	1.793	0.075	3
	Non-Big-4	59	2.2712			
	Total	127	2.43			
High inherent risks	Big-4	68	2.5147	-5.664	0.000	7
	Non-Big-4	59	3.4407			
	Total	127	2.94			

**Table 9.**  
Obstacles to AP use

**Notes:** Scale of response: 1 = “strongly accept” to 5 = “strongly reject” (The least, the higher acceptance)  
**Source:** Table by authors

related obstacles are poor reliability of financial information for analysis and weak internal control system. SMEs struggle to build a good financial reporting system, an effective internal control system and collaborate with auditors (van Buuren *et al.*, 2014; De Santis, 2016).

Audit risks are the third impediment. The Palestinian setting has deeper inherent vulnerabilities. Int 4 emphasised the unique Palestinian situation by retrieving the US case against the Arab Bank, which was convicted of assisting “terrorism” by transferring money to Palestinians who resisted Israel’s occupation (BBC, 2014). Also, Israeli threats to punish Palestinian banks that manage money for Palestinian prisoners seized by Israel were noted by Int 4. Banks had two devastating choices: infringing on their social responsibilities to Palestinian society, which saw these detainees as freedom fighters or facing punishment. Israeli authorities’ hostile monitoring makes banking and other businesses difficult in Palestine.

## 5. Major implications

### 5.1 Theoretical implications

The size of the clients affects the motives, effectiveness, types of tools used and obstacles faced while conducting APs. Auditing of SMEs, charities and NGOs should receive stronger emphasis from auditors, regulators and standard setters. Differences in the use of APs will result in low AQ, higher agency problems and high information asymmetry for SMEs. Standard-setters are expected to focus on enhancing the AQ provided by small and local

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audit firms. Local regulators are expected to examine the readiness of SMEs in terms of their financial reporting, internal control and data sufficiency.

### 5.2 Industry implications

Non-Big-4 firms considered cost reduction and compliance with regulations as major drivers of APs use, whereas Big-4 firms identified time and quality as the driving forces. The use of APs was considerably higher by the Big-4 auditors in almost all stages of auditing. Non-Big-4 firms were unsure of the effectiveness of the APs. Big-4 firms used sophisticated models to cater to the needs of their clients, whereas non-Big-4 firms used simpler approaches. Hence, the Big-4 firms lead the development of the auditing profession by pushing forward the boundaries of professional practices in Palestine.

SMEs and other clients are required to be well-prepared for external auditing to enhance the quality of the financial statements (Jonathan *et al.*, 2021), to have access to credit (Feito-Ruiz *et al.*, 2021) and to increase their performance (Ndiaye *et al.*, 2018). Extant studies also confirm the obstacles and share similar feedback to resolve them (Tušek *et al.*, 2020). Audit firms should educate their staff about APs and carefully select their clients based on the client's cooperation and integrity and also based on the auditor's knowledge and experience in the client's industry. Furthermore, it is important to establish an understanding with the clients, which clearly indicates his responsibilities related to the financial statements and internal control. The quality and long-term reputation of the audit firms must be prioritised and made a part of the audit culture while discouraging the choice of clients based on personal connection. On the other hand, the PACPA should expand its scope with relevance to audit licence renewal with sufficient knowledge of APs. It also needs to highlight the importance of auditing for the Palestinian market and economy and determine adequate minimum audit fees.

### 5.3 Regulatory implications

The Palestinian Board of Audit Profession should focus on APs and their techniques when setting professional requirements for writing and grading the relevant professional examinations. The IFAC, as the standard setter of the ISAs, is required to consider the unique political and social surroundings of the developing countries when issuing and reviewing its standards. These differences have always been considered among the reasons for the accounting diversity that impedes international accounting convergence and globalisation (Alia, 2010).

It is also important to develop relevant guidance facilitating the APs application (McDaniel and Simmons, 2007), especially when the auditors are required to use professional judgement to form expectations under uncertainty (Hughes *et al.*, 2009). Furthermore, the IFAC should review its standards and provide relevant guidance in a way that becomes more applicable for SMEs. The study findings indicate a need to adapt ISAs and to allow deviations from some requirements.

In summary, there must be broader connectivity between important stakeholders to build the capacity of the auditors. Following an integrated campaign to raise awareness among Palestinian firms about the use of APs, the professional bodies and regulators must collaborate to upgrade standards pertinent to the use of APs, particularly by non-Big 4 firms and particularly in auditing SMEs. These initiatives are expected to uphold the client-centric drive for the greater use of APs in auditing in Palestine.

## 6. Conclusion

Palestine offers a unique and equally hazardous political and financial environment, with diversified groups of investors and a growing number of relatively smaller listed firms. This study addresses the use of APs by Palestinian auditors, including both the Big-4 and non-Big-4 audit firms. The study is designed around a sequential, two-stage mixed method, starting with a questionnaire based on 129 auditors, followed by in-depth interviews with purposively selected 10 auditors.

Use of the APs has increased significantly over the decade, motivated mainly by compliance with audit standards and the desire to reduce the time of audit engagement. Palestinian auditors viewed APs as an effective tool in achieving audit objectives, even though they were reluctant to use advanced modelling due to a lack of knowledge. Obstacles were divided into issues relevant to the clients, firms, regulators and professional bodies. The obstacles ranged from limited know-how of the client's business at the micro level to limited regulatory and professional support at the macro level. The smaller businesses in Palestine are uniquely embracing of these challenges.

Limitations of this paper may include the shortcomings of questionnaires in collecting data and the possibility that the sample is not representative of the population. Future research may use the actual frequency of the use of various APs instead of the perceptions of auditors about their use. Moreover, it will be interesting to find out the types of data, financial and non-financial, that are used for the purposes of APs. Furthermore, the effectiveness of the regression and advanced techniques and the circumstances in which these techniques have proven to be effective offer room for future research. Future research may also explore advanced statistical analysis on the connection between the antecedents and consequences of the use of APs in similar contexts.

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### Corresponding author

Islam Abdeljawad can be contacted at: [islamjawad@najah.edu](mailto:islamjawad@najah.edu)