

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The determinants of audit quality in the public sector, particularly municipalities, have been identified and discussed in the previous two chapters. This chapter discusses the measurement of the variables, research methods, population and sample, data collection, data analysis, developing questionnaire survey, and pilot study.

#### **3.2 Measurement of Variables**

This study examines the auditor characteristics, audit firm attributes, and effectiveness of municipal internal control as independent variables that influence audit quality in Palestinian municipalities by distributing questionnaires to their accountants and internal auditors. This questionnaire includes questions covered all the variables of the study, and most of these questions have been developed based on the audit quality literature. Prior studies adopted and used most questions, as we can see in tables no. 3.2, and 3.3. This study modified some of these questions based on the context of Palestinian municipalities. The questions that related to the moderation role of SAIs were developed based on the literature, and used by the author in pilot study aimed to examine the moderating roles of SAIs on the relationship between the audit quality and its determinants in Palestinian municipalities from the perception of the external auditors, in addition to examining and analyzing the annual audit reports of Palestinian SAIs that related to LGUs in the past 10 years (2011 to 2020).

The following subsections discuss the measurements of the independent variables and their dimensions, namely, the auditor characteristics (ethics, independence, and competence); audit firm attributes (audit fees and audit firm size); and effectiveness of municipal internal controls (internal audit, accounting basis, and laws and regulations); as well as measuring audit quality as a dependent variable by examining specific audit quality attributes and measuring the effect of SAIs as a moderator variable on the relationship between audit quality and its determinants.

### **3.2.1 Measurement of Auditor Characteristics**

This section discusses auditor ethics, independence, and competence, three most important characteristics that external auditors must possess. These characteristics represent the main constructs that can improve audit quality in municipalities. These characteristics are applicable for individual auditors who are part of an audit team and audit firms themselves.

#### **3.2.1.1 Auditor Ethics**

The previous chapter has shown that auditor ethics has a significant effect on the quality of audit engagements in the private and public sectors. Ethics serves as a driver and basis for the auditor's conduct and it enables the auditor to know right or wrong actions (Alvin et al., 2017; Emmett et al., 2012; Herda & Martin, 2016; Ismail et al., 2019; Jonnergård et al., 2010; Kusumawati & Syamsuddin 2018; Reheul et al., 2017; Rezaee et al., 2016; Sweeney et al., 2010).

This study adopted some attributes of audit quality which they were used by many researchers as Boon et al. (2008) to measure the effect of auditor ethics on audit quality. These attributes include (1) compliance of audit firm with due care as general

audit standard; (2) audit firm commitment to quality; and (3) individual team member characteristics (ethical standards).

The questionnaire contains two items for the attribute of “compliance of audit firm with due care as general audit standard” as: (1) the overall reputation of the audit firm; and (2) the audit team members as a group always exercise due care throughout the engagement. And three questions are under the “audit firm commitment to quality” attribute: (3) the audit firm has strict guidelines on the procedures; (4) the audit firm actively encourages staff members to take training courses in client industry; and (5) the audit firm conducts a pre-engagement investigation before accepting the new client. In addition to these questions, there is one general question under the “individual team member characteristics” for high ethical standards, such as integrity, honesty, responsibility, objectivity, public interests, and moral courage.

### **3.2.1.2 Auditor Independence**

As discussed in Chapter 2, numerous studies have found that audit quality and professional value depend on auditor independence. Auditor independence has a positive effect on audit quality, which can lead to better audit report (Bouhawia, M. Irianto, & Baridwan, 2015; Francis, 2011; Haeridistia & Agustin 2019; Ismail et al., 2019; Knechel, 2016; Octavia & Widodo, 2015).

This study adopted some auditor independence attributes and items which they were used by many researchers as Boon et al. (2008), namely (1) audit firm compliance with independence as a general audit standard; (2) audit firm maintains freshness of perspective; and (3) audit firm maintains skeptical attitude.

The questionnaire contains three items related to the attribute of “audit firm compliance with independence as general audit standard”: (1) the percentage of the

audit fee from the client to total audit fee revenue of the audit firm is not material; (2) the audit firm and audit team members never, in fact or appearance, take any action that would jeopardize their independence; and (3) the audit firm that is doing the audit gives non-audit services to the client. Two items are related to the attribute of “audit firm maintains freshness of perspective”: (4) the audit firm has a high audit staff turnover rate; and (5) members of the audit team are rotated on a regular basis. One item under “audit firm maintains skeptical attitude” is (6) the audit firm has a skeptic attitude, not an advocate of the client.

### **3.2.1.3 Auditor Competence**

Auditor competence is the main factor in audit inputs (Rezaee et al. 2016; Dickins et al., 2018). Archival research suggests that audit quality is increased with expertise because the likelihood of discovering errors in the financial statements is higher (Alareeni, 2019; Christensen et al., 2016; Ismail et al., 2019; Minutti-Meza, 2013; Reheul et al., 2017; Ruiz-Barbadillo et al., 2004). The auditor's judgment improves by years of generic experience as he obtains a greater knowledge base and better ability to determine essential information (Simnett, 1996; Reheul et al., 2017).

Auditor competence covers many attributes that can directly or indirectly affect audit quality. For example, Boon et al. (2008) listed the following attributes: (1) auditor's experience with the client (municipality) under audit; (2) auditor's experience with the industry (LGUs); and (3) auditor's knowledge to conduct a financial audit in accordance with accounting and auditing standards.

The questionnaire contains two questions concern the “experience of the auditor with the industry (LGUs)”: (1) the audit team (partner, manager, and supervisor) who is in charge of the audit is quite experienced about the sector; and (2) other local

council audit clients are audited by the audit firm that is conducting the audit. To measure the “auditor’s knowledge to conduct a financial audit”, the questionnaire includes five items: (3) the engagement auditors are quite informed about accounting and auditing standards, and they have passed professional exams such as CPA; (4) the audit team members as a whole have a good understanding of the municipality’s operations; (5) in completing the audit, the audit firm makes considerable use of computers and statistical methodologies; (6) the audit firm creates time budgets for each audit area and expects its employees to stick to them; and (7) the total number of hours that the audit team spent on the audit.

### **3.2.2 Audit Firm Attributes**

There are many audit firm attributes that influence audit quality. This study only selects two attributes, namely audit fees and audit firm size, because they are directly related to the audit firm. Other attributes, such as independence and competence, overlap with the auditor characteristics in this study.

#### **3.2.2.1 Audit Fees**

As explained in Section 2.5.2.1, many studies have found that audit fees are determined by client demand for audit services, auditor supply for audit services, and other elements in the context of the audit profession (Carson et al., 2013; Francis & Yu, 2009; Geiger & Rama, 2003). In the public sector, audit fees also vary by the audit firm’s market positioning and legislation (Yebba & Elder, 2019). The actual audit quality and higher perceived audit quality in the public sector are associated with higher audit effort and specialist audit fee premiums (Hardies et al., 2015).

The questionnaire includes two questions related with the audit fees as an attribute of audit quality: (1) the average amount of audit fees paid in previous years; and (2) the amount of audit fees related with the auditor efforts in the audit engagement.

### 3.2.2.2 Audit Firm Size

As explained in Section 2.5.2.2, most research have found a positive association between audit firm size and audit quality, but a few have not (Alareeni, 2019). Elder et al. (2015) found a positive relationship between audit firm size and audit quality in municipalities and other municipal organizations.

Boon et al. (2008) measured audit firm size using the following items: (1) audit firm size, and (2) the tendency of the audit firm to have decentralized offices rather than centralized offices. The ToR for external auditing issued by the MOLG requires a certain number of professionals in the audit team for each class of municipality (Table 3.1). The number of professionals serves a proxy for audit firm size.

**Table 3.1:** Number of Professionals in the Audit Team

Auditor position	Municipality classification			
	A	B	C	Village council
Audit manager	1	1	1	1
Senior auditor	2	1	1	0
Assistant auditor	4	2	1	1
Information system auditor	1	1	0	0
<b>Total</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>2</b>

Source: ToR of Hiring Auditor in LGUs

Based on Boon et al. (2008) and the ToR of external auditing in Palestinian municipalities, the questionnaire includes two items to measure firm size: the first question related to the increase in the number (from 2 to 7) of professionals in the

audit team increases the audit quality. The second question related to effect of size of audit firm on audit quality; international Big 4 and small local companies.

### **3.2.3 Effectiveness of Municipal Internal Controls**

Strong internal control improves the financial reporting system and enables it to issue higher quality pre-audited financial statements. Such financial statements help the auditor to provide high quality audit service (DeFond & Zhang, 2014).

In the subsequent subsections, the study discusses how to measure the selected three dimensions of the effectiveness of municipal internal control, namely internal audit, accounting basis, and laws and regulations.

#### **3.2.3.1 Internal Audit**

Section 2.5.5.2.1 has discussed the importance of the internal audit function for an effective internal control, which directly and indirectly influences audit quality. Sari et al. (2019) revealed that internal audit has a quality assurance function that minimizes the risk of fraud and improves audit quality. IESBA-IFAC (2018) stated that the external auditor, during the audit process, must comply with the requirements of ISA 610 on Using the Work of Internal Auditors. Accordingly, the questionnaire includes two questions to measure the effect of internal audit on audit quality: (1) the nature and type of internal audit (employees, outsources, or audit committee) in the municipality affect the audit quality; and (2) external auditors work together with internal auditors increase the audit quality. These items were used by Boon et al. (2008) to measure field work conduct as audit quality attributes.

### **3.2.3.2 Accounting Basis**

As discussed in Section 2.5.5.2.2, Between two types of audit government marketplaces, the nature of the auditing services may vary: uniform GAAP (accrual-basis accounting) and multiple accounting bases, such as cash basis, modified cash basis, modified accrual basis, and accrual basis (Yebba & Elder, 2019). Accordingly, the questionnaire includes three questions to measure the effect of accounting basis on audit quality: (1) the accounting basis used in the municipality's accounting system; (2) transition from cash basis to accrual basis improves the relevance and reliability of the financial statements; and (3) accrual basis requires the auditor to increase his efforts in the auditing process.

### **3.2.3.3 Laws and Regulations**

Section 2.5.5.2.3 proposes that the lawful environment has a critical effect on audit quality (Alareeni, 2019). Audit quality in GAAP-regulated state (Michigan) is higher because the reporting environment is stronger with these regulations. The regulations also require specialist auditors who have practical experience in the applicable regulations (Yebba & Elder, 2019). And any violation of the laws and regulations by the client requires the auditor to communicate with the audit committee and the appropriate level of management. Accordingly, the questionnaire includes three questions: (1) the existence of appropriate laws and regulations increase audit quality; (2) the commitment of the client with the laws and regulations enhances audit quality; and (3) the commitment of the auditors to investigate the client's compliance with applicable laws and regulation increases audit quality.

### 3.2.4 Supreme Audit Institutions (SAIs)

As discussed in the section 2.5.4 in the previous chapter, the main purpose of the (SAIs) is to oversee the management of public funds and the quality and credibility of the reported financial information of government entities (Hay & Cordery, 2018). Accordingly, the external auditors may consider the SAIs' reports in their audit engagement in the municipalities. And the financial managers should also consider the role of the SAIs, which encourage and support the management of the municipalities to adhere to applicable laws and regulations, particularly in selecting the external auditors. This is lead to examine and measure the effect of the SAIs on the audit quality.

The study uses primary and secondary sources to measure the effect of SAIs on the relationships between audit quality and the chosen audit quality attributes. Secondary data were collected manually from the FACB's annual, interim, and special reports from year 2006 to 2020. These reports are available on the FACB's website (<https://www.saacb.ps/BruRptsTestSAACB/IndexRPTArabic>). The investigation also looked at some information that the MOLG released through the GDCG, but these reports are confidential and not available to the general public. However, some of them were obtained by the researcher through direct contact with select municipalities. Primary data will be gathered from the municipalities' internal auditors and accountants utilizing a questionnaire. The questionnaire items have been examined by three academic experts in audit quality from the Arabic American University in Palestine. The respondents have answered the questionnaire in a pilot test. The results indicated the internal consistency of the items (Cronbach's  $\alpha = 0.777$ ).

The questions related to the effect of SAIs on audit quality and its determinants in order to know: (1) whether the municipality has been audited by SAIs and when the

last audit; (2) whether the audit of SAIs influences the quality of the audit team characteristics and the audit firm attributes (commitment to professional ethics, independence, competence, fairness of audit fees, and audit firm size); (3) whether the audit of SAIs increases the effectiveness of the municipal internal control factors (internal audit, accounting basis, and laws and regulations); and (4) whether the audit of SAIs improves audit quality.

### **3.2.5 Audit Quality**

Audit quality is characterized by a variety of quality attributes that apply primarily to the audit firm and the audit team assigned to the audit engagement (Schroeder et al., 1986). The study examines three categories of audit quality attributes (auditor's characteristics, audit firm attributes, and effectiveness of the internal control), which collectively determine the overall audit quality in the municipalities. Also, the study examines the effect of each attribute and its constructs on audit quality as perceived by the accountants and internal auditors in the municipalities through distributing online the questionnaire. Also, this questionnaire includes eight questions related to measure audit quality as dependent variable of the study. These questions which will be answered by accountant and internal auditors in the municipalities in order to know how they see the audit quality in the municipality. The study considers the role of the SAIs as assistant and moderator variable on the relationship between the audit quality and the audit quality attributes. Accordingly, the audit quality as dependent variable will be measured by direct questions to the accountants and internal auditor, and the questions related to the audit quality attributes, the existence and the weakness and the strongest of effect of these attributes will determine the level of the audit quality in the municipality

Table 3.2 shows the main categories, subcategories of audit quality attributes, the items, and their sources, most of these resources are cited by Butcher et al. (2013), and the other sources are cited from various sources as appeared in the Table 3.2.

**Table 3.2: Audit Quality Attributes, Dimensions and their codes, and Sources**

Category	Subcategory	Code	Items	Source
Auditor characteristics	Ethics (ET)	ET1	The overall reputation of the audit firm is positive	Schroeder et al., (1986), Carcello et al. (1992), Chen et al. (2001)
		ET2	The audit team members as a group always exercise due care throughout the engagement	Aldhizer et al. (1995), Sucher et al. (1998), Chen et al. (2001)
		ET3	The audit firm has strict guidelines on the procedures that must be completed before signing the audit report	Schroeder et al. (1986), Chen et al. (2001)
		ET4	The audit firm actively encourages staff members to take courses and attend seminars in fields where the firm has major clients	Schroeder et al. (1986), Carcello et al. (1992)
		ET5	The senior auditors supervise junior audit staff	Davis (1995)
		ET6	The engagement auditors maintain high ethical standards	Carcello et al. (1992), Davis (1995), Behn et al. (1999), Pandit (1999)
	Independence (IN)	IN1	The audit firm has a skeptic's mindset, not a client advocate's mindset.	Carcello et al. (1992), Behn et al. (1999), Pandit (1999), Chen et al. (2001)
		IN2	The audit fee is less than 10% of the total revenue of the audit firm	Schroeder et al. (1986), Carcello et al. (1992), Chen et al. (2001)
		IN3	The audit firm and individual audit team members never participate in any conduct that might undermine its/their independence, either in fact or in appearance, in any of your contact with them	Behn et al. (1999)
		IN4	The audit firm performing the audit does not provide consultancy services to the municipality	Carcello et al. (1992), Chen et al. (2001)
		IN5	The audit firm has a high audit staff turnover rate	Chen et al. (2001)
		IN6	Members of the audit team are cycled off the audit on a regular basis.	Schroeder et al. (1986), Carcello et al. (1992), Chen et al. (2001)

**Table 3.2, continued**

Category	Subcategory	Code	Items	Source
	Competence (CM)	CM1	The audit team assigned to the audit engagement (partner, manager, and supervisor) is well educated on local government units	Carcello et al. (1992), Behn et al. (1999), Pandit (1999), Chen et al. (2001)
		CM2	Other municipalities are audit clients of the auditor that is conducting the audit	Carcello et al. (1992), Aldhizer et al. (1995), Pandit (1999), Chen et al. (2001)
		CM3	The auditors assigned to the engagement have extensive understanding of accounting and auditing standards, as well as professional certifications such as the CPA.	Carcello et al. (1992), Davis (1995), Behn et al. (1999), Pandit (1999)
		CM4	The audit team members as a whole have a good understanding of the municipality's operations	Aldhizer et al. (1995), Sucher et al. (1998), Chen et al. (2001)
		CM5	In completing the audit, the audit company makes considerable use of computers and statistical methodologies	Carcello et al. (1992), Pandit (1999), Chen et al. (2001)
		CM6	Each audit area has a strict time budget that the audit firm wants its auditors to stick to	Carcello et al. (1992), Pandit (1999), Chen et al. (2001)
		CM7	The total number of hours spent on the audit by the audit team (from the beginning of field work to the audit report date)	Aldhizer et al. (1995)
Audit firm attributes	Audit fees (AF)	AF1	The average amount of audit fees paid in the preceding years	Hardies et al. (2015)
		AF2	The amount of audit fees is related to the efforts of the auditors in the audit engagement	
	Audit firm size (AFS)	AFS1	The suitable number of professionals in the audit team to achieve audit quality	Boon et al. (2008) study and ToR of external audit in Palestinian municipalities
		AFS2	The legal form of the audit firm and its size affect audit quality	Boon et al. (2008)
	Internal auditing (IA)	IA1	The nature and type of the internal audit function in the municipality	Sari et al. (2019), IESBA-IFAC (2018)
		IA2	External auditors work closely with internal auditors	Boon et al. (2008)
Internal control (IC)	Accounting basis (AB)	AB1	The accounting basis used in the municipality's accounting system	Yebba and Elder (2019); Ademola et al. (2019)
		AB2	The transition from cash basis to accrual basis improves the relevance and reliability of the financial statements	Ademola et al. (2019); Dewi et al. (2019)

**Table 3.2, continued**

Category	Subcategory	Code	Items	Source	
Supreme audit institutions (SAI)	Laws and regulations (LR)	AB3	Accrual basis requires the auditor to increase his efforts in the auditing process		
		LR1	The existence of appropriate laws and regulations increases the audit quality	Alareeni (2019); Yebba and Elder (2019)	
		LR2	The commitment of the client to the laws and regulations enhances audit quality	Yebba and Elder (2019)	
			LR3	The commitment of the auditors with the investigation of client's adherence with applicable laws and regulation increases audit quality	IESBA-IFAC (2018)
	Auditor characteristics	SAI1	The SAIs audit affects the municipal administration in order to choose a good reputation auditor with a high professional ethics	DeFond and Zhang (2014) and (Rabaiah et al. (2022)	
		SAI2	The SAIs audit affects the municipal administration in order to choose an independent auditor either in his mind and appearance	(Rabaiah et al. (2022)	
		SAI3	The SAIs audit affects the municipal administration in order to choose a high professional competence auditor	(Rabaiah et al. (2022)	
		SAI4	The SAIs audit influences on the audit firm to appoint a highly qualified and professional audit team.	(Rabaiah et al. (2022)	
		Firm attributes	SAI5	The SAIs audit affects the municipal administration in order to choose an audit firm whose audit fees are reasonable and fair.	Hay and Cordery (2018b) and (Rabaiah, H. I. A., Hanefah, M. M., Masruki, R., & Jamil, 2022)
			SAI6	The SAIs audit affects the municipal administration in order to choose a large-size audit firm such as the Big 4	
Effectiveness municipal internal controls		SAI7	The SAIs audit affects the municipal administration in order to establish an internal audit unit in the municipality, and works to increase its efficiency and effectiveness	Octavia and Widodo (2015) and (Rabaiah et al. (2022)	

**Table 3.2, continued**

Category	Subcategory	Code	Items	Source
		SAI8	The SAIs audit affects the municipal administration in order to adopt the accrual basis of accounting	(Rabaiah et al. (2022))
		SAI9	The SAIs audit affects the municipal administration in order to comply with the applicable laws and regulations	(Rabaiah et al. (2022))
	Audit quality	SAI10	The audit team always relies on the reports and findings of the SAIs audit in the audit engagement process	(Rabaiah et al. (2022))
		SAI11	The SAIs audit supports and increases the quality of the external audit in general.	(Rabaiah et al. (2022))

DeAngelo (1981) defines audit quality as whether an auditor will discover and report an error or fraud in the financial statements in the audit report. Some items were adapted from Boon et al. (2008) to examine the responsiveness of the auditors towards audit quality as perceived by the accountants and internal auditors of the municipalities. The audit quality items are shown in Table 3.3.

**Table 3.3: Audit Quality Items in the Questionnaire**

Code	Survey Items	Source
AQ1	Audit quality detects and reports the material errors and fraud in the client's financial statements	DeAngelo (1981)
AQ2	Audit quality detects and reports the material weakness of the internal control system	DeAngelo (1981)
AQ3	The audit firm agrees to complete the audit by a deadline stipulated by the client	Schroeder et al. (1986), Carcello et al. (1992), Davis (1995), Pandit (1999)
AQ4	The audit team and the audit committee of the council communicate often	Schroeder et al. (1986), Carcello et al. (1992), Behn et al. (1999)
AQ5	The audit team and the council's management communicate often	Schroeder et al. (1986), Carcello et al. (1992), Davis (1995), Pandit (1999), Chen et al. (2001)
AQ6	Throughout the year, the audit firm keeps the council management informed about accounting and financial reporting developments that have an impact on the council	Carcello et al. (1992), Davis (1995), Chen et al. (2001)
AQ7	During the audit, the audit engagement partner and manager conduct numerous visits to the council	Carcello et al. (1992), Davis (1995), Pandit (1999)
AQ8	The auditor adds benefits to the municipality by generating useful improvement ideas	Davis (1995), Sucher et al. (1998)

### 3.3 Pilot Study

As discussed in the previous sections, all questions in the survey related to audit quality and audit quality determinants have been used in many prior studies over the last two decades to examine auditors, preparers, and users' perceptions of audit quality and its determinants as is shown in table 3.2. Accordingly, all the study's questions which related to measurement of the audit quality and its determinants were used many times by many researchers in the prior studies were excluded from the pilot study. The pilot study looks into the new 11 questions in the study survey, that aim to examine the moderating effect of SAIs on the relationships between audit quality and its determinants that were chosen by this study.

The pilot study created a questionnaire survey based on audit quality literature to assess the impact of SAIs on each dimension of audit quality attributes. The questionnaire was reviewed by three experienced academics in audit quality from Arab American University in Palestine (AAUP) who provided suggestions and recommendations that improved the questionnaire's value. The questionnaire is divided into two sections: the first section collects demographic information from respondents, while the second section includes a series of closed-ended questions using a five-point Likert type scale about the impact of SAIs as a moderator variable on the link between audit quality and its factors such as auditor characteristics, audit firm attributes, and effective internal control in Palestinian municipalities. The questionnaire contains 11 questions, four of which are about the dimensions of auditors' ethics, independence, and competence. 2 questions about the dimensions of the audit firms' audit fees and audit firm size, 3 questions about the dimensions of the effectiveness of internal control, and 2 questions about the effect of SAIs on total audit quality.

The questionnaire was sent to 210 external auditors in Palestine who have practical experience in external auditing and email addresses in the professional organization (PACPA). The data was collected using online survey software. Respondents completed 78 valid surveys in total. According SPSS software for statistics, that 59 percent of all responses coming from auditors over the age of 50, this group accounted for the majority of responses. Male auditors made up the majority of those who took part in this study (95 percent). The majority of survey respondents (69.2%) held the position of audit firm partners, who had an average auditing experience of more than 15 years (73.1 percent). Furthermore, the participants have a high level of accounting education: 6 have PhDs, 30 have master's degrees, and 39 have bachelor's degrees, accounting for more than 96% of the participants. Additionally, more than 69% of the participants have experience auditing municipalities and are familiar with the function of SAIs in these municipalities. This indicates that the survey's findings may be trustworthy and helpful in examining how SAIs affect the relationship between audit quality and the audit quality determinants that was selected for this study.

The participants filled self-constructed questionnaires of the pilot study, which had an internal consistency of 0.777 based on the Cronbach Alpha, and it will be 0.67, 0.706, 0.73, and 0.77 based on the Cronbach Alpha if the following variables are deleted: auditor characteristics, audit firm attributes, internal control effectiveness, and audit quality. respectively as the table: 3.4 shows.

**Table 3.4:** The Reliability of Respondents and the Descriptive Analysis

The Variables of the study	N	Mean	Std. deviation	Cronbach's alpha if item deleted
The Effect of SAIs on Auditor Characteristics	78	3.8013	.91998	.670
The Effect of SAIs on Audit Firm Attributes	78	3.2564	.87810	.706
The Effect of SAIs on Effectiveness of Internal Control	78	3.9060	.56573	.730
The Effect of SAIs on Audit Quality	78	3.7885	.72756	.770

Source: SPSS 27 software

Furthermore, the Cronbach Alpha of all questions in the survey of the pilot study was 0.884, and it will not be less than 0.856 if any question is deleted, as shown in Table 3.5. This means that the survey questions of pilot study are reliable for investigating the effect of SAIs on the relationship between audit quality and its attributes: auditor characteristics, audit firm attributes, and effectiveness of municipal internal control.

**Table 3.5:** Reliability of Respondents and the Descriptive Statistics - Dimensions

The Study variables dimensions	Code	N	Mean	Std. Deviation	Cronbach's alpha if item deleted
The SAIs and choosing of a good reputation auditor with a high professional ethics	SAI1	78	3.85	1.106	.856
The SAIs and choosing of an independent auditor either in his mind and appearance	SAI2	78	3.85	.941	.863
The SAIs and choosing of a high professional competence auditor	SAI3	78	3.82	1.029	.862
The SAIs and choosing of a highly qualified and professional audit team.	SAI4	78	3.69	.984	.865
The SAIs and choosing of an audit firm whose audit fees are reasonable and fair.	SAI5	78	3.50	1.016	.866
The SAIs and choosing of a large-size audit firm such as the Big 4	SAI6	78	3.01	1.000	.883
The SAIs and establishing an internal audit unit in the municipality, and works to increase its efficiency and effectiveness	SAI7	78	3.78	.767	.875
The SAIs audit affects the municipal administration in order to adopt the accrual basis of accounting.	SAI8	78	3.78	.847	.884

**Table 3.5**, continued

<b>The Study variables dimensions</b>	<b>Code</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Cronbach's alpha if item deleted</b>
The SAIs and complying with the applicable laws and regulations.	SAI9	78	4.15	.704	.884
The audit team always relies on the reports and findings of the SAIs audit in the audit engagement process.	SAI10	78	3.51	.936	.886
The SAIs audit supports and increases the quality of the external audit in general.	SAI11	78	4.06	.762	.880

Source: SPSS 27 Software

The pilot study found that auditing SAIs moderates the links between audit quality and audit quality attributes of auditor characteristics, audit firm attributes, and effectiveness of municipal internal control, as shown in tables 3.4 and 3.5.

### **3.4 Research Design and Measurement**

The study uses the quantitative methodology to examine the effect of audit quality attributes on audit quality as perceived by accountants and internal auditors in Palestinian municipalities. The next subsections discuss the sample selection and data collection procedures, data analysis, and the questionnaire development.

#### **3.4.1 Sample Selection and Data Collection Procedures**

The following subsections discuss the population and sampling procedure, as well as the data collection technique used in the study.

##### **3.4.1.1 Research Population**

The study seeks to determine the effect of audit quality attributes on audit quality from the perspective of the accountants and internal auditors of Palestinian municipalities. Therefore, the population is all accountants and internal auditors who

work in the Palestinian municipalities in the West Bank and Gaza Strip, and their tasks include preparing financial statements, participating in the tendering process, and appointing auditors in accordance with the MOLG's regulations. The tendering process aims to select the best auditor who can provide high audit quality with reasonable audit fees. The bidders are required to provide two separate offers, one for technical attributes and another for financial details (audit fees). The accountants and internal auditors always participate in studying and evaluating these offers (technical and financial) because they are supposed to be knowledgeable and experts in the audit quality attributes, so that they can effectively evaluate the quality of audit services that provided by the external auditors.

The MOLG has standardized the organizational structure for each class of municipalities to be guidelines for their managements. Class A and class B municipalities must have a finance department. Under this department there are three sections: accounting, budgeting, and internal audit (Office, 2020). Each section always has more than one employee, depending on the size of operations of each municipality. For example, the finance department in Ramallah municipality has 26 employees who cover different aspects in financial activities (Municipality, 2018). The targeted respondents are experienced and key personnel in each section of the finance department.

Table 3.6 shows the total number of municipalities in Palestine at the end of 2020 and the number of municipalities in each class.

**Table 3.6:** Number of Municipalities in Palestine and in Each Class

Description	Class			Total
	A	B	C	
West Bank	10	27	93	130
Gaza	5	20	-	25
<b>Palestine total</b>	<b>15</b>	<b>47</b>	<b>93</b>	<b>155</b>

Source: Author

Class A municipality always represents the center of the governorate. The classification of Gaza Strip municipalities is not formal, but there are five governorates, which means that there are five municipalities in class A. The size and population of the remaining municipalities qualify them to be in class B. This study is interested in the perspective of the main accountants and internal auditors of the municipalities. Table 3.7 shows the position and distribution of the main accountants and internal auditors in each class of municipality.

**Table 3.7:** Positions of the Main Accountants in Each Class of Municipality

Position	Section	Class		
		A	B	C
Chief accountant	Accounting	1	1	1
Revenue accountant	Accounting	1		
Expenditure accountant	Accounting	1		
Budget accountant	Budget	1	1	
Main internal auditor	Internal	1	1	
<b>Total</b>		<b>5</b>	<b>3</b>	<b>1</b>

Source: Author

The research population can be estimated by finding the number of main accountants and internal auditors in each class and multiplying this number with the number of municipalities in each class.

Table 3.8 shows that there are 309 main accountants and internal auditors across all municipalities in Palestine.

**Table 3.8:** Research Population

Class	A	B	C	Total
Accountants and internal auditors	5	3	1	9
Municipalities	15	47	93	155
<b>Total employees</b>	<b>75</b>	<b>141</b>	<b>93</b>	<b>309</b>

Source: Author

### **3.4.1.2 Sample Selection**

As discussed in above section the study population is 309 accountants and internal auditors across 155 municipalities in the West Bank and Gaza Strip. This study does not use any systematic sampling technique because the population will be the respondents. According Acharya et al. (2013), the best strategy in any research study is to investigate the problem across the entire population, and other researchers used the total population in their empirical studies for example, Omar and Bakri (2019) and Raymond and Désiré (2019). Accordingly, the sample of this study is all main accountants and internal auditors who have sufficient experience in the preparation of the financial statements and in constant, direct contact with the external auditors of the municipalities. Potential respondents include chief accountants, accountants, and internal auditors. Those potential respondents are considered to be in a position that enables them to respond effectively to the questionnaire. Therefore, the characteristics that were looked at fell into two categories: first, there were characteristics of the respondents, such as occupation, gender, age, level of education, and work experience; second, there were characteristics of the audit process in the municipalities, such as municipality class, audit fees, accounting basis, the number of in the external audit team, internal auditor number, last year's audit report type, last year's the municipality is audited, and last year's SAIs audit. These characteristics show the degree of the ability of the respondents to answer the questionnaire.

### **3.4.1.3 The Study Instrument**

In social sciences research, data are collected from primary and secondary sources. This study used the annual and interim reports of Palestinian SAIs to collect

relevant data that enable the examination of the moderation role of SAIs between audit quality and its attributes.

The best way to gather other forms of information, such as employee's perceptions and attitudes, is to speak with them, observe events, people, and objects, or ask them questions. Primary data are those that were gathered at the real site. Additionally, the individual focus groups, panels of respondents that the researcher specifically created and from which opinions may occasionally be sought on certain subjects, or other discrete sources are primary data sources (Hajjawi, 2012). The objective of this study is to measure the perception of accountants and internal auditors in Palestinian municipalities on external audit quality and its determinants by using an electronic questionnaire to collect primary data from the respondents.

This study collects data through online survey. This method is confidential and promotes honest responses. It is also widely used in audit research, especially during the movement restrictions due to the Covid-19 pandemic. According to Smith et al. (2005), the advantage of the survey method is to operationalize definitions of concepts that reflect the strength of attitudes, perceptions, views, and opinions. Al-Dhubaibi (2020) reported that online surveys have been used by other researchers, e.g., Kassem (2018). And Gonthier et al. (2016) used the Survey Monkey website to gather information on perceptions of audit quality in France among auditors and financial statement preparers. Because this data collection technique promotes sincerity and confidentiality, the respondents may give more objective answers. In this study, online survey is more suitable because Gaza Strip is closed due to the Israeli occupation, and travelling to it from the West Bank is difficult and requires a special permission from the Israeli occupants.

The questionnaire uses close-ended questions to obtain clear answers and encourage respondents to provide objective answers. Close-ended questions save the respondents' time, easier to answer, increase the likelihood that the sample will answer the questions.

The questionnaire includes 31 questions related to eight most important audit quality attributes (auditor ethics, independence, competence, audit fees, audit firm size, internal audit, accounting basis, and laws and regulations). Also, there are 11 questions related to the moderating role of SAIs and 8 questions related to external audit quality.

Each questionnaire contains the sentence of all responses are anonymous and will be used for research purposes only, and the result from the survey will only be presented in aggregate form. This statement gives the respondent more freedom in responding to the survey. Moreover, the questionnaire includes a statement of belief to measure the perception of the accountants and internal auditors of the audit objectives, auditor responsibilities and liabilities, and the level of assurance provided by the auditors to the users of the financial statements. The questionnaire aids the achievement of the research objective. Moreover, it allows determining the relative importance of each attribute of audit quality and comparison between the attributes according to their relative importance. The questionnaire also helps to determine how preferences are attached to a specific attribute. All items are measured by using a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5). Respondents are asked to choose a number that identifies their level of agreement or disagreement with each statement.

The questionnaire contains four sections. The first section covers the profile of the respondents and the audit process in the municipalities. The second section covers

all the audit quality determinants chosen for this study. The third section covers the effect of the SAIs on the relationship between audit quality attributes and audit quality. The fourth section covers the evaluation of audit quality as total, whether errors and fraud in the client's financial statements and weakness in the client's internal control system are discovered and reported in the audit report, and the responsiveness of the auditors towards audit quality as perceived by the accountants and internal auditors.

### **3.4.2 Data Analysis**

According to previous studies, confirmatory factor analysis and multiple linear regression are commonly used to analyze the collected data. In this study, the data analyzed by using SmartPLS 3. According to Sarstedt et al. (2016), PLS provides the best estimation of composite models while simultaneously allowing for the approximation, with virtually no limitations, of common factor models involving effect indicators. Regardless of whether the measurement models are reflective or formative, PLS estimates data with little or no bias. Hair et al. (2017) encouraged social sciences researchers to use SmartPLS 3 because it is a newer, more powerful, and often more flexible statistical method.

There are three objectives in data analysis (Sekaran, 2003): (1) getting a feel for the data, (2) testing the goodness of data, and (3) testing the hypotheses developed for the research. The following subsections explain the confirmatory factor analysis, multiple regression analysis, and Smart PLS 3.

### **3.4.2.1 Confirmatory Factor Analysis**

Through the use of factor analysis, a researcher can utilize fewer variables to represent a given construct and then use the factor scores as dependent variables. Fewer elements are required to fully depict the variable matrix the more closely the variables are related (Neil 2012).

Consistent with previous research (e.g., Carcello et al., 1992; Behn et al., 1997; Saxby et al., 2004; Butcher et al., 2013; Anis, 2014), factor analysis is used to “reduce a large number of attributes to a smaller set of composite components” (Carcello et al., 1992). The real advantage of factor analysis is that it lets researchers look at a group of variables and gauge how closely they relate to one another as compared to only dealing with individual variables (Neil 2012).

### **3.4.2.2 Multiple Regression Analysis**

Multiple linear regression is used to answer the hypotheses in this study. It is used to measure the strength and direction of the relationship between the dependent variable and the independent variables (Marsely, 2020). Multiple regression will be used to test hypotheses about the effect of auditor characteristics (ethics, independence, and competence), audit firm attributes (audit fees and audit firm size), and the effectiveness of municipal internal control (internal audit, accounting basis, and laws and regulations) on audit quality. It is also used to assess the role of SAIs in moderating the relationship between independent and dependent variables.

Prior performing the regressions, diagnostic tests will first be run to test five assumptions, namely multicollinearity, normality, linearity, heteroscedasticity, and autocorrelation (Ismail et al., 2006). The main statistical question is how to find a boundary between the extreme and the standard part. The normality test is one

possible instrument for testing the normality of the error terms (Střelec & Stehlík, 2017). The primary goal of the normality test is to ensure that the variables and data are normally distributed.

### **3.4.2.3 An Overview on Structural Equation Modelling (SEM)**

The software program SmartPLS 3 was used to analyze the casual relationships between constructs using the Partial Least Squares (PLS) technique as part of Structural Equation Modelling (SEM). Due to the exploratory nature of the research, the PLS approach was chosen (Hair et al., 2011). In data analysis, the two-step process was used as recommended by Henseler et al. (2009). The measurement model is analyzed in the first step, and the structural relationships between the latent constructs are tested in the second. Prior to analyzing the structural relationship of the model, the two-step process aims to establish the validity and reliability of the measures.

The SEM's capacity to judge the construct validity of measurements is one of its main advantages. Construct validity here refers to the precision of measurements (Hair et al., 2006). In SEM analyses, two main factors used to evaluate construct validity are convergent validity and discriminant validity.

#### **3.4.2.3.1 Convergent Validity**

Convergent validity refers to the similarity in degree of variance between the items which are the indicators of a specific construct. The convergent validity could be measured by considering the size of factor loading (standardized regression weights), average variance extracted (AVE), and construct reliability (CR) among sets of items in the construct.

Factor loading estimates of 0.6 or greater, and average variance extracted of 0.5 or greater, indicate adequate convergence among the construct's items (Hair, et al., 2006). The average variance extracted can be determined by dividing the sum square of the standardized factor loading by the factor loading number. The construct reliability (CR) should be 0.6 or higher to show adequate internal consistency (Bagozzi & Yi, 1988). The CR is computed from the square sum of factor loading and sum of error variance terms for a construct (Hair et al., 2006).

#### **3.4.2.3.2 Discriminant Validity**

The goal of discriminant validity assessment is to ensure that a reflective construct in the PLS path model has the strongest relationships with its own indicators (e.g., in comparison to any other construct) (Hair et al., 2017). Two approaches were used in this study to evaluate discriminant validity:

- Fornell-Larcker criterion (Fornell and Larcker, 1981),
- Heterotrait-Monotrait ratio of Correlations (HTMT) (Henseler et al., 2015).

In the approach proposed by Fornell and Larcker (1981), Comparing the square root of the AVE for two constructs and their correlations can be used to assess discriminant validity. When the correlation between two constructs is less than the square root of the AVE for each construct, this is evidence of discriminant validity (Fornell and Larcker, 1981). Furthermore, correlations between the factors should not be greater than 0.85 (Kline, 2010).

The Heterotrait-Monotrait Correlations Ratio (HTMT) was used in this study to assess discriminant validity (Henseler et al., 2015). The Heterotrait-Monotrait ratio of Correlations (HTMT) which is a complementary to the result of the Fornell-Larcker discriminant method, is based on the multitrait-multimethod matrix to assess

discriminant validity. Henseler et al., (2019) demonstrate the superiority of this approach through a Monte Carlo simulation study in which they compare the new approach to the Fornell-Larcker criterion and the evaluation of (partial) cross-loadings. If the HTMT value is less than 0.90, discriminant validity between two reflective constructs has been established (Franke & Sarstedt, 2019).

#### **3.4.2.3.3 Internal Reliability of Cronbach's Alpha**

Internal reliability analysis should also be performed on the measurement items that represent each individual variable. The degree to which a measure is error-free is defined as its reliability. Cronbach's alpha coefficient of internal consistency should be examined to ensure that the items produce a reliable scale. The higher value of Cronbach's alpha denotes to greater reliability, with a range from 0 to 1. According to Nunnally & Bernstein, (1994) Cronbach's alpha shouldn't be less than 0.7 for a reliable scale.

#### **3.4.2.3.4 Hypotheses Testing**

To test hypotheses, parameter estimates and coefficient values were examined using bootstrapping with 1000 replications (Wetzels et al., 2009). According to Sarstedt et al., (2020) and Hair et al., (2017), bootstrapping is a non-parametric procedure for testing statistical significance in which subsamples are created with randomly drawn observations from the original set of data (with replacement). According to Hair et al. (2019), four criteria must be met for the hypothesis to be deemed supported: (1) the direction of the beta value must match the hypothesis' direction; (2) the t-value must be greater than or equal to 1.645; (3) the p-value must be lower than or equal to 0.05; and (4) the 95% confidence interval must not have a

zero straddle between the lower level (LL) and upper level (UL). The structural model's results are evaluated by looking at the relationships between the constructs and the model's predictive abilities (Hair et al., 2019).

#### **3.4.2.4 Coefficient of Determination ( $R^2$ )**

One of the key criteria in PLS-SEM structural model evaluation is the coefficient of determination, also known as R square ( $R^2$ ). In fact,  $R^2$  represents the proportion of variation in the endogenous variable (s) that can be explained by one or more exogenous variables (Hair et al., 2017). The  $R^2$  measures, as well as the level and significance of the path coefficients, are the primary evaluation criteria for the structural model. Because the prediction-oriented PLS-SEM approach seeks to explain the variance of endogenous latent variables, the key target constructs level of  $R^2$  should be high, according to (Hair et al., 2011). To confirm the structural model's accuracy, the value of R-squared ( $R^2$ ), which represents the proportion of variance in the dependent variable explained by its predictors (Cohen, 1992), should be greater than 0.30, as recommended by Cohen (1992). According Chin (1998)  $R^2$  values greater than 0.67 are considered high, values between 0.33 and 0.67 are considered moderate, values between 0.19 and 0.33 are considered weak, and 2 values less than 0.19 are considered unacceptable. As a result, the quality of structural mode is determined by  $R^2$  values, which demonstrate the ability of the exogenous variables to explain the endogenous variables.

#### **3.4.2.5 Blindfolding and Predictive Relevance ( $Q^2$ )**

In addition to estimating the magnitude of  $R^2$ , researchers have recently included predictive relevance developed by Stone (1974) and Geisser (1975), as an additional model fit evaluation. This method demonstrates the model's ability to

predict the manifest indicators of each latent construct. Stone-Geisser  $Q^2$  (cross-validated redundancy) was computed to examine the predictive relevance using a blindfolding procedure in PLS. Following the guidelines suggested by (Chin, 2010) a  $Q^2$  value of greater than zero implies the model has predictive relevance.

#### **3.4.2.6 Common Method Variance (CMV) and Collinearity**

The issue of common method variance (CMV) may arise because the dependent and independent variables were obtained from the same person at the same time in this study (Mackenzie et al., 2011). Podsakoff (2003) proposed procedural and statistical methods to combat whistleblowing intentions among external auditors. Several procedural remedies were used in this study, as follows: first, the instructions to the respondents were carefully written on the cover page of the questionnaires, along with statements assuring them that their personal information and responses would be kept confidential and anonymous. The cover page also indicates the response given to the questionnaire would be wholly voluntary and that there were no right or wrong answers. Secondly, the different scale endpoints were used for predictor and criterion measures as suggested by Mackenzie et al. (2011). In this study, all variables for the independent and dependent variables were measured with a five-point Likert scale.

Since data was collected using a single source, we first tested the issue of Common Method Bias by following the suggestions of Diamantopoulos and Siguaw (2006), Kock and Lynn (2012), Kock (2015), and Ngah et al. (2019) by testing the full collinearity. In this method all the variables will be regressed against a common variable and if the variance inflated factor (VIF)  $\leq 5$  then there is no bias from the single source data that would bias the regression results.

### 3.4.2.7 Effect Size ( $f^2$ )

Changes in  $R^2$  can be studied to figure out whether the impact of a specific independent latent variable on a dependent latent variable has a significant impact (Chin, 2010). This is known as an effect size ( $f^2$ ) analysis. When a specified exogenous construct is removed from the structural model, the effect size  $f^2$  measures the impact on the endogenous constructs (Hair et al., 2019). The magnitude or strength of the relationship between the latent variables is measured by effect size. It is substantial because the effect size assists researchers in determining the overall contribution of a research study. Chin et al., (1996) have clearly stated that researchers should report not only whether the relationship between variables is significant or not, but also the effect size between these variables. The ( $f^2$ ) is calculated as follow:

$$f^2 = \frac{R_{included}^2 - R_{excluded}^2}{1 - R_{included}^2}$$

(3.1)

According to Carte and Russell (2003), there is no effect size for  $f^2$  less than 0.02, small for  $f^2$  between 0.02 and 0.15, medium for  $f^2$  between 0.15 and 0.35, and large for  $f^2$  greater than 0.35.

### 3.4.3 Model Fit Analysis

This study looks at a few model fit measurements advised by the SmartPLS application:

#### 3.4.3.1 Goodness of Fit (GoF)

Tenenhuis et al. (2005) defined (GoF) as a model of the goodness of fit, it is the geometric mean of both average variances extracted (AVE) and the average of  $R^2$  of

the endogenous variables. In fact, the purpose of (GoF) is to account on the study model at both level, namely measurement and structural model with focus on the overall performance of the model (Chin, 2010; Henseler & Sarstedt, 2013). The calculation formula of (GoF) is as follow:

$$GoF = \sqrt{(R^2 \times AVE)}$$

(3.2)

According to Wetzels et al., (2009), the GOF values of 0.1, 0.25 and 0.36, respectively, were used to interpret small, medium and large goodness of fit of the model.

#### **3.4.3.2 Standardized Root-Mean-Square Residual (SRMR)**

The SRMR is the root mean square difference between observed and implied correlations (Hair et al., 2016). SRMR in covariance-based SEM is useful as an absolute measure of fit when the model is simple and the sample is less than 250 (Hu & Bentler, 1998). Additionally, they believe that a value of less than 0.08 is typically regarded as a good fit. But according to (Hair et al., 2016), this threshold is too low for PLS-SEM. Additionally, Kline (2015) claims that SRMR value lower than 0.1 is still acceptable.

#### **3.4.3.3 Root Mean Square Residual Covariance (RMS<sub>Theta</sub>)**

Root mean square residual covariance (RMS<sub>theta</sub>) is an alternative model fit measure that can be used in PLS-SEM in addition to the SRMR (Henseler et al.,

2014). This model fit measure has a similar way as SRMR when processing patterns but it depends on covariance (Hair et al., 2016). The threshold value of  $RMS_{\theta}$  for a well-fitting model is somewhere around 0.1 – 0.14 (Henseler et al., 2014).

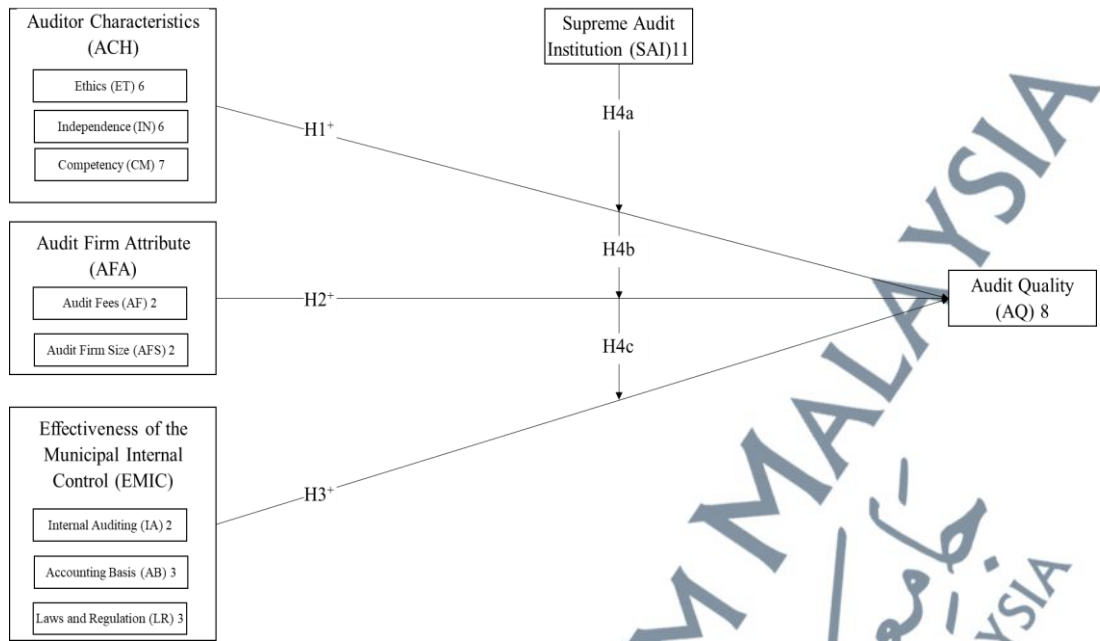
### 3.5 Research Structural Models

In order to specify the research hypotheses targeted in Table 2.1, two research structural models were developed in this study.

#### 3.5.1 Research Structural Models 1

The first research structural model is intended to test direct or causal effects of Auditor Characteristics (ACH), Audit Firm Attributes (AFA) and Effectiveness of the Municipal Internal Control (EMIC) as independent variables on Audit Quality (AQ) as dependent variables which refer to hypotheses H1, H2 and H3 respectively. Further, the moderation effects of Supreme Audit Institutions (SAI) on these causal paths were also examined in structural model 1 which refer to hypotheses H4a, H4b and H4c. Source: Author

Figure 3.1 illustrates the hypothesized direct and moderation effects in the research structural model 1.



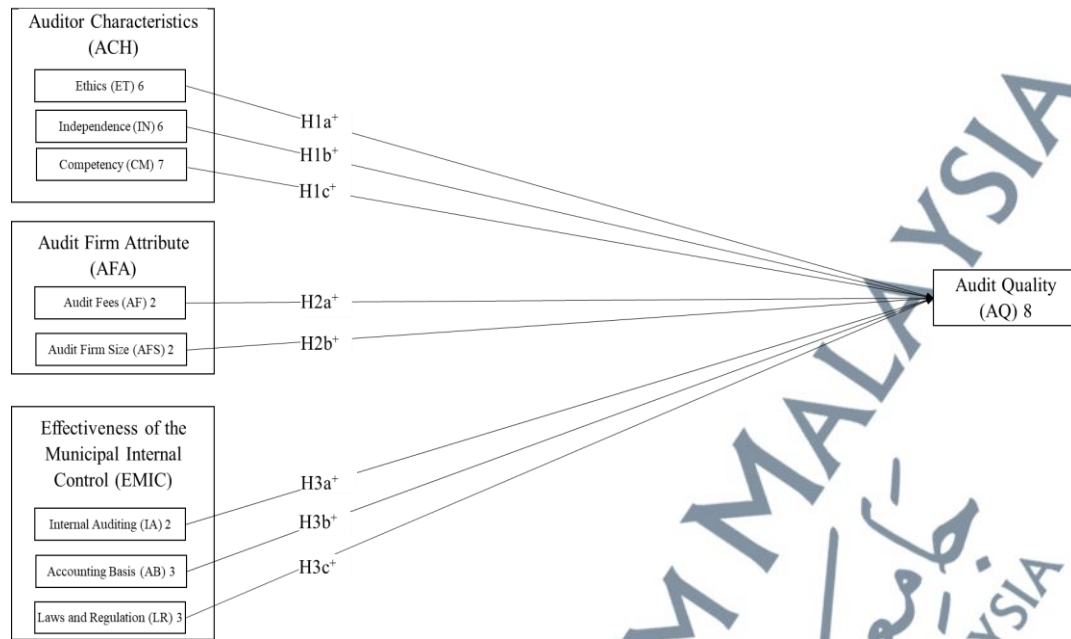
Source: Author

**Figure 3.1:** Research Hypotheses in Research Structural Model 1

### 3.5.2 Research Structural Models 2

The second research structural model is intended to test direct effects of Ethics (ET), Independence (IN), Competency (CM), Audit Fees (AF), Audit Firm Size (AFS), Internal Auditing (IA), Accounting Basis (AB) and Laws and Regulation (LR) as independent variables on Audit Quality (AQ) as dependent variables which refer to hypotheses H1a, H1b, H1c, H2a, H2b, H3a, H3b and H3c respectively.

Figure 3.2 illustrates the hypothesized direct effects in the research structural model 2.



Source: Author

**Figure 3.2:** Research Hypotheses in Research Structural Model 2

### 3.6 Questionnaire Development

The questionnaire consists of four sections and 50 questions. The questionnaire went through several stages of development. The first stage began with a review of prior studies (Behn et al., 1997; Boon et al., 2008; Butcher et al., 2013; Carcello et al., 1992; Ghebremichael, 2018; Lai & Pham, 2020; Sawalqa, 2014). This study adapted the items in Boon et al., (2008). Some modifications were made to the items and new questions were included to measure new variables in this study. Questions related to SAIs were added after used in the pilot study. These questions were approved by three experienced academics from Arab American University in Palestine (AAUP). They were reliable and internally consistent, with a Cronbach's alpha of 0.777. Items concerning audit quality were adopted from the literature. The first stage resulted in the first draft of the questionnaire in English, which was presented to the researcher's supervisors.

In the second stage, the English questionnaire will be translated into Arabic with the help of an expert. The English and Arabic questionnaires were given by hand to four academicians in Palestinian universities for evaluation, comments, and validation of translation. Amendments were made based on their feedback. In the third stage, the Arabic questionnaire was sent to seven experienced accountants in five big municipalities and two joint services councils (group of municipalities for water services) via Email and followed by Telephone to ensure that the respondents understand the questions clearly.

In the final stage, all relevant amendments were incorporated to produce the final version of the questionnaire, which was hosted on Google Form and distributed online to 155 municipalities that include around 309 respondents. The period of survey was more than 90 days.

The electronic questionnaire includes a cover page, which contains the title of the research, the name of the affiliated institution, the researcher's name, email and mobile number for any queries, and a confidentiality note to build trust between the researcher and the respondents.

The first section of the questionnaire inquires the demographic information of the respondents, such as job position, number of years in the position, education degree, professional certifications, gender, age. This section also contains some information related to the audit process, such as the period of last audited financial statements and audit of SAIs, audit fees, accounting basis, number of internal auditors, classification of municipalities, type of the audit report, and number of auditors in the audit team.

The second section contains 31 specific items that represent audit quality attributes. These items are ordered without specifying the attribute to which they belong. This prevents the respondents' bias when answering the questions. The third

section contains 11 questions related to the SAIs to measure the perception of the accountants and internal auditors about the effect of the SAIs on the relationship between audit quality and its determinants.

The fourth section contains 8 questions related to the evaluation of audit quality; whether the errors and fraud in the financial statements and weakness in the internal control system are discovered and included in the audit report; and the perception of the accountants and internal auditors on the external audit quality in Palestinian municipalities.

Each item is measured on a five-point Likert scale, ranging from “strongly disagree” (1) to “strongly agree” (5). The questionnaire consists of 50 questions and takes approximately 15-20 minutes to complete. It includes a brief instruction on how to answer and who should answer the questionnaire. Table 3.8 summarizes the variables and dimensions of the questionnaire. The complete questionnaire can be seen in Appendix 1.

**Table 3.9:** Main variables and their Dimensions, Roles, and Number of Questions

Variable	Dimension	Role	Section	Items
Auditor characteristics	Ethics	Independent	2	6
	Independence	Independent	2	6
	Competence	Independent	2	7
Audit firm characteristics	Audit fees	Independent	2	2
	Audit firm Size	Independent	2	2
	Internal auditing	Independent	2	2
Municipal internal controls	Accounting Basis	Independent	2	3
	Laws and regulations	Independent	2	3
	SAIs	Moderator	3	11
Audit quality	Service audit quality	Dependent	4	8

Source: Author

### 3.7 Summary

This chapter discussed the research methodology, including the research philosophy, design, and instrument development, including the pilot study, which involved 78 certified public auditors, to evaluate the instrument's validity and reliability in order to guarantee the quality of the data obtained prior to the actual data collection. Moreover, the chapter discussed the reasons for choosing the sample and population, as well as the unit of analysis (the internal auditors and accountants in the municipalities), were also discussed. This chapter discussed the development of the questionnaire, data collection and analysis, research structural models, and measurement of the study's variables in accordance with prior studies' measurements.