



Reassessing Determinants of Internal Audit Effectiveness: The Primacy of Organizational Culture and Interpersonal Trust-Building in Israeli Local Government

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Abstract

This study investigates the impact of structural and cultural factors on internal audit effectiveness (IAE) in Israeli local authorities, with a particular focus on the roles of organizational culture, top management support, and interpersonal trust-building by internal auditors. The research adopts a predominantly quantitative approach, utilizing survey data collected through questionnaires completed by chief internal auditors in a representative sample of Israeli local authorities. Effectiveness was measured as the percentage of audit recommendations implemented, while independent variables were assessed using validated Likert-scale instruments. Results indicate a significant positive relationship between the strength of organizational culture and IAE, as well as between top management support and IAE. Interpersonal trust-building acts as a mediating variable, strengthening management support and thereby enhancing audit effectiveness. No significant relationship was found between auditor independence and audit effectiveness. Strengthening organizational culture and emphasizing interpersonal trust-building can enhance internal audit effectiveness. These findings support the development of targeted professional development and policy strategies for local governments. This study contributes to the internal auditing literature by empirically demonstrating the primary roles of organizational culture and interpersonal trust-building in local government audit effectiveness, while revealing that traditional emphasis on auditor independence may be overstated in this context.

Keywords: Independence, Internal audit effectiveness, Internal auditing, Interpersonal trust-building, Organizational culture, Top management support.

1. Introduction and Scientific Background

Internal audit is defined as "an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes" (IIA Internal Institute of Auditors, 2024) Internal audit assists the members of the organization in efficiently fulfilling their roles.

The importance and centrality of local government within Israel's public and governmental system are steadily increasing. The growth in local authorities' budgets and the expansion of their activities, alongside the trend of reducing governmental regulation over local government operations, reinforce the need for public accountability and for local authorities to bear responsibility towards their residents.

Local authorities (municipalities, local councils, and regional councils) are responsible for providing all municipal services and some national services (such as education and welfare). The nature of the public duties imposed on local authorities, the powers granted to them, the public responsibility of their elected officials, and their direct impact on residents' well-being and quality of life necessitate supervision and auditing, both internal and external, of their actions.

Internal auditing in local authorities is of great importance because it is intended to objectively review the authorities' operations, ensure adherence to principles of proper public administration, and assist in carrying out their functions efficiently and economically.

Internal auditing in municipalities, local councils, and regional councils is based on the obligation, established in the Municipalities Ordinance [New Version], to employ a municipal auditor. Similarly, the Local Councils Ordinance [New Version] requires local and regional councils to employ an internal auditor. The Municipalities Ordinance, the Local Councils Ordinance, and the Local Councils Order (A), 1950, regulate the status and duties of the auditor within local authorities.

Municipalities were first required to appoint a part-time municipal auditor in 1971. Initially, this obligation applied only to municipalities with over 30,000 residents; in 1978 it was extended to all municipalities. Since 1995, every municipality has been required, under Section 167(b) of the Municipalities Ordinance, to employ a full-time municipal auditor. Amendments to the Local Councils Ordinance extended most provisions applicable to municipal

auditors also to auditors of local and regional councils, with necessary modifications. However, the harmonization of legal provisions governing local authority auditors is not complete. Consequently, the legal rules governing local authority auditors are scattered across various statutes and lack uniformity.

The Ministry of Interior, as the supervisory body over local government, periodically issues Director General's Circulars providing guidance to local authorities on operational matters. These guidelines help to institutionalize and unify norms of proper public administration, as well as promote efficiency and cost-effectiveness. The Ministry's authority in this regard stems, among other sources, from the Municipalities Ordinance and is delegated to the Director General.

Over the years, amendments to the Municipalities Ordinance have aimed to strengthen the status of auditing in local authorities, fortify the position of auditors, and ensure regular, effective auditing and the implementation of recommendations. These principles have also been reinforced in the Ministry of the Interior's Director General's Circulars.

According to legislation, local authorities must maintain proper and effective internal auditing. The local authority auditor is required to audit the authority's activities and submit findings to the head of the authority and to the local authority's Audit Committee. The auditor's powers and duties are prescribed by law. Furthermore, legislation mandates that each local authority establish an Audit Committee, responsible for discussing audit reports and monitoring the rectification of issues raised.

The statutory model of local authority auditing is designed to ensure optimal and effective oversight. The strengthening of the auditor's position has been legislated through mandatory appointment requirements, setting appointment procedures and qualifications, determining budget and staffing resources, ensuring access to information, creating special provisions for audit staff, establishing dismissal procedures to prevent arbitrary firings, protecting the employment of audit staff, granting near-total independence in setting the annual work plan, and more.

The auditor is a statutory employee whom the local authority must employ and who has been granted special status by law. Appointment of the auditor requires approval by a majority of council members, and dismissal requires approval by three-quarters of council members, after proper notice to all council members that the dismissal will be discussed at a council meeting. The auditor must also be given an opportunity to address the council regarding the dismissal before any decision is made. Temporary orders protect the employee's rights while ensuring the proper functioning of the employing body.

In 2007, the Ministry of the Interior, together with other government ministries, prepared a draft Municipalities Law intended to apply to all local authorities and replace the Municipalities Ordinance. The bill aims to reform local-central government relations and the internal power structures within local authorities. Among other things, the bill proposes a unified regulatory framework for senior positions in local authorities, including internal auditors. This legislative process had not yet been completed.

Scientific research on the field of internal audit, its various implementations, and its contribution to various systems is in its early stages (Cohen and Sayag, 2010). However, some studies have been conducted in the field of internal audit in local authorities:

The aim of Haimon, Z. (1998) was to evaluate the effectiveness of internal auditing in municipalities in Israel, as perceived by different groups of users. The empirical study was conducted on the majority of Israeli municipalities that possess an internal auditing unit. After factor analysis, the model emerged based on the following components: Independence, Competence, Scope of work, Performance of the internal auditing unit, and the Implementation of corrective action following the internal auditing findings. The research findings revealed major differences in the evaluation of effectiveness between different groups of users. In general, the research shows that the closer the user stands to the internal auditing operation, the higher the evaluation. The implementation of corrective action following the internal auditing findings was rated by all the respondent groups as lower than the other components. Another result is that the internal auditing unit tends to be perceived as less effective in smaller municipalities.

Quampah *et al.* (2021) examined the factors affecting the internal audit effectiveness in local government institutions in Ghana. They found that internal auditors possess the requisite educational and professional capacity to execute their mandate and were accorded the requisite support. Yet lack of management support through IT skills training, failure to discuss and timely implement audit recommendations are rendering the auditors ineffective. This research helps to raise the awareness among policy-makers and researchers about issues that could hamper internal auditors' contributions to good governance strategies in local government institutions by calling on relevant stakeholders to address these challenges. This study is limited because it covers only the perception of internal auditors and audit committee members.

The research of Mu'azu Saidu and Siti Zabadah (2014) explored the antecedents of IA effectiveness. This study provided the empirical evidence of antecedents of IA effectiveness from a local Nigerian government perspective. The analysis reveals the significant effect of all antecedents (risk management, effective internal control system, audit experience, cooperation between internal and external auditors and performance measurement.) on IA effectiveness. This implies that, for local government or other public sector to attain effective internal audit, such antecedents need to be given due consideration.

Alzeban and Gwilliam (2014) conducted a study assessing factors influencing IA effectiveness in Saudi Arabian public sector organizations. Data were obtained from managers and internal auditors from 79 Saudi Arabian public sector organizations. Multiple regression analysis examined the association between IAE and five principal factors. Results suggest that management support for IAE drives perceived effectiveness of the internal audit function from both management and the internal auditors' perspective. Management support is linked to hiring trained and experienced staff, providing sufficient resources, enhancing the relationship with external auditors, and having an independent internal audit department.

Bongani, W. (2009) adopted the qualitative approach, to investigate the four micro factors which affect internal audit effectiveness of municipalities in the Vhembe district, Limpopo province, South Africa. The study reveals internal audit resource restrictions, no quality assurance enhancement programs and no external quality assurance.

The participants held mixed perceptions of the effectiveness of internal audit functions. All internal auditors lacked professional qualifications, resulting in low status. Management did not comprehend the challenges experienced by internal auditors.

Tackie *et al.* (2016) examined the determinants of internal audit effectiveness in decentralized local government administrative systems of Ghana. Using a descriptive survey, the data gathered through questionnaires revealed that majority of the internal audit staff of MMDAs in the Ashanti Region of Ghana possess the requisite professional proficiency. Contrary to the perception that audit quality in the public sector is usually compromised, the study found high quality of audit work due to compliance with the international standards local audit legislation. Professional proficiency, organizational independence, and career advancement were found to have statistically significant positive relationships with internal audit effectiveness.

1.1. Internal Audit Effectiveness

In general, effectiveness can be defined as the ability to achieve results that align with objectives. Dittenhofer (2001) argued that "a successful internal audit process, which reflects the performance of internal audit in the way tasks are performed as originally described in audit objectives, ensures effective audit."

Many researchers argue that there is a need to measure the effectiveness of audit (Barrett, 1986; Sawy, 1995; Dittenhofer, 2001; KPMG, 2009; Nordin Van Gansberghe, 2005; Mihret and Yismaw, 2007; Ridley and D' Silva, 2008; Cohen and Sayag, 2010). Different approaches to measuring internal audit effectiveness can be classified into three groups: process measures, output measures, and outcome measures. Each of these approaches has its own advantages and disadvantages.

For example, process measures rely on evaluating the internal audit's work processes, such as compliance with audit standards or the ability to plan, perform, and report on internal audit work (Fadzil *et al.*, 2005). While it is relatively easy to assess effectiveness in this way, the assumption that internal audit is effective if it performs its work in accordance with audit standards, without considering the primary stakeholders' needs during the audit (Lampe and Sutton, 1994) or whether it actually achieves its objectives, is a drawback of this approach.

Measuring output seems more systematic and suitable for evaluating audit effectiveness and its contribution to the organization (Frigo, 2002). Among the possible indicators for assessing effectiveness, special attention is given to the ability of internal audit to meet the needs of auditees (Ziegenfuss, 2000). Two indicators for assessing audit effectiveness and its contribution are highlighted: (1) auditees' satisfaction, and (2) implementation rate of internal audit recommendations.

Professional literature offers a wide range of knowledge on the concept of effectiveness and numerous studies discuss determinants of effectiveness (M. S. Badara and Saidin, 2013; Dittenhofer, 2001; Sayag, 2008; Endaya and Hanefah, 2013; Gramling *et al.*, 2004; Lenz and Hahn, 2015; Lenz *et al.*, 2018).

In this study, measuring effectiveness will refer to the output dimension of the internal audit effectiveness and its contribution to improving the outcome of the internal audit work. The focus is on the implementation of audit findings.

In addition, the works cited above primarily focus on influential factors (Badara and Saidin, 2013; Lenz and Hahn, 2015) and do not consider how the effectiveness of IA is quantified or operationalized in relevant empirical works. This is important, particularly from the point of view of the practice. Organizations should be expected not only to consider potentially influential factors of IA, but also to assess their actual impact in the organization through well-defined indicators.

Some studies use the recommendation implementation rate as one of the objective indicators to represent internal audit effectiveness. This indicator specifies the ratio between the number of audit recommendations that are approved or agreed by the auditees or management and that have been implemented, and the total number of recommendations proposed by the internal auditor (Bednarek, 2018). Although this method has certain limitations, it helps the auditee to determine, to some extent, the impact of the internal audit (Bednarek, 2018).

One of the limitations, as highlighted in Arena and Azzone, 2009, is how the time required to implement the recommendations can be determined and when the auditee can measure the impact. Bednarek (2018) also discusses the limitations of this indicator, as it is not controlled solely by the internal audit activities.

Primary studies apply different techniques in measuring this indicator. For example, in Erasmus and Coetze (2018), the survey participants were asked to indicate with values from 1 to 5, 1 indicating "never implemented the recommendation" and 5 indicating "always implemented all recommendations." Similarly, Arena and Azzone (2009) used a four-point Likert scale, where 1 corresponds to the lowest level implementation (below 20 per cent) and 4 indicates the highest level of implementation (above 80 per cent). Bednarek (2018) uses a two-item scale, where 0 refers to a low recommendation implementation rate (below 80 per cent) and 1 refers to a high rate of recommendation implementation (above 80 per cent).

Unlike the abovementioned studies, Mizrahi and Ness-Weisman (2007) considered the total number of recommendations from the previous reports that had been implemented. This study used the analytic hierarchy process (AHP) method to evaluate the effectiveness of internal audit. The AHP method is often used to rank multi-criteria alternatives, where an expert opinion is used to compare between alternatives. For their experiment, they used AHP method to rank the importance of the recommendation and assign different weight values. This ensures that each recommendation has a different weight and can penalize more if it has not been implemented.

Other indicators of IA effectiveness that have been used in other studies include:

- Degree of fulfillment of the internal audit plan
- Time required to complete audit plan
- Time to resolve internal audit findings
- Number of audit findings
- Audit value, defining the concept of "value tracking" as the cost savings and/ or revenue enhancements as a result of internal audit activities;

- Perceived effectiveness of internal audit, defined as the degree (as recognized by the audit stakeholders) to which predefined objectives are achieved by performing an internal audit
- Stakeholder satisfaction, which aims to detect the overall satisfaction rate of the internal audit stakeholders with the internal audit activities and identify the potential root causes of the dissatisfaction.

Considering the purpose of the audit in local authorities defined by the State Auditor, we consider that the ultimate indicator for internal audit effectiveness is the extent to which the recommendations of internal audit are implemented.

2. Factors Affecting the Effectiveness of Internal Audit

The conditions and factors contributing to the existence and effectiveness of internal the audit function are important topics that influence the efficiency of organizational operations. Key contributors to this discourse include internal auditors, organizational management, and researchers in the field.

A review of the literature highlights numerous variables that may account for differences in the effectiveness and contribution of internal audit. However, the main variables identified by most studies are: independence (IND), top management support (TMS), and organization culture (OC). In this study we introduced a new variable: the internal auditor's interpersonal trust building (TB), which may also influence IAE.

2.1. Independence

The audit process, across its various stages, including selection of audit subjects, planning and execution of audits, development of findings, conclusions, recommendations, and reporting, must be balanced, comprehensive, and objective. This can only be achieved when the internal auditor maintains independence from the entities that are likely to be audited, despite being an employee of the same organization.

Although absolute independence may be unattainable, given that internal audit is part of the organization, it is essential to strive for a level of independence that ensures the audit process remains unbiased and enables the auditor to perform their duties with the necessary objectivity.

Numerous empirical studies have demonstrated a correlation between independence and the effectiveness and contribution of audit. Rittenberg (1977) and Chambers (1987) developed a model of internal audit independence that distinguishes between *organizational independence* and *individual independence*. Organizational independence depends on the level of reporting and the extent of top management support for the audit function. Individual independence, on the other hand, is influenced by factors such as the financial resources available to the internal auditor and other factors (partially controlled by the internal audit department), such as the scope of field audit work, audit planning, scheduling, and personal characteristics of the auditor, including their ability and skills to perform audit tasks.

Findings suggest that factors relating to organizational independence are particularly crucial for the efficient and effective functioning of the internal audit department. Mautz and Sharaf (1964) emphasized independence as a core element of audit theory. They outlined three dimensions of independence that correspond to different stages of the audit process: planning independence, investigative independence, and reporting independence. These components provide a framework for evaluating the degree of independence in the auditor's work.

Independence is widely regarded as a key factor in internal audit effectiveness (Alzeban and Gwilliam, 2014). In this context, independence is defined as freedom from conditions that could compromise the internal audit function's ability to fulfil its responsibilities without bias (Dejnaronk *et al.*, 2016). For auditors to operate independently, appropriate tools and resources must be available (D'Onza *et al.*, 2015).

Al-Twaijry *et al.* (2003) found that clearly defined regulations governing internal audit procedures and responsibilities improve the effectiveness of audit activities. Several studies have indicated that a lack of independence limits the ability of internal audit to perform effectively (Alzeban and Gwilliam, 2014).

Dellai and Omri (2016), in their study of 148 organizations, identified a clear relationship between internal audit independence and effectiveness. Similarly, Mustika (2015) found that the effectiveness of internal audit is linked to the auditor's capabilities and skills, independence of the audit, as well as the extent of integration between internal and external audits.

Chevers *et al.* (2016) examined commercial banks and found that both audit quality and independence have a significant impact on audit effectiveness. One of their key conclusions was the central role of internal audit in safeguarding the health and stability of financial institutions.

Rudhani *et al.* (2017) explored internal audit in the public sector and found that independence is a strong determinant of effective audit, contributing to better financial management and transparency. In Ghana, Musah, Gapketer and Anokye (2018) examined government-owned companies and similarly found that independence significantly impacts internal audit effectiveness.

Thu Trang and Thanh Nga (2022) reported that independence positively affects audit effectiveness in non-financial companies listed on the Vietnamese stock market. Likewise, Azam Abdelhakeem, and Tanjung (2020) concluded that effective internal Shariah auditing, as a mechanism of assuring Shariah compliance by Islamic financial institutions, is directly linked to the level of independence enjoyed by internal Shariah auditors.

2.2. Top Management Support

Top management support (TMS) is considered a critical factor influencing the effectiveness of internal audit within an organization. It acts as a key driver, enabling the audit function to operate optimally. TMS is reflected in the provision of adequate resources, staffing, and training for internal auditors, factors that directly impact their ability to perform their duties effectively. This support is often manifested through the budget allocated for internal audit activities and in decisions regarding departmental staffing (including the type and number of employees).

Numerous studies in recent years have confirmed that the level of management support is a key determinant of the effectiveness of internal audit (Cohen and Sayag, 2010; Ahmad *et al.*, 2012; Alzeban and Gwilliam, 2014; Dellai and Omri, 2016; Chevers *et al.*, 2016; Baheri *et al.*, 2017; Rudhani *et al.*, 2017; Musah *et al.*, 2018). Particularly

noteworthy is the work of Turetken, Jethefer, and Ozkan (2020), which synthesized two decades of academic research on the effectiveness of internal audit and its determinants. Their findings indicated that independence of the audit ranked second and top management support ranked fourth in terms of overall impact on audit effectiveness.

Further evidence of TMS's influence is provided by Waled Younes *et al.* (2023), whose study found significant positive relationships between TMS and internal audit activities. Abdelrahim and Al-Malkawi (2024) explored the interaction effect of TMS on various determinants of internal audit effectiveness. Their results suggest that TMS has a mixed but overall positive moderating effect on IA effectiveness, enhancing IA independence, staff competence, and adoption of a risk-based audit approach.

In the public sector, research conducted in Indonesia (Kanta Rio *et al.*, 2020) found that while competence and independence had a significant effect on IA effectiveness, TMS had an indirect but still significant effect, mediated through competence and independence.

In the context of Israeli authorities, TMS extends beyond resource allocation and staffing. Top management can also act as a change agent, promoting reliable audit, assisting in reducing organizational resistance, and addressing internal weaknesses (Thong *et al.*, 1996). TMS in public authorities is therefore expected to contribute meaningfully to the effectiveness of internal audit.

2.3. Organizational Culture

One organizational variable which may further explain variations in IA effectiveness is *organizational culture*, which reflects the values and norms that influence auditor behavior and organizational receptiveness to audit activities.

Organizational culture is commonly defined as a normative system of shared values and beliefs that shape members' feelings, thoughts, and behaviors of members (Schein, 1990). A learning-oriented culture is defined as one of the contextual factors influencing the likelihood of learning occurring within an organization (Fiol and Lyles, 1985). It refers to an organization skilled in creating, acquiring, and transferring knowledge, and in changing behavior to reflect new knowledge and insights (Garvin, 1993).

Popper and Lipshitz (1998) conceptualized organizational culture as a hierarchical system of shared values: valid information, transparency, issue orientation, and accountability, each of which supports continuous learning.

- *Valid information* refers to an individual's willingness to provide complete, accurate, and unbiased information. In the auditing process, this value is crucial for recognizing findings and implementing corrective actions. However, as Argyris and Schon (1978) argue, organizational pressures may lead employees to distort or conceal information, to protect themselves or others. An organizational culture committed to validity enables auditors and employees to resist such pressures.
- *Transparency* refers to an individual's willingness to share their thoughts and intentions, in a proper and clear manner, in order to receive constructive feedback. This value is critical for accepting audit findings and initiating improvements, thereby increasing the effectiveness of the audit.
- *Issue orientation* refers to willingness to judge opinions, ideas and actions based on relevance rather than personal characteristics such as status, race, age, or gender. A culture emphasizing the value of issue orientation reduces the need for individuals to distort threatening information or conceal it, as they perceive the probability that they will only be judged based on relevant considerations as high. The prominence of the issue orientation value in organizational culture leads to the opening of communication channels, thus fostering innovation and improvement in learning (McGill *et al.*, 1993). This value, which opens communication channels for innovation and improvement, is highly significant for the audit process, aimed at continuously renewing and improving through necessary corrections, achieving audit goals, thus increasing its effectiveness.
- *Accountability* represents an individual's willingness to take responsibility for their actions and their outcomes (whether successes or failures), and deriving lessons from these outcomes. Cultures that value accountability encourage effective learning by overcoming barriers to the successful implementation of lessons (Ellis *et al.*, 1999). Accountability, which allows individuals to take responsibility for their actions and derive important lessons in order to implement audit findings, correct, and improve to achieve the required outcomes, has been found to correlate with organizational culture and economic performance (Ellinger *et al.*, 2002; Marsick and Watkins, 2003; Selden and Watkins, 2001).

A strong organisational culture not only facilitates better employee performance but also promotes retention (Malik *et al.*, 2010). These long-term returns on investment in organizational culture support the idea that culture is important for internal audit quality and effectiveness.

Several studies support this view. For example, Arena and Azzone (2009), Salih and Hla (2016) and Ahmad *et al.*, (2009) found that organisational culture influences IA quality and outcomes. Based on these findings, it is reasonable to assume that a strong culture will improve employee performance in meeting audit requirements, leading to improved IA effectiveness.

A strong culture also plays a role in organizational problem solving. A learning-oriented cultures encourages openness to corrections, innovation and fulfillment of audit recommendations. From this perspective, culture serves as a powerful enabler of IA effectiveness.

From a theoretical point of view, behavioral theory, grounded in the ideas of individual bounded rationality and organizational procedures for decision making (Gavetti *et al.*, 2012), has been widely used in understanding the underlying stimuli behind peoples' behavior, actions and decision making (e.g. Cyert and March, 1963; Opute, 2017). Bounded rationality, originally introduced by Herbert Simon in 1957, posits that rational behavior is compatible with access to information and actual capacities of organisms, depending on the environmental dynamics of the organisms. Tapping into the effective behavior notion of bounded rationality, this study draws from behavioral foundations to understand the nature and effectiveness of internal audit. Behavioral framing connects individual actions to organizational values (e.g. Opute, 2014; Opute *et al.*, in press). Looking through a

cultural lens, the values that feed into the mindset of individuals or the philosophy of an organization, shape decision making.

Empirical studies support this theoretical framing. Nurdiono and Gamavuni (2018) demonstrated that the internal auditor competence and objectivity, and organization culture significantly influence IA effectiveness. Alqaraleh *et al.* (2022) found that there is a considerable association between information technology and the efficacy of internal audits. Additionally, organizational culture has a key role in mediating the link between information technology and the success of internal audits (Alqaraleh *et al.*, 2022).

2.4. Interpersonal Trust Building

Internal audit (IA) is a cornerstone of effective corporate governance, risk management, and internal control. Its role has evolved from a compliance-focused activity to a more strategic, advisory function within organizations (Sawyer *et al.*, 2019). For internal auditors to fulfill their mandate effectively, particularly in their interactions with management and auditees, interpersonal trust is a critical enabler.

Establishing a relationship of trust with management is essential for securing their support for the IA function and improving the implementation of its recommendations, a key determinant of IAE (Chambers and McDonald, 2013; Lenz *et al.*, 2017). Trust affects both access to information and the way audit outputs and recommendations are received and acted upon (Morales and Lambert, 2013).

Mayer *et al.* (1995) conceptualized trust as the willingness to be vulnerable to the actions of another, based on the perceptions of ability, benevolence, and integrity. This multidimensional view has been widely adopted in studies on organizational behavior and internal audit (Cohen, Krishnamoorthy, and Wright, 2002). Rooted in Blau's (1964) social exchange theory, trust is seen as an outcome of repeated positive interactions that lead to reciprocity and mutual commitment. Internal auditors who consistently demonstrate value and professional conduct can build trust with clients and stakeholders over time.

Empirical research highlights a strong correlation between trust and internal audit effectiveness. Trust facilitates better information flow and reduces resistance from auditees, thus enhancing the impact and value of audit findings (Mihret and Yismaw, 2007). Luhmann (1979) emphasized that trust reduces the complexity of organizational interactions, a critical point given the internal auditor's ambiguous role, potential for conflicts of interest, and access to sensitive information.

Barrett, Cooper, and Jamal (2005) argue that trusted auditors are more likely to be seen as partners in value creation, enabling them to adopt more advisory roles. However, the boundary between collaboration and over-familiarity must be carefully managed to preserve independence. Messier *et al.* (2011) caution that trust must not be confused with leniency; rather, high-trust relationships should be underpinned by professionalism and objectivity. This principle of "balanced trust" is essential to maintaining credibility.

Top management and audit committee support also play a central role in building trust in the IA function. A transparent, ethical tone at the top reassures auditors that they can operate without undue pressure (Beasley *et al.*, 2005). Conversely, role ambiguity undermines trust, whereas clearly defined responsibilities and consistent communication strengthen credibility amongst stakeholders (Arena and Azzone, 2009).

Trust-building strategies include: providing clear information about audit criteria, processes, and timelines (Dittenhofer, 2001); involving stakeholders early in audit planning and delivering findings in a constructive manner; demonstrating competence and ensuring technical accuracy and value in recommendations; respecting sensitive information and avoiding conflicts of interest (Gramling *et al.*, 2004).

Eshet (2023) investigated the antecedents of trust in sceptically minded internal audits within the public sector. The study found that when internal auditors exhibit ability, integrity and benevolence, senior managers are more likely to share knowledge and trust the audit process. These findings highlight the importance of trust in ensuring internal auditors can fulfil their organisational role effectively.

3. Research Questions

The main objectives of the research are:

- a) To examine the effectiveness of internal auditing in Israeli local authorities and its contribution to the improvement of risk management, governance, internal control processes and the quality of essential services provided to citizens.
- b) To explore the factors influencing internal audit effectiveness, with a particular attention to human and cultural factors
- c) To map and assess the current status of internal auditing across local authorities in Israel
- d) To describe the profile of internal auditors in local authorities.
- e) To support the development of policy aimed at optimizing the use of internal auditing resources in local authorities.

4. Research Hypotheses

H₁. There is a positive correlation between organizational culture and the effectiveness of internal auditing; the stronger the organizational culture, the greater the effectiveness of the internal audit function.

H₂. Internal auditing is more effective in local authorities where it receives strong support from the management, compared to authorities where such support is limited or absent.

H₃. The internal auditor's ability to build interpersonal trust significantly contributes to differences in IA effectiveness.

H₄. Internal auditing is more effective when the internal audit function operates with a higher degree of independence.

This research offers both theoretical and practical contributions. Theoretically, it examines the impact of human and organizational factors (specifically, organizational culture, top management support and interpersonal trust building) on internal audit effectiveness. Practically, it provides empirical insight into how organizational characteristics influence audit outcomes. The research results may inform policy decisions by the Ministry of the Interior, particularly in shaping strategies to ensure effective internal auditing in local authorities. Furthermore,

the research contributes to the field by mapping the current the status and profile of internal audit functions within Israel's local government sector.

5. Research Methods

This study adopts a primarily quantitative approach, supplemented by qualitative elements during its initial stages. The research sample included approximately one third of the total population of local authorities (75 out of 257) and was representative of the population distribution between municipalities, regional councils and local councils.

6. Data Collection Method

Data on the research variables were collected primarily through questionnaires distributed among chief internal auditors in local authorities. The dependent variable, internal audit effectiveness, was measured objectively based on the percentage of internal audit report recommendations that were implemented. The independent variables were assessed through the questionnaire using a seven-point Likert scale of 1-7.

6.1. Operationalization of Variables

6.1.1. Dependent Variable: Internal Audit Effectiveness

IA effectiveness in this study is defined as the percentage of internal audit recommendations actually implemented by the audited entity. While this approach has known limitations (see section 1.1) it aligns more closely with the study's objective of assessing IA impact, while avoiding the challenges associated with outcome-based measures.

Implementation levels were measured using a five-point Likert-type item (%IMP). where 1 corresponds to a very low level of implementation of internal audit recommendations (below 20%), 2 is a low level of implementation (between 20% and 40%), 3 is a medium level of implementation (between 40% and 60%), 4 indicates a high level of implementation of suggested actions (between 60% and 80%) and 5 is a very high level of implementation (between 80% and 100%).

This operationalization offers a practical and scalable method of quantifying IA effectiveness across diverse local authorities.

6.1.2. Independent Variables

Independence – Nominal definition: The degree of organizational separation between internal audit and audited activities, and the formal organizational status of the internal auditor within the authority. Independence was measured through a validated and reliable questionnaire (Cohen and Sayag, 2008) completed by chief internal auditors. Sample items include: complete freedom of access to information, people, places, and assets; management does not interfere with the auditor's work during the development of the annual audit plan; management does not intervene during audit execution and report writing; and the extent to which the termination of the auditor's work is dependent on the Audit Committee and the Council of the authority. Respondents rated their agreement with each statement on a 7-point Likert scale (1= strongly disagree, 7 = strongly agree).

Top Management Support - Nominal definition: The extent to which senior management supports the internal audit. Measurement of TMS was also based on the validated questionnaire by Cohen and Sayag (2008). Sample items include: senior management not providing strong support as expected during audit work; management is unresponsive to the equipment needs of the internal auditor, which is reflected in the minimal resources allocated to this clause; the number of personnel available to the audit is limited in relation to the range and volume of planned and ad hoc audit work; insufficient managerial guidance and support regarding the training and skill development of audit staff. Agreement was rated on a 7-point Likert scale as above.

Organizational Culture - A number of survey instruments measuring organizational culture can be found in the literature. Many of these have been reported to suffer from construct and methodology related weaknesses. Specifically, these have been found to either have insufficient theoretical basis or result in a narrow depiction of the multidimensional construct of organizational culture. In this study, the variable is based on the validated framework developed by Somonnoy and Bhupen (2014), adapted to the Israeli context. This variable consists of five core dimensions: participation, respect for the individual, attitude to risk, trust, and openness. The questionnaire items for organizational culture are based on the work done by Somonnoy and Bhupen and have been found to be valid and reliable. The questions consist of 12 items across these five dimensions:

- Participation (3 items), e.g., "Everybody is encouraged to participate in meetings"
- Respect (3 items), e.g., "My supervisor believes that good ideas and solutions to problems can come from any member of the group"
- Trust (3 items), e.g., "Most people in my organization can be relied upon to keep their promises"
- Openness (2 items), e.g., "Most senior members of my organization are approachable/accessible".
- Attitude to risk (1 item), "Employees who disagree with their supervisor feel comfortable expressing their opinion."

Participants were asked to rate their agreement with each statement on a 7-point scale (where 1 = strongly disagree, 7 = strongly agree).

Interpersonal Trust Building - Gaining management support is fundamental to audit effectiveness (Cohen and Sayag, 2008). Consequently, the relationship between the auditees and management, including trust, becomes a critical consideration (Vafaei, 2016). Poorly managed relationships can hinder evidence collection, weaken the relevance of recommendations, and reduce management's responsiveness to audit reports, including effective implementation of recommendations. In contrast, high levels of interpersonal trust with management and auditees have been identified as a key element in IA effectiveness. The questionnaire items developed to measure trust building include three dimensions:

- Management and Leadership (3 items) e.g., "Management is open to discuss audit findings without a defensive attitude"
- Auditees (3 items) e.g., "Auditees provide accurate and comprehensive information during the audit"
- Internal Audit Process (3 items), e.g., "Stakeholders trust that the internal audit process adds value to the organization"

These items were measured using the same 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

7. Statistical Methods Used for Data Analysis

The profile of the research sample was examined, by type of local authority.

Psychometric characteristics analysis of independent variables. As we mentioned before the dependent variable IAE is an objective measure derived from the implementation of recommendations from the Audit Report.

Pearson correlation between the independent variables

Spearman correlation coefficients between the independent variables and IA effectiveness (dependent variable).

Multiple Regression model to examine whether there are relationships between the independent variables and IA effectiveness (dependent variable)

A mediation model for predicting the level of IA effectiveness using Structural Equation Modeling (SEM) in which TMS (top management support) is defined as a mediating variable in the relationship between trust building and effectiveness.

8. Findings

8.1. Internal Audit Profile of Local Authorities

Table 1 presents the IA profile by the type of local authority.

Table 1. The distribution of the research sample by type of local authority.

| Local Authority IA Characteristics | | local council | | regional council | | Municipalities | | Total Valid | |
|------------------------------------|--------------------------|---------------|-------|------------------|-------|----------------|-------|-------------|-------|
| | | N | % | N | % | N | % | N | % |
| Number | | 27 | 36.0 | 21 | 28.0 | 27 | 28.0 | 75 | 100.0 |
| Size (thousands) | < 7.5 | 7 | 25.9 | 5 | 23.8 | - | - | 12 | 16.0 |
| | 7.5 - 20 | 17 | 63.0 | 8 | 38.1 | - | - | 25 | 33.3 |
| | 20 - 50 | 3 | 11.1 | 8 | 38.1 | 10 | 37.0 | 21 | 28.0 |
| | 50 - 100 | - | - | - | - | 9 | 33.3 | 9 | 12.0 |
| | 100 - 250 | - | - | - | - | 6 | 22.2 | 6 | 8.0 |
| | > 250 | - | - | - | - | 2 | 7.4 | 2 | 2.7 |
| | Total | 27 | 100.0 | 21 | 100.0 | 27 | 100.0 | 75 | 100.0 |
| Workload (% Job Scope) | 25% | 2 | 7.4 | - | - | - | - | 2 | 2.7 |
| | 50% | 17 | 63.0 | 10 | 47.6 | - | - | 27 | 36.0 |
| | 75% | 1 | 3.7 | 3 | 14.3 | - | - | 4 | 5.3 |
| | 100% | 7 | 25.9 | 8 | 38.1 | 27 | 100.0 | 42 | 56.0 |
| | Total | 27 | 100.0 | 21 | 100.0 | 27 | 100.0 | 75 | 100.0 |
| Tenure (Years) | < 5 | 7 | 25.9 | 5 | 23.8 | 5 | 18.5 | 17 | 22.7 |
| | 5 -9 | 3 | 11.1 | 3 | 14.3 | 7 | 25.9 | 13 | 17.3 |
| | 10 -14 | 5 | 18.5 | 7 | 33.3 | 5 | 18.5 | 17 | 22.7 |
| | 15 - 19 | 6 | 22.2 | 5 | 23.8 | 5 | 18.5 | 16 | 21.3 |
| | > 20 | 6 | 22.2 | 1 | 4.8 | 5 | 18.5 | 12 | 16.0 |
| | Total | 27 | 100.0 | 21 | 100.0 | 27 | 100.0 | 75 | 100.0 |
| Academic Education | B. A | 8 | 29.6 | 4 | 19.0 | 4 | 14.8 | 16 | 21.3 |
| | M.A | 19 | 70.4 | 17 | 81.0 | 23 | 85.2 | 59 | 78.7 |
| | Total | 27 | 100.0 | 21 | 100.0 | 27 | 100.0 | 75 | 100.0 |
| Professional Education | CIA CRMA | 5 | 18.5 | 3 | 14.3 | 4 | 14.8 | 12 | 16.0 |
| | CISA, CDPSE | 3 | 11.1 | 1 | 4.8 | 3 | 11.1 | 7 | 9.3 |
| | CPA | 0 | 0.0 | 1 | 4.8 | 0 | 0.0 | 1 | 1.3 |
| | M. A. Audit | 1 | 3.7 | 2 | 9.5 | 2 | 7.4 | 5 | 6.7 |
| | Certificate- Audit | 14 | 51.9 | 5 | 23.8 | 9 | 33.3 | 28 | 37.3 |
| | Courses & Prof. Training | 4 | 14.8 | 9 | 42.9 | 9 | 33.3 | 22 | 29.3 |
| | Total | 27 | 100.0 | 21 | 100.0 | 27 | 100.0 | 75 | 100.0 |
| Gender | Male | 21 | 77.8 | 14 | 66.7 | 19 | 70.4 | 54 | 72.0 |
| | Female | 6 | 22.2 | 7 | 33.3 | 8 | 29.6 | 21 | 28.0 |
| | Total | 27 | 100.0 | 21 | 100.0 | 27 | 100.0 | 75 | 100.0 |
| Age (Years) | 30 - 50 | 10 | 37.0 | 9 | 42.9 | 9 | 33.3 | 28 | 37.3 |
| | >50 | 17 | 63.0 | 12 | 57.1 | 18 | 66.7 | 47 | 62.7 |
| | Total | 27 | 100.0 | 21 | 100.0 | 27 | 100.0 | 75 | 100.0 |

Table 1 provides, among other things, information about the profile of internal auditors in local authorities. All auditors have extensive academic education (approximately 79% hold a Master's degree and the remainder hold a Bachelor's degree). Most auditors possess professional certification from recognized auditing bodies. Only 56% of

the auditors are employed full-time, while the rest work at 50% capacity. The internal auditing profession is male-dominated (72% men and 28% women). The majority of auditors are over the age of 50 (about 63%), while the remaining 37% are between the ages of 30 and 50.

8.2. Psychometric Characteristics Analysis of Independent Variables

Table 2 presents the psychometric characteristics analysis of independent variables.

Table 2. Psychometrics characteristics of the IA effectiveness factors (independent variables).

| Variable | Average | S.D. | Valid N | R | α Cronbach | N Items | Scale |
|------------------------------|---------|------|---------|------|------------|---------|-------|
| Trust Building (TB) | 5.36 | 1.19 | 75 | 4.89 | 0.91 | 9 | 1 - 7 |
| Organization Culture (OC) | 4.97 | 1.13 | 75 | 6.00 | 0.92 | 12 | 1 - 7 |
| Top Management Support (TMS) | 5.27 | 1.23 | 74 | 4.43 | 0.75 | 7 | 1 - 7 |
| Independence (IND) | 4.29 | 1.76 | 74 | 6.00 | 0.82 | 4 | 1 - 7 |

The reliability of the measures for the independent research variables ranged from $\alpha = .75$ to $\alpha = .92$; these values are considered very good. These measures and their qualities are also presented in Table 2. It can be seen that the average scores for these measures ranged from 4.29 to 5.38 (TMS = 5.27, OC = 4.97, TB = 5.38, IND = 4.29). The standard deviations, which range from 1.13 to 1.76, and the R values for the various domains, which range from 4.89 to 6.00, also indicate a reasonable dispersion of responses around the mean.

8.3. Testing Research Hypotheses

a) To examine the four hypothesis H1 – H4 we used first the Pearson correlation coefficients between the independent variables and Spearman coefficients between the independent variables and IA effectiveness. As can be seen from Table 3, there a strong relationship between OC and TMS (Pearson $r = 0.83$). Table 4 presents the Spearman correlation that points at a positive relationship between each of the independent variables and IA effectiveness (TB $r = 0.60$; OC $r = 0.64$; IND $r = 0.36$; TMS $r = 0.48$).

Table 3. Pearson coefficients between the independent variables.

| Pearson Correlation Coefficients | | | | |
|----------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Prob > r under H0: Rho=0 | | | | |
| Number of Observations | | | | |
| | TB | OC | IND | TMS |
| TB | 1.00000 75 | 0.83026 <.0001 75 | 0.68819 <.0001 74 | 0.51236 <.0001 74 |
| OC | 0.83026 <.0001 75 | 1.00000 75 | 0.60956 <.0001 74 | 0.47869 <.0001 74 |
| IND | 0.68819 <.0001 74 | 0.60956 <.0001 74 | 1.00000 74 | 0.64711 <.0001 74 |
| TMS | 0.51236 <.0001 74 | 0.47869 <.0001 74 | 0.64711 <.0001 74 | 1.00000 74 |

Table 4. Spearman correlations between each of the independent variables and effectiveness, Spearman.

| Prob > r under H0: Rho=0 | |
|----------------------------|-------------------------|
| Number of Observations | |
| | Effectiveness |
| TB | 0.60310 <.0001 75 |
| OC | 0.64139 <.0001 75 |
| IND | 0.46484 <.0001 74 |
| TMS | <.0001 0.48464 |

b) A multiple regression model was used for further testing of the research hypothesis and also the possible interaction between TB and OC. Table 5 presents the results of the regression and include the analysis of the variance.

Table 5. Multiple regression Parameter Estimates.

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > t | Variance Inflation |
|-------------------------|----|--------------------|----------------|---------|---------|--------------------|
| Intercept | 1 | 23.77359 | 22.48403 | 1.06 | 0.2941 | 0 |
| City vs. Local/Regional | 1 | 0.38254 | 5.40271 | 0.07 | 0.9438 | 1.52612 |
| TB | 1 | 5.95610 | 3.72767 | 1.60 | 0.1148 | 4.16714 |
| OC | 1 | 8.86247 | 3.51860 | 2.52 | 0.0142 | 3.57397 |
| IND | 1 | -2.28449 | 2.83805 | -0.80 | 0.4237 | 2.70792 |
| TMS | 1 | 3.42712 | 1.63883 | 2.09 | 0.0403 | 1.84823 |
| TB X TMS interaction | 1 | 0.30373 | 1.03496 | 0.29 | 0.7701 | 1.15020 |

Among the independent variables, only two were significantly related to effectiveness: organizational culture (b=8.86, t(68)=2.52, P=0.0142) and management support (b=3.42, t(68)=2.10, P=0.040). These results reflect a positive relationship between organizational culture and management support and the level of effectiveness of the audit process (Hypotheses H1 and H2).

c) Hypothesis testing was also conducted using a mediation model, in which management support is defined as a mediating variable in the relationship between trust building and effectiveness level. The two additional variables - auditor independence (IND) and organizational culture (OC) - are also included in the model as additional independent variables (without mediation). The model was employed via structural equations modelling (SEM). The results are presented in Table 6 below.

Table 6. Standardized Results for PATH List.

| Path | Estimate | Pr > t | 95% Confidence Interval |
|---|------------------|---------|-------------------------|
| TB ==> TMS | 0.5124 | <.0001 | 0.3432 - 0.6815 |
| TMS ==> Effectiveness | 0.2485 | 0.0067 | 0.0688 - 0.4282 |
| OC ==> Effectiveness | 0.5822 | <.0001 | 0.3873 - 0.7770 |
| IND ==> Effectiveness | -0.0347 | 0.7424 | -0.2417 - 0.1723 |
| Standardized Indirect Effect of TB on Effectiveness | | | |
| Effect | 0.1273 | | |
| p Value | 0.0145 | | |
| 95% CI | (0.0253, 0.2294) | | |

The results revealed a positive significant effect of trust building on management support (standardized coefficient=0.5124, P<0.0001, 95% confidence interval=0.3432-0.6815), a positive significant effect of management support on effectiveness level (standardized coefficient=0.2485, P=0.0067, 95% confidence interval =0.0688-0.4282) as well as a significant indirect effect between trust building and effectiveness level mediated by the management support (effect=0.1273, P=0.0145, 95% confidence interval =0.0253-0.2294).

Moreover, a positive significant effect of organizational culture on effectiveness level was detected (standardized coefficient= 0.5822, P<0.0001, 95% confidence interval = 0.3873- 0.7770). No significant relationship was found between auditor independence and the level of effectiveness. The conclusion is that the mediation model allows us to understand the relationships between the independent variables and their impact on the dependent variable — the effectiveness of internal audit. Therefore, the appropriate model for this analysis is the proposed model.

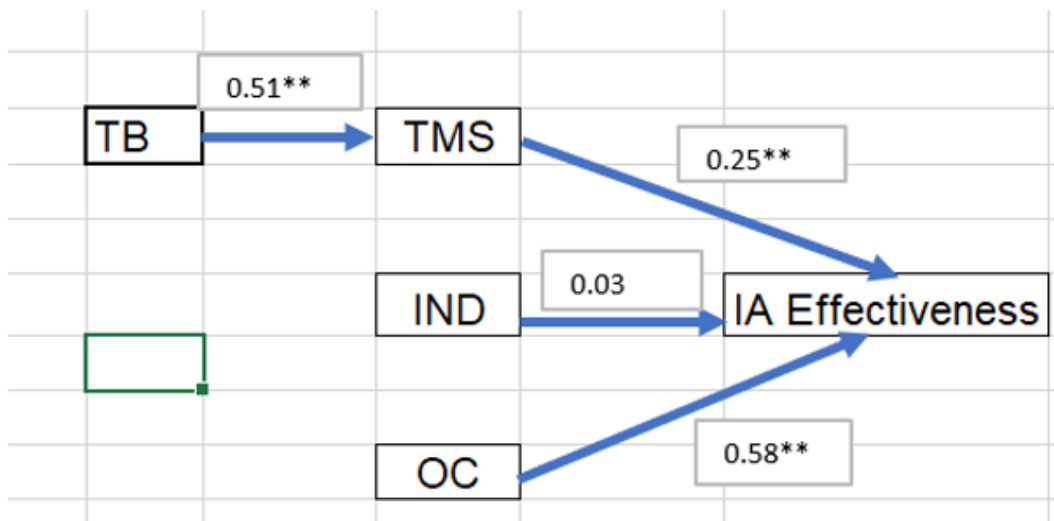


Figure 1. Top Management Support as a Mediator Between Trust-Building and Internal Audit Effectiveness.

9. Discussion and Conclusions

This study examined the impact of cultural and social factors on the effectiveness of internal audit in public sector organizations, focusing specifically on local government in Israel due to its significance and centrality in the Israeli public system. The independent variables investigated were organizational culture, management support, interpersonal trust-building by the auditor, and auditor independence.

The originality of the research lies in the inclusion of interpersonal trust-building as a core explanatory variable. Although rarely explored in prior research on internal audit effectiveness, this variable is important to the relationship between the auditor and auditees, including senior management. Interpersonal trust enhances

communication, facilitates access to information, and improves the likelihood of implementation of the auditor's recommendations and is therefore fundamental to internal audit effectiveness.

The results of our statistical analyses, including a mediation model, revealed several important relationships:

- Interpersonal trust-building has a significant positive effect on management support
- Management support, in turn, has a significant positive effect on IA effectiveness
- Interpersonal trust-building also shows a significant indirect effect on IA effectiveness, with management support acting as a mediating variable in this relationship.

These findings highlight a chain of influence in which trust-building strengthens management support, which then improves audit effectiveness. This dynamic aligns with previous research showing the central role of management support in effective internal auditing (e.g. Alzeban and Gwilliam, 2014; Al-Twajiry *et al.*, 2003; Cohen and Sayag, 2008).

Additionally, a significant positive relationship was found between organizational culture and audit effectiveness. This is consistent with the broader literature demonstrating that a strong and supportive organisational culture positively influences the internal audit function.

In contrast, no significant positive relationship was found between the degree of auditor independence and audit effectiveness. This result may appear counterintuitive given that the internal auditor's statutory role is anchored in law, granting them a high organizational status and autonomy. However, the data suggest that while auditor independence is a necessary precondition, it is not sufficient on its own to ensure internal audit effectiveness. Other relational and contextual factors, such as trust and support, play a more decisive role in practice.

In conclusion, these findings confirm the value of the mediation model in helping us to understand the mechanisms through which these variables affect audit effectiveness. Nonetheless, some limitations should be acknowledged. Firstly, organization culture was assessed solely through self-reports from internal auditors, which may introduce some subjectivity. Secondly, the study focused exclusively on local authorities, limiting generalizability; future research should extend this analysis to other areas of the public sector to improve generalizability.

9.1. Recommendations and Future Research

To strengthen IA effectiveness in local government, management should be encouraged to develop a strong organizational culture, one that encourages knowledge sharing and mutual trust between leadership and employees. This cultural foundation can contribute not only to improved audit effectiveness, but also to improved organizational integrity and performance.

Future research should further explore the role of interpersonal trust-building in effectiveness of internal auditing, across different public service sectors, in order to develop a more nuanced understanding of how trust functions in audit relationships.

On a practical level, internal auditors should be offered professional development in trust-building skills, as these capabilities can directly influence their effectiveness. Responsibility for this lies with both the Ministry of the Interior and local authority management, who should ensure that training and development in this area is prioritised.

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