

Internal Audit effectiveness in Israeli Hospitals

Dr Gabriel Sayag & Prof Dana Vashdi – Haifa University, School of Political Sciences. Department of Public Administration and Policy. E-mail: sayag@technion.ac.il

Abstract:

This study examined structural and cultural factors of hospitals and their impact on IA effectiveness. The main objective is to investigate IA effectiveness in Israeli hospitals and its contribution to the improvement of health care services, to examine the factors that may influence the effectiveness of IA and to map and review the state of IA in Israeli hospitals. Main Findings are: There is a positive relationship between the extent to which the auditor is independent from the head of the hospital and the audit's effectiveness as it is reflected by the inputs and outputs of the audit process; There is a positive relationship between the strength of the learning culture in the hospital and the audit effectiveness as is reflected in the audit process; Most of the audit subjects are not related to the services provided to the patients but rather to administrative process. The research is mainly quantitative also included qualitative elements when classifying the areas in which audits were conducted. Data collection was done mainly by questionnaires filled in by different target groups. Several limitations of the current research may have influenced the findings. Firstly, IA effectiveness was assessed by hospital managers using a questionnaire. While our original intention was to also objectively examine the percentage of implemented audit findings reported in audit reports, we did not receive this information from internal auditors in hospitals. We recommend that future research attempt to obtain such data to examine whether the IA effectiveness as assessed by hospital managers correlates with effectiveness as measured by the percentage of findings corrected. Secondly, there is a limitation regarding the timing of the research. The current research sought to examine audit effectiveness during the implementation process of internal audit in hospitals.

KEYWORDS: internal auditing, organizational learning culture, independence. Top management support, internal audit effectiveness.

1. Introduction & Scientific Background

Internal audit is defined as "Internal auditing is 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. The internal audit comes to assist the members of the organization in efficiently fulfilling their roles. The authorities, activities, and role of internal audit are defined in the Internal Audit Law of 1992" (Ministry of Justice website). The internal auditor plays an important role in examining the organization's conduct, and audit reports are valuable tools for managing institutions for control, supervision, and correction of deficiencies. In order for the internal auditor to perform his role professionally and without bias, it is necessary to maintain his independence and freedom of action to examine any issue and area deemed appropriate and included in his approved audit plan, without dependence on the active management, which is also the subject of the audit (Ministry of Health, Circular 1-2012). Until September 2014, government hospitals were audited only by the internal audit system of the Ministry of Health. After this date, internal auditors were appointed in nine out of eleven general government hospitals. In the two major hospitals, Tel Hashomer and Ichilov, internal auditors were not appointed. In Report 56b of 2006, the State Comptroller determined that "the absence of activity of an internal auditor in medical centers is not proper, as the ability of the internal auditor of the Ministry of Health to audit all hospitals is limited." In the general hospitals owned by Clalit Health Services, internal audit is performed by the internal auditor of Clalit Health Services and its employees. In the effort to appoint auditors to hospitals, the head of the Health System Administration in the Ministry of Health wrote, "There is paramount importance to the existence of internal audit in all hospitals that will assist hospital managers

in promoting the quality of service provided to patients, and together will contribute to the public's trust in the healthcare system" (Duchen, 2014). The explanation was that the existence of internal audit in hospitals would help in examining key issues in the hospital and increase public trust in hospitals. A central task of internal audit in hospitals is to examine the quality of service provided to patients in various areas and assess to what extent this service is performed in accordance with management policy (Engstrom, 1981). Scientific research on the phenomenon of internal audit, its various implementations, and its contribution to various systems is in its early stages (Saig, 2008). However, several studies have been conducted in the field of internal audit in hospitals: Taylor & Francis (2003) compared the role of the auditor and characteristics of internal audit in hospitals to its role in other industries; Malik (2003) described the examination of cleaning systems in hospitals by internal audit, and Barlow (2002) in his study examined factors affecting time access to treatment in hospitals. In other words, audit research generally uses internal audit conducted in an organization to investigate the phenomenon or process of audit and its characteristics, but does not examine whether these processes are effective or the factors that may affect the effectiveness of internal audit. Development of internal audit in hospitals has been evident in recent years and is reflected in research addressing this topic. The following studies can be mentioned: Azzolini et al.'s research (2019) focused on improving the quality of medical records as a result of the work of internal audit; Keclikova's work (2011) on the use of risk management in internal audit work on patient safety in hospitals; and the assistance and support provided by internal audit were demonstrated in a study that developed a methodology for the team to prevent infections in one of the hospitals. Andreas Irodis Rodakos et al. (2021) find that European countries need to address different challenges concerning internal audit in comparison to non-European countries. For instance, European public hospitals need to implement internal audit to develop their risk management practices. In contrast, the public hospitals of non-European countries need to address challenges and issues related to the high corruption rate, the lack of transparency and accountability, and the lack of competent staff. The purpose of Elżbieta Izabela Szczepankiewicz & Beata Zaleska (2018) was to discuss the regulations on and the functioning principles for internal audits in the Polish health care system. Additionally, this study presents selected results of empirical research with regard to the effectiveness of internal audits in university hospitals. This study has shown that the perception of the auditor's role and auditing efficiency varies significantly in comparable institutions. The constantly growing scope of health care institutions bound by the internal audit obligations shows that such audits are indeed necessary and demonstrates the efficiency of internal audits in the public sector. Awinbugri and Daniel (2019) in an examination of determinants of IA effectiveness in selected hospitals in Kumasi, Ghana, found that motivation, independence, effective internal control, adequate IA charter and frequent IA meetings are the major determinants of the IA effectiveness. Myrto Petsi et al. in their research on Greece public hospitals (2023) point out that there is a significant weakness in the independence of the audit. Internal auditors report to the hospital administrator and participate in the audit committee. The appointment and remuneration of auditors is not based on the auditor's competence and suitability, but on a cost basis. The question therefore arises as to whether the auditor performs the duties objectively and impartially in accordance with the International Institute of Internal Auditors' standards.

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 (Barett, 1986; Sawy, 1995; Dittenhofer, 2001; KPMG, 2004; Van Gansberghe, 2005; Mihret & Yismaw, 2007; Ridley & D' Silva, 2008; Cohen & 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 advantages and disadvantages. For example, process measure relies 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 & 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; 2. Implementation rate of internal audit recommendations. Professional literature offers a wide range of knowledge on the concept of effectiveness and numerous studies discussing effectiveness determinants (M. S. Badara & Saidin, 2013; Dittenhofer, 2001; Sayag, 2008; Endaya & Hanefah, 2013; Gramling et al., 2004; Lenz & Hahn, 2015; Lenz et al., 2018). In this study, measuring effectiveness will refer to various dimensions of auditees' perception of the internal audit effectiveness and its contribution to improving patient services. These dimensions are consistent with Ziegenfuss (2000) and Cohen & Sayag (2000) research and include: Audit Environment (AE) composed of criteria such as alertness, audit expectations, audit coverage, feedback, audit topic selection method, and creating interest; Audit Input (AI) including criteria such as audit professionalism, internal audit as an information source, cost-benefit, development, and training; Audit Process (AP) composed of criteria such as auditees' satisfaction, planning versus implementation, audit findings requests; Audit Output (AO) combining criteria such as audit findings, audit recommendations, audit reports, decision-making process, added value. Furthermore, in terms of outcomes, we propose to examine effectiveness by examining the selected audit topics. That is, to what extent the topics examined by internal audit are significant topics derived from the organization's objectives and goals (Ziegenfuss, 2000). Considering the purpose of the audit in healthcare services as defined by the State Auditor, one of the indicators for internal audit effectiveness would be the extent to which the selected audit topics are related to services provided to patients.

2. Factors Affecting the Effectiveness of Internal Audit

The conditions and factors contributing to the existence of internal audit function and its effectiveness are important topics that contribute to the efficiency of organizational functioning. Those within the realm of internal auditors, as well as organizational management and researchers in the field, are key contributors. Literature review indicates numerous variables that may explain changes in the effectiveness of internal audit and its contribution. However, the main variables highlighted by most studies are:

2.1 Independence

The audit process at its various stages - selection of audit subjects, planning and execution of audits, development of findings, conclusions, recommendations, and their presentation and reporting - must be balanced, comprehensive, and objective. This can only be achieved when the internal auditor is independent of the entities they are likely to audit, despite being an employee of the organization. Absolute independence may not exist as internal audit is part of the organization, hence striving for a level of independence that ensures the audit process at its various stages remains unbiased and that the auditor can perform their duties with the required objectivity is essential. Numerous empirical studies have found a correlation between independence and the effectiveness and contribution of audit to the organization. Rittenberg (1977) and Chambers (1987) developed a model of independence of internal audit distinguishing between organizational independence and individual independence. Organizational independence depends on the level of reporting and the support of the organization's top management for the audit function. Individual independence results from 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 indicate that organizational independence factors are most crucial for the efficient and effective work of the internal audit department. Mautz & Sharaf (1964) emphasized the concept of independence as a central pillar in the structure of audit theory, highlighting its importance in audit work. They distinguished between three dimensions of independence parallel to different parts of the audit process: planning independence, investigative independence, and reporting independence. These dimensions

components allow assessing the existing independence in the auditor's work. Independence of internal audit is considered a key factor in its effectiveness (Alzeban and Gwilliam, 2014). In this context, independence is defined as freedom from conditions that might restrict the internal audit in fulfilling its role and responsibilities without bias (Dejnaronk et al., 2016). To enable internal auditors to be independent, there is a need for tools and means for internal audit (D'Onza et al, 2015). Al-Twaijry et al. (2003) found that the existence of regulations defining the procedures of internal audit and its responsibilities contributes to the high effectiveness of audit work. Several studies indicated that the absence of independence in the work of internal audit hinders the satisfactory performance of the audit (Alzeban and Gwilliam, 2014). Della & Omeri (2016) examined the factors influencing the effectiveness of internal audit among 148 organizations, their findings indicate a clear link between the independence of internal audit and its effectiveness. Mustika (2015) found that the effectiveness of internal audit includes the auditor's capabilities and skills, independence of the audit, and the degree of integration of internal and external audits. Chevers et al. (2016) studied the factors affecting the effectiveness of internal audit in commercial banks, finding that the quality of the audit and the independence of the audit significantly influence the effectiveness of audit work. One of the conclusions of their research is the importance of the role of internal audit in ensuring the health and stability of financial institutions. Rudhani et al. (2017) addressed the factors contributing to the effectiveness of internal audit in the public sector, ensuring proper management and transparency of public financial resources. Their empirical analysis results indicate independence as a strong determinant of effective audit work. Musah, Gapketon & Anokye (2018) examined the factors affecting the effectiveness of internal audit in government-owned companies in Ghana, among the factors studied, they found that the independence of audit significantly explained the effectiveness of audit work.

2.2 Top management support

Top management support is considered a critical factor for the effectiveness of internal audit within an organization. This support is manifested in the budget allocated for funding the internal audit department's activities and in the department's staffing arrangements (such as the type and number of employees). Numerous studies conducted in recent years have indicated that the level of management support is a key determinant of the effectiveness of internal audit (Halimah et al., 2012; Alzeban and Gwilliam 2014; Hailerman 2014; Della & Omeri 2016; Chevers et al., 2016; Baheri et al., 2017; Rudhani et al., 2017; Musah et al., 2018). Particularly noteworthy is the work of Oktay Turetken, Stevens Jethofer, and Baris Ozkan (2019), which synthesized the findings of research on the effectiveness of internal audit and its determinants. This was done to derive insights in this field from all academic research in the last two decades. Their work indicated that among the top five most influential factors (clear link), independence of the audit ranked second and top management support ranked fourth in terms of audit effectiveness. However, in hospitals, beyond resource allocation and staffing, top management also has the ability to act as a change agent by encouraging the existence of reliable audit, assisting in overcoming resistance to the organizational process, and influencing problematic factors within the organization (Thong, Yap, and Raman, 1996). Therefore, it is reasonable to assume that top management support in hospitals for internal audit will contribute to the effectiveness of the audit. The factors of independence and top management support have not been examined to date in the context of hospitals, nor has the manner in which they influence the effectiveness of internal auditing within this framework been investigated. Additionally, one organizational variable that may explain differences in the effectiveness of internal auditing is organizational culture, as it reflects the values by which auditors may confront auditing.

2.3 Organizational Learning Culture

Organizational culture is defined as a normative system of shared values and beliefs shaping the feelings, thoughts, and behaviors of organizational members (Schein, 1990). A culture of organizational learning is defined as one of the contextual factors influencing the likelihood of learning occurring within an organization (Fiol & Lyles, 1985). In its definition, it refers to an organization skilled in creating, acquiring, and transferring knowledge, and in changing behavior to reflect new knowledge and insights (Garvin, 1993). Researchers (Popper & Lipshitz, 1998) have defined an organizational learning culture as a hierarchical system of shared values: valid

information, transparency, issue orientation, and accountability, leading to continuous learning. Valid information refers to an individual's willingness to provide complete, accurate, and unbiased information. This value of openness and accurate information sharing is crucial in the auditing process aimed at recognizing findings, correcting, and improving as necessary. Researchers (Argyris & Schon, 1978) argued that employees in organizational settings are pressured to provide distorted information, fabricate information, or conceal it to protect themselves or others. An organizational culture based on the value of valid information allows organization members who internalize this value to withstand pressure to distort information. Transparency refers to an individual's willingness to disclose, in a proper and clear manner, their thoughts and intentions for scrutiny in order to receive constructive feedback. Proper disclosure of information for constructive feedback is crucial in the process of receiving audit findings, leading to the individual's readiness to improve, enhance, and correct necessary flaws, thereby increasing the effectiveness of the audit. Issue orientation refers to an individual's willingness to judge opinions, ideas, and any other information without being influenced by irrelevant factors such as status, race, age, or gender. According to this value, everyone is equal in the pursuit of truth, and there is no readiness to stoop to a personal level. 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, Slocum & Lei, 1993). This value, which opens communication channels for innovation and improvement, is highly significant and central in the audit process aimed at continuously renewing and improving through necessary corrections, achieving audit goals, thus increasing its effectiveness. Accountability refers to an individual's willingness to take responsibility for their actions, whether failures or successes, their outcomes, and deriving lessons from these outcomes. A culture based on the value of accountability encourages effective learning by overcoming barriers to the successful implementation of lessons (Ellis et al., 1999). This value, 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 learning culture and economic performance (Ellinger et al., 2002; Marsick & Watkins, 2003; Selden & Watkins, 2001). A strong learning culture not only helps employees demonstrate high performance but also retains those good employees in the organization (Malik, Danish & Usman, 2010). These researchers further add that sooner or later companies will see a return on investment in organizational learning culture. Organizational culture has been noted to impact internal audit quality and effectiveness. Thus, organizational culture, which includes shared values, assumptions and ways deemed appropriate by organizations for acting on problems and opportunities, influence the internal audit qualities and extended effectiveness in organizations (e.g. Arena and Azzone, 2009; Salih and Hla, 2016; Ahmad et al., 2009). Based on these studies, it can be assumed that a strong learning culture will improve employee performance in meeting audit requirements and, thus, improve the effectiveness of internal auditing. A strong learning culture encourages the search for solutions to professional problems and flaws, so it is reasonable that if a strong learning culture exists in an organization, there will be a desire to learn from experience, correct flaws, innovate, improve, and fulfill internal audit recommendations, thereby contributing to the effectiveness of internal auditing, which aims to improve organizational activities. Behavioral theory, which is founded in 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). Theoretically, 'bounded rationality, which was introduced by Herbert Simon in 1957, posits that rational behavior is compatible with access to information and actual capacities of organisms, including also man, depending on the environmental dynamics of the organisms. Tapping into the effective behaviour notion of bounded rationality, this study draws from behavior foundation to understand internal audit nature and effectiveness. Specifically, we follow the theoretical framing that associates behavior to culture, a perspective that has garnered focus in understanding organizational dynamics (e.g. Opute, 2014; Opute et al., [in press]). According to the culture lens, the values that feed into the mindset of individuals or the philosophy of an organization, shape decision making. In this study, we focus mainly on national (e.g. Opute and Madichie, 2017; Opute et al., [in press]) and organizational (Schein, 1985; Ogbonna and Harris, 2001; Cadden et al., 2013)

culture. The research conducted (Rindu Rika Gamavuni (2018) has shown that the internal auditor competence and objectivity, and organization culture has significant influence to the effectiveness of internal audit function. The findings of Mohammad Odeh Salem Almari & al. (2022) indicate 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.

3. Research Questions

The main objectives of the research are: a) To examine the effectiveness of internal auditing in hospitals in Israel and its contribution to improving patient care. b) To explore the factors influencing the effectiveness of internal auditing. c) To survey and map the status of internal auditing in hospitals in Israel. d) To assess the extent to which audited topics are related to patient care. e) To assist in designing a policy that promotes optimal utilization of internal auditing resources in hospitals.

4. Research Hypotheses

H1: Internal auditing will be more effective as the degree of independence of internal auditing is higher. H2: Internal auditing is more effective in hospitals where it receives strong support from hospital management, compared to other hospitals where such support is weak or absent. H3: A positive correlation will be found between organizational learning culture and the effectiveness of internal auditing; the stronger the organizational learning culture, the greater the effectiveness of internal auditing. This research offers theoretical and practical contributions. Theoretically, it examines organizational factors (organizational culture and climate measures) and their influence on the effectiveness of internal auditing. Practically, it allows for the examination of the relationship between the effectiveness of internal auditing and organizational characteristics, providing new insights. The research results may assist the Ministry of Health in determining the desired policy regarding internal auditing in hospitals to ensure its effectiveness. Additionally, the importance of the research lies in mapping and surveying the status of internal auditing in Israeli government hospitals.

5. Research Methods

Research Type: This study is primarily quantitative but also incorporates qualitative elements in the initial stages. The qualitative aspect includes examining the topics chosen as audit subjects in each hospital. The research population included most of the general government hospitals in Israel where internal auditing exists. In practice, six government hospitals were included (out of a population of 9 hospitals).

6. Data Collection Method

Data collection regarding the research variables was mainly done through questionnaires distributed among hospital staff (across all teams), internal auditors, and hospital managers. The dependent variable (effectiveness of internal auditing) was based on both auditors' perceptions of the effectiveness of internal auditing in hospitals and the extent of relevance to audited topics to patient care as assessed by auditors. The independent variables were also determined through questionnaires and were rated on a scale of 1-5. The data collection method regarding the research variables was primarily conducted through surveys distributed among hospital employees (across all their teams), internal auditors, and hospital managers. The dependent variable (effectiveness of internal audit) was based mainly on the perception of auditees regarding the effectiveness of internal audit in hospitals, and additionally on the degree of relevance of the issues examined by internal auditors to the service provided to the patient. The independent variables were also determined through surveys and were assessed on a scale ranging from 1 to 5.

6.1 Definition of Dependent and Independent Variables

6.1.1 Dependent Variable

The effectiveness of audit was measured through: Perception of the effectiveness of internal audit by auditees through a questionnaire filled out by the hospital manager (IIA, IPPF – Practice Guide; Sayag and Cohen, 2009). Example items include: "The audit report was accurate and its findings were clear"; "The audit report added value and led to improvement in the audited area's processes." Participants were asked to rate their agreement with each statement on a 5-value scale (ranging from 1 for very disagree to 5 for very agree). These dimensions include: Audit Environment (AE), Audit Input (AI), Audit Process (AP), and Audit Output (AO). In addition, Percentage of issues selected in the internal audit plan related to services provided to patients was measured. Content analysis method was based on reviewing audit topics examined in the last three years in each hospital and an independent note of three judges regarding the classification of topics as related or unrelated to patient service.

6.1.2 Independent Variables:

Independence – Nominal definition: The organizational separation degree of internal audit concerning audited activities and the organizational status of the internal auditor. Measured through a questionnaire to the internal auditor, which has been previously validated and reliable (Sayag, 2008). 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. Participants were asked to rate their agreement with each statement on a 5-value scale (ranging from 1 for very disagree to 5 for very agree).

Senior Management Support: Nominal definition - The degree of support from the hospital management in internal audit. Measured through a questionnaire to the internal auditor, previously validated (Sayag, 2008). Sample items include: Senior management does not provide strong support as expected during audit work; management does not respond to the equipment needs of the internal auditor, which is reflected in the minimal resources allocated to this clause. Participants were asked to rate their agreement with each statement on a 5-value scale (ranging from 1 for very disagree to 5 for very agree).

Organizational Culture: This variable consists of four dimensions: Valid Information, Transparency, Issue Orientation, and Accountability. The general questionnaire items for organizational learning culture are based on previous works and found to be valid and reliable (Popper & Lipshitz, 1998; Ellis, Caridi, Lipshitz & Popper, 1999). The general questionnaire consists of 34 items divided according to the following dimensions: Valid Information – including 9 items, e.g., "People in the hospital think it's always more profitable to tell the truth"; Transparency – including 5 items, e.g., "The hospital tends to discuss errors within the work framework"; Issue Orientation – including 9 items, e.g., "Our hospital addresses the mistake itself and not the one making it"; Accountability – including 11 items, e.g., "Everyone in the hospital sees themselves responsible for the actions they perform." Organizational members, who are representative and random cases of the organization, were asked to rate their agreement with each statement on a 5-value scale (ranging from 1 for very disagree to 5 for very agree).

7. Statistical Methods for Data Analysis:

7.1 Psychometric characteristics analysis of dependent and independent variables.

7.2 Regression analysis to examine whether there are relationships between internal audit characteristics and organization (hospital) and IA effectiveness. Additionally, differences between hospitals were examined. Since the number of hospitals is relatively small (n=6), correlations were performed only with a limited number of independent variables (Independence, Senior Management Support, and Organizational Culture).

8 Challenges in Data Collection

Despite obtaining approval for the research and ensuring cooperation from both internal auditors in government hospitals through a collaborating researcher who is the head of the audit department in the Ministry of Health,

and from the internal auditors of hospitals under the Clalit Health Insurance through the inclusion of the chief internal auditor who at the time had completed his tenure and expressed willingness to participate in the research, we failed to materialize this cooperation. In fact, the research encountered numerous difficulties stemming from three factors: the refusal of the Clalit Health Insurance and its hospitals to participate in the research, opposition from some internal auditors of government hospitals to collaborate with the research editors; the illness of the research center director, which resulted in postponing the research for an additional three months.

Despite repeated and varied requests from the research center director, the principal researchers, and the former chief internal auditor of the Clalit Health Insurance, the chairman of the board of directors of the Clalit Health Insurance, and the current chief internal auditor did not even respond to a request for a single meeting to present the research highlights to them. They refused to cooperate with research on the topic of internal audit. In contrast to this difficulty, while there was widespread agreement among the internal auditors in government hospitals from the outset of the department for internal audit at the Ministry of Health to cooperate with the research, and despite numerous attempts by all internal auditors to collaborate with the research, the auditors themselves strongly opposed the research. Almost all hospital managers cooperated, as did various employees in each hospital, but there seemed to be a specific issue with the auditors. Even when we gathered them together and explained the nature and importance of the research, they expressed great concern about answering any questionnaire related to their work. Ultimately, the research editors managed to overcome this difficulty, and most government hospitals participated in the research, a total of 6 hospitals.

9. Findings

9.1 Theoretical Statistics

- a) Table 1 presents the means and standard deviations of the research variables. All variables were measured on a scale of 1-5. From this table, it can be seen that organizational learning culture is the variable with the highest average among all other variables followed by audit effectiveness and lastly - independence of internal audit and top management support.
- b) Table 1: Means and Standard Deviations of Research Variables

Variable	Standard Deviation	Mean
Hospital Size (number of hospital beds)	233.66	655.67
Number of Staff in the Hospital	887.13	2,450
Auditor Tenure (in years)	1.20	2.58
Training Type (Master's degree in auditing)	0.55	0.50
Job Scope (Full-time/Part-time)	0.40	0.17
Employment Type (Permanent/Contractual)	0.51	0.67
Independence of Audit Manager	0.68	3.01
Independence in Information	1.48	3.72
Auditor Autonomy	1.91	3.17
General Independence	1.25	3.30
Management Support	0.83	3.11
Effective Information	0.14	3.90
Transparency	0.06	4.30
Relevance	0.25	4.80
Accountability	0.22	4.89
Learning Culture - General	0.11	4.47
Audit Environment	0.50	4.35
Audit Commitments	0.49	4.46
Audit Process	0.68	4.17

Variable	Standard Deviation	Mean
Audit Outputs	0.53	4.06
Audit Effectiveness - General	0.37	4.26
Number of Audit Reports	1.82	4.60
Percentage of Reports Related to Patient	0.29	38%

c) Profile of Internal Auditors in Government Hospitals

d) All auditors hold academic degrees in fields such as accounting, law, industrial engineering, management, etc. One auditor holds a doctorate in epidemiology. In the field of audit, some have a certificate in the field, and half have acquired academic education in the field (bachelor's and/or master's degree) during their work in the hospital. Most internal auditors are employed full-time except for one hospital where the auditor is employed part-time at 80% and works on a personal contract. In large hospitals (over 655 beds), the auditor has an average tenure of more than three years. Except for one auditor, all have remained in the same hospital since the beginning of their tenure.

Hospital	Hospital Size (Number of Beds)	Number of employees	Internal Auditor tenure	Training Type	Job time	Contract Type
1	962	3500	3	1	1	1
2	848	3400	3	1	0	1
5	723	2700	4	0	0	0
3	567	1700	2	2	0	1
6	506	2000	3	0	0	1
4	328	1400	0.5	0	0	0
Average	656	2,450	2.58	0.67	0.17	0.67

Table 2: Internal Auditor Profile

Research hypothesis testing by examining relationships between variables

Since we are dealing with a small sample, even a high correlation between two variables may not provide sufficient statistical significance. Therefore, in order to test hypotheses H1, H2, H3, we examined the strength of the relationship between the variables without considering statistical significance. Additionally, regarding the dependent variable, audit effectiveness, we created a composite variable. Thus, the new variable represents a comprehensive effectiveness index constructed from the average of four internal effectiveness indicators: audit environment, audit commitment, audit process, and audit output.

9.2 Testing Research Hypothesis

To examine hypothesis H1, which claims that the higher the level of internal audit independence, the more effective the internal audit in government hospitals will be, we examined the Pearson correlation coefficient between these two variables. As can be seen from Table 3, there is no relationship between the overall independence index and the overall effectiveness index ($r = 0.134$). However, a positive relationship was found between the level of independence of the auditor and his or her manager and specific effectiveness indices, audit commitment ($r = 0.534$), and audit outputs ($r = 0.627$), thus partially supporting this hypothesis. Surprisingly, a negative relationship was found between all independence indices and the effectiveness of the internal audit process in hospitals; in general, the less independence, the less effective the audit process. However, a high

level of independence between the auditor and the manager actually enhances the effectiveness of the subsequent audit, reflected in better commitments and outputs.

Table 3: Relationships Between Independence and Audit Effectiveness

	Independence of Auditor - Manager	Independence of Information	Auditor Autonomy	General Independence	AE	Ai	AP	AO	Overall IAE
Independence of Auditor - Manager	1								
Independence of Information	0.386	1							
Auditor Autonomy	*813.	*842.	1						
General Independence	0.751	*897.	**993.	1					
AE	0.057	0.009-	0.123	0.069	1				
Ai	0.534	0.135-	0.278	0.186	0.7	1			
AP	0.528-	0.538-	0.561-	0.596-	0.6	0.25	1		
AO	0.627	*838.	*902.	*907.	0.2	0.2	0.31	1	
Overall IA Effectiveness	0.175	0.004	0.197	0.134	**948.	0.77	0.65	0.4	1

8.2 Examination of Research Hypothesis H2

The second hypothesis argue that internal auditing is more effective in hospitals where it receives strong support from hospital management. This hypothesis cannot be confirmed, as Table 4 shows that there is no relationship between management support and the effectiveness of internal auditing in hospitals.

Table 4: Relationship Between Management Support and Effectiveness of Internal Auditing

	Audit Environment	Audit Attention	Audit Process	Audit Output	Overall Effectiveness	Management Support
Audit Environment	1					
Audit Input	0.748	1				
Audit Process	0.639	0.251	1			
Audit Output	0.194	0.204	-0.305	1		
Overall Effectiveness	0.948**	0.770	0.652	0.351	1	
Management Support	0.248	0.220	0.253	-0.216	0.195	1

(Note: The table shows the correlation coefficients between different variables related to the audit environment, input, process, output, overall effectiveness, and management support. The asterisks indicate significant correlations, where applicable.)

8.3 Examining Research Hypothesis H3

This hypothesis pointed that there would be a positive correlation between organizational learning culture and the effectiveness of internal auditing. Specifically, the stronger the organizational learning culture, the more effective

the internal auditing would be. As shown in Table 5, there is a strong positive correlation between the overall learning culture index and the overall effectiveness index ($r=0.589$), which supports this hypothesis. Additionally, it can be seen that when the overall organizational learning culture is strong, the effectiveness of the audit, as reflected in the audit environment ($r=0.521$) and the audit process ($r=0.653$), is high.

There is also a strong positive correlation between specific values of the learning culture, transparency ($r=0.566$) and relevance ($r=0.623$), and overall effectiveness.

Table 5: The Relationship Between Organizational Learning Culture and IA Effectiveness

	AE	AI	AP	AO	IAE	valid info	Transparency	Practicality	Responsibility	General Learning Culture
AE	1									
AI	0.748	1								
AP	0.639	0.251	1							
AO	0.194	0.204	-0.31	1						
IAE	.948**	0.77	0.652	0.351	1					
valid info	-0.18	-0.41	-0.53	0.6	-0.22	1				
Transparency	0.599	0.229	0.633	0.011	0.566	0.056	1			
Practicality	0.557	0.343	.960**	0.339	0.623	-0.71	0.53	1		
Responsibility	0.351	-0.15	0.778	0.062	0.453	-0.03	0.7	0.7	1	
General Learning Culture	0.521	0.031	.865*	0.008	0.589	-0.12	0.8	0.8	.975**	1

Note:

- ** indicates significance at the 0.01 level.

*indicates significance at the 0.05 level.

Title: Effectiveness of Audits in Addressing Patient Services:

The effectiveness of audits, as measured by the percentage of audit reports addressing patient services, was a focal point of this study. Another objective was to examine the topics addressed in audit reports and assess the extent to which these reports dealt with issues related to the patients themselves. Table 6 summarizes the topics covered in audit reports across all government hospitals. As can be seen, many of the topics are unrelated to patient services but rather focus on administrative matters.

One possible reason for this selection may be that it is easier for a non-medical auditor to examine and address administrative issues. Additionally, auditors may choose topics within their "comfort zone" professionally, and there may be professional considerations regarding medical treatment issues with relevant professional oversight both within the hospital and at the health ministry level. Another possibility is that hospital stakeholders may view external audit findings related to medical matters with skepticism and may engage in power struggles over how to address them effectively.

Table 6 - Topics Addressed in Audit Reports

Topics Addressed	Patient Service Focus
Appointment scheduling service	Yes
Medical and administrative services for patients	Yes
Administrative services for hospital staff and patients	Yes
Catering services in departments	Yes
Billing and operation of administrative services	Yes
Audit topic - Factors affecting patient satisfaction with hospital food perception	Yes
Management and treatment cancellation procedures	Yes
Patient scheduling for outpatient clinics/post-discharge from adult outpatient clinics	Yes
Payment collection for infant food substitutes	No
Petty cash operations in treasury departments	No
Pharmacy drug supply chain management	No
Deficiencies identified in the last licensing inspection of the hospital	No
Customer collections	No
Cash management	No
Drug procurement	No
Laundry processes	No
Medical equipment procurement process	No
Hospital parking management	No
Hospital information security	No
Inventory management in various storerooms	No
Procurement	No
Medical records	No
Computing	No

- In addition to the above, we examined whether various factors we hypothesized to be related to audit effectiveness were correlated with the percentage of audit reports addressing patient services. As shown in Table 7, there is an inverse relationship between the percentage of reports addressing patients and the degree of independence and managerial support. It appears that the more independence there is between the auditor and management, the fewer reports relate to patient services. Similarly, higher managerial support correlates with a lower percentage of reports concerning patient services.

Discussion and Conclusions

The research examined three factors that may influence the effectiveness of audit in government hospitals in Israel. While the research findings must be approached with caution, the study primarily highlights the importance of a strong organizational learning culture, as it relates to audit effectiveness. Since organizational learning culture is a characteristic that develops over time and is very difficult to change, and since the audit function is relatively new in government hospitals, it is reasonable to assume that the culture enables more effective audit rather than effective audit leading to a strong learning culture (although this should be further examined in future research).

Secondly, it was found that the greater the independence between the auditor and the hospital manager, the better the audit outcomes. The auditor's independence is measured at each stage of the audit: from selecting the

topics to be audited, planning, execution, findings formulation, conclusions, and recommendations. As the internal auditor performs their work independently, plans the audit in the field, determines schedules, and designs the work plan without being influenced by factors they audit, the audit outcomes are much better. Thirdly, the research did not find a relationship between management support and audit effectiveness. In light of conflicting findings regarding this relationship in the recent research by Yeboah (2020), this finding is important as it adds another dimension to the understanding that effectiveness is not dependent on management support. Finally, the research examined audit topics that are more relevant to the service received by the patient. The topics related to anyone seeking treatment in a hospital and affecting health. It was found that the topics examined in internal audit processes focused more on seemingly managerial issues (all ultimately related to the patient) rather than on issues related to medical treatment. This finding may characterize the situation in other organizations where internal audit processes are relatively new, and over time, many more issues directly related to the patient may be addressed.

From a theoretical perspective, the research primarily contributes to the literature on internal audit as it analyzes, for the first time to our knowledge, the effectiveness of audit in hospitals. Hospitals are complex organizations, and it seems that variables related to effective audit in other organizations do not have the same influence in hospitals.

Limitations of the research and future research directions

Several limitations of the current research may have influenced the findings. Firstly, audit effectiveness was assessed by hospital managers using a questionnaire. While our original intention was to also objectively examine the percentage of implemented audit findings reported in audit reports, we did not receive this information from internal auditors in hospitals. We recommend that future research attempt to obtain such data to examine whether the effectiveness as assessed by hospital managers correlates with effectiveness as measured by the percentage of findings corrected. Secondly, there is a limitation regarding the timing of the research. The current research sought to examine audit effectiveness during the implementation process of internal audit in hospitals. The research allows for understanding the factors contributing to effectiveness at the beginning of the implementation process of internal audit in hospitals, but it is possible that research in another ten years will find other factors. Thirdly, the current research sought to examine effectiveness based on audit outputs. This represents a narrow assessment of audit implementation. Since an essential component of policy implementation process is assessing policy outcomes, further research is needed to examine the broader impact of audit programs. At the core of audit programs lies a crucial social issue for improving patient service and enhancing citizen trust in government hospitals. Finally, the current research examined internal audit only in government hospitals. While our intention was to compare audit processes in government hospitals with those in general health maintenance organizations, this did not materialize. Future research should examine this difference, as these are very different models of audit work, and it is worth examining which model is the most effective.

Recommendations for Policy Formulation for Decision-Makers

Ways must be found to encourage internal auditors to audit the processes related to patient services and not just administrative processes. It is recommended that hospital management and the Internal Audit Department of the Ministry of Health clarify to hospital auditors the importance of the service provided to the patient and include it in the subjects of the annual audit plan. In order for the audits in government hospitals to be effective, ways must be found to increase the independence between the hospital director and the auditor. To achieve this, an audit committee can be established to professionally support the work of the hospital auditor. This would strengthen the oversight of the hospital while ensuring a higher degree of auditor independence. The auditor's reporting should be dual – to the hospital director and to the audit committee. Similar to many other public organizations, such an audit committee should include at least three independent members whose purpose is to examine the internal audit framework of the hospital and the performance of the internal auditor, as well as

ensure that the necessary resources and tools are available for the auditor to fulfill their role. It is appropriate that this process be carried out in coordination with the internal auditor of the Ministry of Health. Another long-term alternative is to examine the possibility of a radical change in the organizational structure of internal auditing in government hospitals. It is appropriate to discuss the implementation of a different structure similar to that existing in Clalit Health Services hospitals. This organizational structure may increase the independence of the audit and improve its performance and effectiveness. The management of government hospitals should be encouraged to develop a strong organizational learning culture. This can be achieved by creating an organizational atmosphere that encourages knowledge sharing within the organization and trust between hospital management and employees. These conditions will contribute to better conduct within all parts of the organization, which will also lead to improved performance in the field of internal audit.

Bibliography

Ahmad, Z., & Taylor, D. (2009). Commitment to independence by internal auditors: the effects of role ambiguity and role conflict. *Managerial Auditing Journal*, 24(9), 899-925.

Andreas, G., K. et al. (2021). A systematic literature review on the implementation of Internal Audit in European and non- European public hospitals. *Journal of Governance and Regulation / Volume 10, Issue 4, Special Issue*, 336 A

Al-Twajjry et al., (2003); Cohen & Sayag (2008); Geis (2010); Halimah et al. (2012); Alzeban and Gwilliam, (2014); Hailerman (2014)

Alzeban and Gwilliam, (2014); Mustika (2015); D'Onza et al. (2015)

Arena, M., & Azzone, G. (2006). Identifying organizational drivers of internal audit effectiveness. *International Journal of Auditing*, 21(3), 43-60.

Argyris, C., & Schon, D. (1978). *Organizational learning: A theory in action perspective*. Reading, MA: Addison-Wesley.

Barlow, G. L. (2002). Auditing hospital queuing. *Managerial Auditing Journal*, 1(7), 397-403.

Cahill, E. (2006). Audit committee and internal audit effectiveness in a multinational bank subsidiary: a case study. *Journal of Banking Regulation*, 25(1), 79-98.

Chambers, A. (2008). The board's black hole – filling their assurance vacuum, can internal audit rise to the challenge. *Measuring Business Excellence*, 12(1), 47-63.

Chambers, (2008); Cohen & Sayag (2008); Christopher & al., (2009); Sarens & al.; (2009); Lenz & Sarens, (2012);

Cohen, A., & Sayag, G. (2010). The effectiveness of internal auditing: an empirical examination of its determinants in Israeli organizations. *Australian Accounting Review*, 20(3), 296-307.

Della & Omeri (2016); Chevers et al., (2016); Dejnaronk et al., (2016) Rudhani et al., (2017); Musah et al., (2018)

- Dittenhofer, M. (2001). Internal audit effectiveness: an expansion of present methods. *Managerial Auditing Journal*, 16(8), 443-450.
- Engstrom, J. H. (1981). Internal Auditing in Hospitals. *Journal of Health & Human Resources Administration*, 3(4), 550-552.
- Edwards, D. et al. (2004). IA in hospitals. *Hospital Topics*, 81(4), 13-18.
- Elzbieta, I. & Beata Z, (2018). Development of internal audit systems in Polish university hospitals. *Public Governance*. 45(3).
- Lampe, J, C., & Sutton, S. G. (1994). Evaluating the work of internal audit: a comparison of standards and empirical evidence. *Accounting and Business Review*, 24, 335-348
- Ellinger, A. D., Ellinger, A. E., Yang, B., & Howton, S. W. (2002). The relationship between the learning organization concept and firms' financial performance: An empirical assessment. *Human Resource Development Quarterly*, 13(1), 5–21.
- Ellis, S., Caridi, O., Lipshitz, R., & Popper, M. (1999). Error criticality and organizational learning: An empirical investigation. *Knowledge and Process Management*, 6, 166- 175.
- Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review*, 71(4), 78-91.
- Fazli, A. S., Muhammadun, M. Z., & Ahmad, A. (2013). The effects of personal and organizational factors on role ambiguity amongst internal auditors. *International Journal of Auditing*, 18(2), 105-114.
- Fiol, M. C., & Lyles, M. A. (1985). Organizational learning. *Academy of Management Review*, 10(4), 803-813.
- Frigo, M. L. (2002). A Balanced Scorecard Framework for Internal Auditing Departments. Altamonte Springs, FL: The IIA Research Foundation.
- Geis, A. (2010). Nutzenpotentiale der Internen revision. Dissertation.
- Gramling, A. A., Malletta, M. J., Schneider, A., & Church, B. K. (2004). The role of the internal audit function in corporate governance: a synthesis of the extant internal auditing literature and directions for future research. *Journal of Accounting Literature*, 23, 192-194.
- KPMG. (2009). The Audit Committee Journey, Audit Committee Institute, KPMG, London.
- Marsick, V. J., & Watkins, K. E. (2003). Demonstrating the value of an organization's learning culture: The Dimensions of Learning Organizations Questionnaire. *Advances in Developing Human Resources*, 5, 132–151.
- Malik, M. E., Danish, R. Q., & Usman, A. (2010). Impact of motivation to learn & Job attitudes on organizational learning culture in public service organization of Pakistan. *African journal of Business Management*. Vol. 5(3), pp. 844-854.
- McGill, M. E., Slocum, J. W., & Lei, D. (1993). Management practices in learning organizations. *Organizational Dynamics*, 22(1), 5- 17.

Mihret, D. G., James, K., & Mula, J. M. (2010). Antecedents and organizational performance implications of internal audit effectiveness. *Pacific Accounting Review*, 22(3), 224-252.

Mihret, D. G., & Yismaw, A. W. (2007). Internal audit effectiveness: an Ethiopian public sector case study. *Managerial Auditing Journal*, 22(5), 470-484.

Rittenberg, L. E., & Anderson, R. (2006). A strategic player, hiring and inspiring a chief audit executive. *Journal of Accountancy*, 22(1), 51-54.

Sarens, G., & Abdolmohammadi, M. J., & Lenz, R. (2012). Factors Associated with the internal audit function's role in corporate governance. *Journal of Applied Accounting Research*, 13(2) 191-204.

Sayag (2008). *Internal Audit Effectiveness in Israeli Organizations – The Israeli Case*. A thesis submitted for the Degree “Doctor of Philosophy”. Haifa University

Schein, E. H. (1990). Organizational culture. *American Psychologist*, 45, 109- 119.

Selden, G., & Watkins, K. (2001). Learning organizations: What impact do they really make? *Troy State University Business and Economic Review*, 25(2), 8-12.

Thong, J. Y., Yap, C. S., & Raman, K. S. (1996). Top management support, external expertise, and information systems implementation in small businesses. *Information systems research*, 7(2), 248-267.

