

Conference Paper

Independence of Internal Audit Unit Influence the Internal Audit Capability of Malaysian Public Sector Organizations

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Abstract

Measuring capability level of a service provider is ambiguous, so does an internal audit unit in the public sector. Prominently, there is very scarce research conducted on this issue. In this study, the Internal Audit Capability Model (IACM) is used to measure the capability while the independence of the internal audit is studied as one of the factors influencing it. Questionnaires were sent to head of internal auditors which list obtained from National Audit Department. Total of 70 responses was received and analyzed for descriptive statistics and relationship testing using SPSS and SmartPLS. It was found that 47 organizations were only at capability level 1 Initial while remaining 13 organizations were at least scored capability Level 2 Infrastructure. This shows that the Malaysian public sector must strengthen its internal audit unit, especially in People Management, to develop higher capability level. It was also found that independence of the internal audit unit has a positive and significant influence on the overall internal audit capability level. Lack of independence results in lack of quality internal audit unit thus gives an impact on the capability level. IACM used in this study could provide the organization with a road map to enhance its capability.

Keywords: Internal Audit Capability Model, IACM, internal audit, Malaysia.

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1. Introduction

“How does the public sector measure their internal audit capability?” is the main question that drives this study to be conducted. Every year without failing, Auditor’s General released a series of audit reports of Malaysian public sector organizations, entailed the financial performance and activities. These audit reports are made available to the public. More than not, these reports contain various weaknesses and inefficiencies related to mismanagement, improper handling of government assets, wastage, etc. According to Auditor General, internal audit function plays a proactive role as a monitoring mechanism and in examining ongoing projects. It may assist public

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sector entities in achieving their objectives effectively, efficiently, economically, and ethically by providing unbiased and objective assessments (Ahmad, Othman, Othman, & Jusoff, 2009). To ensure a proper mechanism exist, auditor general for the last few decades has been emphasizing on the establishment of effective internal audits, to assist controlling officers to discharge their duties effectively within each organization. This is because, the internal auditors are directly responsible to the controlling officers instead of the Treasury, whom in the first place, instates all the policy, rules, and guidelines regarding the internal audit function. These controlling officers and the central agencies are responsible for monitoring the information and achievement of plan objectives. Even though the staff is filled by civil servants and officers from the National Audit Department (NAD), NAD would only report on deficiencies in budget implementation, inadequate or poor record-keeping, weak systems, and controls, as well as improper payments and authorization (E. I. E. Ali, 2015). Therefore, it is vital for the organizations to identify their internal audit capability in order to ensure that their audit findings and report are up to the par, benchmarked with the worldwide standard. Unfortunately, the assessment for the performance of internal audit function is made available only to organizations under purview of the Ministry of Finance (MOF) and does not serve as self-assessment for all public sector organizations. This assessment consists of the following elements: (i) general; (ii) audit planning; (iii) audit execution; (iii) audit reporting; (iv) staffing and competency; (v) general administration; and (vi) audit committee (Fern, 2015). The assessment results of the performance of internal audit functions are not disclosed to the public, and those organizations not under the purview of MOF also are not able to identify their capability level. The lack of proper measurement for internal audit capability is not faced by Malaysian public sectors organizations only, but worldwide. Various studies and researches had been conducted to measure the performance of internal audit function, the effectiveness of internal audit, and so on. Nevertheless, there is none worldwide acceptable measurement had been agreed for measuring the internal audit capability in the public sector. However, in 2009, the Institute of Internal Auditors Research Foundation (IIARF) was able to introduce a measurement model so-called Internal Audit Capability Model (IACM). This model was the first of its kind to measure capability levels specifically for the public sector and was validated globally through on-site feedback from numbers of volunteers and public sector organizations (MacRae & Sloan, 2017). The very little study reported the use of IACM by academicians worldwide and even more scarce in Malaysia. Thus, this research adopted the IACM measurement to measure the internal audit function in Malaysian public sector organizations. Moreover, this study attempts to introduce the

IACM as to the endogenous variable in which independence of internal audit is served as its construct predictor. Independence of internal audit is one of the most fundamental elements needed for effective internal audit function, as per the definition of the internal auditing.

2. Literature Review

Internal auditing is defined by the Institute of Internal Auditors (IIA) 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” (Institute of Internal Auditors Research Foundation, 2009). This profession is practiced globally either in the public or private sector, within a mixture of environments, law and customs, and a variety of organizations’ purpose, size, and structure. It is expected that internal auditors follow the IIA’s International Standards for the Professional Practice of Internal Auditing (Standards) and adhere to its Code of Ethics. To provide assurance of effective and efficient governance processes, adequate internal controls and achieving organizational goals and objectives, the internal audit activity should collaboratively work with all level of organization’s hierarchy and the oversight body (Institute of Internal Auditors Research Foundation, 2009). Hence, the main concern arises on how capable the internal audit functions is, in performing their duty and responsibilities?

2.1. Study on Internal Audit Capability

Countless research had been conducted in the stream of internal auditing worldwide. However, the body of knowledge is not yet comprehensive for internal auditing studies in the public sector. More scarcely, studies conducted in evaluating the internal audit capability. Lester (2014) had discussed critically on the idea of capability for a profession had discussed critically on the idea of capability for a profession. He claimed that probably by 2012, there is yet any professional standards framework, except for several professions such as a landscaper, engineer, etc. that can be described as fully informed by a capability approach. However, Lester’s capability idea is referred to an individual profession, not an organizational level. Prior research conducted by Wu and Wu (2013), highlighted the firm-specific capabilities in terms of operations capability, technological capability, and marketing capability. While Tseng and Lee (2014) studied

several other organizational capabilities in terms of knowledge management capability, resource-based capability, and dynamic capability of organization. Several other kinds of research had also studied various other firm's capabilities. These capabilities measured are mostly based on descriptive means computed from items to be answered by respondents (level of agreement with the statement).

Instead, the more structured measurement on various firm capabilities attributes had been widely proposed based on the Capability-Maturity Model Integration (CMMI)® deployed by Software Engineering Institute, Carnegie Mellon University. This CMMI is one of its kind that provides a robust measurement of capability and maturity of product and services that consist of five distinct levels with various process areas (CMMI Product Team, 2010). As for the CMMI standard, it is currently divided into three categories including CMMI for Development (CMMI-DEV) focused on product and service development, CMMI for Acquisition (CMMI-ACQ) centered on acquisitions and supply of goods and service from others, and CMMI for Services (CMMI-SVC) directed to the processes of service organizations (Duarte & Martins, 2013) as cited in (Maneerat, Malaivongs, & Khlaisang, 2015). Some studies have also adapted the CMMI measurement to measure various others such as the People Capability Maturity Model to enhance workforce capability (Chen & Wang, 2018; Surega, 2019), Intellectual Capital Maturity Model (Vaz, Selig, & Viegas, 2019), Analytic Processes Maturity Model (APMM) for evaluating the analytic maturity of an organization (Grossman, 2018) and so on. In the auditing field, Internal Audit Capability Model (IACM) had been developed by the Institute of Internal Auditors Research Foundation (2009) utilizing the CMMI measurement. Since then, few studies have been highlighted for using IACM to evaluate the capability level of internal audit units in public sector worldwide include internal audit activities from Asia, Africa, North America, South America, and Europe. In Asia, the *Badan Pengawasan Keuangan dan Pembangunan* (BPKP) Indonesia (2010-2015) has adopted IACM to carry out an assessment survey of the strengths and weaknesses of Inspectorates General in Government of Indonesia. Then, the Office of Auditor General, Asian Development Bank, Philippines (2017) had also adopted IACM to examine the maturity level of the internal audit function in the member of states ASEAN. IACM was used to benchmark against statistics obtain from Institute of Internal Auditors 2010 Global Internal Audit Survey participated by 2284 respondents from 107 countries, including Asians. (Ayagre, 2015; Barac, Coetzee, & Van Staden, 2017; Institute of Internal Auditors Research Foundation, 2009; Janse van Rensburg & Coetzee, 2016; MacRae & Gils, 2014a; MacRae & Sloan, 2017; Mulyatini, 2018; Protiviti, 2013; Sondh, 2018). Specifically, in Malaysia, this is the second study officially conducted using IACM to evaluate the Malaysian public sector

internal audit after master's degree thesis published by Fern (2015). The current study conducted has been acknowledged in the Overview and Application Guide of Internal Audit Capability for the public sector released by Internal Audit Foundation (MacRae & Sloan, 2017). Unfortunately, there is very scarce research and studies conducted in evaluating the relationship between IACM and other factors, its antecedents and outcomes. Thus, similar studies conducted using the term of internal audit effectiveness and performance of internal audit function are referred to as the proxy for internal audit capability. This is for the purpose of introducing IACM as part of bigger theoretical framework that adds to the body of knowledge in internal auditing.

2.2. Factors influencing Internal Audit Effectiveness

Internal auditing is a complicated process. It is made up of many elements such as long-term planning; organizing; staff development; audit planning; the various aspects of fieldwork such as observing, verifying, confirming, and analyzing; reporting and follow-up. It also involves interpersonal relations, interviewing, and conferring. These aspects of the internal auditing process are important and should be observed and evaluated. The achievement of the internal auditing process is when internal auditing performs in such a way to accomplish the task described (Dittenhofer, 2001). Thus, many factors may influence the internal audit effectiveness. Numerous attributes were studied so far, for factors influencing internal audit effectiveness in public sector organizations including management support (Alzeban & Gwilliam, 2012; Drogalas, Karagiorgos, & Arampatzis, 2016; Mihret & Yismaw, 2007; Mupeta, 2017); audit experience and competence (Alzeban & Gwilliam, 2012; Badara & Saidin, 2014; Drogalas et al., 2016); independence of internal audit or organizational independence (Alzeban & Gwilliam, 2014; Drogalas et al., 2016; Qun, 2013; Tackie, Marfo-Yiadom, & Oduro Achina, 2016) and many others such as audit committee, relationship between external auditors, etc.

However, this current study inclined to investigate the internal audit independence as one of the most crucial factors influencing internal audit effectiveness, i.e. has an associated impact with internal audit capability. This is because independence is one of the elements mentioned besides objective assurance and consulting activity in the definition of internal auditing. Furthermore, MacRae and Gils (2014b) reported that independence is the first one of the nine key elements for an effective public sector audit activity, as published in Global Internal Audit Common Body of Knowledge (CBOK). Another researches in Malaysian public sector organizations had also addressed the lack of internal audit independence in which has consequently affecting the internal

audit effectiveness (Ahmad, Othman, & Othman, 2010; Ahmad et al., 2009, 2009) i.e. independence of internal audit has a positive influence on internal audit effectiveness (Ahmad et al., 2010). Hence, this research has also hypothesized that independence of internal audit has a positive and significant influence on internal audit capability level (proxied by internal audit effectiveness). The measurement for the independence of internal audit was measured by nine indicators adapted from Alzeban and Gwilliam (2014). Further research design and methodology is discussed in the following section.

3. Methodology

This research was conducted using a questionnaire given to the Head of Internal Auditors in Malaysian public sector organizations. The list of organizations with Internal Audit Units had been emailed by the National Audit Department (NAD) on 27 February 2018 upon earlier request. Data was collected conveniently by approaching organizations that have an internal audit department from April 2018 to August 2018. Supporting letter by NAD requesting the auditors to participate in this research was attached together resulted in enough response rate. Besides specific sections meant to study the internal audit capability and factors influencing it, the open-ended section was also provided in the questionnaire. Respondents were asked to write down their perception of the internal audit capability in their organization and to provide suggestions to improve the internal audit capability level according to their opinion and experience. The main concern of this study i.e. the internal audit capability level was measured by using the Internal Audit Capability Model (IACM). IACM consisted of six dimensions that are (i) Services and Role of Internal Auditing (SRIA); (ii) People Management (PM); (iii) Professional Practices (PP); (iv) Performance Management and Accountability (PMA); (v) Organizational Relationship and Culture (ORC); and (vi) Governance Structures (GS). There was five capability level measured for each dimension that is (i) Level 1 Initial; (ii) Level 2 Infrastructure; (iii) Level 3 Integrated; (iv) Level 4 Managed and (v) Level 5 Optimized. The respondents were asked to answer 72 “Yes” and “No” questions representing 41 Key Process Areas (KPAs) as shown in Appendix 1. These KPAs are descriptors meant to be achieved at different capability level. All items for each level should obtain all “Yes” in order to reach the next level. Total IACM value was obtained from the lowest level achieved from all six dimensions while KPA percentage was calculated based on the weighted value scored in each question asked. The calculation was done according to the previous studies and reports (Fern, 2015; Haron, Ismail, Ganesan, Hashim, & Fern, 2016; Institute of Internal Auditors Research Foundation,

2009; MacRae & Sloan, 2017). For example, descriptors describing level 2 was given two marks for each “Yes” answer while descriptors at level 5 were given five marks for each “Yes.” All marks were calculated and divided with the total marks in order to get the KPAs percentage. On the other hand, the exogenous variable i.e. independence of internal audit (IND) was measured by nine indicators adapted from Alzeban and Gwilliam (2014) comprised of (i) Internal audit staff are sufficiently independent to perform their professional obligations and duties; (ii) The head of internal audit reports to a level within the organization that allows internal audit to fulfill its responsibilities; (iii) The head of internal audit has direct contact to the board (to the president for government organizations); (iv) The internal audit department has direct contact with top management other than the finance director; (v) Conflict of interest is rarely present in the work of internal auditors; (vi) Internal auditors rarely face interference by management while they conduct their work; (vii) Internal audit staff have free access to all departments and employees in the organization; (viii) The board of directors (the president for government organizations) approves the appointment and replacement of the head of internal auditing; and (ix) Internal audit staff are not requested to perform non-audit functions. All respondents were asked to rate their agreement with the statement from “Scale 1 Strongly Disagree” to “Scale 5 Strongly Agree”. SPSS Statistics Version 23 was used to analyze the demographic profile while Smart PLS 3.0 was used to analyze the relationship between independence and each dimension of Internal Audit Capability. PLS-SEM was used due to its advantages in analyzing non-normal distribution data with small sample size and estimating the model relationship of even complex models with many indicators as well as single-item constructs (Hair, Hult, Ringle, & Sarstedt, 2016). In this research, the measurement of internal audit capability dimensions was treated as a single-item construct. All indicators validity and reliability, as well as the overall relationship estimation, were tested according to the requirement stipulated by PLS-SEM, as shown in Table 1.

4. Results Analysis, Findings and Discussion

This section presented the data analysis results and discussion to answer the research questions highlighted in this study. From a total of 200 questionnaires distributed, 70 responses had been received back and used for further analysis, resulting in a 35 percent response rate. According to the rule of thumb, the appropriate sample size required for testing the relationship was 60 samples, i.e. six arrows pointing towards latent variables times ten. Using the G*Power Version 3.9.1.2 post-hoc power

TABLE 1: Assessment Process of Partial Least Square Structural Equation Modeling.

Assessment Stage	Element	Evaluation	
1	Measurement Model Assessment	Internal consistency (Composite Reliability)	Values should be higher than 0.708 (in exploratory research, 0.60 to 0.70 is considered acceptable)
		Indicator Reliability	Outer loadings should be higher than 0.708. Values between 0.40 and 0.70 should be considered for removal only if the deletion leads to an increase in composite reliability and AVE above the suggested threshold value. Values less than 0.4 must be removed.
		Convergent Validity (Average Variance Extracted)	Values of 0.50 or higher are accepted
		Discriminant Validity HTMT)	Values should be less than 0.85 or 0.90.
2	Structural Model Assessment	Coefficients of Determination (R ²)	Value ranges from 0 to 1, with higher levels indicating higher levels of predictive accuracy. Values of 0.75 is considered as substantial, 0.50 is moderate and 0.25 is weak.
		Significance of Path Coefficients	For exploratory research, general significance level of 10% is considered. Critical values for one tailed test are 1.28 (significance level = 10%), 1.65 (significance level = 5%), and 2.33 (significance level = 1%).
		Effect Size (f ²)	Values less than 0.02 indicates no effect; more than 0.02 is small, 0.15 is medium and 0.35 represents large effects.

Source: (Hair, Hult, Ringle, & Sarstedt, 2014; Hair et al., 2016)

analysis (Faul, Erdfelder, Lang, & Buchner, 2007), total 70 samples used in the analysis resulted in 99 percent power at 0.35 effect size² as shown in Figure 1. Hence, the sample size obtained was adequate for further analysis of the relationship between the Independence of Internal Audit and Internal Audit Capability.

4.1. Demographic Profile of Respondents and Organizations

The demographic profile of 70 respondents was analyzed using SPSS and tabulated in Table 2.

TABLE 2: Demographic Profile.

	Demographic Profile	Frequency	Percent
Gender	Female	36	51.4
	Male	34	48.6
Race	Malay	68	97.1
	Chinese	1	1.4
	Kadayan	1	1.4
Age	56 years old and above	9	12.9
	46 to 55	24	34.3

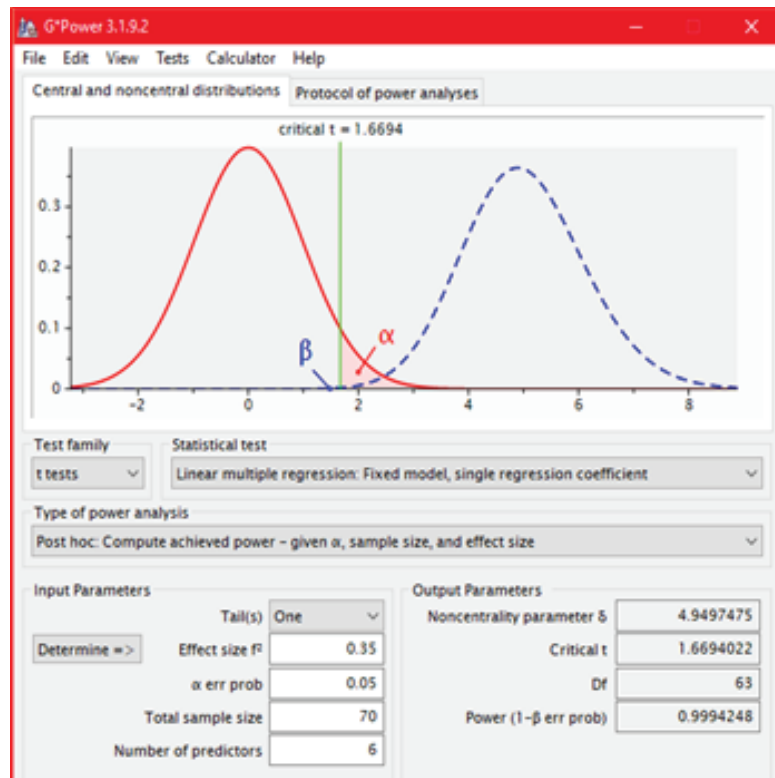


Figure 1: Post-hoc Sample Size Power Calculation.

	Demographic Profile	Frequency	Percent
	36 to 45	18	25.7
	26 to 35	18	25.7
	Below 25 years old	1	1.4
Position	Head of Internal Audit	37	52.9
	Internal Auditor	18	25.7
	Deputy Head of Internal Audit	9	12.9
	Assistant Accountant	5	7.1
	Head of Integrity and Internal Audit	1	1.4
High Education (Respondent)	Master	11	15.7
	Degree	50	71.4
	Diploma	9	12.9
Professional Certificate or License	No	47	67.1
	Yes	23	32.9
State	Putrajaya	21	30.0
	Selangor	11	15.7
	Perak	11	15.7
	Kedah	8	11.4
	Negeri Sembilan	6	8.6

Demographic Profile		Frequency	Percent
	Melaka	4	5.7
	Pulau Pinang	4	5.7
	Johor	2	2.9
	Pahang	2	2.9
	Perlis	1	1.4
Organization Type	Local Authorities	29	41.4
	Ministry	15	21.4
	State Statutory Body	11	15.7
	Federal Statutory Body	7	10.0
	State Department	5	7.1
	Federal Department	3	4.3
Number of Audit Staffs	Less than 5 Staffs	31	44.3
	5 to 10 Staffs	21	30.0
	11 to 20 Staffs	11	15.7
	21 to 30 Staffs	3	4.3
	More than 30 Staffs	4	5.7
Average Level of Education (All staffs in audit unit)	Degree	45	64.3
	Diploma	23	32.9
	Master	2	2.9
Average Years of Experience	Less than 3 years	5	7.1
	3 to 6 years	25	35.7
	6 to 9 years	26	37.1
	9 to 12 years	10	14.3
	12 to 15 years	4	5.7

Total of 68 respondents is Malay with 51 percent female. Total of 24 respondents is from 46 to 55 years old, while 50 percent are at least a degree holder. Only 53 percent of respondents are heads of internal audit. Most respondents are in Putrajaya (30 percent), Selangor and Perak (15 percent each). More than 40 percent of respondents are from local authorities. Almost 45 percent of them have only less than five internal audit staffs with an average level of education is degree holder (64 percent) and average years of experience six to nine years.

4.2. Level of Internal Audit Capability in Malaysian Public Sector Organizations

Further analysis conducted to evaluate the level of internal audit capability revealed that all organizations studied in this research had achieved overall IACM Level 1 Initial

(57 organizations) and Level 2 Infrastructure (13 organizations) as shown in Table 3. The initial level shows that internal auditing in the organizations has been dependent upon individual efforts and not having repeatable capabilities, i.e. not sustainable. There might be only a few defined processes and inconsistent practices. The infrastructure for the internal audit activity was not well established, and the funding is approved by management as needed only. Internal auditors are treated just as a part of larger organizational unit. On the other hand, achieving Level 2 Infrastructure at least showed that these 13 organizations have sustainable and repeatable internal auditing practices and procedures which partly conforms with the Standards. At this level, the internal audit activity conducts control-based or traditional compliance auditing, including financial audits, system, or process audit. Their organizations might as well had allocated specific operating budget for internal audit activities to be carried out.

This finding is consistent with the research reported by MacRae and Gils (2014) where more than 90 percent of the public sectors organizations from all regions (Africa, Asia-Pacific, Europe-Central Asia, Latin America and Caribbean, Middle East, United States, and Canada, as well as Western Europe) had scored overall capability performance level at Level 1 (34%) and Level 2 (62%). It was also reported that less than five percent of public sectors' internal audit activities, regardless of the regions, had achieved higher than Level 2 Infrastructure. Similar to previous studies conducted in Malaysia had also revealed the same results (Fern, 2015; Haron, Ismail, Ganesan, et al., 2016; Haron, Ismail, & Yusof, 2016). Moreover, in this current study, it was found that none of the internal audit units in public sector organizations had achieved overall capability Level 3 and above. One of the reasons might be due to the type of organizations where 41 percent of the organizations participated in this study were from local authorities. This reason had also been mentioned by MacRae and Gils (2014)

Evaluating the overall average scored by each dimension of IACM, it was found that People Management is the most critical dimension needed to be addressed for. The average score obtained by all 70 respondents participated in this study for this dimension is the least, which is only 31 percent. The results showed that the internal audit activities in the public sector performed the best in the dimension of Organizational Relationship and Culture (94 percent), followed by Governance Structure (77 percent) and Professional Practices (70 percent). The overall average score of KPAs percentage by Services and Role of Internal Auditing as well as Performance Measurement and Accountability are only 55 percent and 53 percent, respectively, as shown in Figure 2.

The critical result obtained for People Management dimension could be explained by several factors. People management is actually the process of creating a work

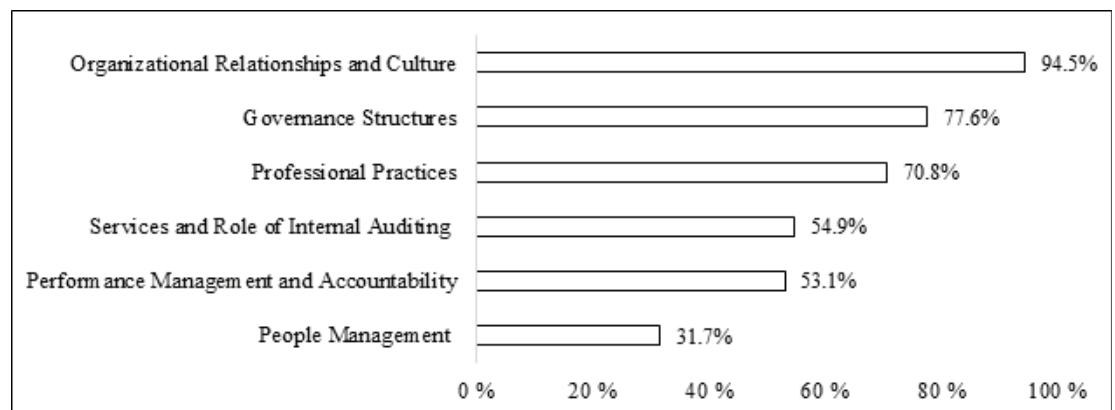


Figure 2: Overall Public Sector Averages Scored of KPAs for Each IACM Dimension.

environment that enables people to perform to the best of their abilities (MacRae & Sloan, 2017). It involves recruiting, training and providing professional development to ensure that the internal audit activity has the appropriate staff to achieve its role and deliver the services expected by all stakeholders (MacRae & Gils, 2014a). One of the reasons could be explained from the tabulation of respondents' demographic profile. From the demographic profile, there are 31 organizations that have less than five internal audit staffs, and almost 70% of the organizations' audit staffs have average years of experience less than nine years. Also, 47 respondents mentioned that they do not have another professional certificate or license. In order to improve from capability level 1 to 2, these organizations are advised to obtain the membership of the Institute of Internal Auditors (IIA) Malaysia. Being part of professional institution members will ensure the continuous learning platform. Internal auditors should always be updated with the latest information, knowledge, and skills. They should attend at least 40 hours of formal training per year.

Similarly, most respondents had addressed the same issues and suggestions in the open-ended section. From total open-ended comments received, almost 70 percent of them had commented on the issue of lacking competence and skills staffs as well as the need for continuous learning and training in the field. This had also been reported by the previous researchers (Ahmad et al., 2010; Shamsuddin, Manjieggar, & Kirupanangtan, 2014). There are many vacancies for internal audit positions. Some respondents had also described the issues in which the appointed internal audit staffs are lacking in experience and skills. Thus, had an impact on the quality of internal auditing as well as causing a nuisance to other staffs. Furthermore, some respondents had commented on the need of increasing budget from central government for hiring audit staffs and providing professional training. They had also addressed the need for organizations' management to acknowledge and appreciate the importance of internal

auditing. Instead, some respondents claimed that they had trouble to independently carry out their job due to management constraint and intervention. Internal audit should be positioned as an independent function in the third line of defense.

TABLE 3: Internal Audit Capability Level and Percentages of Key Process Areas Scored.

Dimensions	Capability Level			KPAs Percentage Scored		
	Level	n	Percent	Scored	Avg.	Percent
Overall Internal Audit Capability Level and Overall Average KPAs Percentage Scored	1 Initial	57	81.4	SRIA (84 total items weighted)	46	54.9
	2 Infrastructure	13	18.6	PM (174 total items weighted)	55	31.7
	3 Integrated	0	0.0	PP (45 total items weighted)	32	70.8
	4 Managed	0	0.0	PMA (68 total items weighted)	36	53.1
	5 Optimizing	0	0.0	ORC (40 total items weighted)	38	94.5
				GS (61 total items weighted)	47	77.6
Dimension	Level	n	Percent	Scored	n	Percent
Services and Role of Internal Auditing (SRIA)	1 Initial	4	5.7	Very Low (0 to 20%)	5	7.1
	2 Infrastructure	23	32.9	Low (21 to 40%)	14	20.0
	3 Integrated	12	17.1	Medium (41 to 60%)	19	27.1
	4 Managed	1	1.4	High (61 to 80%)	22	31.4
	5 Optimizing	30	42.9	Very High (81 to 100%)	10	14.3
People Management (PM)	1 Initial	48	68.6	Very Low (0 to 20%)	12	17.1
	2 Infrastructure	21	30.0	Low (21 to 40%)	43	61.4
	3 Integrated	0	0.0	Medium (41 to 60%)	15	21.4
	4 Managed	0	0.0	High (61 to 80%)	0	0.0
	5 Optimizing	1	1.4	Very High (81 to 100%)	0	0.0
Professional Practices (PP)	1 Initial	42	60.0	Very Low (0 to 20%)	1	1.4
	2 Infrastructure	8	11.4	Low (21 to 40%)	8	11.4
	3 Integrated	0	0.0	Medium (41 to 60%)	17	24.3
	4 Managed	1	1.4	High (61 to 80%)	14	20.0
	5 Optimizing	19	27.1	Very High (81 to 100%)	30	42.9
Performance Management and Accountability (PMA)	1 Initial	19	27.1	Very Low (0 to 20%)	7	10.0
	2 Infrastructure	17	24.3	Low (21 to 40%)	13	18.6

Dimensions	Capability Level			KPA's Percentage Scored		
	Level	n	Percent	Scored	Avg.	Percent
Organizational Relationships and Culture (ORC)	3 Integrated	4	5.7	Medium (41 to 60%)	24	34.3
	4 Managed	0	0.0	High (61 to 80%)	16	22.9
	5 Optimizing	30	42.9	Very High (81 to 100%)	10	14.3
	1 Initial	0	0.0	Very Low (0 to 20%)	6	8.6
	2 Infrastructure	21	30.0	Low (21 to 40%)	14	20.0
Governance Structure (GS)	3 Integrated	5	7.1	Medium (41 to 60%)	22	31.4
	4 Managed	0	0.0	High (61 to 80%)	16	22.9
	5 Optimizing	44	62.9	Very High (81 to 100%)	12	17.1
	1 Initial	22	31.4	Very Low (0 to 20%)	0	0.0
	2 Infrastructure	6	8.6	Low (21 to 40%)	0	0.0
	3 Integrated	36	51.4	Medium (41 to 60%)	0	0.0
	4 Managed	0	0.0	High (61 to 80%)	2	2.9
	5 Optimizing	6	8.6	Very High (81 to 100%)	68	97.1

4.3. The Influence of Independence Internal Auditing on the Internal Audit Capability

Before further relationship testing, the following descriptive statistics were obtained from the data analysis in SmartPLS 3.0. Most indicators scored more than 4.00 mean, i.e. they agreed most with the statement. IND1, IND6, and IND8 scored below 4.00 while IND9 scored the least mean value among them, which is only 3.286. All these indicators inter-related with the previous discussion where the internal audit staff is not sufficiently independent to perform their obligations and duties; sometimes face interference by management while the position was not adequately staffed. Moreover, the internal audit staff was requested to perform a non-audit function.

A further measurement model and structural model assessments were conducted in SmartPLS 3.0. Measurement model assessment provides the reliability and validity of the indicators used in the study while structural model assessment provides the result of relationship testing between the independence of internal auditing with the internal audit capability dimensions. Figure 3 shows the structured model run using SmartPLS.

IND1, IND3, IND8, and IND9 was removed due to minimum requirements un-met. Table 5 shows the convergent validity results obtained from PLS Algorithm upon removing these indicators. All value for loadings and AVE had met the minimum requirement,

TABLE 4: Descriptive Statistics of Internal Audit Independence.

	Indicator	Min	Max	Mean	Med.	Std. Dev.	Excess Kurtosis	Skewness
IND1	Internal audit staff are sufficiently independent to perform their professional obligations and duties.	1.00	5.00	3.857	4.00	1.222	0.688	1.255
IND2	The head of internal audit reports to a level within the organization that allows internal audit to fulfil its responsibilities.	4.00	5.00	4.571	5.00	0.495	1.970	0.295
IND3	The head of internal audit has direct contact to the board (to the president for government organizations).	2.00	5.00	4.329	5.00	0.806	0.307	1.013
IND4	The internal audit department has direct contact with top management other than the finance director.	2.00	5.00	4.514	5.00	0.692	1.572	1.376
IND5	Conflict of interest is rarely present in the work of internal auditors.	1.00	5.00	4.043	4.00	0.901	0.572	0.804
IND6	Internal auditors rarely face interference by management while they conduct their work.	1.00	5.00	3.971	4.00	0.910	0.734	0.873
IND7	Internal audit staff have free access to all departments and employees in the organization.	2.00	5.00	4.371	5.00	0.740	1.316	1.164
IND8	The board of directors (the president for government organizations) approves the appointment and replacement of the head of internal auditing.	1.00	5.00	3.843	4.00	1.215	0.023	0.962
IND9	Internal audit staff are not requested to perform non-audit functions.	1.00	5.00	3.286	3.00	1.097	0.827	0.131

i.e. above 0.50. Loadings value higher than 0.50 indicates that the indicators used was reliable. The composite reliability values had also met the minimum 0.70 cut-off value. It shows that the theoretical model tested is reliable. Then, discriminant validity is measured through HTMT ratio. Table 6 shows that all values obtained were lower than 0.85. This indicates that each construct is distinct and not overlapping with each other. Based on all loadings, AVE, CR, and HTMT ratio values, it could be said that the theoretical framework tested in this study had good convergent and discriminant validity. Thus, enable further structural assessment model to be carried out for relationship testing.

Structural measurement analysis was further conducted using Bootstrapping procedure to test the hypotheses. Since there is only a direct relationship tested in this study, one-tail t-value of 1.645 is referred to as the cut-off value. Each direct effect path was presented with its standard beta, t-value, and p-value. Table 7 shows the path coefficient of hypothesis.

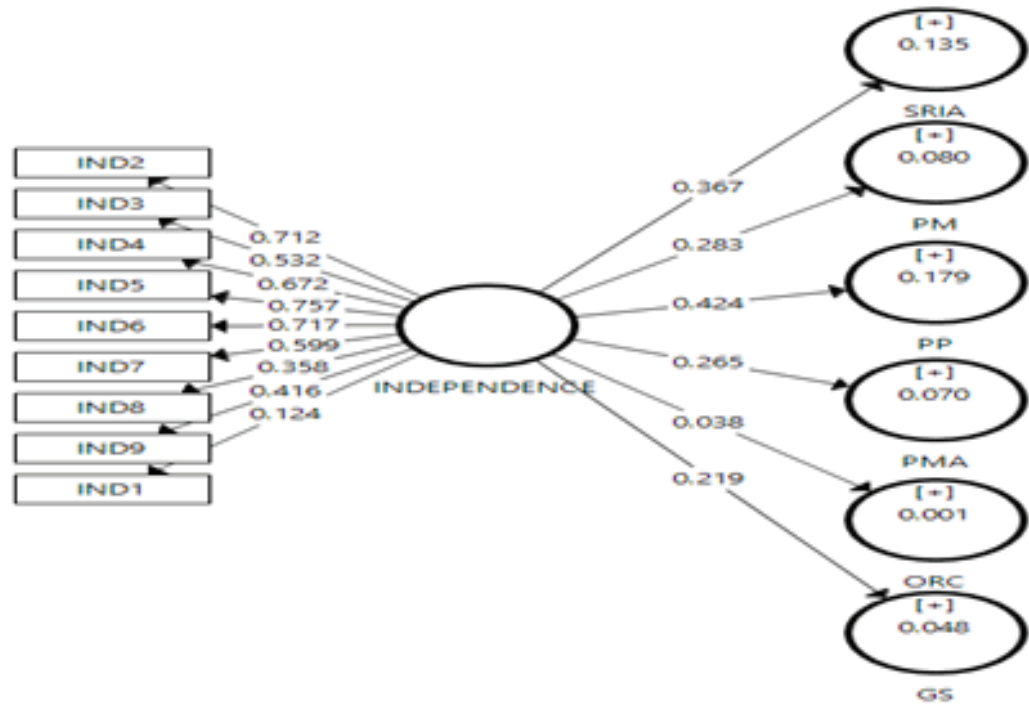


Figure 3: Structured Model with SmartPLS.

TABLE 5: Convergent Validity.

Construct	Item	Loadings	CR	AVE	R ²	f ²	Q ²
Independence of Internal Audit	IND2	0.749	0.828	0.500			
	IND4	0.634					
	IND5	0.740					
	IND6	0.733					
	IND7	0.642					
Internal Audit Capability	SRIA	1.000	1.000	1.000	0.147	0.173	0.122
	PM	1.000	1.000	1.000	0.081	0.088	0.055
	PP	1.000	1.000	1.000	0.185	0.227	0.159
	PMA	1.000	1.000	1.000	0.078	0.085	0.035
	ORC	1.000	1.000	1.000	0.003	0.003	-0.029
	GS	1.000	1.000	1.000	0.054	0.057	0.033

Notes: Items IND1, IND3, IND8 and IND9 were removed due to loadings value un-met.

TABLE 6: Discriminant Validity (Heterotroit-Monotroit Ratio).

	GS	IND	ORC	PM	PMA	PP	SRIA
GS	0.244						
IND	0.329	0.112					
ORC	0.145	0.318	0.099				
PM	0.380	0.305	0.251	0.404			
PMA	0.370	0.493	0.040	0.206	0.549		
PP	0.261	0.426	0.324	0.300	0.406	0.456	
SRIA							

H₁ predicts the relationship between independence of internal audit with the dimension of Services and Role of Internal Auditing. The result shows that H₁ was positive and significant (β value = 0.384; t-value = 3.684, p-value < 0.001). H₂ predicts the relationship between the independence of internal audit with the dimension of People Management. The result shows that H₂ was positive and significant (β value = 0.284; t-value = 2.878, p-value = 0.002). H₃ predicts the relationship between the independence of internal audit with the dimension of Professional Practices. The result shows that H₃ was positive and significant (β value = 0.430; t-value = 5.379, p-value < 0.001). H₄ predicts the relationship between the independence of internal audit with the dimension of Performance Measurement and Accountability. The result shows that H₄ was positive and significant (β value = 0.280; t-value = 2.329, p-value = 0.010). H₆ predicts the relationship between independence of internal audit with the dimension of Services and Role of Internal Auditing. The result shows that H₆ was positive and significant (β value = 0.231; t-value = 1.734, p-value = 0.042).

TABLE 7: Summary of Hypotheses Testing of PLS Path Model.

Hypotheses	Path	Std. Beta	Std. Dev.	t value	p values	Confidence interval bias corrected		Decision
						5.0%	95.0%	
H ₁	IND -> SRIA	0.384	0.104	3.684	0.000**	0.159	0.521	Accepted
H ₂	IND -> PM	0.284	0.099	2.878	0.002*	0.129	0.459	Accepted
H ₃	IND -> PP	0.430	0.080	5.379	0.000**	0.292	0.539	Accepted
H ₄	IND -> PMA	0.280	0.120	2.329	0.010*	0.068	0.464	Accepted
H ₅	IND -> ORC	0.056	0.127	0.438	0.331	0.170	0.234	Rejected
H ₆	IND -> GS	0.231	0.133	1.734	0.042*	0.010	0.423	Accepted

Note: *p < 0.05; **p < 0.001

Based on the results, five hypotheses were accepted except for the relationship between the independence of internal audit with the dimension of Organizational Relationship and Culture (ORC). The Q² obtained for ORC, as shown in Table 5, is negative, i.e. it has no predictive accuracy. However, referring to the value of R² in Table 5, the relationships were considered very weak and insignificant, i.e. R² value less than 0.25. On the other hand, the effect size, f² indicates that ORC dimension is not significant at all (f² = 0.003). While other constructs such as People Management (PM), Performance Measurement and Accountability (PMA) and Governance Structures (GS) had a weak effect size (f² value above 0.02). Another two constructs, i.e. Professional Practices (PP) and Services and Role of Internal Auditing (SRIA), have a moderate effect (f² value above 0.13).

5. Conclusion and Implications

From the results, findings and discussions, it can be concluded that there is much room to improve by the internal audit units in Malaysian public sectors, especially in People Management. The insufficient skilled and competence internal audit staffs is very crucial and should be critically attended by the Malaysian government and the National Audit Department of Malaysia. This issue had been addressed for a long time, as reported by previous research (A. M. Ali et al., 2012). Without enough and appropriate staffing, the quality and effectiveness of internal auditing may be hindered. It is also affected by the overall internal audit capability level. As such, internal audit capability model used in this study is a building block approach in which one organization must master all the Key Process Areas in the respective level in order to move to the higher level. At the very least, they must obtain level 2 infrastructure for all six dimensions. Achieving level two implies that their internal audit activities have sustainable and repeatable internal audit practices and procedures, which partly conforms to Standards. This current study recorded that 57 organizations over 70 participating had only scored overall IACM Level 1 Initial, and the remaining 13 organizations scored level 2 Infrastructure.

At Level 1, the organizations face the risk of not being able to rely on or routinely benefit from the value-added contribution of internal audit. Thus, it is not desirable to remain at this level if the internal audit is to be sustained and contribute to the improvement of an organization's performance. However, moving from level 1 Initial to level 2 Infrastructure, involves certain conditions from both environments and within the organization (MacRae & Sloan, 2017). These environmental factors, that may enhance the upward movement through the levels, include (i) government commitment to the importance of internal auditing while cultivating a culture that supports transparency, openness, and accountability for results. Moreover, the legislation or government policy assuring the organizational independence of internal audit activity, and the personal objectivity of the internal auditors should be strengthened. This is because the independence of internal audit plays a significant role in determining the internal audit capability level in public sector organizations. It has a positive and significant impact on total IACM level as well as all IACM dimensions except for Organizational Relationship and Culture (ORC).

On top of that, in order to move from Level 1 to Level 2, the following elements would need to be enhanced within the organization: (i) organizational and personal accountability for results; (ii) culture of professionalism; (iii) budget support to establish internal audit as a separate activity with appropriate human resource capabilities; and

(iv) conducive environment facilitating access to the information, assets and people needed to carry out the internal audit work. In summary, certain prerequisites are required to move to the next level such as enhancing good governance structures, robust financial management, control and accountability frameworks, supported by the government stability, amenable organizational culture and the best Chief Audit Executive. Practically, current research findings could help and guide the organizations to map out their strategies and steps in progressing to reliable and effective internal audit capabilities.

This study has also provided a theoretical contribution to the usage of Internal Audit Capability Model (IACM) to measure the internal audit capability in a public sector organization, which is very less in existence before. It has contributed to the knowledge stream of Agency Theory, nature of internal auditing in Malaysian public sector organizations, and factors affecting their capability. Even so, this research has certain methodological limitations. It is questionnaire-based, and the results were established according to the perceptions of respondents. It would be advisable to conduct in-depth study to discover the reasons behind inadequate and insufficient staffing of internal auditors as well as the gain better insight of the actual internal audit capability by conducting the cross-respond study (auditor-auditee dyads unit of analysis).

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Appendices 1: Internal Audit Capability Model Matrix

	Services and Role of IA	People Management	Professional Practices	Performance Management and Accountability	Organizational Relationship and Culture	Governance Structures
Level 5 Optimizing	- IA Recognized as Key Agent of Change	- Leadership Involvement with Professional Bodies - Workforce Projection	- Continuous Improvement in Professional Practices - Strategic IA Planning	- Public Reporting of IA Effectiveness	- Effective and Ongoing Relationships	- Independence, Power and Authority of the IA Activity
Level 4 Managed	- Overall Assurance on Governance, risk Management and Control	- IA Contributes to Management Development - IA Activity Supports Professional Bodies - Workforce Planning	- Audit Strategy Leverages Organization's Management of Risk	- Integration of Qualitative and Quantitative Performance Measures	- CAE Advises and Influences Top-level Management	- Independent Oversight of the IA Activity - CAE Reports to Top-level Authority
Level 3 Integrated	- Advisory services - Performance / Value-for-Money Audits	- Team Building and Competency - Professionally Qualified Staff - Workforce Coordination	- Quality Management Framework - Risk-based Audit Plans	- Performance Measures - Cost Information - IA Management Reports	- Coordination with other Review Groups - Integral Component of Management Team	- Management Oversight of the IA Activity - Funding Mechanisms
Level 2 Infrastructure	- Compliance Auditing	- Individual Professional Development - Skilled People Identified and Recruited	- Professional Practices and Processes Framework - Audit Plan based on Management / Stakeholder Priorities	- IA Operating Budget - IA Business Plan	- Managing within the IA Activity	- Full Access to the Organization's Information, Assets and People - Reporting Relationships Established
Level 1 Initial	No specific Key Process Areas; Ad hoc or unstructured; Isolated single audits or reviews of documents and transactions for accuracy and compliance; Outputs dependent upon the skills of the specific person holding the position; No professional practices established other than those provided by professional associations; Funding approval by management, as needed; Absence of infrastructure; Auditors are likely part of a larger organizational unit; Institutional capability is not developed.					

Source: Institute of Internal Auditors Research Foundation (2009)

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