

# Good Risk Management Attributes towards the Effectiveness of Internal Audit Assurance in the Malaysian PLCs

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## ABSTRACT

This paper investigates the relationship between good risk management such as risk management assessment, risk control and compliance, and risk monitoring and implementation with the effectiveness of internal audit assurance specifically within Malaysian Public Listed Companies (PLCs). The paper utilizes a quantitative method such as survey questionnaires. The study was conducted on a total of 200 internal auditors and other business units in Malaysian. Moreover, to effectively explore the relationship between good risk management and the effectiveness of internal audit assurance, the correlation and regression analyses were conducted. The results found relationships between two of the independent variables (risk management assessment, risk control and compliance) and dependent variable in this study. However, no relationship is found between risk monitoring and implementation towards effectiveness of internal audit assurance. The effectiveness of internal audit assurance activities is revealed to be controlled by good risk management attributes such as risk management assessment, and risk control and compliance. The findings of the research will be of significance to the makers of policy and companies in building better policies on risk management to enhance the internal audit assurance. The study contributes to the risk management and internal audit literature specifically on the effectiveness of risk management practices on internal audit assurance.

## 1. INTRODUCTION

The definition of internal auditing has been revised by the Institute of Internal Auditors (IIA) in an effort to incorporate both assurance and

consulting activities across three related areas: risk management, control and governance (IPPF, 2017). In actual fact, risk management and internal audit (IA) are the elements that are associated with five interrelated components of the internal control system in organizations: control environment, risk assessment, control activities, information and communication, and monitoring (COSO, 2004). In addition, IA brings a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes that will assist the achievement of an organization's objectives; following the objective assurance and consulting activities are designed to supplement and improve an organization's operations. Strategic objectives of a management are addressed through internal auditing in their best way when it is carried out by proficient professionals in conformity with the *standards* promulgated by the IPPF(2017).

Risk management is a vital activity carried out by the administration based on the contributions of all units and administrative functions within an entity. Accordingly, audit activity and internal control are pertinent in the control of risks. Moreover, a significant connection exists between internal audit function and the level of commitment on risk management (Drogalas & Siopi, 2017). Higher commitment and stronger willingness of the entity in managing risks lead to higher need for the utilization of internal audit function (Goodwin& Kent, 2006), and emerging of the so-called risk-based audit based on the recent trends in practice (IPPF, 2017). Internal auditors are supposed to work independently and objectively in the effort of enhancing the high quality of risk management, achieving a good internal control system, avoiding corruption, ensuring a good corporate governance system, and promoting accountability and greater transparency considering them as the focus of this study and the key employee of public listed companies (Imen *et al.*, 2016). A wide organizational approach on risk management that involves internal auditors provides both assurance and consulting services, which relate to the management of risks within their organizations (IPPF, 2017).

There are several courses of action taken by internal auditors as their proactive participation in a business environment, such as supporting the board and management team through a consulting role, and proffering prudent advice that will pave the way for business advancements such that new business transactions will be emerged or the existing business processes will be upgraded. The accomplishment of business objectives would be less complicated through effective internal audit functions (IAFs) whereby, a systematic disciplined approach is adopted in the evaluation and improvement of a good risk management, controls and governance

processes in organizations (IPPF, 2017). According to Dittenhofer (2001), the effectiveness of IA depends on the auditor's ability to achieve the organization's goals and objectives. The Institute of Internal Auditors (IIA) has interpreted that auditors' methods in contributing to the journey of achieving goals are exceptional. In that case, besides strengthening the value of the organizations, they assist with the enterprise resources and actions that require upgrades in terms of risk management and control (IIA, 1999). Moreover, analytic tools are adopted by them in the process of learning from the failures that occur whereby, in return, their work processes would be better understood (Cardera & Ragan, 2003; Weick & Sutcliffe, 2001). Hence, the key systems to a reliable (Weick & Sutcliffe, 2001) and continuous improvement of the performances are the internal audits.

An expectation gap in auditing has been underscored in the past literature (Cohen Commission, 1978; Liggio, 1974; Porter, 1993). The definition of the gap was made by the Commission on Auditors' Responsibilities by showing that it is a requirement to consider the possible existence of a gap between the expectations or needs of the public, and those of the auditors that are to be fulfilled (p. xi) (in Porter 1993, p. 50). This indicates that despite the efficient work done by the auditors, such as providing accurate reports and depicting a positive overview of the adopted organizational system, the malfunctions are often overlooked by the auditees that will, in return, resist them from being able to learn, and willing to perform actions needed in order to rectify and increase effectiveness. The required efforts of stemming any organizational irregularities and frauds, promoting continuous improvement of the operations, and responding to any external turmoil often encourage for further controls and supervisions. Even so, it is not guaranteed that the outcomes will be satisfying (Sikka *et al.*, 2009). Besides, questions may arise regarding the reasons behind the failure of internal audits in achieving their goals entirely (Arena *et al.*, 2006), as well as the causes of the expectation gap that are yet to be resolved (Cohen Commission, 1978; Liggio, 1974; Porter, 1993). Thus, one way of exploring this problem is to examine the role of risk management practices and IA.

This study is performed in line with the aims of examining and investigating the relationship between the three components of risk management – risk management assessment, risk control and compliance, as well as monitoring and implementing – on the effectiveness of the internal audit assurance. This study expands the work of prior literature (e.g., Zainal Abidin, 2017; Ashour *et al.*, 2015; Joshi, 2020; Lois *et al.* 2020) that have found a significant relationship between risk management and internal audit.

This paper is organized in the following sections: literature review and hypotheses development, methodology, results and discussion, and conclusion.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1 Stewardship theory

Originated from psychology and sociology, the stewardship theory was designed to study the relationship between executives, who act as stewards, and their motivation to perform responsibly, which is the interest of the principals (Donaldson and Davis 1991; Wasserman 2006). The application of this theory in the literature of internal audit has recently been increasing; for instance, Selim *et al.* (2009) raises an argument whereby this theory is expected to be more relevant compared to the agency theory in studies related to internal auditing and its consulting practice. Therefore, it can be summarised that the stewardship theory proffers a basis towards an alternative approach to the researchers; the approach is potentially more effective in explaining the specific relationship in any organizations. Interestingly, there is no requirement for any alterations on the application of the stewardship theory, specifically on the foundation regarding the agent and principal pioneered by the agency theory; it is posited that there is a possibility of a goal congruent between the agent and principal. Hence, the adoption of the stewardship theory in this study is for the purpose of explaining the role of good risk management attributes as an influence on the effectiveness of the IA assurance (Selim *et al.*, 2009; Kassim, 2011). Various prior studies (e.g., Zainal Abidin, 2017; Ashour *et al.*, 2015; Joshi, 2020; Lois *et al.* 2020) have found that risk management influences internal audit. Thus, examining components of risk management within the internal audit function assist the organizations with respect to business expansion and performance.

The risk management approach offers fascinating opportunities for IA due to a focus on the quality of decision-making within the organization. As an organization, it is crucial to provide guarantees to its stakeholders, for examples the board of directors, chief executive officer, audit committee as these stakeholders are expecting the organization to be governed by a comprehensive risk management and IA as a significant role to sustain and expand accountability for both financial and non-financial matters (IIA, 2014; Ismael & Roberts, 2018). Effective IA is considered as one of the instruments that improve governance structure because of the essential role played in assessing the effectiveness of control proportions of an organization. IAF that is effective can easily improve the viability of

organizational operations and thereby add value to such organizations effectively (IIA, 2014).

## 2.2 Effectiveness of the Internal Audit Assurance

The Institute of Internal Audit (IPPF, 2017) defined internal audit assurance as:

*“...a quality assurance and improvement program is designed to enable an evaluation of the internal audit activity’s conformance with the Standards and an evaluation of whether internal auditors apply the Code of Ethics. The program also assesses the efficiency and effectiveness of the internal audit activity and identifies opportunities for improvement. The chief audit executive should encourage board oversight in the quality assurance and improvement program”.*

This definition denotes that IA has a major scope that is to guarantee the organization and offer consulting services to the management of corporate governance as a whole. Apart from providing independent perspectives and recommendations in regard to the quality assurance and improvement programs (QAIP) held by the organizations, internal auditors ensure that the concept of quality is implanted in the IA activities and operations. Internal auditors normally assist management and help the organization in achieving its objectives by bringing a disciplined and systematic approach to enhance and assess the effectiveness of internal control systems, risk management and governance processes (Erasmus & Coetzee, 2018). Effectiveness of IA will contribute to the effectiveness of the client and the organization overall. The IA findings and recommendations are clearly crucial to the management to follow through and immediately rectify the issues in the organization. The effectiveness of internal auditing was studied by Arena and Azzone (2009) whereby the internal auditors are segregated into three distinct groups depending on their perspectives as follows: the first group is in respect of the effectiveness of internal audit along with the quality of internal audit methods. Meanwhile, the second group is related to the effectiveness towards the output of internal audit activities, and the third group is related to the outcomes of the audit activities. Those researchers also measured the effectiveness of internal auditing by degrees of recommendations executed by the senior management.

Efficiency means ‘doing the things right’ while effectiveness means ‘doing the right things’ (Sterling, 2006). Meanwhile, contributions and roles of internal audit in an organization or a corporate governance are described by Sarens and De Beelde (2006) based on the point of view of the senior management’s expectation. The interest among researchers in exploring

this matter has raised by the fact that an effective IA is able to contribute a significant impact on the quality of management. The effectiveness of the client and organization as a whole is contributed by that of IA (Dittenhofer, 2001). This brings to an indication that a collaboration is required between internal audit and management, as interdependent units, in achieving the goals of the organizations. Internal audit expects to receive some values from the management during the accomplishment of their tasks; the values are such as management support, commitment and expectation. On the other hand, the management also demands value-adds in the process of decision-making. For that, they ought to provide sufficient information while reducing it, asymmetrically, as well as to monitor and improve the risk management and internal control system (Sarens & De Beelde, 2006).

### 2.3 Risk Management Assessment

One of the key responsibilities of the board of directors that has been cited in the Malaysian setting is risk management. The public listed companies (PLCs) are obligated to this since it is constituted in the Malaysian Code on Corporate Governance (MCCG) ("the Code") as well as in the Bursa Malaysia Listing Requirements (Bursa Malaysia LR, 2019). In addition, it is fundamental to manage risks, being that it is considered as one the best corporate governance practices (MCCG, 2017). The MCCG guidelines on the best practices concerning the principal responsibilities of the board stated that:

*"...the board should explicitly assume the responsibilities to identifying principal risk and ensuring the implementation of appropriate systems to manage these risks..."*

According to the MCCG, there was a responsibility for the board to recognize principal risks while ensuring that the implemented systems in the risk management is suitable (MCCG, 2017). However, the best practice guidelines are being voluntarily complied with despite such requirements stated in the code, following the possibility of the assessment of risks due to the modern approaches to risk-based auditing. The risks are then systematically linked to business goals (DeLoach, 2000; Walker *et al.*, 2002). Indeed, the processes that enable business units to develop high quality risk assessments are facilitated by the internal auditors. In return, this may be constructive for the internal audit department to plan its own work, mainly by elevating the quality of decision-relevant information and minimizing the duplication of effort. It is reflected in most existing studies (for example, Joshi, 2020) that positive contributions can be made by internal auditors towards the initiative of risk management. Meanwhile, direct

linkages are reported to exist between risk commitment and utilization of internal auditors. Risk management activities in the banking industry are found to also be assisted by the auditors as they are reported to be more focused on their traditional roles. Based on these statements, a hypothesis is derived as follows:

**H1:** A relationship occurs between risk management assessment and the effectiveness of internal audit assurance.

## 2.4 Risk Control and Compliance

“The decline of many Asian corporations could be directly tied to a failure in corporate governance with respect to risk management and control” (Harvey & Roper, 1999). In relation to that, during the Malaysian economic crisis that happened in 1997, Tenaga Nasional Berhad and Malaysia Airline System had to suffer from huge turndowns of foreign exchange for the risk management was failing at that time. Since the 1990s, there has been an emergence of a risk management approach that is beyond advancement and sophistication; the approach is good Ringgit Malaysia (RM) (Simkins & Ramirez, 2008). Through that approach, the broadly established “Internal Control–Integrated Framework” from 1992 is incorporated and extended through its framework by aiming to fulfil the need for internal control as well as to ensure a risk management process is successfully executed. In addition, the disclosure of RM framework took place on September 2004 where a new benchmark for a thorough risk management has been defined.

A risk framework was put forward by the COSO of the Treadway Commission via its 2004 ERM–Integrated Framework, and has a widely known definition which goes: “A process, affected by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risks to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.” The initiation of this framework includes established key concepts, principles and techniques that are purposeful for the achievement of objectives set by corporations through better control of the activities (COSO, 2013). In addition, prudent risk management and corporate governance are inserted in the recent Integrated COSO Framework 2013 which makes it really extensive. The COSO Board perceives that if RM has a wider scope, internal control could become an integral part of good RM attributes (McNally, 2013). The current COSO (2013) framework focuses on the internal controls with risk assessment to develop and implement appropriate controls. With

guidance of the COSO Report the Malaysian PLCs enable them to identify and assess the risk might face and analyze risks as a basis for determining how the risks should be managed with less impact for the organization. Hence, a hypothesis is derived as below:

**H2:** A relationship occurs between risk control and compliance, and the effectiveness of internal audit assurance.

## 2.5 Risk Monitoring and Implementation

One of the aimed tools for the improvement of organizational governance is the introduction of risk monitoring and implementation (Cha *et al.*, 2008). The identification and prevention of events that would obstruct the realization of management goals may be assisted through risk management and implementation. In return, this would pave the way for the management to determine actions that are applicable in eliminating, sharing or perhaps reducing the risks. This is essential to maintain the competitiveness between companies, especially in the current business environment that can be challenging. As the management team establishes the strategies and objectives of the organization towards balancing their focus between growth, return and risks, the shareholders are aggrandized. Furthermore, the capacity of the management to utilize or exploit any available resources effectively and efficiently is the most crucial element in achieving goals (COSO, 2013). Following the definition by Ginosar (2011), importance should be instilled in the cultivation of integrity and ethical norms in organizations as it is a fundamental part of internal audit. Consequently, checks and balances throughout the system would be set up with less difficulties; meanwhile, the failure in auditing would engender poor governance as well as mass unethical activities and organizational frauds (Soltani, 2014). Therefore, it is hypothesized that:

**H3:** A relationship occurs between risk monitoring and implementation, and the effectiveness of internal audit assurance.

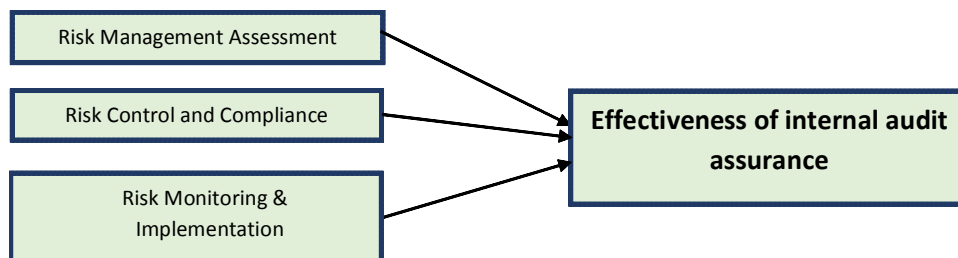


Figure 1: Research Model



Figure 1 presents the research model of this study, consisting of the hypotheses defined above. This model shows four independent variables (risk management assessment, risk control and compliance, organizational structure, and risk monitoring and implementation) and one dependent variable (effectiveness of internal audit assurance).

### 3. METHODOLOGY

This study employed a quantitative survey questionnaire to collect data. The survey questionnaire was chosen because it can reach a greater number of samples compared to interviews. The survey instrument was designed to collect the data to analyze the effectiveness of the internal audit assurance. The questionnaires were adapted from past studies (Alsmairat *et al.*, 2018; Nyamwaya, 2016; Shamsuddin *et al.*, 2015; Abdullatif *et al.*, 2015; Kleffner *et al.*, 2003).

#### 3.1 Questionnaire Design

The prepared questionnaires in this study consist of six different sections. Section A is pertaining to the effectiveness of internal audit assurance. Section B covers risk management assessment questions. Next, Section C is related to risk controls and compliance. Section D contains questions regarding risk management and implementation. Lastly, Section E is demographic information of respondents. The questions prepared for the respondents to answer are of interval scale type, thus a five-point Likert scale is utilized; while 1 indicates “strongly disagree”, 5 indicates “strongly agree”. This is a frequently used scale in any survey research (Sekaran & Bougie, 2013). The questionnaire comprises 5 different sections and 56 questions to collect the data about the respondents’ demographic information and their views on effectiveness of internal audit assurance, risk management assessment, risk control and compliance, and risk monitoring and implementation. Together with a cover letter explaining the purpose of this research, the following sections are to be answered by the respondents accordingly. In terms of the measurement of variables, the variables of the study are the effectiveness of IA assurance, risk management assessment, risk control and compliance, and risk monitoring and implementation. They were treated as the independent variables except for effectiveness of IA assurance as the dependent variable. These variables or concepts were further operationalised into observable and measurable elements. The Operational Definition of Variables table (Table 1) is shown in the Appendix.

#### 3.2 Pre-test and Pilot Test

The first draft of the survey questionnaire was sent to 6 expert reviewers inclusive of academicians and non-academicians. This is to identify the

errors and to improve the quality of the questions from each section. Hence, we received feedback from 6 expert reviewers to improve the quality of the questionnaire before proceeding with the pilot test. A pilot test was conducted with 30 respondents prior to the final questionnaire distribution, to determine the understanding of the respondents towards the questions' clarity. The pilot test was directed through an online study instrument (Google Doc) where it was extended to various departments and types of organizations such as Maybank, Credit Guarantee Corporation, Public Bank, AIA Insurance etc that have in-house internal audit functions. The feedback received was appropriately taken up and made amendments in the questionnaire. This is to eliminate any issues and problems and we have performed the necessary adjustments which includes reconstructing the questionnaires to be more objective and clearer before distributing them to the target population. In other words, we conducted the actual study (main study) after completing the pilot study (pilot test). The connection between pilot study and actual study is that the pilot study is the first step of the entire research protocol and it is a small-scale, preliminary study that helps in planning and modification of the actual (main) study.

### **3.3 Sampling Techniques**

This study was conducted to examine the relationship between good risk management attributes and the effectiveness of IA assurance. Internal auditors, risk management analysts, compliance personnel are most appropriate targeted groups to provide insights of the current practices in PLCs. Aiming for a complete collection of data, companies listed on Bursa Malaysia, which mainly own departments of IA as at December 2015, were sent with a total of 350 hardcopy and google form questionnaires. Besides, the sample study also targeted respondents from other department of business units in order to generate valid insights that will ease the acquisition of deeper apprehension of the research. Respondents covered in the sample are from PLCs in different industries in the capital region of Malaysia and they were representative of the overall Malaysia. To ensure that the demographic of the respondents was distributed equally, the survey targeted the individuals of different age, gender, educational level, department, job title, experience in internal audit practice and professional qualifications. The respondents' profiles were presented in the Results and Discussion section.

### **3.4 Data Collection and Data Analysis Procedure**

It was discovered that a total of 930 companies listed on Bursa Malaysia Main Board for the year-end 2015. Around half of the total are found to be

outsourcing their internal audit activities to external providers, meanwhile in-house departments within those companies are yet to be initiated. In this study, a random sample was selected whereby the population was mainly concentrated on companies with in-house IAD as aligned with the objective of the study. A sample of 417 companies was finalized after excluding companies that outsourced their internal audit. This research was designed in both print-out questionnaires and an online survey tool (Google Doc). The respondents to both methods were given around four (4) weeks to reply. In total, out of 350 questionnaires distributed, 200 questionnaires were received and are deemed sufficient and adequate to be used. The participants in the questionnaire were voluntarily assured of their anonymity and no remuneration offered.

The questionnaires received from respondents were cleaned for preparation of coding. The coded questionnaires were analysed by applying statistical techniques provided in the Statistical Package for Social Science ("SPSS") version 25.0 software (Cooper & Schindler, 2000). Prior to the statistical analysis performed, the data was checked for errors by ensuring no missing value or outliers of a variable which is out of the possible range. All the variables in the study were measured using data collected from the questionnaire.

## 4. RESULT

### 4.1 Demographic profile of respondents

Table 2 is the respondent's demographic profiling that was captured for this research purposes.

**Table 2**  
**Demographic profile**

<i>Demographic Item</i>	<i>Category</i>	<i>Frequency</i>	<i>Percent</i>
Gender	Male	83	41.5
	Female	117	58.5
Age	20-29 years	45	22.5
	30-39 years	120	60.0
	40-49 years	33	16.5
	50 and above	2	1.0
Education Level	Secondary school	14	7.0
	Diploma	15	7.5
	Degree	107	53.5
	Masters and above	14	11.9

*contd. table 2*

<i>Demographic Item</i>	<i>Category</i>	<i>Frequency</i>	<i>Percent</i>
Department	Professional Qualification (e.g., ACCA/CIMA)	9	4.5
	Compliance	19	9.5
	Internal Audit	48	24
	Risk Management	35	17.5
Job Title	Other	98	49
	Executive/Senior Executive	135	67.5
	Middle Management	26	13.0
	Head of Section/Head of Department	34	17.0
Length of Service in Department	Top Management	5	2.5
	Less than 5 years	71	35.5
	5 – 10 years	53	26.5
Experience in Internal Audit Practice	More than 10 years	76	38
	No experience	117	58.5
	1 – 3 years	38	19.0
	4 – 6 years	17	8.5
	7 – 9 years	11	5.5
Professional Qualification	10 years and above	17	8.5
	CIA	35	17.5
	CISA	6	3.0
	CRMA	4	2.0
	Others	155	77.5

Out of the 200 responses received, there was a total of 83 male respondents and 117 female respondents which contributes to 41.5% of male and 58.5% of female respondents to the survey. From the outcome of the analysis, majority of the respondents are from the age group 2 (30-39) total of 120 individuals (60%), followed by the age group 1 (20 - 29) total of 45 individuals (22.5%) and age group 3 (40-49) total of 33 (16.5%) respondents. This is a common scenario as respondents from middle age group are commonly more willing to participate in surveys. Individuals whose age 50 and above (group 4) comprised only 2 individuals (1%) of the total respondent. There are three (3) primary departments respondents are targeted to this survey. There is risk management department total of respondent of 35 individuals (17.5%), internal audit department total of respondents 48 individuals (24%) and compliance department is 19 respondents (9.5%). Apart from that, the survey was conducted to other business units such as operational department, accounting department, business division department are the major respondent of 98 individuals (49%). In terms of Job Title, it was divided into 4 broad categories which are the top management, middle management, head of section/head of

department and senior executive/executive position, thus comprised of 5 (2.5%), 26 (13%), 34 (17%) and 135 (67.5%) respondents respectively. Working experience of the respondents were also collected for the purpose of this research. Total of 53 individuals (26.5%) has work experience between 5 to 10 years while total of 71 individuals (35.5%) has work experience less than 5 years. The highest number of respondents has work experience more than 10 years which comprised of 76 individuals (38%). Majority of the respondents are no experience in Internal Audit Practices. The total of 117 (58.5%) respondents are from various departments such as operational department, accounting department, business division department. Meanwhile, there are 38 (19%) respondents with 1 to 3 years' experience, 17 (8.5%) respondents with 4 to 6 years' experience, 11 (5.5%) respondents with 7 to 9 years' experience and 17 (8.5%) respondents with more than 10 years' experience. For the professional qualification of respondents, total of 35 individuals (17.5%) has CIA certification while total of 6 individuals (3%) has CISA certification. The total of 4 individuals (2%) has CRMA certification. The highest number of respondents has other professional qualification which comprised of 155 individuals (77.5%).

## 4.2 Correlation results

The correlation test was performed to measure the strength of the relationship between independent variables namely; (1) Risk Management Assessment, (2) Risk Control and Compliance, and (3) Risk Monitoring and Implementation and the dependent variable i.e. Effectiveness of Internal Audit Assurance. According to Cohen (1988), a strong relationship is measured if the value of correlation coefficient,  $r$  is of 0.50 or larger. The positive value of  $r$  indicates a positive relationship and a negative value of  $r$  indicates a negative relationship (Pallant, 2005). Table 3 displays the results

**Table 3**  
**Pearson Correlation Coefficients**

	<i>EIAA</i>	<i>RMA</i>	<i>RCC</i>	<i>RMI</i>
<i>EIAA</i>	1			
<i>RMA</i>	0.741**	1		
<i>RCC</i>	0.685**	0.697**	1	
<i>RMI</i>	0.616**	0.681**	0.753**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

*EIAA*: Effectiveness of Internal Audit Assurance

*RMA*: Risk Management Assessment

*RCC*: Risk Controls and Compliance

*RMI*: Risk Monitoring and Implementation.

of Pearson correlation coefficients with the significance values. Amid the respective independent variables; risk management assessment ( $r=0.741$ ), risk controls and compliances ( $r=0.685$ ), organizational structure ( $r=0.616$ ) and risk monitoring and implementation ( $r=0.636$ ) shows that all has significant positive relationship with effectiveness of internal audit assurances as their respective  $r$  is above 0.5.

### 4.3 Regression results

$R$ , the multiple correlation coefficients is the measure of the prediction of the dependent variable based on independent variables (Ramlan & Adnan, 2016). The value  $R=0.883$ , indicated that the level of prediction to assess effectiveness of internal audit assurance was good. Adjusted  $R$  value, (coefficient of the determination) 0.605 indicated that 60.5% of effectiveness of internal audit assurance could be explained by the three independent variables.

According to Ramlan and Adnan (2016),  $F$ - statistic is employed for testing to ascertain whether null hypothesis should be supported or rejected.  $F$ - Statistic outcome combined with the  $p$ -value denote that the complete results obtained in the analyses were significant. However, caution must be taken as it does not indicate that all the four independent variables have a significant impact on the effectiveness of internal audit assurance. The above table shows explanatory variables are statistically significant i.e. the model is a good fit of the data  $p$  value=0.000. The regression result was tested for multicollinearity problem where the

**Table 4**  
Standard Multiple Regressions

	Hypo- theses	Std. Beta Coefficient	t-statistic	p value	Tolerance	VIF
Intercept			2.273	.024***		
Risk Management Assessment	H <sub>1</sub>	<b>0.496</b>	<b>7.471</b>	<b>.000***</b>	0.458	2.185
Risk Controls and Compliance	H <sub>2</sub>	<b>0.302</b>	<b>4.090</b>	<b>.000***</b>	0.370	2.700
Risk Monitoring and Implementation.	H <sub>3</sub>	0.051	0.704	.482	0.386	2.593
<b>Model Summary:</b>						
R <sup>2</sup> value				77.8%		
Adjusted R <sup>2</sup> value				60.5%		
F-value				100.098		
Sig. value				.000***		
Obs.				200		

Note: Significant at 0.1% level\*\*\*, using two-tailed tests.

determinants or independent variable used are highly correlated to one another. Pallant (2005) states that tolerance is used to determine how much the independent variable are related to one another, measured by value of more than 0.1. Additionally, Variance Inflation Factor (VIF) is the reciprocal of tolerance and the value should be less than 10. Table 4 shows absence of multicollinearity problem with all tolerance values above 0.1 and VIF values are below 10.

According to Ramlan and Adnan, (2016), the standardized coefficients ( $\beta$ ) estimate how strongly the explanatory variables influences the dependent variable. According to the values of  $\beta$  and P, it can be said that risk management assessment has significant impact ( $\beta = 0.496$ ,  $P=0.000$ ) on effectiveness of internal audit assurance. Based on regression analysis, risk controls and compliance is also significant ( $\beta = 0.302$   $P=0.001$ ). The effectiveness of internal audit assurance is not significantly impacted by the risk monitoring and implementation. The hypotheses were tested; the results acquired through the analyses areas presented in Table 5 below:

**Table 5**  
**Testing of Hypotheses**

<i>Hypothesis</i>	<i>Decision</i>
<b>H1</b> There is relationship between risk management assessment and the effectiveness of internal audit assurance.	Supported
<b>H2</b> There is relationship between risk controls and compliance and the effectiveness of internal audit assurance.	Supported
<b>H3</b> There is relationship between risk monitoring and implementation and the effectiveness of internal audit assurance.	Not Supported

## DISCUSSIONS AND CONCLUSION

This study validates and confirms that all the factors highlighted contribute to effectiveness of internal audit assurance except for risk monitoring and implementation. Risk monitoring and implementation was found not significant to the effectiveness of internal audit assurance possibly due to lack of intensive training development provided to the internal auditors in Malaysia (Md Ali *et al.*, 2012; Azham *et al.*, 2009). Also, studies on the significance of internal audit revealed that lack of appropriate knowledge and training negatively affects the internal audit function (Md Ali *et al.*, 2012; Azham *et al.*, 2009). They proposed that training is utmost needed for the development of internal audit. According to Azham *et al.* (2009), as the number of auditors is few, their performance would be limited.

The findings of this research support the prior researches (e.g., Albrecht *et al.*, 1988; Arena & Azzone, 2009; Cohen & Suyaq, 2010; Mihret, 2010). The

regression analysis in this study revealed a positive relationship between risk management assessment and risk controls and compliance on effectiveness of internal audit assurance. This implies that risk management assessment processes highly regard risk-based audit, providing recommendations to improve governance and evaluation the effectiveness of risk management.

This study holds an objective that is to address a gap that exists in the literature by examining the factors influencing effectiveness of the IA assurance. Risk monitoring and implementation was found not significant to effectiveness of IA assurance possibly due to lack of intensive training development provided to the internal auditors in Malaysia (Md Ali *et al.*, 2012; Azham *et al.*, 2009). Also, as stated by Md Ali *et al.*, (2012) and Azham *et al.*, (2009), studies on the significance of internal audit in Malaysian private sector revealed that lack of appropriate knowledge and training, negatively affects the internal audit function. They proposed that training is utmost needed for the development of internal audit in Malaysia. According to Azham *et al.* (2009), the performance of auditors in Malaysian private sector is limited since there are only a few of them. The risk management assessment highly regards risk-based audit, providing recommendations to improve governance and evaluation the effectiveness of risk management.

There is one limitation of this study. Respondents who are mainly senior auditors and junior auditors, thus the results of the study would be enhanced if there are more respondents from CAEs and managerial levels. It is recommended for future research to be performed, particularly involving other stakeholders in the corporate governance mosaic, including senior management such as the CFO and CEO, as well as the external auditors; their perceptions are to be examined. In addition, it has become common in organizations to outsource the internal audit function (Carey *et al.*, 2006; Stewart & Subramaniam, 2010). Recent studies only investigate the impact on the contributions of IA on good RM attributes by the fully in-housed IA. Differences in the effectiveness of the IA assurance may exist between units of the in-house internal audit and that of outsourced internal audit.

In summary, it is revealed in this study that good risk management attributes such risk management assessment as well as risk control and compliance are attributes that influence the effectiveness of IA assurance activities. The adoption of theory of stewardship in regard to the value-added role of effectiveness of the IA assurance, focusing on delivering their job in consulting manner, is highlighted in this study. Lastly, the results



gained through this research are in line with the literature of assertion in auditing.

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## APPENDIX

**Table 1**  
**Operational Definition of Variables**

<i>Variable</i>	<i>Item</i>	<i>Label</i>	<i>Source</i>
Section A: Effectiveness of Internal Audit Assurance	A1	The internal audit function is carried out in accordance with international auditing standards (IPPF 2017).	Alsmairat <i>et al.</i> (2019)
	A2	The internal audit work is determined by having a proper planning and consecutive process.	
	A3	The internal audit is carried out in accordance with IIA Code of ethics.	
	A4	The internal audit process complete after obtaining sufficient evidence to support an auditor's opinion.	
	A5	The internal audit work undertaken is based primarily on an assessment of the risks associated with the client financial statements.	
	A6	The internal audit engagement is completed in a timely manner.	
	A7	The completion process level of internal audit is subject to review before the audit is completed.	
	A8	Internal auditor must perform the professional duties diligently.	
	A9	Internal auditor must perform the professional duties in line with IIA code of ethic.	
	A10	Internal auditor must perform the professional duties with governing standards and laws.	Shamsuddin <i>et al.</i> (2015)
	A11	Internal auditor should not interfere personal affairs while performing his duties.	
	A12	Internal audit function has developed a good cooperation between auditors and auditees.	
	A13	Internal audit findings are correctly argued and justified.	
	A14	Internal audit recommendations are significant.	
	A15	Internal auditor issues the report in a given time period.	
	A16	Internal audit report is clear and logical.	

*contd. appendix*

<i>Variable</i>	<i>Item</i>	<i>Label</i>	<i>Source</i>
Section B: Risk Management Assessment	A17	Internal audit work is efficiently performed according to planning period.	
	B1	My organisation has established risk appetite of the organisation.	Nyamwaya (2016)
	B2	Risk acceptance level for each key risk are properly and unmistakably demarcated and ratified by the Board.	
	B3	Internal audit evaluates the effectiveness of risk management.	Shamsuddin <i>et al.</i> (2015)
	B4	Internal audit improves the effectiveness of risk management.	
	B5	Internal audit provides adequate follow-up to make sure that appropriate corrective action is taken up.	Nyamwaya (2016)
	B6	In my organisation, there are established standards to enhance risk identification.	
	B7	In my organisation, risk is evaluated in terms of both quantitative and qualitative value.	
	B8	The risk is continuously reviewed by risk owners (business unit & management).	
	B9	The risk is continuously updated by risk owners (business unit & management).	Nyamwaya (2016)
	B10	The risk is continuously monitored by risk owners (business unit & management).	
B11	The risk is continuously analysed by risk owners (business unit & management).		
Section C : Risk Control and Compliance	C1	Audit committee has responsibility for overseeing internal audit and internal control procedures over financial reporting.	Abdullatif <i>et al.</i> (2015)
	C2	Audit committee has responsibility for evaluating internal audit and internal control procedures over financial reporting.	
	C3	Audit committee has responsibility for overseeing the company's implementation of quality control standard.	

*contd. appendix*

<i>Variable</i>	<i>Item</i>	<i>Label</i>	<i>Source</i>
Section D: Risk Monitoring and Implementation	C4	Audit committee oversees the company's compliance with laws, regulations and common standards.	Shamsuddin <i>et al.</i> (2015)
	C5	Internal audit function makes recommendations for improvements to the internal control system where appropriate.	Nyamwaya (2016)
	C6	Risk responses have clear accountability and timelines in my organisation.	
	C7	Controls are in place to evaluate the efficiency of the risk management program.	
	C8	Internal audit function develops risk management strategies for board approval.	
	E1	In my organisation, the risk management monitors and coordinates the risk processes.	Nyamwaya (2016)
	E2	In my organisation, the risk management monitors and coordinates the risk outcomes.	
	E3	The risks are continuously reviewed and updated by departmental heads.	
	E4	The risks are continuously scrutinized by departmental heads.	
	E5	The risks are continuously investigated by departmental heads.	
	E6	My organisation communicates information on risk status and actions in a regular way at all stages in the business.	
	E7	In my organisation, employees are properly trained on risk monitoring policies of the firm.	
	E8	Internal audit function implements risk responses on behalf of management.	
	E9	My organisation conducts regular reviews of risk management efforts.	
	E10	My organisation reports to senior management regularly on risk monitoring activities.	