

# The Effect of External Auditors' Experience Level and Internal Control Environment on the Use of Internal Auditor's Work for Control Testing\*

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Received: October 16, 2018

Revised: December 28, 2018

Accepted: January 24, 2019

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## ABSTRACT

Prior studies found that reliance decision of the external auditors to use internal audit function's work (IAF) is contingent on the prior's experience with the IAF. The three determinants of IAF's quality are objectivity, competence and work performance. This study argues that the experience of external auditors and internal control of a company are also related to the external audits' judgment. The paper manipulates the level of experience into more experienced auditors and less experienced auditors and classifies the internal audit (IA) report rating into satisfactory versus partial satisfactory. The IA report is represented an internal control of company. For our main predictions, we forecasted that the effect of the experience level of the auditors on the likelihood to use IAF's work for control testing is conditional upon the internal audit report rating. We predicted that the less experienced auditor is willing to use IAF's work for control testing regardless of internal control environment. In contrast to the less experienced auditors, the likelihood of the more experienced auditors to use the IAF's work for control testing at good internal control environments

\* We thank The 100<sup>th</sup> Anniversary Chulalongkorn University Fund for Doctoral Scholarship and The 90<sup>th</sup> Anniversary Chulalongkorn University Fund (Ratchadaphiseksomphot Endowment Fund).

are greater than at poor internal control environments. The experiment results mostly support the predictions where we found that the more experienced auditors were willing to use IAF's work in good internal control environments than poor internal control environments. On the contrary, the less experienced auditors are willing to use IAF's work regardless of the internal control environment. The findings highlight the potential reliance error in the less experienced auditors as they have bias against the IAF's work. The incorrect reliance of auditors can cause over and under audit work, leading to ineffectiveness or inefficiency of audit engagement.

**Keywords:** Auditors' Experiences, External Auditor's Reliance, Internal Control

# ผลกระทบของระดับประสิทธิภาพของผู้สอบบัญชีภายนอก และสภาพแวดล้อมของการควบคุมภายใน ต่อการตัดสินใจ ใช้ผลงานของผู้ตรวจสอบภายในสำหรับการทดสอบการควบคุม

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วันที่ได้รับต้นฉบับบทความ : 16 ตุลาคม 2561

วันที่แก้ไขปรับปรุงบทความ : 28 ธันวาคม 2561

วันที่ตอบรับตีพิมพ์บทความ : 24 มกราคม 2562

## บทคัดย่อ

งานวิจัยในอดีตพบว่า การตัดสินใจของผู้สอบบัญชีในการใช้ผลงานของหน่วยงานตรวจสอบภายในขึ้นอยู่กับประสิทธิภาพในอดีตกับหน่วยงานตรวจสอบภายใน โดยปัจจัยของคุณภาพหน่วยงานตรวจสอบภายใน ประกอบด้วยสามปัจจัยหลัก ได้แก่ ความเที่ยงธรรม ความสามารถและผลการปฏิบัติงาน การวิจัยนี้ให้ข้อเสนอว่าระดับประสิทธิภาพของผู้สอบบัญชีและสภาพแวดล้อมการควบคุมภายในอาจมีผลต่อการตัดสินใจของผู้สอบบัญชีด้วย งานวิจัยแบ่งระดับประสิทธิภาพของผู้สอบบัญชีเป็นสองระดับได้แก่ ผู้สอบบัญชีที่มีประสิทธิภาพมากและประสิทธิภาพน้อย และแบ่งรายงานตรวจสอบภายในเป็นสองประเภทได้แก่ ฟังพอใจ และฟังพอใจบางส่วน ซึ่งรายงานตรวจสอบภายในเป็นตัวแทนของสภาพแวดล้อมการควบคุมภายในของบริษัท งานวิจัยนี้คาดการณ์ว่าระดับประสิทธิภาพของผู้สอบบัญชีจะมีผลกระทบต่อการตัดสินใจใช้ผลงานหน่วยงานตรวจสอบภายในสำหรับการทดสอบการควบคุมขึ้นอยู่กับประเภทของรายงานการตรวจสอบภายใน โดยผู้สอบบัญชีที่มีประสิทธิภาพน้อยจะไม่พิจารณาปัจจัยสภาพแวดล้อมการควบคุมภายในในการตัดสินใจใช้ผลงานของหน่วยงานตรวจสอบภายใน ในทางตรงกันข้ามผู้สอบบัญชีที่มีประสิทธิภาพมาก โอกาสที่จะพิจารณาใช้ผลงานของหน่วยงานตรวจสอบภายใน สำหรับสภาพแวดล้อมการควบคุมที่ดีจะมีมากกว่ากรณีที่สภาพแวดล้อมการควบคุมไม่ได้ผลการวิจัยสอดคล้องกับสมมติฐานโดยพบว่าผู้สอบบัญชีที่มีประสิทธิภาพมากมีโอกาสใช้ผลงานของหน่วยงานตรวจสอบ

ภายในสำหรับสภาพแวดล้อมที่ดีมากกว่ากรณีที่สภาพแวดล้อมการควบคุมที่ไม่ดี ในทางตรงกันข้าม ผู้สอบบัญชีที่มีประสบการณ์น้อยมีแนวโน้มที่จะใช้ผลงานของหน่วยงานตรวจสอบภายใน โดยไม่ได้พิจารณาสภาพแวดล้อมการควบคุมภายในเลย งานวิจัยนี้ชี้ให้เห็นว่าผู้สอบบัญชีที่มีประสบการณ์น้อยมีอคติในการตัดสินใจใช้ผลงานของหน่วยงานตรวจสอบภายใน การตัดสินใจเชื่อถือที่ไม่ถูกต้องจะส่งผลให้เกิดการตรวจสอบที่มากเกินไปหรือน้อยเกินไปและทำให้การตรวจสอบไม่มีประสิทธิผลหรือไม่มีประสิทธิภาพ

**คำสำคัญ:** ประสบการณ์ของผู้สอบบัญชี ความเชื่อมั่นของผู้สอบบัญชี การควบคุมภายใน

## 1. Introduction

Previous literatures identified the most common three principle factors which affect the external auditors' assessment of the Internal Audit Function (hereafter IAF), namely competence, objectivity, and work performance (Desai, Roberts, & Srivastava, 2010; DeSimone & Abdolmohammadi, 2016; Gramling, Maletta, Schneider, & Church, 2004; Maletta, 1993). Then Bame-Aldred, Brandon, Messier, Rittenberg, and Stefaniak (2013) and Malaescu and Sutton (2015) study about the consequences of the reliance decision. Our study introduces the important link between IAF and the external auditors which is the internal audit report. Only a few studies have been carried out about how the decision making happens or how bias in decision making affects the external auditors' reliance decision. There has been only one study which has focused on the interaction between internal audit report type and senior level internal audit's reporting relationship towards internal audit's fraud risk (Boyle, DeZoort, & Hermanson, 2015). However, their study does not incorporate internal control environment factor.

This study additionally aims to understand how the affect and the cognition influences the judgments of more or less experienced external auditors. Previous behavioral research in accounting focuses on the effects of working experience on the performance in the accounting setting but the prior studies' results provide mixed direction. Glover (1997) and Hoffman and Patton (1997) find that less experienced auditors are sensitive to irrelevant information while the more experienced auditors provide the opposite results. Russo, Meloy, and Wilks (2000) and Smith and Kida (1991) confirm that experience helps reduce bias in decision making. Hamilton and Wright (1982) find that the level of experiences and consensus, cue weighting, self-insight do not have significant correlation. Our experimental study allows us to understand how experiences and internal audit report rating affects the external auditors' judgment and whether external auditors have bias in using IAF's work for control testing or not.

In order to manage the scarcity of resources of the external auditors and improve audit effectiveness, The International Standards on Auditing 610 (ISA 610) "using the work of internal auditors", revised in 2013, allows the external auditors to rely on an internal audit function's work (hereafter IAF) and this coordination between the two parties increases the effectiveness of internal audit Sox Section 404 or compliance processes of company (Lin, Pizzini, Vargus, & Bardhan, 2011). The reliance decision is not only beneficial to the client in terms of audit fees reduction but it also give external auditors more time to perform additional testing in other significant areas. Currently, the external auditors' reliance on IAF's work has been an interesting topic for researchers where many of them have focused on the determinants of the reliance decision.

In terms of material internal control weakness, the reliance decision is contingent on whether the prior's experience with the IAF was satisfactory. Malaescu and Sutton (2015) identify that the material weakness of the previous year causes less reliance to use the IAF's work. We predict that external

auditors who receive a satisfactory internal audit report will have greater likelihood to use IAF's work for test of control than those who receive partial satisfactory internal audit report. Not only the internal control environment related to reliance's decision but the experience level also contributes to the reliance's decision of external auditors. According to Glover (1997) and Hoffman and Patton (1997), less experienced auditors are sensitive to irrelevant information while the more experienced are the opposite. The paper posits that the more experienced auditors will have a greater likelihood to use IAF's work for control testing than the less experienced auditors. Combining the levels of experience and the internal audit report rating together, we predict that the effect of the former on the likelihood to use IAF's work for control testing is conditional upon latter. Then we manipulate the levels of experiences into two levels that are more experienced auditors and less experienced auditors. We predict that the less experienced auditors will be willing to use IAF's work for control testing regardless of internal control environment. On the contrary, for more experienced auditors, the likelihood to use IAF's work for control testing at good internal control environment, are greater than with a poor internal control environment.

To test the predictions, this study conducted an experiment which used a  $2 \times 2$  design (satisfactory IA report versus partial satisfactory IA report)  $\times$  (more experienced auditors versus less experienced auditors). The material was designed using a typical listed company's environment. The more experienced auditors were at the audit manager level or above from two of the Big 4 audit firms. The less experienced auditors were masters of accounting graduates who had less than three years of experience in the audit field. They voluntarily participated in the research during and after class or training.

The experiment results mostly support the predictions. The mean of likelihood to use IAF's work in good internal control condition is greater than poor internal control condition. However, the main effect of the different experience levels between auditors was not statistically significant. The interaction effect between auditors' experience and rating of the internal audit report is statistically significant which means the external auditors' likelihood to use IAF's work for control testing depends on the control environment and their experiences. In addition, we illustrated that the more experienced auditors are willing to use IAF's work in a good internal control environment than poor internal control condition. In contrast to more experienced auditors, the less experienced auditors are willing to use IAF's work regardless of the internal control environment. The findings highlight to the audit profession that the less experienced auditors are bias against the IAF's work. The incorrect reliance level can cause over and under audit work. Therefore, the audit firms should consider an appropriate policy for the auditor in charge who is responsible for making the decisions. The wrong decision does not only affect the external auditors, but it also increases unnecessary audit inefficiency, leading to higher audit fees for the clients.

The study provides several contributions. *First*, this paper highlights the audit firms that a person who is in charge of making the decision to use the IAF's work, should be highly experienced and has to consider the client's control environment. The audit firms should train their staff to make the appropriate decision. *Second*, the external auditors are willing to use IAF's work, depending on the internal control of the company. Thus, the client companies should provide a good internal control environment in order to reduce unnecessary audit inefficiency and any tension between the client and auditors. *Lastly*, the research paper contributes to the literature by identifying an interaction effect between the level of auditor's experience and the rating of the internal audit report which has an effect on the external auditors' judgment.

The remainder of the study is as follows. Section two provides review of relevant literature, theoretical development, and hypotheses development while, section three offers information regarding participants, research design and experimental materials and procedures. This is followed by section four, which describes the manipulation check and results. The last section concludes the paper.

## **2. Literature Review**

### **2.1 ISA 610**

The ISA 610 (revised 2013)(The International Auditing and Assurance Standards Board (IAASB), 2013) utilizes the specific work and documentations of the internal auditors by allowing the external auditors to use the work performed by the IAF and use the internal auditors as assistants. The previous version of ISA 610 allows external auditors to use internal auditors' work in a specific restrictive matter to gather audit evidence for external auditors. An example of the traditional tasks that internal auditors can assist includes obtaining an understanding of the companies' internal control by performing tests of control and substantive testing for an external auditor (Munro & Stewart, 2010). However, many restrictions are specified in ISA 610 that do not allow internal auditors to perform certain audit tasks such as the confirmation process (J. Bierstaker, Abbott, Caster, Parker, & Reckers, 2011). The comments from participating committee members emphasize that the revised 2013 version does not explicitly address that the work is adequate to support the proposed reduction in the extent of testing for external auditors (J. Bierstaker et al., 2011). The above points and examples gave rise to uncertainty and variety in using the IAF's work. The external auditors have to evaluate IAF by themselves.

### **2.2 Reliance on Internal Auditors' Work**

The internal auditors' quality assessment manual for the internal audit activity, on the 6th Edition, revealed a survey which informed us that the top three shareholders are executive management, audit committee, and the board of directors. The fourth stakeholder, which this paper focuses on, is the

external auditors. QAIP's procedure includes an interview of the external auditor for the evaluation of achieving coordination with other assurance providers and coordination of an audit plan (The Institute of Internal Audit, 2017). These steps of QAIP will help ensure coordination between external auditors and internal auditors for the audit planning and reduce duplicated works.

The increased reliance level transforms to lower performance on the tests of auditors' work and reduced audit budget hours compared to that of no involvement. However, it is a potential failure to evaluate the quality of IAF which is similar to the failure of detection of internal control deficiencies from management strategy in prior literature. Management uses many strategies to convince external auditors to realize the strength of internal audit's function (Farkas & Hirsch, 2016). In order to use IAF's work, the external auditors have to select which accounts should rely on IAF's work. Then they will check what the risk level is to the account and evaluate the internal control risk of the company according to ISA 315. The external auditors will review the internal audit's reports to evaluate whether the company has any material weakness present or not. Hence, they will be aware of the material weakness from internal audit's report.

### **2.3 Internal Audit Report**

The role of internal audit is to provide independent assurance that an organization's risk management, governance and internal control processes are operating effectively (The Charter Institute of Internal Auditors, 2018, Dec 20). The internal audit report is a product of internal auditor's work. Some companies that do not have the Audit Committee, the internal auditors report to management but if they have The Audit Committee, the internal auditors must remain unbiased to fulfill their duties to both management and the audit committee (Norman, Rose, & Rose, 2010). It is a non-mandatory for listed company to have internal audit function. There is no requirement for internal audit to be provided by own employees or outsource or mixture of internal and external sourcing. However, the service must effectively cover the role of internal audit (The charter of certified accountant in England and wales, 2014, March).

The purpose of including the internal report is to simulate the situation that external auditors face in the real working environment. At the planning stage, the external auditors need to obtain information of a company and coordinate with the IAF (Pike, Chui, Martin, & Olvera, 2016). The external auditors always request an internal auditor report from the audit committee in order to revise audit plan if there is any material weakness present or not. Additionally, Malaescu and Sutton (2015) identify that the material weakness of the previous year causes auditors have less reliance to use the IAF's work. Moreover, when the external auditors evaluate the control risk of the company, the identified control weakness may decrease rating of internal control risk. The external auditors evaluate internal



control risk as low when the company has good internal control environment but they evaluate as high internal control risk when the company has poor internal control environment (The International Auditing and Assurance Standards Board (IAASB), 2009).

The IIA issued a practical guideline for formulating and expressing internal audit opinion (The Institute of Internal Auditors, 2009, March) by providing the relevant ideas, the scope of the work, and the degree of expressing an opinion. The guideline suggests that internal auditors can express opinions on two levels: the macro level as an overall level and the micro level for an individual audit assignment. They can also apply scales such as tier grading or tier grading with scales from the appendix of the practice guideline. In this research study, we used the former, which is the most popular scale. The study uses the tier grading scale based on the practical guideline and the PWC annual report for South Northamptonshire (PricewaterhouseCooper, 2016, June) to manipulate the scale between satisfactory, partial satisfactory and unsatisfactory.

However, the study excludes unsatisfactory conditions because the case material is a listed company which follows the law and regulations from the Stock Exchange of Thailand and the Office of the Securities and Exchange Commission strictly requires good corporate governance and authorized external auditors. There are four parties who are required to be involved in the preparation of listing information; financial advisors, external auditors, internal auditors and the audit committee. The preparation requires two years' worth of internal audit reports (The Stock Exchange of Thailand, 2018, Sep 15). Hence, it is nearly impossible to obtain unsatisfactory conditions of control for a listed company present in the stock exchange market. Therefore, this study will only focus on satisfactory and partial satisfactory conditions.

The material weakness disclosures from internal audit reports increases the likelihood to detect these flaws by external auditors. The disclosure of material control weakness has been positively associated with the IAF in the practice of grading audit engagements and in external-internal auditor coordination, suggesting that these activities increase the effectiveness of the Section 404 compliance processes (Lin et al., 2011). On the other hand, the failure to report internal control material weakness reduces the external auditors' willingness to rely on internal auditors' work (Farkas & Hirsch, 2016).

The experiment investigates a test of control procedure, which is similar to Munro and Stewart (2010). They found that the external auditors have been using works of internal auditors more for evaluating internal controls than for substantive testing or as assistants. However, their study does not incorporate the different levels of internal control environment and experiences of external auditors into research. This paper aims to find how the different levels of internal control environment play an important role in determining the external auditors' judgment. The internal audit report is a representative of internal control environment. This paper manipulates internal audit reports at

two levels, satisfactory and partial satisfactory. For the satisfactory case, it means that no material control weakness was found or the company has good internal control while the partial satisfactory case means there is at least one material control weakness found or the company has poor internal control. In terms of material internal control weakness, the reliance decision is contingent on whether the prior's experience with the IAF was satisfactory (Malaescu & Sutton, 2015). The external auditors evaluate the control risk as high when internal control of the company is not good while they will evaluate the risk as low when the internal control of the company is good. The predictions align with the ISA 315 which covered the topic "Identifying and Assessing the Risks of Material Misstatement through Understanding the Entity and Its Environment". The companies which have poor quality of internal control will be classified as having high internal control risk and the companies which have good quality of internal control will be classified as having a low internal control risk. Moreover, the literature also found that the reliance on the internal audit's decision by the external auditor is a function of the client's government structure, management characteristic, account risk, and inherent risk (Bame-Aldred et al., 2013). So this paper posits that the external auditors who receive a satisfactory internal audit report will have likelihood to use IAF's work for test of control greater than those who receive a partial satisfactory internal audit report.

## 2.4 Experiences Effect

This study additionally aims to understand how the affect and the cognition influences the judgments of more or less experienced external auditors. Glover (1997) and Hoffman and Patton (1997) find that less experienced auditors are sensitive to irrelevant information while the more experienced auditor are the opposite. Russo et al. (2000) and Smith and Kida (1991) confirm that experience helps reduce bias in decision making. Moreover experienced auditors are able to perform critical and specific tasks and discount irrelevant information while novices generally do not have this ability. The more experienced auditors can ignore irrelevant affective information and determine the correct decision (Bhattacharjee, Maletta, & Moreno, 2016). Moreover, Farmer, Rittenberg, and Trompeter (1987) find that inexperienced auditors are likely to agree with a client's preferred accounting treatment than experienced auditors. Furthermore, Abdolmohammadi and Wright (1987) suggest that awareness of the potential adverse consequences of audit judgment increased through experience. As the more experienced auditor can detect irrelevant information and are able to focus on critical information, they should have the potential to use the IAF's work more than less experienced auditors. Therefore, the current study predicts that the more experienced auditors will have greater likelihood to use IAF's work for control testing than less experienced auditors.

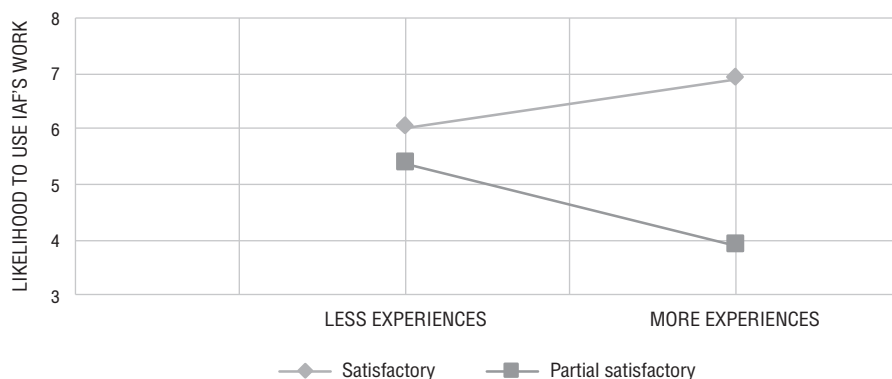
## 2.5 The Effect of Internal Audit Report Rating and Level of Experience.

Putting together the information regarding the company's internal control environment and the amount of experience the external auditors have, the research predicts that the effect of the experience level of external auditors on the likelihood to use IAF's work for control testing is conditional upon the internal audit report rating. Moreover, the study performed additional analysis by the level of the external auditors' experience. We can make a prediction on the directional effect for the more experienced external auditors where the likelihood to use IAF's for control testing of external auditors who receive satisfactory internal audit report will be greater than those who receive partial satisfactory internal audit report. On the contrary, the less experienced auditors will be indifferent in the likelihood to use IAF's work for test of control regardless of companies' internal control.

*H1: The effect of the experience level of auditors on the likelihood to use IAF's work for control testing is conditional upon the internal audit report rating.*

*H2: The less experienced auditors are willing to use IAF's work for control testing regardless of internal control environment.*

*H3: For more experienced auditors, the likelihood to use IAF's work for control testing at good internal control environment, are greater than poor internal control environment.*



**Figure 1** The prediction of likelihood level of external auditors using IAF's work for control testing.

### 3. Research Methodology

#### 3.1 Participants

The experiment had seventy-five participants from two of the big four firms and a university in Thailand. Approximately 80% of participants are under 30 years old. 64% were female and 36% were male. 60% were more experienced auditors and 40% were less experienced. Most of them are currently in audit profession. The more experienced participants were ranked from manager to audit partners who had more than seven years' experience in the auditing profession and most of them have experience in auditing listed companies. They were asked to voluntarily participate during office training. The less experienced participants were master degree students who had less than three years' experience in auditing profession and they were asked to voluntarily participate after class. The experiment took about 20–30 minutes.

**Table 1** Demographic Information (n = 75)

	Number	Percentage
<b>Sex</b>		
Female	48	64%
Male	27	36%
<b>Age</b>		
below 30	60	80%
31–40	9	12%
More than 41	6	8%
<b>Level of experiences</b>		
Less experiences	30	40%
More experiences	45	60%
<b>Current profession</b>		
Audit	53	71%
Non-audit	22	29%

### 3.2 Research Design and Manipulation

The study employed a 2 × 2 between-subjects design included in the four experimental conditions to test the hypotheses. Participants were randomly assigned to be a subject of the internal auditors' report (*satisfactory* internal audit report and *partial satisfactory* internal audit report), with their experiences (*more* experience and *less* experience) as independent variables. The study has four conditions presented in Table 2.

**Table 2** Classification of Groups in Each Treatment Condition

Internal auditor's report rating	Experiences	
	More	Less
Satisfactory	More, Satisfactory (MS)	Less, Satisfactory (LS)
Partial satisfactory	More, Partial satisfactory (MP)	Less, Partial satisfactory (LP)

**MS** is a group of participants who receive satisfactory in the internal auditor's report and more experiences treatment condition.

**LS** is a group of participants who receive satisfactory internal auditor's report and less experiences treatment condition.

**MP** is a group of participants who receive partial satisfactory internal auditor's report and more experiences treatment condition.

**LP** is a group of participants who receive partial satisfactory internal audit's report and less experiences treatment condition.

### 3.3 Independent Variable Manipulations

The types of internal audit report are manipulated to cover two ratings, satisfactory and partial satisfactory, which summarizes the findings of credit controller not making a sign-off approval before adding a new customer into the system. The rating of internal report uses dummy variable (satisfactory internal audit report = 1 and partial satisfactory = 2). The manipulation of internal audit report type is adapted from Malaescu and Sutton (2015), Boyle et al. (2015) and PricewaterhouseCooper (2016, June). The study selects "credit controller did not sign off approval" because it does not have direct value of misstatement to the financial statement. However, there is a possibility in the future of the company may create fake customers and overstate sales and account receivables. It is a weakness that the designed control cannot prevent. The trade receivable account will be impacted for consideration of allowance for doubtful debt of those unapproved customers who have financial problems.

The experience of external auditors is classified as less experienced auditors and more experienced auditors. We use dummy variable as 1 for more experienced auditors and dummy variable as 2 for less experienced auditors. The less experienced auditors are the Master of Accounting program students who had less than 3 years experiences and none of them were audit managers. The more experienced auditors are audit managers or above from two of big four firms and are in charge of planning engagement decisions. The auditing literature measures auditors' experiences in multiple ways, including year of experiences, professional rank, accounting firm and performance evaluation (Knapp & Knapp, 2001; Shelton, 1999; Tan & Libby, 1997; Wright & Bedard, 2000). The most popular measure is the year of experiences but this study uses the year of experiences to divide the level of experiences.

### 3.4 Dependent Variable

After reading the background and the operationalization of the two manipulations, the participants were asked to make decisions on a dependent variable and I repeated the same measurement as Munro and Stewart (2010). The dependent variable is *likelihood to which you would use internal audit function's work at test of control stage for revenue cycle of the year 2017* ((Felix, Gramling, & Maletta, 2001; Peters, Abbott, & Parker, 2012). The 11-point scale is used for the participants' response (where 0 = not likely at all, 5 = Neutral and 10 = extremely likely).

### 3.5 Material

The experimental material used in this study was adapted from Boyle et al. (2015), and internal audit report from PricewaterhouseCooper (2016, June). The case was reviewed by two experienced external auditors from one big four firm. This step is to ensure that the external auditors will be able to understand the case material and interpret it correctly. Additionally, the instrument was reviewed by two experienced internal auditors from two big four firms to ensure the reality of listed company's environment. Lastly, the material was approved by The Ethics Review Committee for Research Involving Human Research Subject, Health Science Group, Chulalongkorn University.

The case informs reader that the company has a good financial position and a positive net cash flow. Each treatment received a satisfactory and partial satisfactory internal audit report of revenue cycle from the internal audit function which is under the supervision of the audit committee for the period ending 1 July 2016 – 30 June 2017. The study used a Thai version of the material for the collection of data from participants. Additionally, the material is back translated from Thai to English and review the consistency of both languages by two experienced auditors from one of big four firm. Moreover, J. L. Bierstaker and Wright (2001) informed that the revenue account is designed to have a moderate

risk level so it is appropriate to use it for the case study as it is a pervasive account misstatement risk but it is not a highly subjective account like the inventory evaluation or assets revaluation.

The case study is developed specifically for this study and was performed a pilot test with students in master of accounting program who have an auditing background or currently work as auditors. The pilot participants were excluded from the main test to ensure that they were not replicated with the main testing. The case was reviewed by an audit partner and two audit managers in order to ensure the realistic and practical application.

### **3.6 Experimental Procedures**

At the beginning of the experiment, participants were informed the purposes of the study and were provided the opportunity to leave the experiment any time if they were not willing to perform the study. Then participants were required to sign their names on the consent form to ensure their voluntary participation. Then they were randomly assigned to each treatment condition where they received two envelopes. The study instructed them to sequentially open envelop 1 and followed by envelop 2. The first envelop consisted of background information of the company, financial statement, and internal audit report and dependent variable questions. After the participants finished answering the first envelop, participants were then asked to return the first envelop to the researcher before opening the second envelop. The second envelop consists of two questions regarding to manipulation checks. Then the participants answered some demographic questions. After completing task in the second envelop, they received a small gift for their participation. The overall study took about 20–30 minutes to complete.

## **4. Results**

### **4.1 Manipulation Check**

With respect to the internal audit report rating, we asked participants two questions. First, they were asked what the type of internal audit report that you have read. Second, they were asked what the internal control level of company is. The participants who fell both of questions, were excluded from this experiment. The results showed that as many as 93% of the participants answered at least one of questions correctly. These results reveal that participants understand the company's internal control environment.

## 4.2 Test of Hypotheses

This paper conducted an analysis of variance (ANOVA) on the participant's likelihood of using the IAF's work for control testing as the main dependent variable. The results are shown in table 2, with panel A containing a descriptive statistic, panel B presenting independence t-test, panel C showing two-way ANOVA and panel D displaying a contrast testing. The panel A reveals the mean and standard deviation of participants' likelihood to use the IAF's work and the total number of participants in each condition. Then, the panel B shows the mean of participant's likelihood to use the IAF's work which received a satisfactory internal audit report greater ( $t = 1.80, p = 0.077^{**}$ ) than those who received a partial satisfactory internal audit report. The result confirms that the internal control of company affects the external auditors' decision to use the IAF's work. The external auditors perceive the different levels of the companies' internal control environment from reading the internal audit report and this impacts their willingness to use the IAF's work. Moreover our result is supported by Maletta and Kida (1993) who find that auditors rely more on internal auditors when the control risk was low compared to condition where there is high control risk. Our finding adds additional determinant factor to reliance model which previously had only competence, objectivity, and work performance (Desai et al., 2010; DeSimone & Abdolmohammadi, 2016; Gramling et al., 2004; Maletta, 1993). The research finds that internal control of the company is contribute to external auditors' reliance level. The external auditors are willing to use IAF's work more in good internal control environment (satisfactory IA report).

However, the main effect of the level of experience regarding the external auditors in using the IAF's work is not significantly different ( $t = 0.18, p = 0.860$ ) between the less experienced and the more experienced auditors. It means the experience itself does not affect the reliance decision of external auditors. Even this research finds that the level of experiences effect is not significant. Many studies find mixed results and mixed direction of experience effects. For example, Farmer et al. (1987) find that the experienced auditors are less likely to agree with client's preference than inexperienced auditors. However, we roughly conclude that the evaluation process of using IAF's work does not only use experiences but it has to consider internal control environment as well.

Next, panel C shows an interaction effect between the level of experiences and level of internal audit report rating. The resulting statistic is consistent with our prediction H1 and presents that at least one of the mean related to the participant's likelihood to use the IAF's work is significantly different ( $f = 7.81, p = 0.007^{***}$ ) among the groups. It interprets that both, experience level and internal control rating, plays an important role in the external auditors' reliance decision to use the IAF's work for control testing. The more experience auditors' likelihood to use IAF's work for control testing is different between satisfactory internal audit report and partial satisfactory internal audit report. They reduce willingness to use IAF's work for control testing because they may be uncertain about IAF's quality



while they are auditing poor internal control environment client. The experiences dilute the optimistic bias. In contrast to more experiences auditor, the less experiences auditors have an optimistic bias in IAF's quality even they are working in poor internal control environment. They do not reduce the willingness to use IAF's work for control testing. Another alternative explanation of interaction effect is halo effect. The less experiences auditors may be convinced by prior background information of company. They perceive that the company has audit committee, good financial performance and the quality and improvement program. They ignore later information which provide a control deficiency of the company. Thus, the less experiences auditors did not reduce willingness to use IAF's work while they are auditing high control risk engagement.

We additionally ran contrast testing in order to investigate what difference the internal control of company makes on the external auditors' judgment. Panel D, illustrates that the prediction  $H2$  is confirmed. The mean of the less experienced participants' likelihood to use IAF's work is indifferent ( $t = -0.94$ ,  $p = 0.175$ ) between a satisfactory level internal audit report and partial satisfactory internal audit report. The contrast testing of the less experienced group revealed an interesting point. We find that in the good internal control environment, the less experienced external auditors were reluctant to reduce their testing beyond a minimum threshold because they were not familiar with planning decisions. The finding is consistence with deZoort and Salterio (2001) which informed that external auditors sometimes perform over-auditing in order to comply with auditing standards, or they may have bias against quality or other factors towards the internal audits' work.

The last comparison of the mean likelihood of more experienced auditors to use the IAF's work between satisfactory internal audit report condition and partial satisfactory internal audit report condition was significantly different ( $t = 3.24$   $p = 0.001^{***}$ ). It implies that the more experienced external auditors are willing to use IAF's in a good internal control environment than a poor internal control environment. The benefit of having correct reliance on the IAF's work is to reduce an external audit delay (Peters et al., 2012). Moreover, the external audit could use the time saved from relying on IAF's work on other significant areas. The external auditors evaluate the control risk as high when the internal control of the company is not good while they will evaluate the risk as low when the internal control of the company is (The International Auditing and Assurance Standards Board (IAASB), 2009). Poor internal control environment is related to high internal control risk and potential of fraud which could decrease the external auditors' reliance level. The more experienced auditors rely less on IAF's work in poor internal control environment which is consistent with Bhattacharjee et al. (2016) and Abdolmohammadi and Wright (1987) and our prediction  $H3$ .

**Table 3****Panel A:** Descriptive statistic - Mean (Standard Deviation) and number of participants<sup>a</sup>

Condition	Mean	Standard Deviation	N
Satisfactory	6.1778	2.83876	45
Partial satisfactory	4.9667	2.89451	30
More experiences	5.7667	3.16972	45
Less experiences	5.6444	2.74819	30
More experiences, Satisfactory (MS)	6.6786	2.24522	28
Less experiences, Satisfactory (LS)	5.3529	3.53449	17
More experiences, Partial satisfactory (MP)	3.9412	2.70348	17
Less experiences, Partial satisfactory (LP)	6.3077	2.65784	13

**Panel B:** Independence t-test

No.	Description	Mean difference	t-statistic	p-value *
1.	Satisfactory vs Partial satisfactory IA report	1.21	1.80	0.077**
2.	Less experiences vs More experiences	0.12	0.18	0.860

**Panel C:** Two-way ANOVA

Source	Df	Type III Sum of Squares	Mean Square	F	Sig.
Corrected Model	3	86.25	28.75	3.80	0.014***
Intercept	1	2155.66	2155.66	284.64	0.000***
Experience	1	4.70	4.70	0.62	0.433
IA report	1	13.80	13.80	1.82	0.181
Experience * IAreport	1	59.19	59.19	7.81	0.007***
Error	71	537.70	7.57		
Total	75	3055.00			

**Table 1** (Cont.)**Panel D: Contrast effect testing**

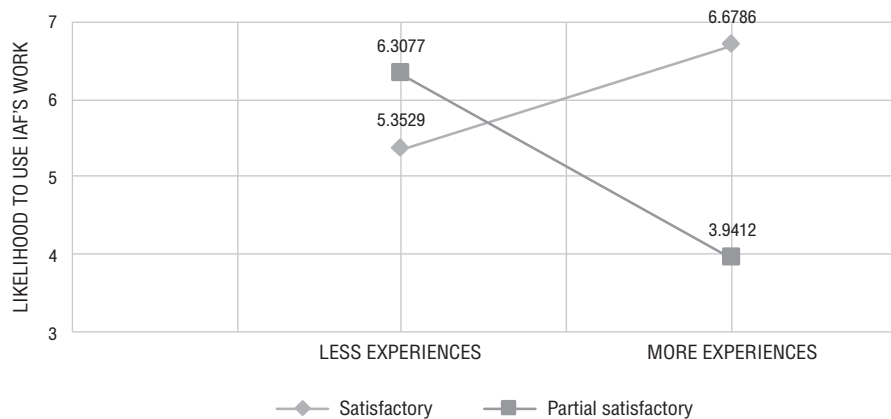
No.	Comparison	Mean difference	<i>t</i> -statistic	<i>p</i> -value <sup>b</sup>
1.	Less experiences, Satisfactory (LS) vs Less experiences, Partial satisfactory (LP)	-0.95	-0.94	0.175
2.	More experiences, Satisfactory (MS) vs More experiences, Partial satisfactory (MP)	2.73	3.24	0.001***

This table presents descriptive statistic and test of  $H1-H5$ , where we use  $2 \times 2$  between-subjects design and manipulate (1) internal audit report rating and (2) level of experiences.

a The participants were asked to specify the likelihood to use IAF's work at control testing using an 11-point (0–10) Likert scale, where 0 and 10 respectively denote not at all likely and extremely likely. Total likelihood is 100%.

b One-tailed equivalent.

\*\*\*, \*\*, and \* respectively denote the 1%, 5% and 10% significance levels.



**Figure 2:** The likelihood level of external auditors using IAF's work for control testing. This figure plots the participants' mean of the likelihood level to use IAF's work for control testing. Participants were asked to provide their likelihood of using IAF's work in one of four conditions. The two factors (Internal audit report rating  $\times$  level of experience) are crossed in a  $2 \times 2$  factorial design experimental result in above figure.

## 5. Conclusions

In this study, we conducted an experiment to investigate how the internal audit report rating interacted with different levels of experience. Our two primary predictions were that the less experienced auditor were willing to use the IAF's work for control testing regardless of the internal control environment and the more experienced auditors were willing to use the IAF's work for control testing depending on the internal control environment. The results of the experiments were mostly consistent with our predictions. The likelihood of using the IAF's for control testing from the less experienced auditors were indifferent between the good and poor internal control environments. It implies that the less experienced auditors had bias in using the IAF's work. The good internal control environment and good quality work from IAF should be able to reduce the redundant audit works but the less experienced auditor cannot distinguish such different quality. They may perform an over audit work and utilize unnecessary audit budget hours. In the poor internal control environment, the less experienced auditors could potentially perform under audit works as they may over rely on the IAF's work in a high risk internal control condition. In contrast to the less experienced auditors, the more experienced auditor are willing to use the IAF's work for control testing in a good internal control environment than in a poor internal control environment. This result aligns with the ISA 315 and prior literature. In the good internal control environment, the external auditors are willing to use the IAF's due to low internal control risk. The coordination between the external auditors and internal auditors increases the effectiveness of the Section 404 compliance processes (Lin et al., 2011). It also reduces delay of an external audit work and audit budget hours. However, when the internal control is poor, the more experienced external auditors set a high risk of internal control and this decreases the external auditors' reliance level. Additionally, this study has a theoretical contribution by identifying an internal control environment of company and auditor's experience as the additional determinants of external auditors' reliance decision.

Some limitations of this study could be addressed in the future research as we only scoped revenue account testing in the experiment. It is very interesting to investigate how external auditors react to different areas such as expenditure account or inventory account. Moreover, the paper determines that the IAF is good quality and they perform audit work according to internal audit standard. The difference in quality level of the IAF could also affect the external auditor's reliance decision. This research is only suitable for companies that have an internal audit function and an internal audit report.

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