Factors Affecting the Perceived Readiness on the Adoption of Internal Audit in Public Universities: Evidence from Vietnam

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ABSTRACT

The study aimed to investigate the factors influencing the readiness of internal audit (IA) adoption in public universities based on the Theory of Planned Behavior (TPB). The study applied a mixed methodology. After surveying 120 leaders, lecturers, and department staff from 15 Vietnamese autonomous public universities to understand more about leaders' and experts' viewpoints on IA in universities, further qualitative research was conducted via the in-depth interview method. The results showed that the major influencing factors are self-efficacy, organizational support (including management commitment and facilitating conditions), perceived usefulness, and legal and social pressures. The paper contributes to the literature of IA pre-adoption by understanding the perceived readiness of IA in the public sector, especially in universities in an emerging market with unique characteristics. It also helps to enhance the understanding of the influencers on IA perceived readiness and provides helpful suggestions for accelerating IA implementation in emerging countries.

Keywords: Internal Audit, Factors, Perceived Readiness, Public Universities, TPB, Vietnam.

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INTRODUCTION

With the growing size and complexity of the public sector in recent years, the importance of the internal audit (IA) has correspondingly increased to make considerable contribution to the improvement of public sector management (Unegbu and Kida, 2011). In public universities, the massification of education, the reduction of government funding and increasing institutional autonomy have forced universities to adopt new forms of management (Da Costa Marques, 2017). IA is therefore understood as a part of a university's quality assurance mechanism, and responsible for verifying if the internal controls, the checks and balances of the system, are in place and are effective (Fischer and Montondon, 2005). IA function can help to foster public universities' accountability and transparency through three pillars: (1) assessing the use of public resources to enhance performance and limit the possible deviations arising in the application of public resources, (2) transparency in rendering accounts to ensure the compliance with existing legislation, regulations and norms, and (3) promoting responsibility for the decisions taken and actions implemented (Fonseca *et al.*, 2020). In the context that autonomous public universities are no longer funded by the state budget, it is even more essential for these institutions to adopt the IA function to enhance accountability, transparency, and efficient use of resources.

The development of IA in the public sector is "pretty jeopardised and heterogeneous, with a high variability from country to country" (Arena, 2013). We chose Vietnam to investigate the perceptions of public higher institutions on the readiness of adopting IA for certain reasons. First, Vietnam is a country that is still struggling on the road towards transparency in all fields with its low ranking in the global Corruption Perceptions Index[1], and having quite a far distance to go in the field of IA development. Although the Decree No.05/2019/ND-CP on IA (effective from 1 April 2019) has included autonomous public universities as one of the groups that must apply IA, among 23 autonomous public universities in Vietnam, only two have just recently announced the application of IA in 2021 while other universities have not taken any action yet. This is a very small figure when considering that 172 public universities were encouraged to apply. Therefore, it is necessary to have research on what factors are influencing the perceived

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1   104 out of 180 countries

readiness to adopt IA in Vietnamese public universities. Second, even though having high growth of economic development[2] Vietnam has not got high development in higher education[3], the public sector is affected by the one party political mechanism and the combination of cultural characteristics of Confucianism affected by China and Western cultures affected by France and the US through history (Ralston *et al.*, 2006, Nguyen, 2016). These will make the behaviors of university stakeholders interesting to investigate.

This study aimed to answer the following research questions: RQ1- What are the main factors influencing the perceived readiness of the adoption of IA in public universities in Vietnam? RQ2- How do the Vietnamese public universities perceive the factors affecting the readiness of adopting IA function? To answer these questions, the authors identified the factors that affected IA perceived readiness, proposed the research model, organized surveys, analysed data and provided main important research findings on the influencing factors. The research model was designed based on expansion of the Theory of Planned Behavior (TPB) model (Ajzen, 1991), which has been used in many studies relating to the intention or readiness of adopting a new system. An extensive survey method and semi-in-depth interviews were applied in this research.

The study makes several important contributions to the existing literature on IA in public sector and specifically in public universities. Firstly, different from the existing literature of IA application in public sector where "most studies emphasize on "governance" and "operational effectiveness" using quantitative analysis, without reference to any theory" (Nerantzidis *et al.*, 2020), our study focussed on the pre-adoption and IA readiness's perceptions, through proposing a model to identify the factors affecting IA perceived readiness by combining the IA literature with behavioural theories, in using the Theory of Planned Behavior (TPB) and extending its model with more variables (perceived usefulness and perceived risks). Secondly, the study shows a quite surprising result that the legal and social pressures provide a moderate impact to IA readiness, while risks perceived does not have any impact at all for the case of Vietnamese public universities,

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2   GDP growth rate of Vietnam is around 6 – 7% from 2000 until 2020
    (https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=VN)
3   In 2021, only 5 Vietnamese universities are in the Top 1,000 global university ranked by The Times Higher Education. Vietnam's level of research and technology transfer is low compared to regional peers such as the Philippines, Indonesia, Thailand, Malaysia, and China (The World Bank, 2020)

which is quite different from the risk-averse and law-abiding personality of many Asians. Thirdly, the research has important implications. Raising awareness in an emerging issue to an emerging country is very important. Through a survey of 15 out of 23 autonomous universities, the research has contributed to increasing perceptions of university leaders, staff, lecturers and IA external experts on IA readiness and application in public universities, that may advance the agenda for adoption. Besides, the findings point out that major influencing factors are self-efficacy, organizational support (including management commitment and facilitating conditions) and perceived usefulness. These results help regulators, university leaders in emerging countries get the appropriate measures to promote IA adoption in public universities.

This paper is arranged as follows. Section 2 outlines a general context of IA in Vietnam. In Section 3, we provide a literature review, and from that define the hypothesis and research model for understanding the factors affecting the perceived readiness of IA adoption in public universities in Vietnam. The research methodology is presented in Section 4. Section 5 discusses our research findings. The final section provides a concluding discussion and research implications.

BACKGROUND

In Vietnam, since 1997, there have been a number of regulations on IA applied to state-owned enterprises, credit institutions, securities and insurance companies. However, for the public sector, this concept is unfamiliar and there has been no legal regulation issued in such a long time. Public institutions and especially higher education institutions did not pay attention to the adoption of IA.

The Decree 05/2019/ND-CP on IA, which was issued on January 2019 was a great step forward that has established the legal basis for IA in Vietnam. Beside the mandatory requirements applicable to certain types of businesses (listed companies, SOEs), for the public sector, the Decree is applied to the ministries, ministerial-level agencies, agencies attached to the Government, the Provincial People's Committees, and public non-business entities (including autonomous units according to article 9 of this Decree

and Decree No.16/2015/ND-CP on autonomous mechanism of public entities). The Ministry of Finance also then issued Circular No.66/2020/TT-BTC, No.67/2020/TT-BTC on sample regulations on IA for corporates, state agencies and public non-business units, and No.8/2021/TT-BTC on Vietnamese Standards and Code of Ethics for Internal Auditing. It can be said that the initial legal framework for IA activities has been relatively complete.

In regard to public universities, in 2020, Vietnam had 237 universities, of which 172 were public. Their three main funding sources are: (1) State budget funding; (2) Revenue from tuition fees; (3) Revenue from service activities, scientific research, and technology transfer. The state budget still has to ensure about 30% of the recurrent budget and infrastructure development for a large number of universities and tuition fees are one of their important financial sources. Public universities must apply the state budget management's financial mechanism. It is necessary to have a strict, independent, and objective IA apparatus in public universities to help ensure that the accountability and transparency in revenue and expenditure management are in accordance with regulations, especially in the context that Vietnam is an emerging country with high growth rate of economic development while having a high corruption index. Besides, in the current trend of transforming university governance towards business governance in Vietnam, the establishment and implementation of IA function in public universities would be an effective tool to help detect problems with the university's management system, to prevent and handle risks, improving the effectiveness and efficiency of the quality assurance system and ensure the accountability requirements, thus improving the governance efficiency in higher education institutions. For autonomous universities, IA is even more important than before as the University Council has to approve the Universities' investment and budget which really need an independent organization for controlling and doing risk assessments. However, due to the rather slow promulgation of regulations and guidelines, lack of knowledge and awareness of IA, and other issues related to human resources and organizational structure, universities seem not able to immediately establish their IA apparatus, thus raising the question about their perceived readiness of applying IA functions[4].

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4   As mentioned above, to date, only two public universities in the economics field have announced the establishment of an IA department while others have not yet announced any plan to set up the IA function.

LITERATURE REVIEW, HYPOTHESIS AND RESEARCH MODEL

IA perceived readiness in public universities

According to the mandatory guidance in IIA's IPPF (Internal Professional Practices Framework), internal auditing is defined as "an independent, objective assurance and consulting activity designed to add value and improve an organization's operations". The objective of IA activity is to help an organization "accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes" (IIA, 2016). The IA function helps to ensure quality corporate governance (Eulerich *et al.*, 2019), enhance and protect organizational value by following the risk-based objective, and providing reliable assurance, advice, and insight to the organization (Moeller, 2015). IA quality is significantly associated with financial reporting quality (Kaawaase, 2021).

As the IA function is widely applied in the private sector from long time, there have been a lot of research on this field (e.g.Goodwin and Kent, 2004; Rönkkö *et al.*, 2018; Eulerich et al., 2019). For the public sector, there is an increased tendency of IA research up to 2017, and almost all are single-country research, and widely covered the 5 continents (Nerantzidis *et al.,*2020). Most research focussed on IA roles (Aikins, 2011; Roussy, 2013; Postula *et al.,* 2020) and IA effectiveness (Alzeban and Gwilliam, 2014; Cioban *et al.,* 2015; Alqudah *et al.,* 2019). There are few research on IA establishment issues, and for quite a long time (Van der Schyf, 2000; Brierley *et al.,* 2001). To them, certain factors that cause problems of establishing the IA audit in an emerging country's public sector are shortage of internal auditing staff, misunderstanding of internal auditing role, lack of professional proficiency, unwillingness to expose fraud and corruption. To our knowledge, there is no previous study on IA perceived readiness.

IA in public universities has been studied almost in countries that already have IA in practice, e.g. (US (Montondon and Fischer, 1999; Desimone and Rich, 2020), Malaysia (Zakaria *et al.*, 2006), Indonesia (Fitriyah, 2016; Sari *et al.,* 2017), Italia (Arena, 2013), Australia (Christopher, 2015), Nigeria (Adetoso and Akinselure, 2016; Eke, 2018),

Portugal (Fonseca *et al.*, 2020),). The roles of IA have been explored in enhancing public university governance effectiveness (Christopher, 2015; Eke, 2018), promoting accountability (Fonseca *et al.*, 2020), playing an active role in monitoring and facilitating risk management practices, being an effective tool in strengthening internal control systems (Adetoso and Akinselure, 2016), contributing to fraud detection and prevention (Fitriyah, 2016), and helping to improve funding processes as well as increasing donor confidence (Desimone and Rich, 2020). The effectiveness of the IA function depends on many factors, such as IA quality and management support, the coordination between the head of the IA function and the chairman and members of the audit committee (Zoiku and Otoo, 2021), or direction and decisions of the university's board of directors or top management of each public university (Adetoso and Akinselure, 2016).

Although prior research has investigated IA implementation and effectiveness in public universities, perceived readiness to adopt IA, has not been reported. To many countries, examining the perceptions on the readiness to adopt IA in public universities is no longer necessary, because they have been applied in many universities already, and although some functions still did not comply with best-practice guidelines for achieving internal auditing's theoretical role (Christopher, 2015). However, in emerging countries where IA has just been adopted in only few universities, the research on the factors affecting the perceived readiness on IA adoption in public universities is important to assess which factors have the most impact and from that, to have appropriate recommendations to promote the full implementation as soon as possible.

Readiness is the state of being fully prepared for something or willing to do something is also a kind of planning behaviour. Perceived readiness for change can be understood as organization members' beliefs and attitudes about a pending change are altered so that members perceive the change as both necessary and likely to be successful (Armenakis *et al.*, 1993). Several researchers have used the Theory of Planned Behavior (TPB) model in research on readiness (Istiyowati, 2019; Singh *et al.*, 2018). The perceived readiness of each individual to adopt and implement the IA function within the university is important in shaping organizational readiness. With readiness perceptions, they are considered not only ready to understand the scope and requirements of IA function, ready to participate in IA training,

but also ready to promote the establishment of the IA department, and ready for the implementation of IA function in the university. Therefore, we chose the TPB model to identify the factors affecting perceptions on the IA readiness of public universities.

Research Model and Hypothesis

Research model

Toward an understanding of the readiness of IA function implementation, we followed the TPB (Ajzen, 1991) and extended this model. The TPB is a psychological theory that links beliefs to behaviour that has been developed to compensate for the limitation of the Theory of Reasoned Action (TRA) (Fishbein and Azjen, 1975). This is the behavioural research model which evaluates the factors affecting the intention or decision to accept the use of a certain product or service. The TPB model has three main core components: (1) attitude, (2) subjective norms, and (3) perceived behavioural control, together shape an individual's behavioural intentions (Ajzen, 1991). Perceived behavioural control is the key difference between the two models.

In the TPB model, "attitude" towards a particular behaviour is the sum of knowledge, attitude, prejudices, positive or negative, that are often thought when considering the behaviour. We extended the "attitude" variable by adding the "perceived usefulness" factor, which is defined as "the degree to which a person believes that using a particular system would enhance their job performance" (Davis, 1989)[5]. Besides, we also added the "perceived risk" factor (Bauer, 1960) - that may be suitable to the risk averse of the Asian mentality, in order to assess the impediment caused by the risk concerns of IA practitioners, which can affect the perceived readiness. These two sub-factors are the components of "attitude" as these capture the degree to which a person has a favourable or unfavourable evaluation of IA adoption. The other two main factors of the TPB model have remained: subjective norms and perceived behavioural control. "Subjective norm" stands for the perceived social pressure to perform or not to perform a certain behaviour. In the case of IA adoption in public universities, it may include the legal and social pressures. Perceived behavioural control reflects beliefs regarding

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5   This factor is used in referring to the Technology Acceptance Model (TAM) model of Davis (1989), which was also based on the TRA model of Fishbein and Ajzen (1975). TAM model consists of the two primary factors: perceived ease of use and perceived usefulness, which influence an individual's intention to use new technology.

the access to resources and opportunities needed to perform a behaviour, and may include the availability of resources needed to engage in the behaviour and the focal person's self-confidence in the ability to conduct the behaviour (Ajzen, 1991). Relating to the readiness of IA adoption, perceived behavioural control may include the self-confidence of each member of the university concerning the issue (self-efficacy) as well as support from the organization through the leader's commitments and resources preparation (organizational support).

Therefore, we proposed the model to investigate the perceived readiness of IA adoption in public universities as following and provide the hypotheses about the impact tendency of the factors to the readiness of IA adoption in the next section:
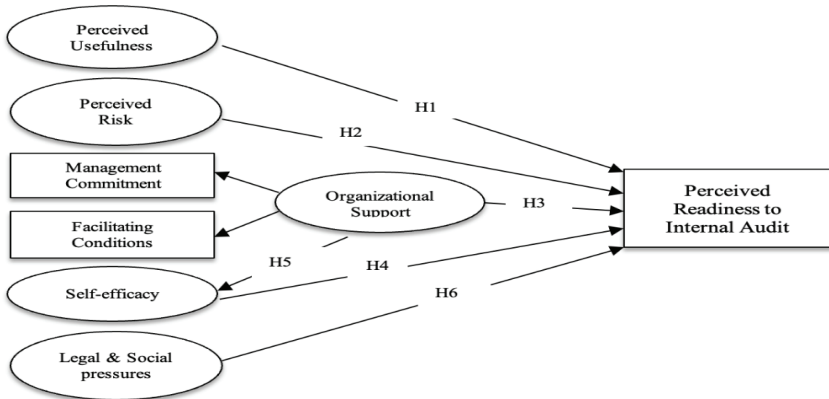

Figure 1: Proposed Conceptual Model

Hypothesis Development

Perceived usefulness of IA

Perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her performance" (Davis, 1989). Previous studies have shown that perceived usefulness significantly influences the adoption of a technology or system, both outside and within the field of the internal audit (Kim et al., 2009; Thakur and Srivastava, 2014). In order for an IA to be introduced in an organization, the first important thing is that each member of the organization, from staff to senior leader, must be aware of the usefulness of the IA function.

The primary roles of internal audit are assessing and reporting on internal controls (Narayanaswamy *et al.*, 2019). IA helps to better control the public university's operations and budget by monitoring the effectiveness of the internal control system and reduce the conditions that breed corruption and misuse of resources, misappropriation of funds (Aikins, 2011). IA can also enhance the university's management efficiency by providing an independent, objective assessment on the appropriateness of the organization's governance structure and effectiveness of specific governance activities (IIA, 2006). Besides, IA helps to assure the effectiveness of risk management (IIA, 2009), especially with the use of risk-based audit approach. Universities face many kinds of risks, such as business model risks, reputation risks, operating model risks, enrolment supply risks, and compliance risks (Deloitte, 2018). In Vietnamese public universities, "risk management" is a very new terminology and risk management department is not yet established even though the activity may be operated in Quality Control, Inspection or Project Management departments. IA also can help the university's management to improve management effectiveness and in the decision-making process to obtain the determined objectives (Zakaria *et al.*, 2006; Fonseca *et al.*, 2020). However, the question is, do universities realize the usefulness of IA and adopt it? We hypothesized:

H1: Perceived usefulness positively affects the perceived readiness of IA adoption

Perceived risk of IA

"Perceived risk" is defined as "the uncertainty and consequences associated with consumer's actions" (Bauer, 1960). This definition was then clarified by Cunningham (1967) to be "consisted of the size of potential loss (i.e. that which is at stake) if the results of the act were not favourable and the individual's subjective feelings of certainty that the results will not be favourable". Perceived risk not only has been focused on potential negative outcomes, but it also covers the dissatisfaction of unrealized positive outcomes (Stone and Grønhaug, 1993). In various fields of research, perceived risk was found to significantly influence the usage intention for services (Lee, 2009; Thakur and Srivastava, 2014).

Perceived risk can be classified into many categories of risk. Related to concerns about the risk of adopting IA, certain types of risk can make

universities perturbed, such as (1) risk of leakage of operational and financial information of the university (security risk); (2) cost of implementing the IA apparatus possibly being greater than the efficiency it can bring (performance risk); (3) the potential negative effect on the relationship between individuals and units within the university due to the requirement of providing and explaining information relating to the IA work (social risk). Internal auditors are often seen as road blockers or detectives, rather than someone who can add value to the management (Achua and Alabar, 2014). It was therefore hypothesized that:

H2: Perceived risk negatively affects the perceived readiness of IA adoption

Organizational support

Organizational support includes two dimensions: (1) the support from the management side, expressed through their understanding, intention, and commitment to apply IA in the university (referred to as management commitments), and (2) facilitating conditions from the organization side, such as human resources preparation, financial preparation, and communication activities in responding to the change (indicated as facilitating conditions).

In the private sector, executive management is responsible for monitoring the strategy and performance of a company, minimizing risk to performance, ensuring an appropriate control framework, and providing a reasonable return to the shareholders (Eulerich *et al.*, 2019). The assurance work offered by the IA function therefore can provide effective oversight and internal controls to the management, and it assists executive management in a significant way to improve operations and the overall governance framework (Carcello *et al.*, 2005). Although the IA function provides significant benefits to organizations, it seems that less than half of firms voluntarily choose to use IA (Goodwin and Kent, 2004; Rönkkö *et al.,* 2018). When it comes to higher education, Zakaria *et al.*, (2006) suggest that management should recognize the importance of IA functions in their institutions. Chiarini et al. (2020) has confirmed that the commitment of top management to internal auditing is of great importance for improving quality performance.

Relating to facilitating conditions, these can be perceived by each member of the organisation when they believe that the resources and the technical infrastructure exists to support use of the system (Venkatesh *et al.,* 2003). Facilitating conditions can be supported from the organization system (level of commitment to risk management, organization governance (Goodwin and Kent, 2004) and human resources capacity (Alzeban and Gwilliam, 2014), co-operation, and coordination between various parties (Brierley *et al.*, 2001). In internal audit field, facilitating conditions play a crucial role in motivating auditors to adopt a kind of systems, tools or techniques (Mahzan and Lymer, 2014; Al-Hiyari *et al.,* 2019).

Hence, the following hypothesis was proposed:

H3: Organizational support positively influences the perceived readiness of IA adoption

Self-efficacy

Self-efficacy is defined as "a belief in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997). Individuals are unlikely to act if they do not believe that their actions will have the desired outcomes (Stajkovic & Luthans, 1998; Chen & Bliese, 2002). The higher level of belief is, the more ambitious their goals are (Merchant, 2006). Self-efficacy thus helps determine the goals and is important to the conversion of motivation to act.

Self-efficacy is demonstrated to significantly influence on the behaviors and decisions in different areas (Chen & Tutwiler, 2017; Alamin *et al.,* 2020), including accounting education (Schleifer & Dull, 2009; Ahmad *et al*., 2015) and auditing (Iskandar *et al.*, 2012).

Related to the audit fields, it is not easy to put into application a new function, especially a function with high specificity and professionalism such as an IA function in an organization. Not only people who can be requisitioned for the position of future internal auditors of the university but also other staff, lecturers, department and faculty leaders, university board should have a certain degree of understanding of the concept, role, and work of IA, then they will not see any difficulty if the university adopts the IA function or in being ready to provide information relevant to their work to

the internal auditors upon request. Therefore, self-efficacy is a significant factor influencing the perceived readiness of IA adoption.

We hypothesized that:

H4: Self-efficacy positively influences the perceived readiness of IA adoption

Previous studies prove that organizational support has a positive relationship with employee's self-efficacy (Tifik *et al.*, 2004; Caesens and Stinglhamber, 2014). However, according to Caesens and Stinglhamber (2014) few studies have investigated the mediating role of self-efficacy in the relationship between organizational support and its consequences. In their research, the authors have proved that self-efficacy partially mediates the relationship between perceived organizational support and work engagement (Caesens and Stinglhamber, 2014). Relating to the field of internal audit, when the members of the organization see and perceive on the support of the organization, they will put more effort in the work of preparing and getting ready for the application of internal audit in the organization. Therefore, beside the direct impact of each university member's self-efficacy on IA perceived readiness, there may be an indirect effect of "organizational support" on the perceived readiness to adopt IA through the mediate variable "self-efficacy". Thus, it was hypothesized that:

H5: Organizational support positively influences self-efficacy towards the perceived readiness of IA adoption

Legal and social pressures

The decision to change or apply a new system in an organization is sometimes not due to internal pressure but because of external pressure, such as from legal regulations or pressure from society (politicians, oversight agencies, donors, grant providers, alumni and current students for the case of universities (Kearns, 1998)). In Vietnam, the promulgation of regulations can be a kind of pressure on autonomous universities to establish the IA function. With a public university, social pressures can come from the Ministry of Education and Training of Vietnam, which often provides regulations to the universities on their activities and operational structure, or the Ministry of Finance relating to the financial mechanism of the universities, or other

public agencies. Besides training quality, corporate governance capacity and accountability are highly appreciated by universities. With high competitiveness among each other and with private universities, public universities are under pressure to adopt an assuring and consulting function such as IA to enhance governance effectiveness and brand name. According to Venkatesh et al. (2003), social influence is found to be significant in mandatory adoption. In the field of internal audit, Al-Twaijry et al. (2003) suggested that the state should play a more coercive role by encouraging organizations to establish internal audit department, while Arena et al. (2006) proved that institutional pressures positively influence the development of internal audit department. Therefore, it follows that:

H6: Legal and social pressures positively influence the perceived readiness of IA adoption

RESEARCH METHODOLOGY

To investigate the perceived readiness of implementing IA function, a mixed-method approach was conducted (Creswell and Clark, 2011), which combines qualitative and quantitative methods. The quantitative survey was conducted to facilitate refinement of the conceptual model and the hypotheses. The qualitative survey focused on in-person interviews of representatives from public universities to better understand the reasons for the findings found in the quantitative survey.

Quantitative Model

To test the hypotheses, a survey questionnaire was developed. The survey questionnaire was constructed using the indicators adopted from the literature to develop survey questions for the quantitative data-collection phase. Following the generation of an initial iteration of the instrument as per Hair *et al.* (2009), we pretested the instrument with university members and audit experts to assess the semantic content of each construct. We then revised the questionnaires and kept those items that best fitted and reflected the definitions of the constructs. Finally, we had 23 questions that reflect the three groups of factors: attitude, subjective norms, and perceived behavioural controls. We used a five-point Likert scale where 1 = Strongly disagree,

and 5 = Strongly agree. The questionnaire has two parts: Part 1: Assess the perception of respondents on each factor affecting IA adoption readiness, and Part 2: Rank the importance of each factor directly perceived by the respondents. Part 2 created the basis for the qualitative study.

Data was gathered over a three-month period from May to July 2021. The survey was distributed via Google Form to the interviewees including university leaders and managers, department staff and lecturers 23 autonomous universities in Vietnam, who had knowledge on the university's operating mechanism and control requirements, as well as having influences on the readiness to adopt the IA in their universities. These 23 universities were purposely selected as they met the criteria of being under pressure to implement an IA function by Decree 05/2019/ND-CP. Among these, we used convenience sampling, a type of non-probability sampling that involves the sample being drawn from that part of the population that is close to hand. The survey was completely anonymous and did not ask for any sensitive information.

We employed the Structural Equation Modelling (SEM) approach for data analysis purposes. Invitations were sent to 195 members in these 23 universities. With the survey conducted, we initially received 142 responses. After dropping responses with missing values, we were left with 120 from 15 autonomous universities in Vietnam. The sample size was similar to the sample in studies of Norman *et al.* (2010). The distribution of participants included 41.7% economic universities and 58.3% non-economic universities. 15.8% interviewees came from universities with 5,000-15,000 students and 84.2% came from universities with more than 15,000 students. In the sample, there were 62 managers and department staff (51.7%) and 58 (48.3%) lecturers. As 3/4 of autonomous universities had training programs in economics, the lecturers surveyed were considered to have the closest knowledge and understanding of IA. Among 62 managers and department staff, there were 4 (3.3%) university council members, 2 (1.7%) rectors, 22 (18.3%) faculty/department managers, 16 (13.3%) division managers, and 18 (15%) departmental staff. Regarding working experience, 21.7% of interviewees had less than 10 years of experience while 50.8% had from 10 to 20 years of experience and the remaining had more than 20 years of experience.

Qualitative Study

The qualitative analysis focussed on the attitudes of related parties towards the reasons explaining the challenges and opportunities in implementing internal audit functions. Kvale (1996) and Wengraf (2001) suggested that the interview method helps to "unfold" a subject's views and better understand the perceptions of related parties.

A total of 15 semi-structured interviews were conducted for this study between July and August 2021. Kvale (1996) suggested that the number of interviews tends to be around 15 ± 10. We interviewed 15 participants in universities (two university council members, three from the university management board, three faculty managers, two department managers, one staff member and one lecturer) and four experts outside universities (an internal audit expert, two internal auditors at companies, and an external auditor). Among them, two are from a university that already had an internal audit department. Table 1 summarizes the key characteristics of the interviewees who participated in this study.

Table 1: Description of Focused Interviewee Group

Category	Code	Number
University council	I1 – I2	2
University management board	I3 – I4	2
Faculty managers*	I6 – I7	3
Department managers	I5, I8	2
Staffs and lecturers	I9 – I11	2
External experts	I12 – I15	4
Total		**15**

Among three managers, two from a university which already had internal audit department

Each interviewee was coded as I1 to I15 and these codes are used consistently in the results section of this paper (Fox *et al.*, 2013). Table 2 describes the code of each interviewee.

**Table 2: Interviewees' Assessment on the Readiness
of Implementing Internal Audit Function in University**

Code	Role	Organization
I1	University council member	University
I2	Head of University council	University
I3	University management board	University
I4	University management board	University
I5	Lecturer and Manager of internal audit department	University
I6	Faculty manager	University
I7	Faculty manager	University
I8	Department manager	University
I9	Staff of accounting department	University
I10	Lecturer	University
I11	Lecturer and Staff of internal audit department	University
I12	Internal audit expert	Development agency
I13	Internal auditor in company	Company
I14	Internal audit expert	Professional organization
I15	External auditor	Auditing firm

The interviews themselves were semi-structured and offered flexibility to explore the topics of most relevance and interest to the interviewee. Interviews were conducted face-to-face through site visits and online. Each interview lasted for 30 - 45 minutes. They were conducted in Vietnamese and each interviewee was given a guarantee of anonymity. In line with the approach described by Fox *et al.* (2013), the interviewees' answers to each question were summarized and analysed manually. Each interview included at least two interviewers to ensure a consistent understanding of the interviewee's answers.

FINDINGS

Quantitative Survey Findings

Cronbach's Alpha Testing for Construct Reliability

According to Nunnally & Bernstein (1994), Cronbach's Alpha is widely used in measuring the reliability of scales for variables and the value of alpha $\alpha \geq 0.7$ for each scale is acceptable. As shown in Table 3, all seven-factor groups had a Cronbach's Alpha coefficients that were greater than 0.7, which is more than the cut-off limit; the constructs were therefore deemed to have adequate reliability. The highest Cronbach's Alpha coefficient was for Group 8 - RE "Perceived readiness to internal audit" (0.921) and the lowest Cronbach's Alpha coefficient was for Group 2 - RI "Perceived risks of internal audit" (0.814). The Corrected Item-Total Correlation coefficient of all variables was greater than 0.3, which was satisfactory for the criteria of the quantitative research.

Table 3: Cronbach's Alpha Results for Variables

Scales	Cronbach's Alpha	No. of Items
Usefulness of Internal audit (US)	0.907	4
Perceived risks of Internal audit (RI)	0.814	3
Management commitment (MA)	0.904	3
Legal and social pressures (PR)	0.857	4
Facilitating conditions (FC)	0.896	3
Self-efficacy (SE)	0.848	3
Perceived Readiness to Internal audit (RE)	0.921	3

Correlation Analysis

The correlation test results are presented in Table 4. It is shown that correlation coefficients between the dependent variable RE "Perceived readiness to internal audit" and the independent variables, except the variable RI "Perceived risks", are statistically significant at 99% ($p < 0.001$). Therefore, we used the independent variables, namely, US (usefulness), FC (facilitating conditions), MA (management commitment), PR (legal & social pressure) and SE (self-efficacy), for the regression analysis.

Based on the statistical results, we excluded the variable group RI from the model. Therefore, hypothesis *H2* was rejected. This rejection can be explained by the survey results showing that the mean of RI (mean = 2.883, and std = 0.854) was lowest in comparison to other variables. We asked the respondents to evaluate the perceived risks of internal audit on the three aspects, namely, whether internal audit will leak university operational and financial information, whether the costs to implement internal audit function outweigh the benefits that it can bring, and whether internal audit negatively affects the relationship among individuals and departments in university due to requirements of information provision.

The results implied that surveyed universities were not afraid of the risks that may arise from implementing internal audit. Also, another reason may come from the fact that building an internal audit department is extremely new in Vietnamese universities. Among 15 universities we surveyed, only one university already had an internal audit department, and one university has just established the internal audit this August. Therefore, the respondents may not fully understand the perceived risks of the IA in their organizations.

Table 4: Pearson Correlations among the Research Variables

		RE	US	RI	FC	MA	PR	SE
RE	Pearson Correlation	1	.530**	-0.046	.473**	.453**	.460**	.736**
	Sig. (2-tailed)		0.000	0.621	0.000	0.000	0.000	0.000
US	Pearson Correlation	.530**	1	-0.176	.304**	.375**	.347**	.416**
	Sig. (2-tailed)	0.000		0.054	0.001	0.000	0.000	0.000
RI	Pearson Correlation	-0.046	-0.176	1	-0.127	-0.039	0.134	-0.041
	Sig. (2-tailed)	0.621	0.054		0.168	0.675	0.146	0.656
FC	Pearson Correlation	.473**	.304**	-0.127	1	.556**	.337**	.420**
	Sig. (2-tailed)	0.000	0.001	0.168		0.000	0.000	0.000
MA	Pearson Correlation	.453**	.375**	-0.039	.556**	1	.420**	.377**
	Sig. (2-tailed)	0.000	0.000	0.675	0.000		0.000	0.000
PR	Pearson Correlation	.460**	.347**	0.134	.337**	.420**	1	.402**
	Sig. (2-tailed)	0.000	0.000	0.146	0.000	0.000		0.000
SE	Pearson Correlation	.736**	.416**	-0.041	.420**	.377**	.402**	1
	Sig. (2-tailed)	0.000	0.000	0.656	0.000	0.000	0.000	

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

Testing the Research Model (SEM) and Hypotheses

With these positive correlations results, we proceeded to the evaluation of the significance of SEM (Hair *et al.*, 2012). SEM analysis showed that with the surveyed data, the research model had a Chi-square (Cmin/df) equal to 1.898 < 5. Also, the Tucker-Lewis Index (TLI) = 0.906 and the Comparative Fit Index (CFI) = 0.92; both indicators were above 0.9. Therefore, we concluded that the SEM model was suitable with the surveyed data (Figure 1).

As shown in Table 5, all the independent variables US, MA, FC, PR, and SE had significant and positive impacts on the dependent variable RE "Perceived readiness to internal audit" (p ≤ 0.05). In the second part of the survey questionnaire, we also asked the respondents to rank the importance of factors influencing the readiness of IA adoption in their universities. The answers in this part were consistent with the SEM result.

Table 5: Regression Weights

			Estimate	*S.E.*	*C.R.*	*P*
SE	<---	OS	0.539	0.138	3.900	***
RE	<---	OS	0.183	0.080	2.277	0.023
RE	<---	PR	0.150	0.073	2.058	0.04
RE	<---	SE	0.507	0.086	5.914	***
FC	<---	OS	1.000			
MA	<---	OS	0.601	0.129	4.644	***
RE	<---	US	0.224	0.071	3.164	0.002

	Mean	Std.
PR2	3.40	0.760
PR3	3.46	0.787
PR4	3.35	0.857
	Mean	Std.
FC1	3.58	0.827
FC2	3.52	0.840
FC3	3.38	0.821
	Mean	Std.
SE1	3.64	0.906

	Mean	Std.
SE2	3.96	0.824
SE3	4.17	0.702
RE1	4.07	0.670
RE2	3.96	0.703
RE3	4.09	0.648

Note: This table includes description for 6 dependent variables and the independent variable in the regression model. The data is collected from 120 respondents.
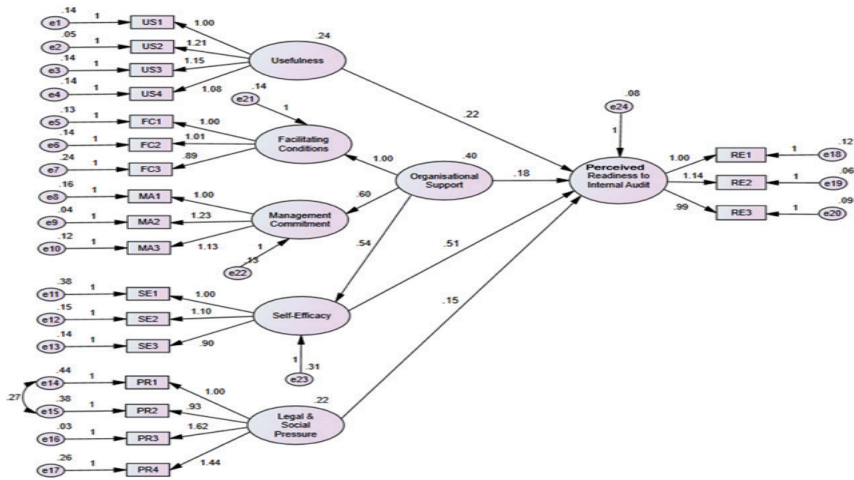

Figure 2: Regression Model Path Analysis

We found a significant positive association between organizational support and the perceived readiness of IA adoption in the surveyed universities. Management commitment (MA) and facilitating conditions (FC) were the two dimensions of OS (organizational support). It was seen that OS had a direct effect on RE with the regression coefficient of 0.183 (Figure 2).

However, OS also had an indirect effect on RE with the regression coefficient of 0.456. Thus, the total effect of OS on RE is 0.456. This meant that in the total effect on RE, OS was ranked second, just after SE (self-efficacy, 0.51).

In summary, the hypotheses *H1, H3a, H3b, H4, H5* were supported and the hypothesis *H2* was rejected by the statistical results. The ranking of influence level on RE from the highest to the lowest were self-efficacy (SE), organizational support (OS), usefulness (US), and legal & social pressure (PR).

Qualitative Interview Results

On the aspect of management commitment, most of our interviewees strongly agree that top management commitment is one of the most significant factors influencing the implementation of IA in universities. This result is consistent with the findings of Roussy (2013) which found that internal auditors perform two key roles: a protector and a helper in the organizations, and IA's primary role is to serve the top manager and the organization. Two interviewees, including one head of university council (I2) and one department manager of IA (I5), made the following statements:

> *"Top manager's awareness is the most important factor. Then the implementation will cope with various difficulties due to complex relationships in a public university. The IA implementation should be conducted step by step depending on the real situations at each period…" (I2)*

> *"Our university successfully established an IA department in March 2021 thanks to the top manager's commitments and continuous support…" (I5)*

The "Facilitating conditions" factor, a part of organisational support positively impact the perceived readiness of IA. This finding is consistent with the in-depth interview results and with the literature (Brierley *et al.*, 2001; Achua and Alabar, 2014; Alzeban and Gwilliam, 2014). However, the human resources for IA in Vietnamese public universities are purported to be severely lacking at present and in the near future. In the two universities which already had an IA department, the personnel of these departments are faculty lecturers and officers who have dual responsibilities, and do not work only for the IA department (I5). Two interviewees from one of these two universities, a lecturer (I10) and an IA expert (I14), made the following statements:

"My university established the IA team with 3 people in August 2021 by a decision of the board of management. At first, team members are three faculty lecturers. We will train more lecturers in the future and will not hire outsiders for the IA function…" (I10)

"Internal auditor is a new job in Vietnam not only in enterprises but also in public organizations like universities. We need more time and resources to train internal auditors. Also, we need to continuously improve the training program to ensure internal auditors can have suitable knowledge and skills…" (I14).

The statistical results found a significant positive association between self-efficacy and the perceived readiness of IA adoption in universities. The in-depth interview results also strongly supported this finding. According to the interviewees, knowledge about IA functions needs to be provided to top managers and all faculties in universities. An accounting staff member (I9) stated that "*managers and staff should understand that IA is an effective tool for a good university governance*". Interviewees I10 and I14 were also positive about the adoption of IA:

"If the members of universities feel no difficulties with the IA function and this department can improve the efficiency and effectiveness of their works, they will be willing to cooperate and provide information to internal auditors".

We found a significant positive association between the usefulness of IA and the perceived readiness of IA adoption in the universities. Respondents highly agreed that IA is useful for the universities as they are supposed to improve operational and financial activities, university governance, university risk management, and help university rectors to make decisions to achieve their goals. Regarding the usefulness of IA, a member and a manager of IA (I11 and I5) stated:

"There are some perceived risks of leaking internal information but the usefulness of IA for the board of management are much higher than the risks. The university council and board of management will understand more deeply and clearly the actual situations of the university".

In the long term, universities will have to develop with more financial autonomy from the Government:

> *"The universities need to manage financial sources more effectively and concisely. For example, our university has just established a purchasing department which is independent of the accounting department to ensure the efficiency of purchasing activities in the university" (I8)*

> *"IA is very important for a university to be autonomous in both recurrent and investment spending activities. IA will be an effective methodical monitoring and implementation mechanism" (I11).*

Also, the regression model supported the positive association between legal and social pressure and the perceived readiness of IA adoption in public universities, even not very significant. Besides pressure from the legal documents, pressure from the society, competition among universities, and the requirement of Ministry of Education and Training may also the reason of IA adoption. In one university which already had an IA department, the interviewee stated that:

> *"At first, there was the pressure from the Ministry to establish the inspection department, then this department was later developed into the IA department".*

However, interviewee also assumed that the current regulations only provide general principles for all types of organizations. The Government, the Ministry of Finance, and the Ministry of Education and Training should specify detailed regulations for universities and educational institutions to help them have more motivation to establish IA departments. In addition, I12 has made the point that:

> *"The handbooks for IA in public organizations are very important to help them implement successfully the IA departments".*

CONCLUSIONS

From the quantitative survey and SEM analysis, it is seen that the main factors influencing perceived readiness are self-efficacy, usefulness, organizational support, legal and social pressure. In contrast to what was initially thought, perceived risk did not have a significant effect on perceived readiness. According to the SEM model, organizational support has both a direct and indirect effect on readiness through self-efficacy. This indicated that the total effect of organizational support on perceived readiness ranked just after self-efficacy. Overall, the weight of the factors influencing perceived readiness decrease in the following order: self-efficacy, organizational support, usefulness, then legal and social pressure. Of the two dimensions of organizational support, facilitating conditions has a higher weight than management commitment.

The successive in-depth interviews contributed to clarifying and confirming the quantitative results. All the interviewees agreed that IA is very important for university governance. The important influencing factors mentioned are management commitment, facilitating conditions as well as how to make employees perceive the usefulness of IA for their organizations. Both quantitative survey and in-depth interview results indicated that the commitment from top management is a key for IA adoption and implementation. University leaders need to be aware that adopting IA will bring significant benefits in terms of governance efficiency, information transparency, improved accountability, and contributing to the promotion of university brand name. Along with management commitment, facilitating conditions is a matter of concern, training and internal communication between managers, lecturers and staff should not be ignored as they are important for accelerating the application of university IA (Cooper *et al.*, 1994).

The paper adds to the literature by focussing on the pre-adoption and IA readiness's perceptions, through proposing a model to identify the factors affecting IA perceived readiness by combining IA literature with behavioural theories, in using the TPB and extending its model with more variables (perceived usefulness and perceived risks). Results of the research will help to enhance the understanding of the influencers on IA perceived readiness. The suggestions of using the key factors influenced to

IA readiness including self-efficacy, organizational support and perceived usefulness will help to accelerate IA adoption in public universities. The research is not only useful to Vietnamese public universities but also to other emerging countries with the same underdeveloped level of IA application in the public sector.

Limitations are unavoidable in research. First, because there are not many autonomous universities in Vietnam, the sample size and variety in the quantitative survey are limited. In the near future, research can be generalized for other types of universities in Vietnam or other types of organizations that already required (or not) to apply IA under Decree 05/2019/ND-CP. The authors prefer to have more meetings with high-level leaders of the universities, who have more responsibility and authority to answer the questions, but we also had some difficulties in setting meetings with them, as IA in a public institution is often considered a sensitive issue. In addition, as the concept of perceived readiness of IA in public universities is quite new in Vietnam, there is no similar study to compare and discuss the findings. In the future, when IA is applied more widely, further research could be continued on the concepts of IA readiness and implementation in larger and more various samples.

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