The Influence of Factors on the Demand for Performance Auditing in the Public Sector

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Abstract
Performance audits (PA) are becoming essential in supreme audit institutions (SAIs). This study aims to explain why developing countries need to expand the function of PA and to explore and measure the impact of each factor on the need to develop PA in Vietnam. The research combines qualitative (group discussion) and quantitative methods by surveying 157 state auditors of the State Audit of Vietnam (SAV). Data is processed through SmartPLS 4.0.8.5 to verify the measurement and linear structure models. The results of the statistical analysis also show that all three factors have an impact on the development of PA, including (i) the degree of public governance reform, (ii) the accountability of SAV, and (iii) occupational influence. Besides, the model test results show that, from the perspective of SAV, the need to improve performance is higher than accountability. Public governance reform factors, external support, and SAI accountability contribute to enhancing the value of PA. The findings of this study complement the audit theory on three fronts: (i) PA will become more important when pursuing the goal of increasing accountability rather than improving performance; (ii) PA continues to evolve to adapt to social changes; and (iii) additional empirical evidence demonstrating that countries with low levels of transparency and accountability and inconsistent legal systems have higher audit “demand” but low supply of PA. This study proposes a PA development model to: (i) forecast the ability and level of the development audit of each SAI; and (ii) contribute to enhancing the value of PA using the PA topic selection tool. In addition, the developed scale is tested to ensure its reliability and validity. So this scale can be used to survey the needs, feasibility, and expected value that each audit subject brings before and after implementation.

Keywords: Vietnam; Auditing; Accountability; Performance Auditing; New Public Management.

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1- Introduction
Performance auditing (PA) in the public sector has been known in some countries that are members of the Organization for Economic Cooperation and Development (OECD) since the early 1970s. By the early 1990s, along with the progress of public governance reform, PA began to be used more widely [1, 2]. Several countries, such as the US, UK, Canada, Australia, and the Netherlands, have successfully implemented PA [3]. However, each country’s performance audit development process and model are different. Many studies and surveys across countries have been conducted to examine the formation and development of PA to understand its nature and theory. In developed countries, many studies have been conducted, such as in the UK [3-5], Australia [5-9], the United States [5, 9], Canada [5, 9-11], New Zealand [5, 12, 13], the Netherlands, Sweden, France, Finland [3-5], Scotland [5, 14], Japan [5, 15], and so on. However, there are few studies on this topic in emerging countries, such as in China [16], Bangladesh [17], Malaysia [18], Iran [19], and Indonesia [20].

Much of the research on PA has explored: (i) the nature of PA; (ii) the influence of economic, political, and social factors, including public administration, on the formation and development of PA in practice; (iii) the development of

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the audit’s technical aspects in Supreme Audit Institutions (SAIs); and (iv) how the development ability and prospect of SAIs affect the formation and development of PA. According to Lonsdale et al. [21], PA has two fundamental roles: enhancing accountability and helping the organization improve its performance. However, according to Parker et al. [1], “PA is not a standardized procedure [3], mutable [22], social [12], and with ever-evolving mechanisms [23] influenced by different stakeholders [24]”. Similarly, Tremblay & Malsch [25], in a review of previous studies, stated that we still know too little about PA, and research related to this type of audit is still quite fragmented, especially in emerging economies [2]. SAIs worldwide acknowledges that the development of PA in the public sector is necessary to meet public expectations and can lead to considerable value addition compared to traditional audits [5]. Several SAIs have also applied the PA, but not all countries have been able to implement and develop it successfully [26], especially emerging economies such as Vietnam. One of the basic reasons is the lack of methodology to support the development and application of audit methods and techniques in PA.

Through a survey of PA practices in many countries worldwide, SAIs have developed principles and guidelines based on the International Organization of Supreme Audit Institutions’ (INTOSAI) guiding model. However, research by Trivedi [27] has shown that the PA methodology proposed by INTOSAI is quite loose and is only considered a “card” for SAIs to implement PAs. There are 120/191 SAIs under INTOSAI that use state auditing standards (ISSAI) issued by INTOSAI but have not published their own standards, procedures, and auditing guidelines for their own countries [28]. The remainder have guidance but lack specific methodology related to the assurance level of PA, PA definition, and PA methodology. In addition, international auditing standards issued by IFAC also do not develop and provide a methodology for designing operational accounting models [29, 20].

Along with that, the methodology used in PA is still more or less influenced by political decisions, for example, which subjects to audit, for what purpose, or auditing at the request of any party. The lack of a consistent theoretical framework can still create doubts in SAIs that frequently use different methodologies in their activities [30]. On the other hand, several qualitative studies examine the formation and development of PA [2]. However, very few studies have combined quantitative data with interviews or case studies, and there is a theoretical gap in meeting the evolving needs of public sector audits in emerging countries. That leads to new questions about the value of PA.

Understanding the factors that motivate SAIs to expand their functions to PA and the general development trend of this type of audit is crucial. However, the applicability of PA theories from developed countries to developing countries with economic, political, and social differences like Vietnam needs to be evaluated. Hence, it is necessary to survey the history of the formation and development of PA in the public sector in Vietnam to gain insights into the expansion of SAV’s functions to PA. The process of implementation needs to be expedited to measure the impact of factors on the demand for PA effectively.

2- Theoretical Foundations of Performance Auditing

Several definitions of PA have been posited in the regulations of SAIs and in academic studies [3, 31]. PAs, as commonly used in academic research, are defined as “an independent evaluation of the economy and efficiency of auditee operations and the effectiveness of programs in the public sector” [1]. Pollitt et al. [3] also defined the concepts of sound administrative principles, good management, and remedying deficiencies within the definition of PA. These complementary concepts serve as performance benchmarks that provide information for performance improvement and a “baseline of fit” in the assessment.

While PA is a particular type of work within SAI and is carried out based on general principles and practices rather than relatively fixed standards like in traditional audits, SAI considers PA to be a type of audit. The legitimacy of considering PA as a type of audit is through the factor of accountability—a fundamental element of PA—which is one of the primary factors determining the formation of an audit. Sikka [32] describes the first axiom of auditing as follows: “A fundamental condition of the audit activity is the relationship of accountability between the parties, or accountability in the public domain.”

According to Kells & Hodge [33], “the definitions of PA are still ambiguous.” Some authors do not fully define the elements constituting PA [34]. In practice, SAIs also do not issue consistent regulations and guidelines on PA, or the evaluation form used in PA does not follow an audit methodology [3]. For example, auditors in the French SAI, as judges, make decisions regarding the conformity of management results; in Sweden, auditors act as management consultants; in Finland, auditors are researchers, creating new knowledge and information; in the UK, the role of an auditor is similar to that of a certified public accountant, reporting to the parliament on the rationality of budget expenditures. Accordingly, some studies have shown that PA has a second mission to help improve performance, also known as improving learning ability. However, according to Raudla et al. [35], these two goals may conflict, making it challenging to achieve them concurrently in auditing practice. According to Lonsdale et al. [21], SAIs prioritize improving accountability over operational efficiency. Similarly, Lonsdale & Bechberger [36] argue that auditors believe that they often do not assert their contributions to the audited entity through learning but generally agree that they play a role in helping audited entities account for their responsibilities. Accordingly, the role of questioning is only a secondary goal.
Several studies have been conducted to examine the auditing practices of SAIs. These studies aim to understand the nature of PA and the methodology employed in this process. The findings of these studies have consistently supported certain arguments. Firstly, PA is a type of audit [37]. It is necessary to manage and use public resources efficiently and effectively [3]. Moreover, when the traditional type of audit has completed its mission, SAIs play a crucial role in expanding the scope of auditing [38]. Secondly, the modern economy is characterized by changes in public administration reform, which seeks to achieve goals such as economy, efficiency, effectiveness, and sustainable development. Finally, PA helps improve operational efficiency and promotes accountability.

3- Studies on the Formation and Development of PA

Extant research has adopted two approaches regarding the formation and development of PA—a historical approach and cross-country comparison, which explores the motivation of SAIs expanding their functionality to PAs.

Several studies have focused on understanding the legal aspects affecting the formation and development of PA over time. Guthrie & Parker [7] studied the evolution of PA in the Australia National Audit Office (ANAO); Radcliffe [10] examined the history of the development and implementation of an effective audit in a Canadian province; Nath [26] studied the formation and development of PA in Fiji; Parker et al. [1] investigated the development and importance of PA associated with the process of management reform in Australia. Others have taken a horizontal approach, such as Barzelay [39], who compared PAs between SAIs in Sweden, Germany, France, the UK, the USA, and Canada; Pollitt et al. [3] conducted a cross-sectional study across five European countries on the duties and powers of SAIs; Pollitt [4] examined the strategic options, variability, and convergence of PA in six European SAIs; Yamamoto & Kim [40] adopted an “institutional approach” to compare Japanese and Korean SAIs; and Corder & Hay [5] conducted a cross-survey of 35 SAIs worldwide on the type of audit applied in SAIs.

Findings from studies have provided consistent evidence that PA emerges to adapt to changes in public governance reform and new public governance models [3, 4, 7]. According to Barzelay [39], “the NPM model has been reasonably applied in the function of SAIs, including PA,” because “PA has been described as a significant contributor to the exercise of accountability and control, extending the audit gaze beyond financial compliance and probity to include a purview of economy, efficiency, and effectiveness” [1]. Similarly, Guthrie & Parker [7] state that “public governance reform was carried out widely and became a new trend at the end of the 20th century that led to changes in the role of accountants. The PA function was born with this trend by focusing on public sector outputs.” According to Power [38], SAIs must expand their roles to meet social needs and ensure their legitimacy or gain social recognition. Social needs have both a direct and indirect impact on SAIs’ transition to PA. Rooted in the increased budget for public spending, the technological revolution, economic liberalization, and the financial crisis, the weakness of public governance has prompted governments to increase accountability and improve operational efficiency [41]. These factors directly impact SAIs’ shift to PA, thus demonstrating its value. According to Pearson [42], the auditor general’s (Australian State of Victoria) decision to switch to PA was a result of the parliament’s request. Similarly, Yamamoto & Kim [40] argue that transforming functions to PA is aimed at adapting to their institutional roles. In Japan, SAI mainly performs audits required by the government, while in Korea, SAI responds to requests from more stakeholders, such as the National Assembly, the public, and the president or executive authorities. The need for PA also comes indirectly, “through requests for oversight and accountability from donors or international organizations” [5].

However, there needs to be more consistent evidence indicating which factors promote the development of PA, the importance of this type of audit, and future development trends. According to Barzelay [39], the relationship between the executive branch and the legislative body, and not the SAI’s legal status, determines the critical role of PA. Nath [26] conducted a detailed investigation of the development process of Fiji and argued that the auditor general, the public accounts committee, the parliament, and the media play a role in the development process, which indicates how social and political forces affect PA. Similarly, the research results of Parker et al. [1] in Australia also do not provide supporting evidence for the assertion that the consistent development of PA depends on the development process of NPM [3], either influenced by the context of the audit society [23] or due to an increased governance trend that is often associated with more significant audit needs from stakeholders [5]. Since then, PA is still not considered an immutable concept. Definitions and practices of PA change over time, depending on social and political factors [7]. PA is then implemented to provide information contributing to political accountability, such as through advice to parliamentarians [12, 43].

Summarizing the findings from the research results, it can be posited that the demand for the development of PA in SAIs depends on institutional, economic, political, and social factors. However, according to Parker et al. [1], there is still a need for a consistent theoretical framework for PA. The demand for PA is socially representative, i.e., socially acceptable [7, 44]. However, the legal status provided for in statutes alone is inadequate to guarantee the legitimacy of SAIs [45]; such legitimacy also depends on the reasonable expectations of the public (social factors) as well as political factors. Political or media support is seen as a driving factor in increasing the demand for PA. Fan [16] provided empirical evidence that the demand for PA in China is lower than in regions with higher levels of economic development and better regulatory environments. Additionally, increased accountability based on increased sanctions reduces the need for PA [16, 38].
4- Developing a PA Model

SAIs must extend functionality to PA to meet reasonable stakeholder expectations and provide more value compared to traditional audits. According to Cordery & Hay [5], “In different countries, the structures and responsibilities of SAIs differ, but they share a general responsibility to strengthen accountability, transparency, and integrity in public sector entities.” Power [38] pointed out that “different governance model transitions have made a difference in the development of PA in some countries”. Cordery & Hay’s [5] survey results of 35 SAIs also showed that some countries still need to apply the new public governance model. Nevertheless, their SAIs acknowledge that PA has a crucial role to play in the future and deploy them accordingly. However, this can only be achieved when countries have adopted a new public governance model along with realizing the limitations of the traditional audit function in the public sector [38]. PA can then be essential to meeting the need for increased accountability.

Another perspective holds that SAIs learn from their predecessors’ experiences to establish their position or ensure legitimacy, such as in Vietnam and Cambodia. This result is consistent with the institutional theory of DiMaggio & Powell [46]. However, the importance of PA has yet to be recognized, even though most auditors general of SAIs know that the development of PAs is inevitable [5]. There are two reasons why PA implementation in emerging countries has yet to meet expectations. First, the level of transparency and accountability still needs to be higher, as SAIs are not yet pressurized to focus their audits on increasing publicity, transparency, and accountability based on outputs [16]. Second, stakeholders, including auditors in SAIs, remain more interested in traditional audits [38]. Therefore, there needs to be greater demand from stakeholders as well as greater motivation for auditors to research and develop PA. In such a context, SAIs choose a PA development strategy to respond to requests from stakeholders rather than the public. So, it is not possible to form a consistent PA model. This explains why there are differences in the progress and development of PA across countries, as in the case of Fiji, China, or Vietnam, where progress is slow or intermittent. From the above two points of view, we recognize that the development of PA within SAIs must be aligned with stakeholder needs and based on the following three key pillars.

First, SAIs must strengthen their capacities and values to strengthen their legitimacy and social recognition (SAI accountability). Public governance reform has a dual impact on SAIs through (i) promoting SAIs to develop PA to contribute to increased accountability and (ii) increasing the accountability of SAIs through self-renewal of their operations to meet the reasonable expectations of society, such as the ability to apply modern auditing techniques, the ability to enlist support from the government's parliament, the auditor's resources and capacity, and the choice of audit topics [16, 17, 21, 41]. According to the theory of supply and demand, PA only develops the area of supply and demand in balance. The supply of PA increases as compliance audits and financial statement audits become less critical. Therefore, SAIs must self-regulate to maintain their role and position as an integral part of the public governance system. The traditional audit results are limited; sufficient resources and conducting PA as required by the National Assembly and the government are considered factors to ensure SAI successfully implements PA [16, 17, 21, 47]. According to Van Zyl et al. [48] and Hazaea et al. [49], some countries cannot implement PA in practice due to a lack of budget, audited human resources, professional skills, and a limited scope of work. Accordingly, we posit the following research hypothesis:

**H1:** SAI accountability positively affects the development of performance audits for accountability purposes.

**H4:** SAI accountability positively affects the development of performance audits to improve performance.

Second, public governance reform affects SAI’s PA and, consequently, the PA to promote public governance reform towards enhancing transparency and accountability. As discussed above, some countries still need to apply the NPM model but have implemented PA. However, the impact of the PA still needs to be improved, not meeting the stakeholders’ requirements. This is due to limitations in public governance reform under NPM, such as the focus on the allocation of public resources based on input, the lack of regulation and mechanisms of individual accountability at the head, and the low level of transparency and accountability [3, 4, 50]. Although the demand for PA is highly appreciated due to the situation of loss, waste, and weakness in public resource management [5, 16, 17, 51]. To explain this theoretical gap, we believe that reform under the NPM promotes the demand for PA. Accordingly, we posit the following research hypothesis:

**H2:** Limitations in public governance reform under the NPM negatively affect the development of performance audits for accountability purposes.

**H5:** Limitations in public governance reform under the NPM negatively affect the development of performance audits to improve performance.

Third, it is the changes in methods and new audit techniques that also contribute to the development of performance audits, including the ability to develop or set appropriate standards, the ability to measure and evaluate, the ability to analyze, synthesize, and write audit reports, the ability to apply other scientific methods to audit activities, and changes
in legal regulations [3, 14, 52]. In developing countries, SAIs often receive support or funding from developed countries or international organizations [1, 17, 46]. According to Hatherly & Parker [52], technical changes in auditing practice in Australia have gone beyond theory and regulations. Lapsley & Pong [14] comment that the significance of performance audits will extend beyond a narrow scope in the future. They change as the audit experience develops in practice. However, Pollitt et al. [3] argue that the PA function is not simply the application of appropriate new audit techniques but also implies public governance reform according to an NPM. We posit the following research hypothesis:

**H3:** Applying new auditing techniques from support for the audit profession positively affects the development of performance audits for accountability purposes.

**H6:** Applying new auditing techniques from support for the audit profession positively affects the development of performance audits to improve performance.

Fourth, uncertainty or slow economic growth puts pressure on stakeholders and the public to increase accountability for managing and using public resources [47]. Consequently, the parliament, government, and local authorities pressure SAIs to expand their functions to include PA [12, 53]. The implementation of PA aims to help the government control and improve the efficiency of public administration, reform the economy [47], enhance accountability [54], or use audit results for political purposes [9]. The importance of the PA depends on the influence of the auditor general, parliamentary support [1], the application of new audit methods and techniques [3, 14, 52], and the ability to reasonably meet stakeholder expectations.

**H7:** The reform of public governance under the NPM positively affects the accountability of SAI.

**H8:** The application of new auditing techniques positively affects the accountability of SAI.

Linking the demand for PA and these pillars, we propose a development model of PA suitable for different countries. This model is built on the foundations of agency theory [55], stewardship theory [56], stakeholder theory [57], NPM [51], and audit society [23]. This is shown in Figure 1.

**Figure 1. Proposed research model**

### 5- Research Methods

#### 5-1- Research Design

As discussed above, most previous studies have suggested that PA is still unstable, although it continues to evolve in response to social change [38]. Nevertheless, increasing accountability and improving operational efficiency are the two most common development trends [21]. Choosing a strategic approach to prioritize depends on the characteristics of each country’s political and institutional structure. From the survey results of Power [38] and Cordery & Hay [5], it is evident that, in countries with a high level of transparency and accountability, the development trend of PA will be towards increasing accountability. According to Fan [16], the demand for PA in China is higher compared to regions with a lower level of economic development and a weak regulatory environment. Therefore, we predict that, when implementing PA, emerging countries with low transparency and accountability prioritize choosing a strategy that adds value by contributing to improving the performance of the audited entity. To support this statement, we have proposed a research model (Figure 1) and a research process (Figure 2) and designed the corresponding scales (Table 1).
Research Problem
What factors influence the formation and need for development of PA?

Theoretical Basis
Theoretical basis of performance auditing and related previous research

Qualitative Research
1. Analyze documents and audit records related to PA at SAV to understand the process of forming PA from 2005-2022;
2. In-depth interviews with state auditors to identify factors affecting the expansion of functions to PA and the need to develop PA;
3. Build a measurement scale, propose a model, and research hypothesis.

Quantitative Research
1. Design and test the questionnaire;
2. Determine sample size;
3. Send the survey and receive the results;
4. Data processing;
5. Assess the reliability, discriminant value, and convergent value of the scale on SmartPLS 4.0.8.5;
6. Evaluate the suitability of the structural model.

Research Results and Discussion

Table 1. The scale of factors affecting demand for PA

<table>
<thead>
<tr>
<th>Related research and theory</th>
<th>Findings from related studies</th>
<th>Research scale</th>
<th>Scale coding</th>
<th>Influencing factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferdousi (2012) [17]; Fan (2012) [16]; Cordery and Hay (2020) [5]; New public management [51]</td>
<td>Developing countries are often associated with mismanagement, waste, corruption, and limited resources, with high demand for PA.</td>
<td>I believe there is a situation of loss, waste, and weakness in the management and use of public resources of [audited entity].</td>
<td>DMA1</td>
<td></td>
</tr>
<tr>
<td>Guthrie and Parker (1999) [7]; Cordery and Hay (2020) [5]; New public management [51]</td>
<td>The pressure to increase transparency and accountability is increasing.</td>
<td>I believe that the management and use of public resources by [the audited entity] have not met the requirements of transparency and accountability</td>
<td>DMA3</td>
<td></td>
</tr>
<tr>
<td>Audit society [23]; Agency theory [55]; Stewardship theory [56]; Stakeholder theory [57]</td>
<td>The process of transforming different public governance models has made differences in the development of PA.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Van Zyl et al. (2009) [48]; Lonsdale et al. (2011) [21]; Ferdousi (2012) [17]; Fan (2012) [16]; Agency theory [55]</td>
<td>The traditional audit results are limited, with a few values that do not meet requirements, prompting SAIs to expand their functions to PA.</td>
<td>I believe [audited entity] has complied with regulations and provided reliable financial information.</td>
<td>DCA1</td>
<td></td>
</tr>
<tr>
<td>English &amp; Guthrie (2000) [8]; Mulgan (2001) [58]; Gendron et al. (2001) [11]; Guthrie and Parker (1999) [7]; Jacobs (1998) [12]; Pollitt (2003) [4]; Radcliffe (1998) [10];</td>
<td>The parliament, government, or local authorities require the SAI to perform a PA.</td>
<td>I think [SAV] should prioritize audits of topics requested by the parliament, government, or local authorities.</td>
<td>DCA3</td>
<td>SAI’s accountability (DCA)</td>
</tr>
<tr>
<td>Barton (2009) [47]; Broadbent and Guthrie (1992) [59]; Institutional theory [46]</td>
<td>The auditor general decides the subject, focus, and scope of the PA.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broadbent and Guthrie (1992) [59]; Cordery &amp; Hay (2020) [5]; Parker et al. (2019) [1]; Institutional theory [46]</td>
<td>Amendment of the state audit law and related laws.</td>
<td>I believe [legal regulation] helps ensure the importance of PA.</td>
<td>DPA1</td>
<td>Support for Audit Profession (DPA)</td>
</tr>
<tr>
<td>International organizations support the development of the state audit law, PA process, and globalization.</td>
<td>I find that [the organization’s] support and supervision of the PA is critical.</td>
<td>DPA2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experts from international organizations support the training and implementation of PA.</td>
<td>I think the support of [experts] and [media] is essential.</td>
<td>DPA3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Shand & Anand (1996) [41]; Lonsdale et al. (2011) [21]; Fan (2012) [16]; Audit society [23]; Agency theory [55]; Stewardship theory [56]; Stakeholder theory [57]

<table>
<thead>
<tr>
<th>Description</th>
<th>Demand for accountability (DC)</th>
<th>Demand for operational efficiency (DE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance accountability such as information transparency, performance evaluation, and individual accountability.</td>
<td>I believe [stakeholders] want [audited entity] to increase its disclosure. DC1</td>
<td>I believe [stakeholders] would like [audited entity] to provide information that would enable the entity’s performance to be evaluated. DE1</td>
</tr>
<tr>
<td>Help improve operational efficiency through pointing out weaknesses, solutions to overcome, and lessons learned, improving learning ability.</td>
<td>I believe it is essential to identify the person responsible for [audited entity]. DC2</td>
<td>I believe [stakeholders] want to know the management weaknesses of [audited entity]. DE2</td>
</tr>
<tr>
<td></td>
<td>I believe [stakeholders] would like to know about [the auditee’s] weaknesses. DE3</td>
<td>I believe [stakeholders] want to enhance [audited entity’s] ability to learn. DE3</td>
</tr>
</tbody>
</table>

Our research subjects are state auditors because we aim to measure the expectations and attitudes toward problems when implementing PA. If the predictive measurement model is reliable, it will also provide a tool to help SAs assess the need, feasibility, and cooperation of stakeholders for PA, since these are factors that contribute to an audit’s success.

5-2-Data Processing Method

The study applied the process of Churchill [60], using two research phases—preliminary research and formal research. In preliminary research, a qualitative research method was carried out to (i) determine the factors affecting the demand for public sector PA and (ii) develop and adjust the scales. Research concepts were measured through a theoretical overview and related works to obtain a preliminary set of scales (Table 1) and to develop measurement scales for research concepts. To complete the scales for the formal research, we conducted interviews with PA experts from the Canadian Audit and Accountability Foundation (CAAF) at two seminars. To complete the scales, we send 12–24 auditors to participate in a workshop to share their experiences with PA and receive comments. The preliminary research step therefore involved interviews with experts who answered ten survey questions to measure three factors affecting the demand for PA, labeled as public governance reform and accountability, and six survey questions measuring the demand for PA to enhance accountability and improve performance (Table 1).

The minimum sample size using the SEM structural model analysis must be 10 times the number of observed variables measured, and therefore amounts to 50 [61]. Data collection and interviews with public auditors were conducted by submitting survey questionnaires during three industry-wide internal seminars between February and March 2023. The questionnaire measures research concepts through statements about observed variables using a five-point Likert scale: 1 - Completely disagree; 2 - Disagree; 3 - Neutral; 4 - Agree; and 5 - Totally agree. The study conducted a formal survey of 200 out of 1,980 SAV auditors (ratio of 10%) and collected 157 responses to ensure sufficient sample selection.

We used the SmartPLS software 4.0.8.5 to evaluate the fit of the measurement model by testing the reliability, convergent value, and discriminant value of the scales in the resulting measurement model. Next, to evaluate the fit of the linear structural model (SEM) by testing the relationship between the individual variables in the model and the fit of the entire theoretical model, we applied the partial least squares (PLS) method according to Hair et al. [61].

6- Research Results and Discussion

6-1-Public Sector Performance Auditing in Vietnam

Performance auditing is officially regulated in the Law on State Audit of 2005, piloted in 2007 under the auspices of German PA experts (the German Agency for International Cooperation - GIZ). The addition of the PA function is the result of learning from international experiences and the role of the state auditor general in the lawmaking process. However, it was only in 2016, after the establishment of PA departments at some auditing units, that several PAs were officially implemented. Currently, the average number of PAs performed by SAV annually is 10–15, accounting for 5–7% of annual audits. However, the results needed to meet the expectations of the leaders of the state audit, as auditors still find the implementation of traditional audits (compliance audits and financial audits) more effective, practical, and easier to implement.

On the other hand, public governance in Vietnam is still based on bureaucracy. The allocation and management of public resources focusing on input, decentralization, and identification of individual responsibilities need to be improved. Managers in public units are only concerned with observing regulations to complete tasks but do not care about outputs, and it remains questionable whether the above reasons will impact the future development trend of PA in SAV.
6-2- Descriptive Statistics

157 public auditors provided feedback via survey questionnaires, of which (i) the auditor class included 44 principal auditors, accounting for 28%, followed by 88 auditors, accounting for 56%, and finally audit assistants, accounting for 16%; (ii) 34 or more people had 15 years or more of experience, accounting for 22%; 76 people had 10–15 years of experience, accounting for 48%; and 47 people had less than 10 years of experience, accounting for 30%; and (iii) 69 people have experience in performing PAs, accounting for 44% (Figure 3).

![Auditor Rank](chart1.png)
![Audit Experience](chart2.png)
![Performance Audit Experience](chart3.png)

**Figure 3.** Descriptive statistics of interview participants

6-3- Evaluation of the Outcome Measurement Model

6-3-1- Evaluation of Scale Reliability and Scale Convergence Value

To test scale reliability, we evaluated Cronbach’s alpha coefficient (CRA) and the composite reliability coefficient (CR). Figure 4 shows that two scales with a CRA coefficient less than 0.7 do not meet the reliability requirements; therefore, we removed and re-evaluated the scale.

![Evaluation of scale reliability](chart4.png)

**Figure 4.** Evaluation of scale reliability
Table 2 shows that the external load coefficient of the test results for convergence ranges from 0.711 to 0.908, and both meet the requirements (>0.7), and the composite reliability coefficient CR is more significant than 0.7. The average variance extracted (AVE) values also have satisfactory coefficients when they are over 0.5. Thus, with PLS-SEM, all scales meet the reliability and convergence value requirements.

Table 2. Construct reliability and convergent validity

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Factor loading</th>
<th>Cronbach’s Alpha (CRA)</th>
<th>Composite Reliability (CR)</th>
<th>Average Variance Extracted (AVE)</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>DC1</td>
<td>0.830</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DC2</td>
<td>0.835</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>DC3</td>
<td>0.812</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCA</td>
<td>DCA1</td>
<td>0.852</td>
<td>0.771</td>
<td>0.865</td>
<td>0.682</td>
<td>0.448</td>
</tr>
<tr>
<td></td>
<td>DCA2</td>
<td>0.887</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DCA4</td>
<td>0.882</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DE</td>
<td>DE1</td>
<td>0.711</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DE2</td>
<td>0.863</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DMA</td>
<td>DMA1</td>
<td>0.908</td>
<td>0.544</td>
<td>0.805</td>
<td>0.677</td>
<td>0.467</td>
</tr>
<tr>
<td></td>
<td>DMA2</td>
<td>0.754</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMA3</td>
<td>0.797</td>
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<td></td>
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<tr>
<td>DPA</td>
<td>DPA1</td>
<td>0.759</td>
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</tr>
<tr>
<td></td>
<td>DPA2</td>
<td>0.859</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DPA3</td>
<td>0.784</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6-3-2- Checking the Discriminant Validity of the Scale

For PLS-SEM, the study also evaluates the HTMT index. The HTMT index of all concept pairs, ranging from 0.125 to 0.954, is satisfactory (<1). Thus, all the scales meet the requirements of discriminant value, according to Henseler et al. [62].

Table 3. Discriminant validity

<table>
<thead>
<tr>
<th></th>
<th>DC</th>
<th>DCA</th>
<th>DE</th>
<th>DMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>0.771</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCA</td>
<td>0.877</td>
<td>0.754</td>
<td></td>
<td>0.488</td>
</tr>
<tr>
<td>DE</td>
<td>0.530</td>
<td>0.554</td>
<td>0.676</td>
<td></td>
</tr>
<tr>
<td>DMA</td>
<td>0.591</td>
<td>0.676</td>
<td>0.617</td>
<td>0.125</td>
</tr>
<tr>
<td>DPA</td>
<td>0.721</td>
<td>0.843</td>
<td>0.643</td>
<td></td>
</tr>
</tbody>
</table>

6-3-3- Assessing the Fit of the Structural Model

The test results in Table 4 show that the VIF index is used to assess whether the structural model’s independent variables are correlated. According to Lowry & Gaskin [63], if the value of the exaggerated variance coefficient (VIF) is greater than 5 or less than 0.2, the latent variables have collinearity problems. Table 4 shows that all VIF values are less than 5, and the minimum value is 1 (viz., greater than 0.2), indicating that latent variables do not have multicollinearity.

Table 4. Results of the hypothesis test

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>VIF</th>
<th>F</th>
<th>GoF</th>
<th>( \beta )</th>
<th>P</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>DCA → DC</td>
<td>1.980</td>
<td>0.160</td>
<td>0.414</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>DMA → DC</td>
<td>1.422</td>
<td>0.065</td>
<td>-0.223</td>
<td>0.002</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>DPA → DC</td>
<td>1.563</td>
<td>0.062</td>
<td>0.229</td>
<td>0.010</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>Model 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H4</td>
<td>DCA → DE</td>
<td>1.980</td>
<td>0.256</td>
<td>-0.515</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>DMA → DE</td>
<td>1.422</td>
<td>0.035</td>
<td>0.156</td>
<td>0.058</td>
<td>Supported</td>
</tr>
<tr>
<td>H6</td>
<td>DPA → DE</td>
<td>1.563</td>
<td>0.030</td>
<td>-0.162</td>
<td>0.057</td>
<td>Supported</td>
</tr>
<tr>
<td><strong>Model 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H7</td>
<td>DMA → DCA</td>
<td>1.000</td>
<td>0.422</td>
<td>-0.462</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H8</td>
<td>DPA → DCA</td>
<td>1.000</td>
<td>0.563</td>
<td>0.533</td>
<td>0.000</td>
<td>Supported</td>
</tr>
</tbody>
</table>
The structural model’s path coefficient (β) was determined by bootstrapping to calculate the significance of the t-statistic. The results of the PLS-SEM analysis show that six out of eight hypotheses are accepted at a 1% significance level. The largest β coefficient of the relationship between DPA → DCA is 0.533 (Model 3), followed by the relationship between DCA → DE, which is 0.515 (Model 2), and DCA → DC (Model 1), which is 0.414. The relationship between DMA and other variables is negative due to the negative β coefficient.

The study uses the influence size index, communality index, and goodness-of-fit (GoF) [64] to evaluate the model’s fit with the structural model. Communality indexes similar to the average variance extracted (AVE) in Table 2 are all greater than 0.5, so the forecast model is quite suitable. The f-index ranges from 0.030 to 0.563, in which the largest influence size of DPA → DCA is 0.563, followed by DMA → DCA at 0.422. The smallest effect size is DPA → DE at 0.030. According to Tenenhaus et al. [64], the GoF coefficient is 0.573. Thus, by evaluating three criteria, only the resulting structural model is suitable (Table 4).

The composite structural model is a combination of three different models: Model 1, with the dependent variable being the demand for accountability (DC), has an R² of 44.8%; Model 2, with the dependent variable being a demand for performance enhancement (DE), has an R² of 46.7%; and Model 3, with the dependent variable being the accountability of SAV, has the highest R² of the three models, at 48.8%. All three structural models have a relatively high degree of fit (Table 2 and Figure 5).

![Figure 5. Structured model of demand forecast for PA](image)

6-4 Discussing Research Results

Among the eight research hypotheses proposed and tested to determine the demand for PA in the context of the public sector in Vietnam, six have statistical significance at a 1% significance level and two have a 10% significance level.

For hypotheses H1 and H4, the SAV accountability for PA has a significant and positive impact on the audited entity’s need for PA to enhance accountability (β=0.414) and the purpose of improving operational efficiency (β=0.515). This result indicates that there exists a need for PA in the public sector in Vietnam in terms of both accountability and performance improvement. The need for increased accountability arises from the growing demands of stakeholders, whereas the need to improve operational efficiency stems from poor management, loss, and waste of public resources. This result is also consistent with the findings of Ferdousi [17], Fan [16], Cordery & Hay [5], as well as NPM theory [51]. This implies that SAI’s shift to PA is consistent with the theory of new public management [51] as well as the audit society [23]. The traditional public governance model is still being applied in Vietnam, but the SAV is aware of the need to develop PA. The results of the interviews with state auditors show that SAV added a PA form to the Law on State Audit 2005, stemming from the request of the SAV leadership to be in line with international practices. There is no evidence that the implementation of SAV's PA came from pressure from the parliament, the government, or other stakeholders, as it is a relatively new form of auditing in the public sector in Vietnam. This can only be explained based on the institutional theory of DiMaggio & Powell [46], which states that countries that follow often learn from developed countries’ experiences and good practices to improve their status or legitimize their role. In the 30 years since its establishment and development, SAV has received financial support and capacity from organizations such as GIZ, CAAF, the World Bank, and INTOSAI. The capacity support from international organizations is mainly associated with strengthening PA capacity and improving the accountability capacity of SAV, towards enabling SAV to provide information on public agencies’ performance to increase transparency and identify individual responsibility if the public agencies fail to fulfill their assigned tasks.
The path coefficient in the relationship between DCA → DE is higher than that of DCA → DC, indicating that the view of SAV meeting the demand for PA to enhance performance is higher than that aimed at enhancing accountability. This result is consistent with the findings of Fan [16] and follows the audit development of SAV. Nevertheless, this result contradicts most related studies in developed countries [5, 21, 41]. However, choosing an audit strategy to contribute to the organization’s performance improvement faces significant challenges that require particular competencies, prestige, and political support for the SAI, but these factors need to be improved in emerging countries like Vietnam. Most of the experts interviewed said that state auditors are afraid to perform the performance audit task because (i) it is difficult to perform; (ii) the auditee and related parties are less interested in the audit results; and (iii) they prefer to perform the traditional type of audit. This explains why PA in Vietnam has experienced a similar pause, as demonstrated in the Fiji study by Nath [26]. SAI’s choice of the above strategy springs from the expectation that it wants to overcome weak management, loss, and waste in public resource management at the audited units. The same audit expectation gap exists among SAV auditors in the public sector [65]. According to Cordery & Hay [5] and Parker et al. [1], additional research will be required.

For hypotheses H2 and H5, the path coefficient $\beta=-0.162$ in the relationship between DMA → DE and $\beta=-0.223$ in the relationship between DMA → DC shows more limitations in governance reform public value, reducing the need for PA from SAV’s point of view. The situation of loss, waste, and weakness in management and use of public resources is higher, leading to a low supply of PA. Increased demand for traditional audits and failure to switch to an NPM model in the direction of control and evaluation based on outputs also affect the need for PA. This result provides additional empirical evidence for the PA theory, which becomes useful when it is developed by applying an NPM model [3, 4, 7, 10–13] This implies that the institutional theory of DiMaggio and Powell [38] is used to explain the differences in the choice of development types of audits in each SAI [5]. However, factors such as public governance reform under the NPM model [43] and greater expectations of transparency and accountability of stakeholders—such as the relationship between parliament and government, congressional requirements for SAIs, and drivers such as the media—determine the importance of PA. Therefore, agency theory, audit society, and NPM theory are more suitable for explaining the evolution of PA than institutional theory.

For hypotheses H3 and H6, the demand for PA stemming from experience and support from developed countries significantly and positively impacts the need for PA. This result is also consistent with the studies of Guthrie [59], Nath [26], and Cordery & Hay [5], and is also consistent with the institutional theory of DiMaggio & Powell [46]. However, in the above two hypotheses, the demand-path coefficient for PA of the audited entity to enhance accountability ($\beta=0.229$) is higher than to improve performance ($\beta=0.156$). This result is consistent with the reality of SAV because SAV receives capacity support from international organizations, with a core of developed countries prioritizing the strategic approach to audit with the aim of contributing to increased accountability.

For hypotheses H7 and H8, the need for PA stemming from the need for public governance reform and the need to learn from the experience and support of developed countries has a significant impact on the accountability of SAV (supply factor), but in two opposite directions. Slow public administration reform negatively affects the development of SAV’s PA ($\beta=-0.462$) due to weaknesses in the traditional public governance model suitable for compliance and financial statement audits. The results of in-depth interviews with experts also show that auditors pay more attention to the traditional type of audit when integrating all three objectives into the audits. Internal factors such as reluctance to innovate and lack of knowledge and qualifications are also barriers for SAV to strengthen PA. On the other hand, limitations in public governance reform, a low level of transparency, and low accountability are also obstacles to SAV when applying PA practices transferred from other countries. This finding is consistent with the research results of Power [38], who indicated that the factors affecting the expansion of the function of SAIs to incorporate PA include the reduction of the demand for traditional audits.

The need to learn and enlist support from international organizations such as GIZ, CCAF, and INTOSAI has prompted SAV to strengthen the development of PA ($\beta=0.533$). This result is also consistent with the studies of Cordery & Hay [5] and Parker et al. [1], as well as the unified institutional theory of DiMaggio & Powell [46].

7- Conclusions

The purpose of this study was twofold: firstly, to explain why developing countries need to expand the function of PA; and secondly, to explore and measure the impact of various factors on the need to develop PA in Vietnam. Despite being a relatively young institution, the SAV has proactively applied PA to adapt to the changing requirements and tasks of the National Assembly, government, and society. However, the results achieved through this new audit function have been limited due to two key reasons: the slow pace of public administration reform and the capacity of SAV. The statistical analysis conducted in this study indicates that all three factors—the degree of public governance reform, SAV accountability, and occupational influence—have an impact on the development of PA. Of these, SAV accountability and external support have a positive and significant impact on the need to develop PA. However, limitations in public administration reform according to the new public administration model hinder the development of PA. The predictive model test results show that there is a constant demand for PA due to increasing stakeholder requirements for public entities, as per the stakeholder theory.
7-1- New Theoretical Contributions of the Research

First, the study adds empirical evidence to prove that the transformation of functions from traditional auditing (financial auditing, compliance auditing) to PA is a trend to meet the requirements of public administration reform. Professional influence or the adoption of good practices by SAV only serves as a workaround to legitimize the role and enhance the status of SAV. The most critical point of PA is its contribution to promoting public governance reform. Second, the findings in the study contribute to generalizing the theory of the formation and development of PA, understanding the correlation and level of impact of factors affecting this process in the context of a transition economy in Vietnam. Accordingly, the trend and level of performance audit development depend mainly on the process and results of public administration reform according to the new public administration model. In particular, for developing countries, the need for PA of SAIs from external factors is high, while the ability of SAV to meet the task is low. This finding extends to Power’s audit society, agency theory, and stakeholder theory because PA’s importance depends more on public administration reforms rather than on promoting public governance reform. However, since there is a lack of complementary mediators, such as a transparent environment, a broader level of authority, an emphasis on the individual role, and political support from parliament and the media, the results of PA remain consistently below reasonable requirements and expectations. The most crucial finding in this study is that the ability and speed of PA development in Vietnam in the current period depend more on internal factors (i.e., SAV’s accountability) than external factors (i.e., external support and public governance reform outcomes). Third, stakeholders in Vietnam expect more from improving the performance of public entities rather than accountability. This expectation can only be realized when SAV finds that the traditional type of audit needs to be more valuable and meet stakeholder expectations. This is a barrier to the development of PA in transition countries like Vietnam. Finally, the study provides empirical evidence demonstrating that developing countries, low levels of transparency and accountability, and incompatible legal systems lead to a high demand for audits. However, the pace of development could be faster and considered to be of greater importance. The primary reason for this is that SAV still employs traditional audits to meet political demands and demonstrate its stance.

7-2- In Terms of Application

This study proposes a PA development model with three practical applications: First, the PA development model follows the proposed research model to forecast the ability and level of the development audit of each SAI because learning from the experiences of developed countries according to their institutional theory only helps to explain the formation of PA. The framework and success of performance audits depend on the country’s internal conditions and the SAV. As long as the demand for traditional audits is high, then it will be difficult for PA to develop. Second, the application of the PA development model will contribute to enhancing the value of PA using the PA topic selection tool. Third, the developed scale is tested to ensure its reliability and validity. So, this scale can be used to survey the needs, feasibility, and expected value that each audit subject brings before and after implementation.

While this research has proposed a predictive model to evaluate the possibility for the successful development of PA, the survey subjects in the study are state auditors, who are yet to measure the demand for PA among stakeholders, such as the audited entity or the primary user of the PA report. On the other hand, the study has not evaluated the influence of PA demand on the SAI and the contribution of PA results to public governance reform. Finally, more research is needed to use the PA development model and scales to assess the likelihood of success for each PA in the two periods before and after implementation.

8- Declarations

8-1- Author Contributions

Conceptualization: D.A.T. and N.N.K.D.; methodology: D.A.T. and N.N.K.D.; formal analysis: D.A.T.; writing—original draft preparation: D.A.T. and N.N.K.D., writing—review and editing: D.A.T. All authors have read and agreed to the published version of the manuscript.

8-2- Data Availability Statement

The data presented in this study are available on request from the corresponding author.

8-3- Funding

The author received financial support for this research from the Industrial University of Ho Chi Minh City, Ho Chi Minh City, Vietnam.

8-4- Acknowledgements

I would like to thank the Industrial University of Ho Chi Minh City, Ho Chi Minh City, Vietnam.

8-5- Institutional Review Board Statement

Not applicable.
8-6- Informed Consent Statement

Not applicable.

8-7- Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

9- References


