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# Étude du fonctionnement des comités d'audit et de l'audit interne : au-delà du contrôle formel ?

Marion Tellechea

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*À Vivien*  
*À mes parents*





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# Résumé

L'objectif de ce travail est de contribuer à la compréhension du fonctionnement des comités d'audit et de l'audit interne. Cette recherche est fondée sur trois études empiriques indépendantes sur les plans théoriques et méthodologiques mais visant à montrer conjointement comment le contrôle est caractérisé dans les comités d'audit et dans les départements d'audit interne. La première étude vise à explorer la manière dont le comité d'audit exerce son contrôle lors des réunions à l'aide d'une approche qualitative et en sollicitant le champ théorique du climat éthique organisationnel. Afin d'examiner le type de climat éthique organisationnel perçu lors des réunions de comité d'audit, quatre méthodes de collecte de données sont mises en œuvre : l'analyse des rapports d'activité des comités d'audit présentés dans les rapports annuels de grands groupes cotés, l'observation directe de deux réunions de comité d'audit, 27 entretiens semi-directifs avec des membres et participants aux réunions (commissaires aux comptes et directeurs de l'audit interne), et la revue des documents présents dans le dossier de préparation ainsi que les comptes-rendus de réunion. La deuxième étude porte sur l'identification des déterminants de la qualité de l'audit interne. À partir de l'agrégation de variables identifiées dans la littérature, trois indices originaux sont construits : le capital humain, la gouvernance du département d'audit interne, ainsi que la communication des auditeurs internes. L'étude consiste à saisir la part explicative de ces trois facteurs sur la qualité de l'audit interne opérationnalisée par un indice élaboré à partir de mesures de l'utilisation et la conformité aux normes d'audit interne de l'Institute of Internal Auditors (IIA). Le travail empirique est réalisé à travers une approche quantitative et le modèle présenté dans l'étude s'inscrit dans une démarche économétrique. Le matériel empirique est issu des données obtenues à partir de la base Common Body of Knowledge (CBOK 2015) de l'IIA constituée par les réponses de plus de 14 500 professionnels de l'audit interne dans 166 pays. La troisième étude examine également la fonction d'audit interne mais va au-delà de la notion de qualité attendue des normes d'audit, en s'intéressant à la notion d'innovation. Ainsi, l'objectif de l'étude consiste à déterminer les sources de connaissance menant à l'innovation au sein des départements d'audit interne. En utilisant également la base de données CBOK, ce travail tente d'identifier dans quelle mesure les équipes d'audit interne innovent grâce à leurs capacités de recherche interne et aux différentes sources de connaissances internes et externes qu'elles peuvent absorber. Les résultats de chacune des études montrent dans quelle mesure les pratiques informelles mises en œuvre au sein des comités d'audit et des départements d'audit interne, en parallèle des prescriptions réglementaires et des normes professionnelles, contribuent au fonctionnement effectif de ces deux mécanismes de gouvernance d'entreprise. Ainsi, les résultats indiquent que des éléments caractérisant le contrôle informel sont présents dans les pratiques des comités d'audit et des départements d'audit interne alors que ces éléments sont évoqués dans une faible mesure par les lois, réglementations et normes encadrant les travaux de ces mécanismes. Enfin, ce travail montre comment de nouvelles pratiques telles que les activités innovantes peuvent être développées en parallèle des lois, réglementations et normes professionnelles, au-delà des missions et des exigences définies par les textes.

**Mots clés :** comité d'audit ; audit interne ; gouvernance ; contrôle formel ; contrôle informel.



# Abstract

The objective of this work is to contribute to the understanding of the functioning of audit committees and the internal audit. This research is based on three empirical studies that are independent in terms of theory and methodology, but which jointly aim to show how control is characterized in audit committees and internal audit departments. The first study aims to explore the way in which the audit committee exercises its control during meetings using a qualitative approach and by soliciting the theoretical field of the ethical work climate. In order to examine the type of ethical work climate perceived during audit committee meetings, four data collection methods are being implemented: analysis of audit committee activity reports presented in the annual reports of major listed groups, direct observation of two audit committee meetings, 27 semi-directive interviews with members and participants in the meetings (statutory auditors and chief audit executives), and review of the documents in the audit committee pack and meeting minutes. The second study focuses on identifying the determinants of internal audit quality. Based on the aggregation of variables identified in the literature, three original indices are constructed: human capital, governance of the internal audit department, and internal auditors' communication. The study consists of capturing the explanatory role of these three factors of internal audit quality operationalized with measures of the use of and compliance with the internal auditing standards of the Institute of Internal Auditors (IIA). The empirical work is carried out using a quantitative approach and the model presented in the study is based on an econometric approach. The empirical material is derived from data obtained from the IIA's Common Body of Knowledge (CBOK 2015) database encompassing responses from more than 14,500 internal audit professionals in 166 countries. The third study also examines the internal audit function but goes beyond the notion of the expected quality of audit standards by looking at the notion of innovation. Thus, the objective of the study is to identify sources of knowledge leading to innovation within internal audit departments. Also using the CBOK database, this work attempts to identify how internal audit teams innovate through their internal research capabilities and the different sources of internal and external knowledge they can absorb. The results of each of the studies show how the informal practices implemented within audit committees and internal audit departments, alongside regulatory requirements and professional standards, contribute to the effective functioning of these two corporate governance mechanisms. Thus, the results indicate that elements characterizing informal control are present in the practices of audit committees and internal audit departments, whereas these elements are only to a limited extent referred to in the laws, regulations and standards governing the work of these mechanisms. Finally, this work shows how new practices such as innovative activities can be developed in parallel with laws, regulations and professional standards, beyond the missions and requirements defined by the texts.

**Keywords:** audit committee; internal audit; governance; formal control; informal control.



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# Liste des acronymes

AC :	Absorptive Capacity
AC :	(member of) Audit Committee
ACFE :	Association of Certified Fraud Examiners
ACI :	Audit Committee Institute
BRC :	Blue Ribbon Committee
CAE :	Chief Audit Executive
CBOK :	Common Body Of Knowledge
CE :	Commission Européenne
CEO :	Chief Executive Officer
CFO :	Chief Financial Officer
CIA :	Certified Internal Auditor
CISA :	Certified Information Systems Auditor
COM :	Communication
COSO :	Committee Of Sponsoring Organizations
EA :	External Auditor
ERP :	Enterprise Resource Planning
EWC :	Ethical Work Climate
GDPR :	General Data Protection Regulation
GOV :	Governance
HC :	Human Capital
IAQ :	Internal Audit Quality
ICT :	Information and Communication Technology
IFAC :	International Federation of Accountants
IIA :	Institute of Internal Auditors
IIAC :	Compliance with the standards of the Institute of Internal Auditors
IIARF :	Institute of Internal Auditors Research Foundation
IIAU :	Use of the standards of the Institute of Internal Auditors
ISA :	International Standards of Auditing
ISACA :	Information System Audit and Control Association
KPF :	Knowledge Production Function
MNE :	Multinational Enterprise
NACD :	National Association of Corporate Directors
OCDE :	Organisation de Coopération et de Développement Economiques
PCAOB :	Public Company Accounting Oversight Board
R&D :	Research and Development
SEC :	Securities and Exchange Commission
SOX :	Sarbanes-Oxley Act
UE :	Union Européenne

# Introduction générale

« *L'histoire de l'audit, tout comme l'histoire de la réglementation en général, est perçue comme l'histoire d'un échec. Les tentatives de contrôle social sont, semble-t-il, vouées à l'échec ce qui constitue la condition de nouvelles tentatives de contrôle* » : telle est la description des liens entre audit et réglementation faite par Michael Power (2005, 66). Comme l'illustrent les scandales d'Enron et de World Com aux États-Unis ou Ahold et Parmalat en Europe, nombreuses sont les voix ayant appelé à une réglementation plus stricte des organisations (Mansell 2008). La problématique de l'audit et des systèmes de gouvernance d'entreprise en général, considérés comme remède idéal à tout type d'erreurs et de fraudes, a, à cet égard, pris une large ampleur au cours de ces dernières années (Power 2005). Après que de nombreux cas de déficiences dans les structures et processus constituant la gouvernance d'entreprise aient entraîné la chute de grandes institutions financières (Kumar et Singh 2013), un regain d'intérêt a été porté par le régulateur afin d'améliorer les mécanismes de gouvernance (Soltani et Maupetit 2015), à travers l'adoption par les organisations de systèmes de contrôle formel, tels que des mesures obligatoires ou des bonnes pratiques en matière de gouvernance (Mansell 2008). Cet intérêt a également pris de l'ampleur au niveau de la recherche académique, dont le principal défi a été d'analyser les causes ayant entraîné l'échec de la gouvernance à anticiper les cas de fraude et de suggérer des propositions pour de futures réformes (Kumar et Singh 2013). Plusieurs études montrent ainsi l'importance des systèmes de contrôle formel dans l'amélioration de la gouvernance d'entreprise (LaPorta, Lopez-de-Silanes, Shleifer, et Vishny 1998 ; 2002 ; Udayansakar et Das 2007). Pourtant, face à la découverte de cas de fraudes plus récents (i.e. Société Générale, Offshore Leaks, Panama Papers), force est de constater l'échec des efforts entrepris pour renforcer la gouvernance d'entreprise.

Parmi les mécanismes de gouvernance faisant l'objet d'une attention approfondie par le régulateur, ceux liés à la notion d'audit tiennent une place à part. En effet, leur inefficacité a été soulignée lorsqu'est venu le temps de tirer les leçons des scandales ayant mené à la chute d'entreprises bien connues et à la perte de confiance du grand public et des marchés. Ebranlées par l'ampleur des fraudes du début des années 2000, les instances réglementaires ont cherché à encadrer la structure et le fonctionnement de ces mécanismes. En parallèle de l'apparition de nouveaux textes, les recherches académiques ont largement été guidées par la volonté d'identifier les facteurs permettant d'augmenter l'efficacité des mécanismes de gouvernance d'entreprise. Néanmoins, l'émergence, ces deux dernières décennies, de systèmes de contrôle formel issus des réglementations ne semble pas avoir garanti une amélioration significative des mécanismes de gouvernance. Les résultats des recherches empiriques appellent ainsi à de la prudence quant aux liens de causalité entre la mise en conformité vis-à-vis de ces réglementations et le succès des entreprises (Tricker 2000). En effet, malgré le renforcement des mécanismes de contrôle formel, la problématique de l'assainissement de la gestion des sociétés reste toujours d'actualité. À ce titre, la mise en place des systèmes de contrôle découlant de la réglementation entraîne un nombre important de questions et d'opportunités de recherche (DeFond et Francis 2005), qui ont conduit à la genèse de ce travail doctoral.

Notre recherche porte ainsi sur deux mécanismes de gouvernance liés à l'audit : les

comités d'audit et l'audit interne. Cette thèse composée de trois études vise en particulier à examiner la part de contrôle formel et de contrôle informel dans leur fonctionnement. Les trois études indépendantes qui constituent les chapitres de cette thèse ont été rédigées en langue anglaise afin d'en favoriser la diffusion internationale et ont été réalisées au cours de la recherche doctorale. L'introduction et la conclusion générales de ce travail, rédigées en français, entendent respectivement préciser l'objet de recherche et mettre en perspective les résultats obtenus dans chacune des études.

## 1 Bref historique et régulation attendue de l'audit

Cette section présente un aperçu de l'historique de l'audit et de la régulation attendue de ce mécanisme de gouvernance. Cette brève description de l'histoire de l'audit en général puis de la mise en place des comités d'audit et de l'audit interne en particulier entend éclairer le lecteur sur le contexte dans lequel cette recherche s'inscrit.

L'historique de l'audit est souvent décrit dans une perspective de résolution des asymétries d'information, l'audit étant perçu comme un moyen privilégié de contrôle destiné à réduire le différentiel d'information entre propriétaires et dirigeants d'une même entreprise. Ainsi, il semble possible de limiter l'opportunisme des dirigeants en faisant appel à divers moyens de contrôle, tels que « *l'audit, les systèmes formels de contrôle, les restrictions budgétaires* » (Jensen et Meckling 1976, 323). En retraçant l'historique de l'audit au Royaume-Uni et aux États-Unis, Watts et Zimmerman (1983, 623) révèlent la complémentarité des origines de l'audit et de la théorie contractuelle de la firme : « *la survie (...) des pratiques d'audit (...) est en accord avec l'existence de conflits d'agence et l'utilisation de moyens de surveillance mise en place par les actionnaires et de dédouanement des dirigeants afin de réduire les coûts d'agence* ». Les auteurs montrent que l'apparition de la fonction d'auditeur, en tant que profession indépendante, a fortement été influencée par les lois destinées à encadrer les faillites au Royaume-Uni et aux États-Unis. C'est suite à la crise économique de 1929 que l'audit devient un processus obligatoire aux États-Unis, à travers la création de la Securities and Exchange Commission (SEC) en 1934, qui définit et précise les rôles et responsabilités des auditeurs. En 1977, la profession d'audit se structure autour de l'International Federation of Accountants (IFAC) afin de développer, valoriser et normer les services d'audit proposés. De manière analogue à celle de l'audit, l'histoire des comités d'audit est aussi ancrée dans une perspective de résolution des asymétries d'information : « *la préférence donnée à l'usage des comités d'audit a renforcé l'indépendance et la performance des auditeurs car elle a rendu la complicité entre ces derniers et les dirigeants beaucoup plus difficile. Il est beaucoup plus coûteux de corrompre l'ensemble d'un comité qu'un seul individu* » (Watts et Zimmerman, 1983, 619). Cette réflexion suggère une mise en place de mécanismes de contrôles supplémentaires afin de réaliser des revues indépendantes et aboutir à l'appréciation des processus mis en place par l'entreprise.

### 1.1 Mise en place des comités d'audit

La mise en place des comités d'audit, en tant que niveau supplémentaire de contrôle, est évoquée aux États-Unis à partir des années 1940 suite à l'affaire McKesson & Robins (1938) dans un objectif d'assainissement de la gestion des sociétés, et en réponse à l'échec des auditeurs financiers à détecter les cas de fraude. Une deuxième étape dans l'intérêt porté aux comités d'audit s'inscrit dans les années 1970. La volonté de mise en place des comités d'audit fait ainsi suite à la crise de confiance quant à la qualité des états financiers.

La mise en place de ce mécanisme de contrôle comme une émanation du conseil d'administration est recommandée par la SEC en 1972 pour les sociétés cotées. En 1974, la SEC appelle ces mêmes sociétés à présenter l'existence d'un tel comité dans leur rapport annuel. À la fin des années 1990, le Blue Ribbon Committee (BRC 1999) définit des exigences en termes d'efficacité du comité d'audit, en exigeant non seulement des membres de ce comité d'être indépendants vis-à-vis des dirigeants de l'organisation mais, également, d'être compétents en matière comptable et financière. Néanmoins, ces attentes concernant l'efficacité du comité d'audit ne parviennent pas à prévenir ni à détecter les faiblesses en termes de gouvernance. Le Sarbanes-Oxley Act (SOX) (2002), élaboré en réaction à la fraude de l'entreprise Enron en 2001, renforce les exigences concernant la composition et les missions du comité d'audit. En Europe, les comités d'audit semblent avoir été adoptés par mimétisme des pratiques anglo-saxonnes (Thiéry-Dubuisson 2002), rendant leur mise en place obligatoire plus récente (Collier et Zaman 2005), bien que des recommandations relatives à cette dernière aient auparavant été effectuées. À titre d'exemple, en France, le rapport Viénot (1995, 20) recommande au conseil d'administration de se doter « *d'un comité ayant pour tâche essentielle de s'assurer de la pertinence et de la permanence des méthodes comptables adoptées pour l'établissement des comptes consolidés et sociaux de l'entreprise et de vérifier que les procédures internes de collecte et de contrôle des informations garantissent celles-ci* ». Cependant, l'obligation pour les sociétés cotées en France de se doter d'un comité d'audit date de l'année 2006, suite à la directive européenne 2006/43/CE. Plus récemment, la directive 2014/56/EU vient renforcer le rôle des comités en précisant leur composition et leurs missions.

## 1.2 Mise en place de la fonction d'audit interne

Parallèlement à la mise en place des comités d'audit, à partir de la fin du 20ème siècle, la fonction d'audit interne fait son apparition dans les organisations. Le rôle de cette fonction interne à l'entreprise consiste à donner une opinion indépendante sur les processus de l'organisation, allant au-delà d'une opinion sur la qualité des états financiers ou la recherche de fraudes et d'erreurs. L'audit interne donne ainsi une évaluation de la maîtrise des opérations dans des domaines non financiers, dans la perspective de résolution des asymétries d'information entre les propriétaires et dirigeants de l'entreprise : Adams (1994) rapporte l'importance du rôle joué par la fonction d'audit interne dans la théorie de l'agence. L'évaluation des systèmes de contrôle de l'organisation est formalisée à travers un rapport permettant d'augmenter la qualité de la gouvernance et la transparence vis-à-vis des parties prenantes et *in fine*, la confiance des actionnaires (Archambeault, DeZoort, et Holt 2008).

## 2 Quelques précisions sur les concepts clés

Avant de décrire plus précisément l'objet de ce travail doctoral, il convient de présenter les concepts clés nécessaires à la compréhension des enjeux de cette recherche. Les sous-sections suivantes définissent ainsi les notions de gouvernance, de contrôle et apportent des clarifications quant aux mécanismes de gouvernance examinés dans ce travail.

### 2.1 Gouvernance

Parmi les définitions de la gouvernance d'entreprise, celle retenue dans la présente recherche envisage la gouvernance d'entreprise comme « *l'ensemble des mécanismes qui ont pour effet de délimiter les pouvoirs et d'influencer les décisions des dirigeants, autrement*

*dit, qui gouvernent leur conduite et définissent leur espace discrétionnaire* » (Charreaux 1997, 421). Cette définition s'inscrit dans le courant de recherche lié aux théories contractuelles des organisations, constitué par les courants théoriques de l'agence et des coûts de transaction. La perspective adoptée dans cette définition relève de la recherche de la discipline des dirigeants. En ce sens, elle se rapproche de celle donnée par Power (2005, 91-92) dans la mesure où « *la gouvernance des entreprises s'intéresse à l'efficacité des contrôles exercés par le marché (...) capable(s) de discipliner les dirigeants et de les inciter à maximiser la valeur de l'entreprise (...). La gouvernance peut enfin avoir trait à la démocratisation de la vie des entreprises et à des formes de pouvoir plus radicales, qui incluent les travailleurs et d'autres parties prenantes ayant un intérêt légitime dans la vie de l'entreprise* ». Cette définition englobe à la fois l'aspect financier de la gouvernance et recouvre également l'ensemble des mécanismes cherchant à maîtriser les relations qu'entretient une organisation avec ses parties prenantes. Elle inclut à cet égard l'ensemble des mécanismes de gouvernance, qu'ils soient internes ou externes selon la distinction notamment reprise par Jensen (1993). En définitive, cette définition reprend les finalités de la gouvernance d'entreprise telles que décrites par l'OCDE (2017, 9), en tant que « *structure par laquelle sont définis les objectifs d'une entreprise, ainsi que les moyens de les atteindre et d'assurer une surveillance des résultats obtenus* ». En ce sens, la structure de gouvernance d'entreprise est composée de mécanismes particuliers dont l'objectif est d'obtenir une connaissance approfondie de l'organisation et de s'assurer du respect des réglementations par le biais du choix des administrateurs, la présence de comités d'audit et d'autres représentants internes (Power 2005). Ainsi, l'étude de la gouvernance d'entreprise consiste à décrire et à analyser le fonctionnement des mécanismes qui régulent les relations et les processus d'une organisation, ainsi qu'à les évaluer (Charreaux 1997). C'est à l'étude de deux de ces mécanismes qu'est consacré ce travail doctoral en examinant de manière spécifique le comité d'audit et l'audit interne. Parmi l'inventaire des mécanismes de gouvernance réalisé par la littérature<sup>1</sup>, le comité d'audit et l'audit interne correspondent à des mécanismes de gouvernance spécifiques intentionnels (Charreaux 1997). D'une part, il s'agit de mécanismes propres à l'entreprise destinés à influencer exclusivement le pouvoir discrétionnaire des dirigeants de cette entreprise. D'autre part, le comité d'audit et l'audit interne résultent d'une volonté explicite de gouverner les dirigeants à travers l'établissement de règles et de procédures formelles.

## 2.2 Contrôle

La littérature sur les théories de l'organisation définit la notion de contrôle comme l'ensemble des mécanismes permettant aux individus d'aligner leurs objectifs, actions et capacités avec ceux de l'organisation à laquelle ils appartiennent (Cyert et March 1963; Eisenhardt 1985; Snell 1992). Bien que les études sur le contrôle organisationnel<sup>2</sup> aient développé différentes typologies à partir des travaux fondateurs d'Ouchi (1977; 1979), celle retenue dans notre travail rejoint les notions que Bouquin et Kuszla (2014) définissent en tant que contrôle visible ou contrôle formel et contrôle invisible ou contrôle informel. Les sous-sections suivantes visent à préciser ces deux notions.

1. Voir par exemple les typologies retenues par Mintzberg (1983) et Jensen (1993) distinguant les mécanismes internes et externes à la firme.

2. Le terme de « contrôle organisationnel » englobe ici ce que la profession comptable nomme « contrôle interne » (Bouquin et Kuszla 2014).



### 2.2.1 Contrôle formel

Le terme de contrôle formel est défini comme un mode de contrôle objectif, visible et mesurable qui se manifeste par des mécanismes institutionnalisés tels que des directives, des règles écrites ou des procédures opérationnelles standardisées (Cardinal, Sitkin, et Long 2004). Les procédures applicables au sein de l'organisation ainsi que les lois et les réglementations à partir desquelles elles sont déclinées peuvent être considérées comme du contrôle formel, puisque ces mécanismes de contrôle doivent se révéler suffisamment explicites et connus de chacun des membres de l'organisation (Ouchi 1977). Ces systèmes de contrôle incluent de ce fait des règles, procédures écrites, responsabilités et fiches de postes permettant de guider les comportements des individus, d'assurer l'accomplissement des objectifs de l'entreprise et de détecter et sanctionner les erreurs et fraudes (Leatherwood et Spector 1991 ; Turner et Makhija 2006). L'objectif de ce type de systèmes consiste ainsi à obtenir une meilleure maîtrise de l'organisation afin de prévenir l'absence d'efficience et ses coûts internes additionnels, les erreurs dans l'information financière présentée au marché, entraînant par la suite des risques de perte de confiance et de réputation (Committee of Sponsoring Organizations 1992). Ces contrôles formels se manifestent par exemple par des processus d'autorisation et d'approbation, des restrictions d'accès ou des contrôles transactionnels, qui permettent d'orienter les comportements des individus à tous les niveaux organisationnels afin de prévenir et de détecter les erreurs ou les fraudes (Haelterman 2020).

### 2.2.2 Contrôle informel

À la différence des systèmes de contrôle formel dont l'objectif est de guider les comportements *via* des mesures explicites, les systèmes de contrôle informel guident les attitudes des individus au sein de l'organisation à travers les systèmes de valeurs, de croyances et de traditions (Ouchi 1980). Il serait ainsi illusoire de penser que le contrôle organisationnel pourrait être totalement maîtrisé par la hiérarchie. Le contrôle informel repose sur des facteurs, propres à chaque individu, qui les incitent à accepter ou à repousser certains choix ou décisions, issus de leur culture, de leurs traits de personnalité ou de leur formation. Il peut alors exister un décalage entre les procédures définies par la direction et celles effectivement appliquées dans l'organisation car les individus peuvent être amenés à interpréter les mêmes faits de manières diverses (Bouquin et Kuzla 2014). Le contrôle informel se caractérise ainsi par « *les routines, procédures et pratiques non planifiées, spontanées et non codifiées, qui génèrent et transmettent collectivement des informations à travers les relations interpersonnelles verticales et latérales qui prévalent au sein d'une organisation pour influencer, maintenir ou modifier les modèles d'activités organisationnelles* » (Tucker 2019, 230). Les compétences relationnelles et interpersonnelles constituent ainsi des éléments pouvant conduire à s'écarter des règles et procédures prévues (Plant, Barac, et Sarens 2019). Des études suggèrent en outre que les valeurs fournies par le contrôle informel affectent positivement les résultats de la gouvernance tels que la qualité des rapports financiers (D'Aquila 1998 ; Reding, Sobel, Anderson, Head, Ramamoorti, et Salamasick 2007) et que le « *tone at the top* » informel constitue un élément clé du contrôle interne (Penno 2021). Ainsi, les valeurs fondamentales ont un effet sur l'éthique et les comportements au sein des organisations (Belak 2013) et montrent l'importance des mécanismes informels. À l'aide de la diffusion dans l'organisation d'un ensemble de lois et de normes non écrites, les individus disposent d'un guide commun pour agir au sein de l'organisation (Falkenberg et Herremans 1995). À ce titre, le contrôle informel permet de coordonner les comportements des employés à travers des facteurs interpersonnels, sociaux et culturels (Snively et Snively 1990). Cohen (1995) suggère ainsi que ces valeurs sont souvent diffusées par les niveaux de

direction les plus élevés et, plus précisément, par le conseil d'administration qui inculque des valeurs éthiques dans l'organisation.

## **2.3 Mécanismes de gouvernance examinés**

### **2.3.1 Comité d'audit**

Le comité d'audit, en tant qu'émanation structurelle du conseil d'administration constitue l'un des moyens de contrôle du processus d'élaboration de l'information comptable et financière par les propriétaires de l'organisation. Ce mécanisme de gouvernance répond à cette attente spécifique puisqu'il correspond à une émanation technique de l'audit (Thiéry-Dubuisson 2009), traitant tout particulièrement des sujets financiers. Les administrateurs étudient plus particulièrement le système de contrôle interne aboutissant à l'élaboration des états financiers mais, également, les états financiers en tant que tels. À cet égard, les administrateurs siégeant dans ce comité doivent ainsi posséder une expertise particulière en matière financière afin de garantir son efficacité (Krisnan et Lee 2009 ; Cohen, Hoitash, Krishnamoorthy, et Wright 2014). D'une manière fonctionnelle, le comité d'audit supervise le dernier stade du processus d'élaboration de l'information financière et émet des recommandations afin de préparer les décisions collégiales du conseil d'administration.

### **2.3.2 Audit interne**

La notion de gouvernance d'entreprise peut également être appréhendée à travers un autre mécanisme interne. La fonction d'audit interne fait partie de l'un de ces mécanismes. À ce titre, l'Institute of Internal Auditors (IIA) définit l'audit interne comme une activité indépendante et objective donnant à une organisation une assurance sur le degré de maîtrise de ses opérations à travers une approche systématique et méthodique (IIA 2017). À cet égard, sa mission consiste à évaluer les processus de gestion des risques, de contrôle et de gouvernance et à émettre des recommandations en cas de déficience identifiée. Les normes d'audit interne préconisent ainsi que cette fonction soit fonctionnellement rattachée au comité d'audit afin de garantir son indépendance (norme 1110, IIA 2017), bien que les auditeurs soient administrativement subordonnés aux dirigeants de l'entreprise. Ainsi, la fonction d'audit interne apparaît comme servir deux maîtres, dont les dirigeants susceptibles d'orienter ses travaux et ses conclusions (Abbott, Parker, et Peters 2010), allant à l'encontre de l'objectif spécifique d'émettre une opinion indépendante. Il semble donc exister un écart entre le rôle préconisé et le rôle effectif de l'audit interne en tant que mécanisme de gouvernance (Spira et Page 2003). Dans ce contexte, la littérature examine plus particulièrement les facteurs permettant à l'audit interne d'améliorer la gouvernance d'entreprise au regard de l'importance et de la légitimité incombant à cette fonction particulière de l'organisation, notamment à la suite de la disparition de grandes entreprises et des changements réglementaires lors des deux dernières décennies (Behrend et Eulerich 2019).

### **2.3.3 Relations entre le comité d'audit et la fonction d'audit interne**

Les relations entre le comité d'audit et l'audit interne sont décrites au travers des normes d'audit interne ainsi que dans les guides décrivant les bonnes pratiques pour le fonctionnement des comités d'audit (Audit Committee Institute 2017 ; IIA 2017). Les comités d'audit sont fréquemment impliqués dans la nomination, la rémunération et les décisions budgétaires liées à l'audit interne (Beasley, Carcello, Hermanson, et Neal 2009). De manière réciproque, il est attendu de l'audit interne de rendre compte à la

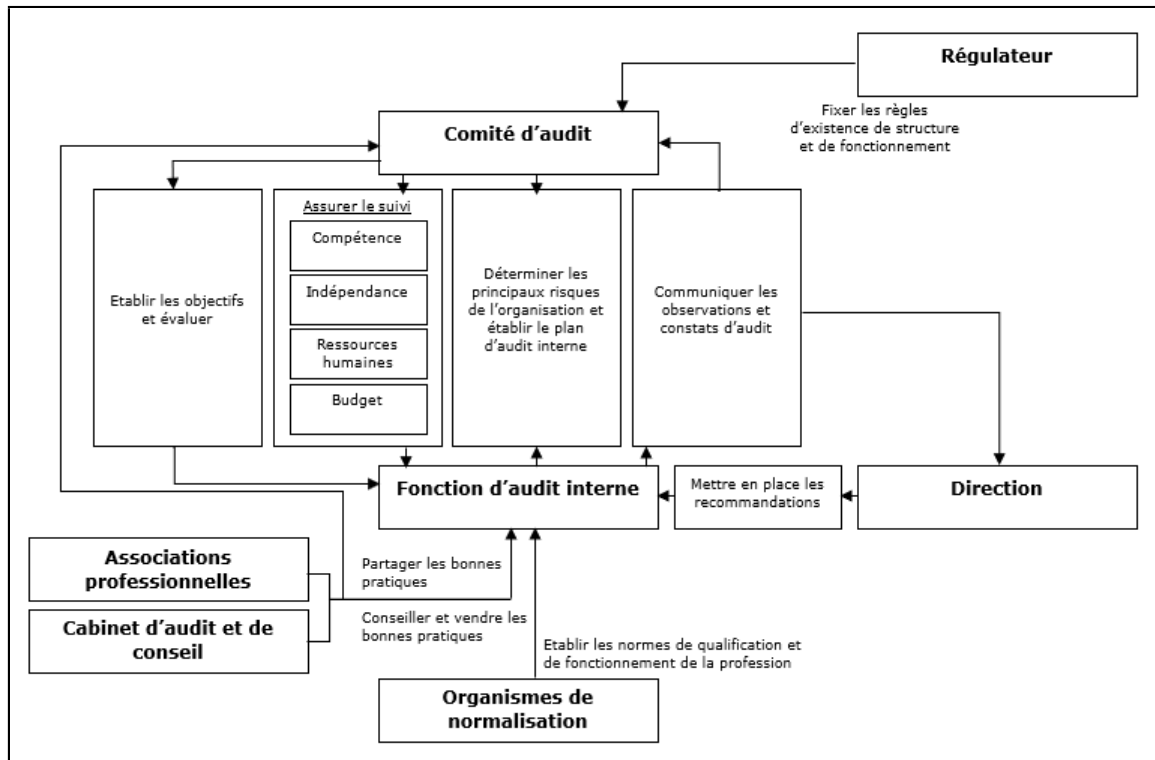
direction et au conseil d'administration de ses pouvoirs, de ses responsabilités et de ses missions (norme 2060, IIA 2017). À ce titre, la fonction d'audit interne doit présenter au conseil d'administration (et donc au comité d'audit s'il existe) ses objectifs, son périmètre d'intervention et les résultats de ses travaux (norme 2410, IIA 2017). Des études empiriques montrent que la fréquence des rencontres améliore la perception de la mise en place des recommandations de l'audit interne, en suggérant que plus le comité d'audit communique avec l'audit interne, plus il est informé des difficultés potentielles que pourraient rencontrer les auditeurs (Gebrayel, Jarrar, Salloum, et Lefebvre 2018). De manière analogue, les membres du comité d'audit sont à la recherche de confort sur les problématiques spécifiques de la gestion des risques et du système de contrôle interne (Sarens, De Beelde, et Everaert 2009). Les sujets abordés lors des réunions relèvent ainsi de la gouvernance d'entreprise, du management des risques et du contrôle interne (Zaman et Sarens 2013). Les relations entre comités d'audit et audit interne sont ainsi encouragées, ces deux mécanismes pouvant réciproquement tirer profit d'une forte relation (Beasley et al. 2009).

Dans le but de mettre en perspective les relations entre le comité d'audit et l'audit interne, notre schéma de la figure 1 illustre la manière dont les rôles de ces deux mécanismes sont liés ainsi que ceux des acteurs de leur environnement.

L'étude de la littérature sur les comités d'audit et sur l'audit interne nous a permis de mieux en appréhender le fonctionnement *via* les missions qui leur sont confiées ainsi que les relations qu'ils entretiennent avec les différents acteurs de leur environnement. Notre synthèse a mis en évidence le rôle du comité d'audit vis-à-vis de la fonction d'audit interne : celui-ci est chargé d'établir les objectifs et d'évaluer les travaux de l'audit interne, tout en s'assurant que les auditeurs disposent des compétences, de l'indépendance et du budget leur permettant de réaliser leurs missions. En contrepartie, le rôle de l'audit interne consiste à communiquer des observations et recommandations au comité d'audit à l'issue de ses travaux, qui devront être mises en place par les dirigeants de l'organisation puis, par la suite, communiquées par le comité d'audit au conseil d'administration. Cette relation bilatérale se traduit également par la détermination conjointe des principaux risques auxquels l'organisation est exposée ainsi qu'à la définition du plan d'audit interne qui permet de délimiter les missions à effectuer par la fonction d'audit interne, souvent de manière pluriannuelle.

D'un point de vue externe à l'organisation, le régulateur fixe les règles d'existence et de structure du comité d'audit, tandis que les organismes de normalisation tels que l'IIA établissent les normes de qualification et de fonctionnement de la profession d'auditeur interne. Les associations professionnelles jouent également un rôle important dans le fonctionnement des comités d'audit et de l'audit interne puisqu'elles permettent un échange de bonnes pratiques entre leurs membres. Enfin, les cabinets d'audit et de conseil, souvent dans le cadre d'une externalisation de la fonction d'audit interne, commercialisent leur expertise et partagent les bonnes pratiques acquises lors de missions réalisées chez d'autres clients.

FIGURE 1 – Relations entre les mécanismes examinés dans notre recherche et leurs parties prenantes



### 2.3.4 Intérêt de l'étude des comités d'audit et de l'audit interne

Comme l'a montré le bref historique de l'audit présenté précédemment dans cette introduction, le mécanisme originel d'audit externe, se consacrant essentiellement à la revue des domaines financiers et comptables, constitue la source de la « société de l'audit » (Power 2005). Dans la société contemporaine, le processus d'audit externe est « une vérification des comptes (...) conduite chaque année, conformément à des normes de qualité en la matière, par un auditeur indépendant, compétent et qualifié, chargé de donner au conseil d'administration et aux actionnaires un avis externe et objectif certifiant que les états financiers rendent compte fidèlement de tous les aspects importants de la situation financière et des résultats de la société » (OCDE 2017, 50). En ce sens, la fonction d'audit externe est un mécanisme de gouvernance permettant de limiter l'opportunisme des dirigeants axé sur une évaluation indépendante du processus d'élaboration de l'information financière.

Néanmoins, le travail réalisé dans le cadre de cette recherche se concentre sur les mécanismes de gouvernance internes à l'organisation que constituent le comité d'audit et l'audit interne. En effet, l'étude de ces deux mécanismes permet de considérer l'évaluation de la maîtrise des opérations par une entreprise dans une perspective plus large que les aspects financiers qui sont par essence le domaine de vérification de l'audit externe. En effet, si la responsabilité première du comité d'audit réside dans la supervision du processus d'élaboration de l'information financière, plusieurs études montrent l'évolution du rôle du comité d'audit vers des problématiques liées à la maîtrise des risques (Cohen

et al. 2017; Wilbanks, Hermanson, et Sharma 2017). Le comité d’audit est chargé de déterminer la nature et l’étendue des risques significatifs que l’organisation pourrait prendre dans la réalisation de ses objectifs stratégiques et de s’assurer que ces risques significatifs sont identifiés, évalués et gérés. À ce titre, la littérature et les guides de bonnes pratiques préconisent que les administrateurs examinent plus particulièrement les risques relatifs à la cybersécurité (Thiéry et Fass 2020), aux fraudes, aux aspects légaux et réglementaires et à la fiscalité (ACI 2017). Parallèlement, les travaux de l’audit interne ont également évolué de missions d’assurance sur la conformité des opérations vis-à-vis des politiques et procédures internes vers des missions de conseil, pouvant apporter des recommandations au regard d’orientations stratégiques (Soh et Martinov-Bennie 2018; Jokipii et Di Meo 2019; Jiang, Messier, et Wood 2020). La palette des missions d’audit interne peut ainsi inclure des revues de la gestion par l’entreprise des risques émergents ou des missions axées sur la performance de l’organisation, apportant davantage de valeur ajoutée (ACI 2017).

Ainsi, dans ce travail doctoral, il nous a semblé plus intéressant de focaliser les recherches sur ces mécanismes de gouvernance ayant une influence sur la prise en compte et la maîtrise des risques dans une perspective plus étendue que le seul sujet de l’information financière et ayant *in fine* un impact sur la continuité d’activité de l’organisation.

### 3 Réglementations relatives aux comités d’audit et à l’audit interne

Les lois et réglementations, de même que les organismes de surveillance mis en place à la suite des scandales financiers ont modifié le contexte légal et réglementaire dans lequel évoluent les membres de comités d’audit et les auditeurs internes. Ce contexte prescrit davantage de règles qui n’étaient auparavant que des recommandations et impose un environnement de plus en plus juridique (Baker, Bédard, et Prat dit Hauret 2014; Labelle et Rousseau 2007). La théorie de la hiérarchie des normes (Kelsen 1934) indique qu’une norme<sup>3</sup> est valide si elle a été produite conformément à une norme dite supérieure, elle-même devant être valide. Ainsi, la hiérarchie des normes considère que toute règle de niveau inférieur trouve son fondement dans une règle supérieure qu’elle doit appliquer et respecter afin de pouvoir être valide. Chaque norme occupe une place précise au sein d’une classification présentant différents niveaux, en fonction du niveau de son auteur dans la hiérarchie des autorités normatives. Dans cette recherche, le terme de « réglementation » est assimilé à l’ensemble des lois, prescriptions et règles régissant l’activité du comité d’audit et de la fonction d’audit interne, même si ces termes ne sont pas synonymes au sens du droit. D’autre part, les termes de « normes » et « guide de bonnes pratiques » désignent des recommandations n’entrant pas dans la hiérarchie des textes législatifs et ne sont donc pas obligatoires mais se veulent une incitation à adopter un comportement particulier. Il s’agit, dans ce travail doctoral, de considérer à la fois la « réglementation » et les « normes professionnelles » comme éléments formalisant les prescriptions à caractère obligatoire et à caractère facultatif, régissant les activités des comités d’audit et des fonctions d’audit interne, tout en se gardant de théoriser ces notions en termes juridiques.

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3. Ici, le terme de « norme » s’entend comme une règle qui du fait de son origine et de son caractère général et impersonnel, constitue une source de droits et d’obligations juridiques.

Face aux cas de fraude, les premiers textes donnant des prescriptions pour le fonctionnement du comité ont été établis à l'initiative des États-Unis, par la ratification de SOX en 2002. La section 301 de ce texte prévoit ainsi que toutes les sociétés cotées soient dotées d'un comité d'audit, dont l'ensemble des membres doit être indépendant de la direction (article 3) et définit de manière spécifique son rôle (articles 2 et 4). Dans la même lignée, au niveau européen, plusieurs directives et recommandations ont été émises lors de la même période afin de réguler la gouvernance d'entreprise. C'est le cas du Plan d'action de 2003 (COM/2003/0284), de la Directive 2006/43/CE (UE 2006) et du Livre Vert (2011) destinés à établir un cadre réglementaire pour les entreprises cotées, afin de renforcer la gouvernance. Les rôles et responsabilités des mécanismes de gouvernance ayant fait l'objet de critiques ont été renforcés, tout en précisant leurs attributs. Ainsi, la Directive 2006/46/CE (UE 2006) contraint les sociétés cotées à présenter une section à part entière de leur rapport annuel, consacrée à la description de la gouvernance d'entreprise. Ces textes ont par la suite été complétés par la Directive 2014/56/UE (UE, 2014) ayant notamment défini de manière plus précise la composition (article 39(1)) et les responsabilités du comité d'audit (article 39(6)).

Bien que certaines réglementations imposent la mise en place d'une fonction d'audit interne, rares sont les prescriptions obligatoires encadrant la pratique de l'audit interne. Les changements législatifs et réglementaires ayant défini de nouvelles exigences concernant les comités d'audit ont néanmoins eu un effet sur la fonction d'audit interne, comme par exemple la responsabilité pour le comité d'audit de suivre « *l'efficacité (...) de l'audit interne* » (article 39(6c), Directive 2014/56/UE). Dans les faits, les travaux de l'audit interne sont principalement organisés autour des normes édictées par un organisme de normalisation international situé aux États-Unis, l'IIA. Ces normes n'ont pas force de loi comme cela est le cas pour les normes ISA (International Standards of Auditing) pour l'audit externe, mais demeurent néanmoins la référence afin d'encadrer le travail de l'audit interne (Renard 2006). Ces normes sont organisées en deux parties : les normes de qualification et les normes de fonctionnement. Les normes de qualification décrivent les caractéristiques nécessaires pour les personnes et entités réalisant des missions d'audit interne, tandis que les normes de fonctionnement encadrent la nature des activités d'audit interne et définissent les critères de qualité afin de mesurer leur performance (IIA 2017). Les normes de qualification précisent ainsi les missions que doit remplir l'audit interne, décrivent l'indépendance et l'objectivité nécessaires à la conduite des missions, la position organisationnelle de la fonction d'audit interne ainsi que les compétences requises pour les auditeurs. Il est à noter que les normes définissent l'indépendance et l'objectivité de la fonction d'audit interne par ses liens organisationnels, notamment par son rattachement fonctionnel au comité d'audit ou au conseil d'administration. Néanmoins, les normes laissent aux organisations l'appréciation quant au niveau opérationnel ou stratégique du processus audité ou encore au niveau d'assurance recherché au cours des missions. De même, les normes de qualification indiquent que les compétences des auditeurs se traduisent par l'obtention de certifications professionnelles telles que le CIA (Certified Internal Auditor) sans que cela ne soit obligatoire, ou par l'obtention de « *tout autre diplôme promu par l'IIA* » (norme 1210, IIA 2017), sans en préciser la nature. Les normes de fonctionnement recommandent aux auditeurs internes de planifier leurs travaux et de mettre en œuvre les ressources « *appropriées* » (norme 2230, IIA 2017) au regard des objectifs de la mission et de communiquer les résultats des missions aux destinataires « *appropriés* » (norme 2440, IIA 2017), sans que ce terme ne soit précisément défini.

Afin de synthétiser et de montrer le caractère obligatoire ou facultatif du cadre réglementaire et incitatif s'appliquant au comité d'audit et à l'audit interne, les différentes prescriptions présentées précédemment sont classées dans le tableau 1. La liste présentée dans ce tableau n'est pas exhaustive mais entend synthétiser les réglementations, normes et bonnes pratiques évoquées dans la discussion précédente.

TABLEAU 1 – Classification des principales réglementations ainsi que d'exemples de normes et bonnes pratiques encadrant les activités du comité d'audit et de la fonction d'audit interne

	Comité d'audit	Audit interne
Caractère obligatoire	Sarbanes-Oxley Act (États-Unis) Directive 2006/46/CE (Europe) Directive 2014/56/UE (Europe)	N/A
Caractère facultatif	Exemples : Guide de bonnes pratiques tel que l'Audit Committee Handbook (Audit Committee Institute) Guide des Bonnes Pratiques pour les comités d'audit & Modus Operandi (Institut Français des Administrateurs)	Normes Internationales pour la Pratique Professionnelle de l'Audit Interne (émises par l'Institute of Internal Auditors)

## 4 Etat de la recherche sur les comités d'audit et sur l'audit interne

La présente section propose de donner un aperçu de la littérature se rapportant aux comités d'audit et à l'audit interne publiée ces dernières années. L'objectif de cette section n'est pas de réaliser une revue exhaustive de la littérature sur les comités d'audit et l'audit interne mais de donner un aperçu des connaissances actuelles sur l'état de la recherche sur ces deux mécanismes de gouvernance. Cette recension des écrits entend dresser une toile de fond à ce travail doctoral et permet d'en cerner la pertinence et les contributions potentielles.

### 4.1 Etat de la recherche sur les comité d'audit

En accord avec les critères définis par la législation, la littérature a d'abord cherché à étudier l'efficacité des comités d'audit, au moyen d'indicateurs liés à la qualité de l'information financière (Abbott, Parker, et Peters 2004; Dhaliwal, Naiker, et Navissi 2010; Cohen, Gaynor, Krishnamoorthy, et Wright 2011; Carcello et al. 2011). D'autre

part, les études empiriques tendent à se concentrer sur la probabilité d'apparition de faiblesses et de déficiences du contrôle interne (Naiker et Sharma 2009; Hoitash et al. 2009; Weickgenannt, Hermanson, et Sharma 2021). Le rôle effectif du comité d'audit dans la supervision des travaux des auditeurs externes (Lee, Mande, et Ortman 2004; Goodwin-Stewart et Kent 2006; Bronson, Carcello, Hollingsworth, et Neal 2009; Khrisnan et Visvanathan 2009; Beck et Mauldin 2014; Cohen et al. 2014) et de la fonction d'audit interne (Zain, Subramaniam, et Stewart 2006; Barua, Rama, et Sharma 2010) constitue également une mesure de l'efficacité du comité. Enfin, quelques études adoptent le coût du capital et de remboursement d'emprunt comme mesure d'efficacité (Anderson, Kadous, et Koonce 2004; Farber 2005), en supposant qu'un comité d'audit plus efficace permet de réduire le coût du capital de l'entreprise et se traduit par une plus grande fiabilité de l'information financière par le marché.

Plus récemment, les recherches sur les facteurs déterminant l'efficacité des comités d'audit mettent en exergue la manière dont les attributs de la composition et de structure des comités permettent de remplir leurs responsabilités (Bédard et Gendron 2010; Broye et Johannes 2021). L'un des points les plus importants développés par la réglementation et étudiés par les études académiques concerne l'indépendance du comité d'audit (à travers des membres indépendants de la direction de l'organisation) pour améliorer son efficacité (Klein 2002; Bédard, Chtoutou, et Courteau 2004; Davidson, Goodwin-Stewart, et Kent 2005; Cohen et al. 2011). Outre leur indépendance, l'expertise des administrateurs est également encadrée par la réglementation, notamment afin de mettre en avant leur expertise financière et celle du secteur d'activité de l'organisation (Gorshunov, Armenakis, Harris, et Walker 2021). La littérature examine ainsi l'influence de la culture et de l'expertise financière des membres (DeZoort et Salterio 2001; DeFond, Hann, et Hu 2005; Coates, Marais, et Weil 2007; Krishnan et Lee 2009; Tanyi et Smith 2015), de leur expertise sectorielle (Cohen et al. 2014), de leur rémunération (Keune et Johnstone 2015), du nombre de membres (Lerong et Yang 2014) et de leur genre (Alkebeese, Tian, Usman, Siddique, et Alheby 2021; García-Meca, Ramón-Llorens, et Martínez-Ferrero 2021) sur l'efficacité du comité d'audit. Les études qui examinent le déroulement des réunions en tant que variable explicative de l'efficacité du comité d'audit prennent appui sur les recommandations et bonnes pratiques suggérant de réunir les membres de comité fréquemment (Abbott et al. 2004; Stewart et Munro 2007; Qamhan, Haat, Hashim, et Salleh 2018; Raimo, Vitolla, Marrone, et Rubino 2021), d'établir une charte du comité d'audit (Carcello, Hermanson, et Neal 2002) et de respecter un ordre du jour pré-défini (Gendron et Bédard 2006).

Enfin, jusqu'à présent, un nombre plus minoritaire de travaux s'est attaché à comprendre le processus de fonctionnement du comité d'audit à travers des études qualitatives (Spira 2002; Gendron, Bédard, et Gosselin 2004; Gendron et Bédard 2006; Turley et Zaman 2007; Beasley et al. 2009; Bezemer, Nicholson, et Pugliese 2014; Brennan et Kirwan 2015), en particulier en raison des difficultés liées à l'accès aux réunions des sous-comités du conseil d'administration par les chercheurs (Malsch, Tremblay, et Gendron 2012) et de la confidentialité des informations abordées (Leblanc et Schwartz 2007). Néanmoins, ces études montrent l'importance de la communication entre les administrateurs et les auditeurs internes et externes (Cohen, Krishnamoorthy, et Wright 2017; Turley et Zaman 2007; Beasley et al. 2009; Compennolle 2018; Free, Trotman, et Trotman 2021), des questions posées par les membres de comité d'audit (Gendron et Bédard 2006) et de l'allocation du pouvoir (Kalbers et Fogarty 1993; Turley et Zaman 2007) lors des réunions



afin d'obtenir une compréhension du fonctionnement des comités d'audit.

Le tableau 2 présente notre synthèse des études examinées dans le cadre de ce travail et donne un aperçu des principales thématiques de recherche relatives aux comités d'audit. Pour chacune des thématiques identifiées, cette synthèse expose les questions de recherches principales de la littérature, les perspectives et les unités d'analyse adoptées ainsi que les méthodes de recherche principales privilégiées. Le tableau reprend également les principaux résultats mis en exergue par la littérature puis les voies de recherche inexplorées. Enfin, la dernière ligne du tableau présente une sélection de références représentatives des thématiques de recherche identifiées. Trois thématiques de recherche semblent ainsi être majoritaires dans la littérature sur les comités d'audit : l'efficacité du comité, ses caractéristiques et son fonctionnement. La plupart des études sur l'efficacité et les caractéristiques du comité d'audit adoptent une méthodologie quantitative tandis que les études sur son fonctionnement privilégient des méthodes qualitatives. Les résultats des études sur l'efficacité du comité soulignent ainsi son rôle de supervision du reporting financier et du contrôle interne ainsi que celui de supervision de l'audit interne et externe. Les critères issus des réglementations tels que l'expertise, l'indépendance, le nombre de membres du comité, la fréquence ainsi que l'ordre du jour des réunions semblent avoir un impact significatif sur l'efficacité du comité, comme le montrent les études s'attachant à examiner les caractéristiques de celui-ci. Enfin, les études qualitatives portant sur ce mécanisme de gouvernance suggèrent qu'une meilleure compréhension des relations entre les membres de comités, des échanges et des notions de pouvoir lors des réunions permettent de mieux en appréhender le fonctionnement.

TABLEAU 2 – Aperçu des principales thématiques de recherche relatives aux comités d’audit

	<i>Thématiques de recherche</i>			
	<i>Efficienc</i> e du comité d’audit	<i>Caractéristiques du comité d’audit</i>		<i>Fonctionnement du comité d’audit</i>
<b>Question(s) de recherche principale(s)</b>	Quelles sont les mesures de l’efficience du comité d’audit ?	Quels critères de structure/composition du comité permettent à celui-ci d’être efficient ?	Quelles caractéristiques du déroulement des réunions permettent au comité d’audit d’être efficient ?	Comment se déroulent les réunions du comité d’audit ?
<b>Perspective adoptée</b>	Mesures principalement issues des responsabilités allouées aux comités d’audit	Hypothèses fondées sur les réglementations	Hypothèses fondées sur les réglementations	Démarche exploratoire cherchant à obtenir le point de vue des membres de comité d’audit et des participants aux réunions
<b>Méthode de recherche principale privilégiée</b>	Quantitative	Quantitative	Quantitative	Qualitative
<b>Unité d’analyse</b>	Comité d’audit dans son ensemble	Comité d’audit dans son ensemble Membres du comité (niveau individuel)	Comité d’audit dans son ensemble	Comité d’audit dans son ensemble Membres du comité (niveau individuel)

<b>Principaux résultats</b>	Mesures principalement utilisées : Qualité du reporting financier Supervision des auditeurs externes Supervision des auditeurs internes Qualité du contrôle interne Perception des investisseurs	Critères issus des réglementations ont une influence significative sur l'efficacité du comité, dont : Expertise Indépendance Nombre de membres Genre Rémunération	Caractéristiques issues des réglementations ont une influence significative sur l'efficacité du comité, dont : Charte du comité d'audit Ordre du jour Fréquence des réunions	Importance pour le fonctionnement de : Relations entre membres et participants Questionnements La notion de pouvoir
<b>Questions non explorées</b>	Examen de la qualité du comité à travers les actions, comportements et la personnalité des individus au cours des réunions			Obtention des données nécessaires à la réalisation d'études qualitatives sur les comités d'audit Utilisation de cadres théoriques issus de la sociologie pour étudier le processus sous-jacent du comité d'audit
<b>Sélection de références représentatives</b>	Bronson et al. (2006) Gaynor et al. (2006) Zain et al. (2006) Krishnan et Visvanathan (2007) Barua et al. (2010) Bédard et Gendron (2010) Carcello et al. (2011) Beck et Mauldin (2014) Cohen et al. (2014)	Bédard et al. (2004) Krishnan et Lee (2009) Cohen et al. (2014) Lerong et Yang (2014) Keune et Johnstone (2015) Tanyi et Smith (2015)	Carcello et al. (2002) Abbott et al. (2004) Gendron et Bédard (2006) Stewart et Munro (2007) Qamhan et al. (2018)	Gendron et al. (2004) Turley et Zaman (2007) Gendron et Bédard (2006) Beasley et al. (2009) Brennan et Kirwan (2015)

## 4.2 Etat de la recherche sur l'audit interne

Une partie importante de la littérature relative à l'audit interne vise à examiner la qualité de l'audit interne ainsi que ses déterminants. En se fondant sur des critères de qualité attribués à l'audit externe (Francis 2004; 2011; Knechel, Krishnan, Pevzner, Shefchik, et Velury 2013), ce courant de recherche a appliqué à l'audit interne les mesures et variables utilisées pour évaluer la qualité de l'audit externe (Roussy et Perron 2018) en considérant particulièrement les compétences et l'indépendance de la fonction d'audit interne. Parmi les indicateurs d'indépendance, la littérature montre un impact positif de la réalisation de missions d'assurance (Lin, Pizzini, Vargus, et Bardhan 2011), des liens et interactions avec le comité d'audit (Christopher, Sarens, et Leung 2009; Prawitt, Smith, et Wood 2009; D'Onza, Selim, Melville, et Allegrini 2015) et de la rémunération fixe du responsable de l'audit interne (Schneider 2010), tandis que la réalisation de missions de conseil (Glover, Prawitt, et Wood 2008; De Zwaan, Stewart, et Subramaniam 2011), l'implication de la direction dans le plan d'audit interne (Christopher et al. 2009) et les relations proches entre l'audit interne et la direction (Norman, Rose, et Rose. 2010; Holt 2012) semblent être préjudiciables pour la qualité de l'audit interne.

Dans la lignée des études consacrées à l'audit externe, la littérature souhaitant évaluer l'influence des compétences sur la qualité de l'audit interne a mis en œuvre des variables liées aux caractéristiques des auditeurs. Les composantes des compétences utilisées dans les différents travaux relèvent de l'expérience (Sarens et al. 2009; Abbott, Daugherty, Parker, et Peters 2016; Mazza et Azzali 2015), du niveau d'éducation (Schneider 2010), des certifications professionnelles (Pizzini, Lin, et Ziegenfuss 2015; Messier, Reynolds, Simon, et Wood 2011; Zain, Zaman, et Mohamed 2015; Abbott et al. 2016) et des compétences liées au secteur d'activité de l'organisation (Sarens et al. 2009; Krishnamoorthy 2001). En outre, au niveau organisationnel, les formations continues suivies par les auditeurs internes constituent une mesure utilisée dans plusieurs études pour témoigner des compétences du département d'audit interne (Messier et al. 2011; Zain et al. 2015; Pizzini et al. 2015).

Dans une perspective similaire, des études s'appuient sur ces critères de qualité afin de juger la fiabilité de la fonction d'audit interne (Bame-Aldred, Brandon, Messier, Rittenberg, et Stefaniak 2013). En ce sens, les recherches s'intéressent plus particulièrement aux critères que les auditeurs externes prennent en considération pour utiliser les travaux de l'audit interne, comme le préconise la norme N°5 émise par le Public Company Accounting Oversight Board (AS5, PCAOB 2007). Leur jugement des travaux de l'audit interne est ainsi fondé sur des mesures de compétences et d'objectivité ainsi que sur sa performance (Felix, Gramling, et Maletta 2001; Gramling, Maletta, Schneider, et Church 2004; Desai, Roberts, et Srivastava 2010).

Une attention particulière est également portée à la notion d'externalisation de la fonction d'audit interne, qui peut être jugée bénéfique pour garantir l'indépendance de l'audit interne vis-à-vis de la direction (Desai, Gerard, et Tripathy 2011; Abbott, Parker et, Peters 2012). En effet, certains résultats montrent qu'une fonction d'audit interne externalisée permet d'éviter que celle-ci ne soit considérée comme un tremplin vers des fonctions de direction, pouvant nuire ainsi à l'objectivité des auditeurs internes (Messier et al. 2011; Christ, Masli, Sharp, et Wood 2015; Hoos, Messier, Smith, et Tandy 2018). Au delà de leur objectivité, certaines études suggèrent que l'externalisation de la fonction d'audit interne apporte une expertise supplémentaire ayant des effets positifs sur la qualité des effets financiers *via* les compétences acquises par les auditeurs dans d'autres

organisations (Baatwah, Omer, et Aljaaidi 2021).

Néanmoins, de plus récentes études proposent de s'intéresser au point de vue des acteurs présents dans l'environnement de la fonction d'audit interne (Lenz, Sarens, et D'Silva 2014; Lenz et Hahn 2015; Roussy et Brivot 2016; Trotman et Duncan 2018). Ce courant de recherche considère qu'il n'existe pas une unique vision de la qualité de l'audit interne. En utilisant des entretiens avec diverses parties prenantes, ces travaux indiquent que la qualité de l'audit interne peut être appréhendée à travers la perception du comité d'audit, des audités, de l'IIA et des auditeurs internes eux-mêmes, en allant au-delà des mesures de compétences et d'indépendance.

Le rôle de supervision du comité d'audit vis-à-vis de la fonction d'audit interne constitue également une part importante des questions examinées dans la littérature : l'objectif de ces recherches est de déterminer la part d'influence du comité d'audit sur les travaux de l'audit interne (Eulerich, Henseler, et Köhler 2017). En ce sens, les résultats montrent que le comité d'audit a une influence significative sur le budget alloué à la fonction d'audit interne (Abbott et al. 2010; Barua et al. 2010), sur le plan d'audit interne (Scarbrough, Rama, et Raghunandan 1998) et sur la mise en place des recommandations émises à l'issue des missions d'audit (Alzeban et Sawan 2015). Les interactions avec le comité d'audit permettent également de s'assurer de l'indépendance de la fonction d'audit interne vis-à-vis des pressions de la direction (Zain et Subramaniam 2007; Khelil, Hussainey, et Noubbigh 2016) et contribuent à améliorer la gouvernance d'entreprise (Van Peursem 2005; Zaman et Sarens 2013).

Dans cette dernière optique de l'examen de la contribution de l'audit interne à l'amélioration de la gouvernance, des études s'intéressent à l'évolution des pratiques d'audit interne ces dernières années. Ces recherches montrent que, conformément à l'historique de l'audit présenté dans une section précédente, les activités de l'audit interne ne se limitent plus à donner un niveau d'assurance sur la conformité des opérations au regard des politiques et procédures définies par l'organisation (Selim, Woodward, et Allegrini 2009; Allegrini, D'Onza, Melville, Sarens, et Selim 2011; Jokipii et DiMeo 2019) mais englobent également des missions de conseil sur des thématiques plus larges que l'information financière telles que le développement durable (Soh et Martinov-Bennie 2015; Soh et Martinov-Bennie 2018).

Enfin, les quelques études relatives à l'examen de l'impact de la réglementation sur ce mécanisme de gouvernance indiquent que l'attention a été portée indirectement sur la fonction d'audit interne suite à la mise en place de réglementations sur les comités d'audit (Carcello, Hermanson, et Raghunandan 2005a; 2005b) ou de recommandations qui préconisent par exemple de fréquentes interactions entre les membres du comité et le responsable de la fonction d'audit interne, afin de renforcer le rôle de supervision du comité (Raghunandan, Rama, et Read 2001). Malgré quelques travaux sur l'influence directe de la réglementation vis-à-vis de l'externalisation de la fonction d'audit interne pour certaines entreprises (Prawitt, Sharp, et Wood 2012), la majorité des études sont menées à la lumière de réformes réglementaires initiées pour encadrer des mécanismes de gouvernance connexes (Behrend et Eulerich 2019).

De la même manière que pour les comités d'audit, le tableau 3 présente notre synthèse de la revue de littérature effectuée lors de ce travail doctoral. Cinq thématiques

de recherches principales ont été identifiées : la qualité et l'efficacité de l'audit interne, la fiabilité de la fonction d'audit interne, le périmètre de ses travaux, la supervision des départements d'audit interne par le comité d'audit et le cadre réglementaire dans lequel évolue cette profession. La plupart des études sur la fonction d'audit interne privilégient des méthodes de recherche quantitative en adoptant certaines variables dont l'utilisation est issue de la recherche sur l'audit externe, notamment en ce qui concerne les thématiques liées à la qualité de l'audit interne et à la fiabilité de ses travaux. Les principaux résultats de ces études indiquent ainsi que les indicateurs de la qualité et de la fiabilité de l'audit interne portent généralement sur les compétences et l'indépendance des auditeurs. La littérature portant sur le contenu des travaux de la fonction d'audit interne souligne une évolution des missions, notamment d'activités permettant de donner une assurance sur la maîtrise des opérations vers des activités de conseil. Faisant écho à la littérature sur les comités d'audit, les études qui s'intéressent à la supervision de l'audit interne par ce mécanisme montrent une influence positive de la diligence et de l'expertise du comité sur son investissement dans la fonction d'audit interne et sur la mise en place des recommandations d'audit par la direction. Enfin, les études sur le cadre réglementaire auquel la fonction d'audit interne est soumise semblent indiquer que les pratiques de cette profession ont indirectement été affectées et renforcées par les réglementations encadrant les travaux du comité d'audit et de l'audit externe.

TABLEAU 3 – Aperçu des principales thématiques de recherche relatives à l’audit interne

	<i>Thématiques de recherche</i>				
	<i>Qualité / Efficience de l’audit interne</i>	<i>Fiabilité de la fonction d’audit interne</i>	<i>Périmètre des travaux de la fonction d’audit interne</i>	<i>Supervision par le comité d’audit</i>	<i>Cadre réglementaire</i>
<b>Question(s) de recherche principale(s)</b>	Quelle est la définition de la qualité/l’efficience de l’audit interne ? Quels sont les déterminants de la qualité/l’efficience de l’audit interne ?	Comment la fiabilité des travaux de l’audit interne est-elle évaluée ?	Quel est le rôle de la fonction d’audit interne ? Comment les activités de la fonction d’audit interne ont-elles évolué ?	Quelle est l’influence du comité d’audit sur les activités de l’audit interne ?	Quelle est l’influence des réglementations encadrant les mécanismes de gouvernance connexes sur la fonction d’audit interne ?
<b>Perspective adoptée</b>	Fondée sur la qualité de l’audit externe : vision de la qualité de l’audit en tant que processus	Point de vue des auditeurs externes en majorité	Point de vue des auditeurs internes (et auditeurs externes dans certaines études)	Hypothèses fondées sur l’influence des attributs de structure/composition sur la fonction d’audit interne	Point d’entrée des études : comités d’audit et auditeurs externes
<b>Méthode de recherche principale privilégiée</b>	Généralement quantitative pour les études examinant un critère de qualité en particulier (avec un support qualitatif pour les études examinant le cadre théorique)	Généralement quantitative	Généralement quantitative	Généralement quantitative (quelque études qualitatives)	Généralement quantitative
<b>Unité d’analyse</b>	Département d’audit interne / auditeur interne selon les études (responsable du département)	Département d’audit interne	Département d’audit interne	Département d’audit interne	Département d’audit interne

<b>Principaux résultats</b>	Indicateurs de la qualité classés selon une typologie : « <i>inputs, process, outputs, outcomes, context</i> »	Fiabilité fondée sur les indicateurs de la qualité de l'audit interne, notamment : les compétences, l'objectivité et la qualité des travaux du département d'audit interne Fiabilité améliorée par une externalisation de la fonction	Evolution des travaux de l'audit interne : d'activités liées à l'assurance sur la maîtrise des opérations vers des activités de conseil	Influence de la diligence et de l'expertise du comité sur l'investissement dans la fonction d'audit interne et sur la mise en place des recommandations d'audit	L'augmentation des exigences réglementaires sur les comités d'audit et l'audit externe a indirectement affecté et renforcé les pratiques d'audit interne
<b>Questions non explorées</b>	Point de vue du comité d'audit, des audités et des auditeurs internes ainsi que des actionnaires, analystes ou régulateurs concernant la qualité de l'audit interne	Influence simultanée des critères pris en compte Existence de critères additionnels à ceux de compétences et d'objectivité Facteurs liés à l'environnement de la fonction à examiner (ex : comité d'audit)	Influence de la professionnalisation de l'audit interne sur la gouvernance Compétences nécessaires pour la réalisation des activités de conseil Influence des activités de conseil sur l'objectivité des auditeurs	Interactions formelles et informelles entre les membres de comité d'audit et les auditeurs internes	Influence de réglementations affectant directement la fonction d'audit interne
<b>Sélection de références représentatives</b>	Prawitt et al. (2009) Abbott et al. (2016) Lenz et al. (2014) Roussy et Perron (2018)  (voir Roussy et Brivot (2016) et Trotman et Duncan (2018) pour des exemples d'études qualitatives)	Felix et al. (2001) Gramling et al. (2004) Desai et al. (2010) Desai et al. (2011) Abbott et al. (2012) Bame-Aldred et al. (2013)	Selim et al. (2009) Allegrini et al. (2011) Soh et Martinov-Bennie (2015) Soh et Martinov-Bennie (2018) Jokipii et DiMeo (2019)	Barua et al. (2010) Alzeban et Sawan (2015)  (pour les études qualitatives : Sarens et al. (2009), Zaman et Sarens (2013))	Raghunandan (2001) Carcello et al. (2005a) Carcello et al. (2005b) Prawitt et al. (2012)



Au vu du nombre de travaux académiques examinant de manière explicite ou indirecte les critères d'efficacité du comité d'audit et de l'audit interne, nous pensons que cette recherche est à même de contribuer à certains aspects de la littérature relative au fonctionnement de ces deux mécanismes de gouvernance.

## 5 Objet de notre recherche

Malgré les pressions institutionnelles incitant à mettre en place davantage de contrôle formel, il semble que de nombreuses organisations restent encore réticentes à suivre les réglementations et les bonnes pratiques (Shapiro et Matson 2008 ; Witt et Fainshmidt 2018) car ces dernières ne jouent qu'un rôle passif pour améliorer la gouvernance (El Mahdy 2019). Ainsi, « *les organisations ont tendance à adopter des pratiques nationales et à opérer dans une zone de conformité acceptable* », où les pratiques organisationnelles « *relevant de la zone de conformité (sont) celles qui adhèrent à la logique légitime dominante* » (Aguilera, Judge, et Terjesen 2018, 89). Cette zone de conformité offre une latitude aux entreprises afin de pouvoir en diverger (Witt et Fainshmidt 2018). L'une des raisons de cet écart est l'adaptation des normes aux besoins des organisations. À titre d'exemple, le COSO Internal Control - Integrated Framework atteint partiellement son objectif de répondre aux attentes des dirigeants, en aidant les auditeurs à évaluer et à apprécier les contrôles sur la stratégie et les opérations (Balakrishnan, Matsumura, et Ramamoorti 2019). Ainsi, la gestion des normes peut s'avérer être un exercice périlleux en raison de leurs exigences parfois contradictoires (Pigé 2015). En conséquence, selon la latitude offerte par les normes comptables, certaines entreprises semblent peu enclines à s'y conformer car elles considèrent que les avantages de l'adoption, déduction faite du produit de la probabilité et du coût de la mise en vigueur, sont relativement inférieurs aux coûts d'adoption (Pownall et Wiczynska 2018). Une autre raison conduisant à des divergences provient des performances organisationnelles. Les entreprises démontrant une haute performance organisationnelle peuvent justifier, par un raisonnement fondé sur l'utilité, des décisions discrétionnaires se traduisant par une divergence vis-à-vis des normes, tandis que les entreprises présentant une performance faible ont tendance à restreindre les pratiques organisationnelles s'éloignant des normes pour améliorer leur image (Witt et Fainshmidt 2018).

Pourtant, le respect de la réglementation et des normes constitue l'un des fondements des professions liées à l'audit et est souvent considéré comme un outil de signal de qualité (Fogarty et Rigsby 2010 ; Schneider 2010 ; Petherbridge et Messier 2016 ; Al-Sukker, Ross, Abdel-Qader, et Al-Akra 2018) ou de transparence de l'information financière lorsqu'il s'agit des normes comptables (Beau et Pigé 2007). Néanmoins, lorsque l'on s'intéresse plus particulièrement aux comités d'audit pour lesquels les principales obligations issues des lois et des réglementations résident dans leur composition et leur structure ou à la conformité des départements d'audit interne avec les normes professionnelles, certains travaux de recherche montrent que des entreprises et institutions ne respectent pas pleinement ces exigences (Courtois et Gendron 2017). Par exemple, malgré les réglementations prévoyant que les conseils d'administration (dont le comité d'audit est un sous-comité), devraient être composés en majorité de membres indépendants de la direction, certaines entreprises présentent un conseil d'administration composé d'une majorité de membres internes et ne se montrent donc pas alignées à la logique de gouvernance dominante (Garg 2013). C'est également le cas pour les départements d'audit interne où le respect de ces normes ne semble pas apporter de valeur ajoutée (Breger, Edmonds, et Ortegren 2020), car la direction se révèle peu favorable au respect de ces normes (Burnaby, Abdolmohammadi,

Hass, Sarens, et Allegrini 2009). Ainsi, il semble que certaines organisations mettent en œuvre des pratiques qui s'écartent des exigences citées dans les normes (Witt et Fainshmidt 2018). Par exemple, les entreprises présentant une conformité excessive aux normes sont confrontées à des défis d'adaptation et d'apprentissage organisationnels, tandis que celles s'en éloignant éprouvent des difficultés à démontrer leur fiabilité et leur efficacité (Patil, Tetlock, et Mellers 2017). En conséquence, une conformité ou une déviation superflue peut être coûteuse pour les organisations et peut conduire à des résultats organisationnels non optimaux (Leana et Barry 2000 ; Patil et al. 2017). Il semble donc que l'influence du contrôle formel issu de la réglementation sur les pratiques des comités d'audit et de l'audit interne ne soit pas claire *a priori*. Le décalage vis-à-vis des normes et réglementations suggéré par certaines études laisserait alors entrevoir une part de contrôle informel dans le fonctionnement de ces mécanismes de gouvernance.

Plusieurs questions restent ainsi sans réponse. Que peut-on apprendre du fonctionnement des comités d'audit et de l'audit interne ? Le fonctionnement de ces deux mécanismes adhère-t-il unilatéralement aux réglementations et aux normes ou s'en écarte-t-il ? Quelle est la latitude offerte par la réglementation et par les normes aux comités d'audit et aux fonctions d'audit interne ? Comment le contrôle formel que le régulateur exige de ces deux mécanismes de gouvernance se traduit-il en pratique ?

Si la réponse aux questions précédentes pourrait paraître être simple, il semble que ces questionnements offrent une large gamme de pistes de recherche envisageables et constituent l'opportunité d'enrichir les résultats disponibles sur les mécanismes de gouvernance liés à la notion d'audit (Golden-Biddle et Locke 2007). À l'issue de l'ensemble de ces questionnements, une voie de recherche a été privilégiée. La thèse défendue dans ce travail doctoral peut être formulée comme suit :

**Les réglementations et les normes professionnelles sont nécessaires mais ne suffisent pas à décrire le fonctionnement des comités d'audit et de l'audit interne. Le contrôle formel découlant des réglementations n'explique pas à lui seul le déroulement des réunions du comité d'audit et les pratiques actuelles des professionnels de l'audit interne. Appréhender le fonctionnement des comités d'audit et de l'audit interne, c'est saisir la part du contrôle informel dans les pratiques de ces deux mécanismes de gouvernance.**

Ayant défini les concepts principaux de cette recherche, il s'agit maintenant de formuler les propositions permettant d'examiner la thèse défendue dans ce travail doctoral. Ces propositions seront respectivement discutées dans chacune des études constituant ce travail.

**Première proposition : étudier les modalités de contrôle au sein du comité d'audit, c'est s'intéresser à son processus de fonctionnement à travers une approche qualitative et aller au-delà de l'examen quantitatif des relations entre critères d'efficience du comité et les attributs de structure décrits dans la réglementation.**

Examiner comment s'exerce le contrôle au sein des comités d'audit nécessite de prendre en compte non seulement les caractéristiques (compétences et indépendance) de ses membres telles que décrites dans la réglementation et les guides de bonnes pratiques mais, aussi, de considérer le processus de déroulement des réunions ainsi que l'expression

des comportements des membres du comité et des participants aux réunions. Etudier le fonctionnement des comités d'audit invite à se placer dans une démarche méthodologique qualitative, au sein de laquelle le chercheur n'est pas distant de l'objet de recherche et de se rapprocher du terrain de recherche en allant à la rencontre des membres et participants aux réunions.

*Si cette proposition est viable* : une approche non distanciée de l'objet de recherche nous permettra d'obtenir des connaissances sur le fonctionnement du comité d'audit, complémentaires aux liens de causalité déjà démontrés par la littérature examinant les critères d'efficience issus des prescriptions réglementaires.

**Deuxième proposition : si l'indépendance et les compétences techniques des auditeurs font partie des exigences décrites dans les normes d'audit interne, les compétences en communication sont décrites dans une moindre mesure dans ces normes mais contribuent néanmoins à la qualité de l'audit interne.**

Les normes d'audit interne indiquent que les auditeurs doivent être indépendants à travers une structure de gouvernance adéquate dans l'organisation. Les auditeurs doivent également détenir les compétences techniques pour la pratique de l'audit interne à travers l'obtention de certifications professionnelles ou un diplôme promu par l'IIA. Néanmoins, les normes ne décrivent pas précisément quelles sont ces compétences. Etudier la qualité de l'audit interne nécessite de prendre en compte, outre les compétences techniques et leur indépendance, les compétences de communication des auditeurs. En effet, les normes pour la pratique de l'audit interne ne mentionnent la « communication » qu'à travers les modalités de communication des travaux d'audit aux différentes parties prenantes.

*Si cette proposition est viable* : les compétences en communication des auditeurs internes, qui ne sont pourtant pas définies dans les normes définissant les pratiques d'audit, auront une répercussion positive sur la qualité des travaux lors des missions. Ainsi, à elles seules, les normes d'audit interne ne seront pas en mesure de définir l'ensemble des facteurs nécessaires à la qualité de l'audit. Montrer que les compétences en communication peuvent influencer la qualité de l'audit interne permet d'améliorer les connaissances sur l'impact des pratiques informelles dans les activités d'audit interne.

**Troisième proposition : la mise en oeuvre d'activités innovantes et les sources de connaissances menant à l'innovation en audit interne permettent de questionner le contrôle formel des normes professionnelles et de repenser les pratiques d'audit traditionnelles.**

La notion d'innovation, alors qu'elle semble par essence contradictoire avec les fonctions liées au contrôle (Ditillo 2004), offre la possibilité aux départements d'audit interne d'améliorer leurs pratiques. De par leurs interactions avec des acteurs internes et externes à l'organisation, des sources de connaissances multiples sont offertes aux fonctions d'audit interne afin de faire évoluer leurs pratiques. Néanmoins, la notion d'innovation est absente des normes encadrant la pratique de l'audit. L'innovation constitue ainsi une bonne mesure de la capacité des départements d'audit interne à développer des pratiques informelles, en parallèle des recommandations des organismes de normalisation.

*Si cette proposition est viable* : le partage de connaissance réalisé de manière informelle

avec les parties prenantes de la fonction d'audit interne, non décrit dans les normes, permettra d'améliorer la capacité des auditeurs à innover et à faire évoluer les pratiques d'audit.

En définitive, l'objectif de cette recherche est triple. Premièrement, elle permet de questionner le rôle du contrôle formel dans le fonctionnement du comité d'audit et de l'audit interne. À ce titre, notre travail tente de déterminer si une latitude est offerte par la réglementation et les normes professionnelles. Deuxièmement, la recherche vise à établir si le contrôle informel a une influence sur les travaux des comités d'audit et de l'audit interne et, le cas échéant, la manière dont celui-ci se caractérise. Troisièmement, ce travail cherche à déterminer la potentielle coexistence entre les pratiques issues du contrôle formel et celles issues du contrôle informel. Cette recherche ambitionne de montrer dans quelle mesure les pratiques informelles mises en oeuvre au sein des comités d'audit et des départements d'audit interne, en parallèle des réglementations et des normes professionnelles, contribuent au fonctionnement effectif de ces deux mécanismes de gouvernance.

## 6 Présentation et articulation de la recherche

La thèse soutenue dans ce travail se structure autour de trois études indépendantes sur un plan théorique et méthodologique et constituent les chapitres de ce manuscrit. Chaque étude examine plus particulièrement la part laissée au contrôle formel et au contrôle informel sur une facette des comités d'audit et de l'audit interne. Néanmoins, la mise en perspective des résultats de ces études dans la conclusion générale de cette thèse permet d'explorer de manière conjointe l'effet du contrôle formel et du contrôle informel sur le fonctionnement de ces deux mécanismes. Enfin, l'annexe de ce manuscrit présente les publications et communications issues de ce travail doctoral.

### 6.1 Présentation de la première étude

Pour répondre à la question de recherche générale consistant à mieux comprendre le fonctionnement du comité d'audit, la première étude<sup>4</sup> cherche à exposer comment le contrôle du comité d'audit est exercé en pratique. Dans la littérature, comme le remarquent Bédard et Gendron (2010), la majorité des recherches consacrées aux comités d'audit sont de nature quantitative et s'attachent à examiner les liens entre les attributs de structure et de composition des comités et des critères d'efficacité dérivés de la réglementation. Cependant, rares sont les études s'étant intéressées au processus de fonctionnement du comité d'audit en tant que tel (Gendron 2018). À la lumière de la littérature disponible, il semble que l'impact de la réglementation doit être analysé avec prudence. Ainsi, l'influence de critères de structure prescrits par la réglementation sur l'efficacité des comités d'audit tend à présenter des résultats contradictoires (Larcker, Richardson, et Tuna 2007) et les résultats suggèrent que leur fonctionnement ne peut être expliqué de manière exhaustive par des liens de causalité. En ce sens, cette recherche se place dans la lignée des études incitant à se rapprocher du terrain, en allant par exemple à la rencontre des membres de comité d'audit (Bédard et Gendron 2010). Dans la mesure où cette étude ambitionne d'explorer la manière dont le comité d'audit exerce son contrôle lors des réunions, une approche qualitative est privilégiée en sollicitant le champ théorique du climat éthique organisationnel (Victor et Cullen 1988). Cette démarche s'appuie sur les recherches récentes considérant la théorie du climat éthique organisationnel comme jouant un rôle clé dans les organisations

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4. Co-écrite avec le Pr. Stéphanie Thiéry et le Pr. David Wasieleski.

dans lesquelles des cas de fraudes sont découverts (Murphy, Free, et Branston 2012 ; Soltani 2014). À ce titre, le climat éthique organisationnel apparaît comme une manifestation de la manière dont le contrôle est exercé au sein de l'organisation (Ouchi 1980 ; Wimbush, Shepard, et Markham 1997). Afin d'examiner le type de climat éthique organisationnel perçu lors des réunions de comité d'audit, quatre méthodes de collecte de données sont mises en œuvre : l'analyse des rapports d'activité des comités d'audit présentés dans les rapports annuels de grands groupes cotés, l'observation directe de deux réunions de comité d'audit, 27 entretiens semi-directifs avec des membres et participants aux réunions (commissaires aux comptes et directeurs de l'audit interne), et la revue des documents présents dans le dossier de préparation ainsi que les comptes rendus de réunion.

## 6.2 Présentation de la deuxième étude

La deuxième étude<sup>5</sup> donne un éclairage quant à l'influence de la réglementation sur les mécanismes de gouvernance à travers la fonction d'audit interne. En ce sens, l'étude envisage d'identifier et de mieux comprendre les déterminants de la qualité de l'audit interne. Jusqu'à présent, la littérature a appréhendé la qualité de l'audit selon des facteurs dérivés de l'audit externe. Cependant, les études spécifiques à l'audit interne semblent faire défaut (Lenz et al. 2014). La présente étude s'inscrit dans cette piste inexplorée de la littérature qui développe de nouveaux indicateurs de la qualité de l'audit interne (Trotman et Duncan 2018 ; Roussy et Perron 2018 ; Behrend et Eulerich 2019). Etant explicitement décrites par les normes d'audit, les compétences techniques (à travers des mesures liées à l'expérience, l'obtention de certifications professionnelles et à la formation continue des auditeurs) et l'indépendance (à travers des indicateurs de gouvernance de l'organisation) des auditeurs ont été majoritairement examinées par les études sur la qualité de l'audit interne. Néanmoins, l'impact de la communication des auditeurs reste encore peu explorée bien que la littérature en souligne de plus en plus les bénéfices attendus (Fanning et Piercey 2014 ; Plant et al. 2019). À cet égard, à partir de l'agrégation de variables identifiées dans la littérature, trois indices originaux sont construits : le capital humain, la gouvernance du département d'audit interne, ainsi que la communication des auditeurs internes. L'étude consiste à saisir la part explicative de ces trois facteurs sur la qualité de l'audit interne. Le travail empirique est réalisé à travers une approche quantitative et le modèle présenté dans l'étude s'inscrit dans une démarche économétrique. Le matériel empirique est issu des données obtenues à partir de la base Common Body of Knowledge (CBOK 2015) de l'IIA constituée par les réponses de plus de 14 500 professionnels de l'audit interne dans 166 pays. Cette base de données est en outre mise en œuvre dans de récentes études consacrées à la fonction d'audit interne (i. e. Islam, Farah, et Stafford 2018 ; Jiang, André, et Richard 2018 ; Calvin 2021). À partir d'estimations économétriques, la part explicative des indices du capital humain, de la gouvernance et de la communication des auditeurs sur la qualité de l'audit interne est examinée. La première partie de l'étude consiste à considérer l'influence de chaque indice sur la qualité de l'audit interne de manière indépendante. La deuxième partie s'attache à rechercher l'impact de la complémentarité (Milgrom et Roberts 1995) entre indices en mobilisant deux types d'estimations (Ichniowski, Shaw, et Prennushi 1997 ; Carree, Lokshin, et Belderbos 2011).

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5. Co-écrite avec le Pr. Stéphanie Thiéry et le Pr. Stéphane Lhuillery.

### 6.3 Présentation de la troisième étude

La troisième étude<sup>6</sup> examine également la fonction d'audit interne mais va au-delà de la notion de qualité attendue des normes d'audit, en s'intéressant à la notion d'innovation. En effet, la nature des professions liées à la « comptabilité » et au « contrôle » est en contradiction avec la nature dynamique de l'innovation (Davila, Foster et Oyon 2009). La littérature sur les déterminants organisationnels de l'innovation fournit ainsi des résultats empiriques soutenant l'hypothèse selon laquelle le contrôle est préjudiciable à l'innovation (Damanpour 1991). Ainsi, la profession d'auditeur apparaît comme conservatrice et attachée aux normes (Khalifa, Sharma, Humphrey, et Robson 2007; Fogarty et Rigsby 2010). Pourtant, de plus récentes études révèlent que les fonctions de « contrôle » ont un effet direct et améliorent les capacités d'innovation des organisations (Chenhall et Moers 2015; Taylor, King, et Smith 2019; Müller-Stevens, Widener, Möller, et Steinmann 2020). À cet égard, les fonctions de « contrôle » nécessitent elles-mêmes d'adopter des méthodes considérées comme innovantes (Thiéry-Dubuisson 2003) afin de faire face à de nouveaux défis organisationnels et stratégiques (Kuszla 2003). Face à ce constat, l'objectif de ce travail consiste à déterminer les sources de connaissance menant à l'innovation au sein des départements d'audit interne. Bien que la littérature en innovation reconnaisse que les capacités d'innovation d'une organisation dépendent de la production de connaissances internes et des capacités à identifier et à accéder à des sources de connaissances externes (Frenz et Ietto-Gillies 2009), la littérature liée au domaine de l'audit reste évasive quant à une définition de l'innovation puisque celle-ci est souvent appréhendée par l'utilisation de nouvelles technologies et techniques d'audit telles que les data analytics (Loughran et McDonald 2016; Perols, Bowen, Zimmermann et Samba 2016), l'utilisation de drones (Appelbaum et Nehmer 2017) ou l'élaboration de nouveaux types de reporting (Chaidali et Jones 2017; Maroun 2017; Slack et Tsalavoulas 2018). D'autre part, la littérature en audit ne traite pas des sources de connaissances menant à l'innovation. Ainsi, à travers un modèle économétrique (Griliches 1990), cette étude s'attache à examiner l'impact relatif des activités de recherche de l'audit interne, des sources de connaissance internes (auditeurs internes, direction et comité d'audit) et externes à l'organisation (associations professionnelles, cabinets d'audit externe, prestataires de services IT) sur l'innovation en audit interne. En utilisant également la base de données CBOK (2015), ce travail tente d'identifier dans quelle mesure les équipes d'audit interne innovent grâce à leurs capacités de recherche interne et aux différentes sources de connaissances internes et externes dont elles peuvent tirer profit.

Notre schéma ci-dessous précise les travaux et les hypothèses développés par chacune des études constituant ce travail doctoral. La première partie, en haut du schéma, est consacrée au comité d'audit et présente les types de climats éthiques organisationnels issus de la théorie de Victor et Cullen (1988). La première étude de ce travail entend ainsi examiner le type de climat éthique organisationnel perçu lors des réunions des comités d'audit afin de pouvoir saisir la part de contrôle formel et informel dans leur fonctionnement.

La partie inférieure de notre schéma se concentre sur la fonction d'audit interne et synthétise les hypothèses mises à l'épreuve dans les deuxième et troisième études. Les deux premières hypothèses de la deuxième étude consistent à montrer l'influence du capital humain, caractérisé par les compétences techniques des auditeurs, ainsi que l'impact

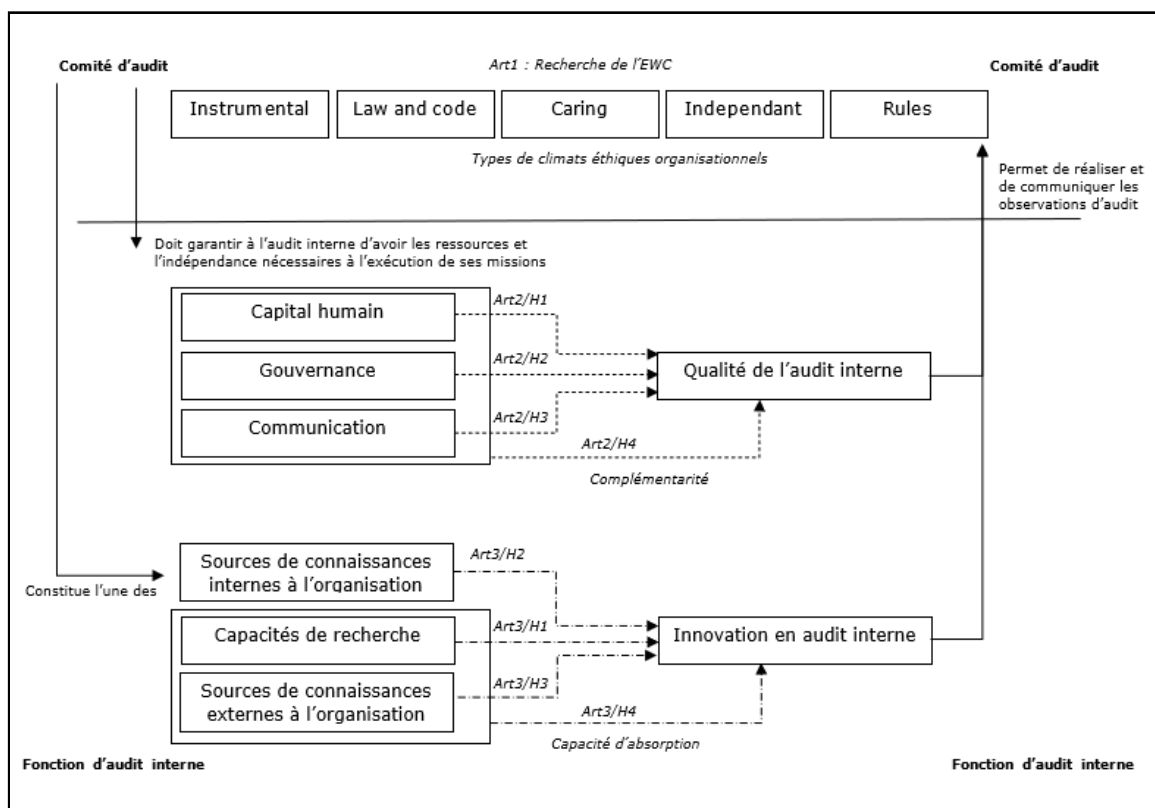
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6. Co-écrite avec le Pr. Stéphane Lhuillery et le Pr. Stéphanie Thiéry.

de la structure de gouvernance de l'organisation sur la qualité de l'audit interne. La variable explicative de la troisième hypothèse fait référence aux compétences informelles des auditeurs en termes de communication et l'influence de ces compétences sur la qualité de l'audit interne est également examinée. Enfin, la quatrième hypothèse de cette étude cherche à déterminer si les trois déterminants identifiés précédemment s'avèrent complémentaires dans l'amélioration de la qualité de l'audit interne.

Enfin, la troisième étude de ce travail vise à identifier et à montrer l'influence des sources de connaissances internes et externes à l'organisation ayant un effet positif sur l'innovation en audit interne. La première hypothèse cherche à montrer l'influence des capacités de recherche de la fonction d'audit interne et la deuxième hypothèse, celle des sources de connaissances internes (dont l'une est constituée par le comité d'audit) à l'organisation. La troisième hypothèse est consacrée à l'examen de l'impact des sources externes de connaissances sur l'innovation dans les départements d'audit interne. La dernière hypothèse de cette troisième étude vise à déterminer si l'innovation en audit interne est supérieure lorsque les sources de connaissances externes sont associées à des capacités de recherche plus importantes dans les départements d'audit interne, *via* la capacité d'absorption des connaissances par les départements.

FIGURE 2 – Schéma général de la recherche doctorale



## 7 Périmètre du travail doctoral

Après avoir présenté les trois études permettant d'examiner la thèse défendue par cette recherche, il convient maintenant de délimiter le périmètre de ce travail doctoral.

### 7.1 Voies de recherches peu explorées dans la recherche sur les comités d'audit et l'audit interne

Ce travail doctoral s'inscrit dans les voies de recherche peu explorées de la littérature sur les comités d'audit et sur l'audit interne. La section de cette introduction dédiée à l'état de la recherche sur ces deux mécanismes de gouvernance montre que les critères d'efficacité et de qualité issus des lois, des réglementations et des normes sont les aspects les plus examinés dans la littérature.

Si l'effet de la structure et des attributions des mécanismes de gouvernance a en effet donné lieu à de nombreuses études (Carcello et al. 2011), au vu de la diversité des études empiriques, il apparaît difficile de porter un diagnostic sur le fonctionnement de ces mécanismes de gouvernance. Bien que les indicateurs de l'efficacité de tels mécanismes soient bien connus, les conséquences de la mise en place de lois, de règles et de normes sur leurs travaux conduisent à des résultats peu concluants. Les efforts réalisés par le régulateur pour standardiser les mécanismes de gouvernance peuvent ainsi provoquer des effets parfois contradictoires à ceux initialement anticipés (Carcello, Hollingsworth, Klein, et Neal 2006 ; Wintoki 2007).

Les études constituant ce travail doctoral cherchent ainsi à mieux comprendre le fonctionnement du comité d'audit et de l'audit interne, en tentant de saisir la part de contrôle formel et de contrôle informel dans leurs travaux. Les perspectives adoptées dans les trois études de cette recherche sont donc les suivantes :

- Dans la première étude, les travaux visent à mieux comprendre le processus de fonctionnement du comité d'audit alors que la littérature se concentre sur des attributs de contrôle formel, issus des lois et des réglementations permettant de mesurer son efficacité ainsi que sur les relations causales entre les caractéristiques du comité et son efficacité ;
- Dans la deuxième étude, les travaux entendent déterminer et préciser l'influence du contrôle informel, à travers les compétences en communication des auditeurs, menant à un audit interne de qualité. Jusqu'à présent, la littérature a plus particulièrement examiné l'influence des compétences techniques et de l'indépendance des auditeurs décrites de manière formelle dans les normes professionnelles ;
- Dans la troisième étude, l'objectif est d'identifier les sources de connaissances permettant aux départements d'audit interne d'innover, alors que les normes de cette profession ne donnent aucune indication sur les échanges de connaissances formels ou informels permettant d'innover.

### 7.2 Positionnement épistémologique

Cette section présente le positionnement épistémologique de notre travail et précise les paradigmes dans lesquels chacune des études s'inscrit.



La présentation du cadre épistémologique de cette recherche est animée par la volonté de justifier la cohérence du travail scientifique réalisé dans ce travail doctoral. Il s'agit ainsi de préciser la manière dont la production de connaissance est envisagée dans chaque étude et dont elle s'articule dans le cadre de cette recherche. En effet, il a paru important de définir le niveau épistémologique de chaque étude afin de les apprécier les unes par rapport aux autres et de les comparer au regard des travaux réalisés dans la littérature (Koenig 1993). Ainsi, les emprunts épistémologiques participent à la structuration des connaissances en gestion, leur statut et leurs finalités (Bollecker et Azan 2009). Dans ce contexte, les sous-sections suivantes justifient la manière dont la production des connaissances est élaborée.

Les contributions à la production de connaissances dans le champ comptable se sont principalement développées autour de deux principaux paradigmes : le positivisme et l'interprétativisme (Gendron 2013). Notre travail, constitué par trois études indépendantes, s'articule autour de ces deux positionnements épistémologiques. En effet, une problématique particulière peut être traitée *via* plusieurs paradigmes, en envisageant des artefacts méthodologiques et des fondements philosophiques issus de la convergence ou de la divergence des résultats produits (Modell 2010). La démarche retenue dans ce travail sur le fonctionnement des comités d'audit et de l'audit interne est ainsi guidée par la manière de considérer la connaissance sur le sujet d'étude et par le processus ayant engendré la constitution de cette connaissance dans chacune des trois études. À ce titre, notre travail ambitionne d'enrichir la production de connaissance sur les comités d'audit et sur l'audit interne en les examinant selon plusieurs traditions de recherche (Davila et Oyon 2008), dans la perspective de prendre en considération un auditoire plus large pour les résultats et futures recherches découlant de ce travail doctoral (Gendron 2013).

### 7.2.1 Positionnement épistémologique de la première étude

L'objectif de la première étude étant de mieux comprendre le processus de fonctionnement du comité d'audit, l'approche interprétativiste a été privilégiée. Bien que la recherche organisationnelle soit largement ancrée dans le paradigme positiviste avec la volonté de s'inspirer des sciences de la nature, l'approche interprétativiste semble être une réponse aux limites des études positivistes conventionnelles (Prasad et Prasad 2002). La discussion ci-dessous précise en quoi ce cadre épistémologique se révèle pertinent pour appréhender le fonctionnement du comité d'audit.

Positionner un travail de recherche au sein du paradigme interprétativiste relève de la volonté de « *comprendre un phénomène de l'intérieur pour tenter d'appréhender les significations que les gens attachent à la réalité, leurs motivations et intentions* ». (Allard-Poési et Maréchal 2007, 40). Ainsi, le paradigme interprétativiste considère les phénomènes comme l'objet de représentations et non de réalités (Heem 2000), en cherchant à déterminer le « comment » plutôt que le « pourquoi » (Dent 1991). En ce sens, les hypothèses épistémologiques sous-jacentes n'envisagent pas de réalité objective au-delà de l'esprit humain (Sandberg 2005) mais considèrent que « *la réalité sociale est émergente, subjectivement créée, et objectivée à travers l'interaction humaine* » (Chua 1986, 615). Le but de la première étude n'est pas de découvrir les lois qui s'imposent aux membres et aux participants du comité d'audit mais d'examiner comment ces derniers construisent le sens qu'ils donnent au contrôle à travers leur perception du climat éthique organisationnel. La connaissance développée dans cette étude relève ainsi de l'expérience humaine des acteurs siégeant et participant aux réunions du comité d'audit. Ainsi, nous inscrire dans un

paradigme interprétativiste répond à la demande des praticiens du contrôle et de l'audit qui envisagent leurs travaux à la lumière des sciences sociales (Dupuy, Lacroix, et Naro 2006)

En outre, la connaissance sur le contrôle du comité d'audit est produite à travers l'expérience vécue lors de notre observation des réunions et par celle des administrateurs, membres de comité d'audit. Ainsi, la réalité sociale est créée de manière subjective puisque toutes les actions ont un sens et une intention qui leur est donnée rétrospectivement (Chua 1986). La connaissance dépend du projet, de l'histoire et du contexte dans lequel l'étude a été menée. Ainsi, la connaissance produite dans cette étude dépend de nos représentations préalables du fonctionnement des comités d'audit acquises par la revue de la littérature réalisée au cours de cette thèse ainsi que par l'examen particulier de rapports annuels présentant les travaux de ces comités. Le contexte dans lequel les travaux sont réalisés, à savoir les comités d'audit de grands groupes, influence en ce sens la connaissance produite. En conséquence, cette étude donne une facette de l'objet de recherche et une interprétation du contrôle exercé par le comité d'audit, inséparable du contexte de cette recherche.

D'autre part, l'intention donnée au projet de recherche et la manière dont celui-ci est construit, à savoir la compréhension de l'exercice du contrôle lors des réunions du comité d'audit, permet de donner une représentation du processus de fonctionnement de ce dernier. Le choix des comités constituant le terrain de recherche ainsi que la perspective théorique adoptée (celle de la théorie du climat éthique organisationnel) influencent la manière dont l'expérience est vécue et donc la manière dont la connaissance de cette étude est produite. Cependant, bien que les résultats dépendent du contexte spécifique des entreprises examinées et des membres de leur comité d'audit, nos résultats restent reliés aux problématiques théoriques et empiriques plus larges sur les comités d'audit ayant encouragé ce positionnement épistémologique.

Enfin, les activités des membres de comité d'audit présentent certaines régularités. Ainsi, l'exercice du contrôle lors des réunions se déroule selon des schémas stables, notamment en raison des réglementations décrivant les rôles et responsabilités des comités et car les administrateurs et auditeurs externes sont amenés à participer à des réunions de comités d'audit d'entreprises différentes. Les variations entre les pratiques semblent donc être faibles d'un comité d'audit à l'autre. D'autre part, les actions des membres et participants au comité d'audit s'inscrivent dans un schéma cyclique régulier car la réglementation impose la revue de certains sujets à une fréquence déterminée, comme par exemple la revue des comptes. Cette étude entend donc analyser la « réalité objective » du contrôle du comité d'audit, à travers la signification donnée de manière consensuelle par l'expérience vécue par les différents acteurs au cours des réunions, ainsi que par nos observations des séances. L'appréhension du fonctionnement du comité d'audit dépend ainsi de notre interprétation des situations et de celle des participants aux réunions. À ce titre, la production de connaissance est envisagée par l'identification de schémas à travers lesquels les participants aux réunions donnent du sens aux situations vécues.

### **7.2.2 Positionnement épistémologique des deuxième et troisième études**

Si de plus en plus d'études récentes incitent les chercheurs en gestion à inscrire leurs travaux dans un positionnement interprétativiste, force est de constater que l'approche positiviste reste majoritaire dans les revues principales du champ de recherche de l'audit

(Malsch et Salterio 2016). Afin de tenir compte de cette réalité, le positionnement épistémologique retenu pour les deuxième et troisième études de ce travail est celle du positivisme. Il s'agit ainsi d'établir des lois à partir de l'examen de relations de causalité qu'il est nécessaire d'expliquer et de vérifier (Pesqueux 2010).

Un positionnement positiviste suppose que « *la réalité empirique est objective et externe au sujet* » (Chua 1986, 611). L'objet de recherche se doit d'être objectif, unique et connaissable. À ce titre, les deuxième et troisième études de ce travail doctoral conduisent à examiner et à cerner de manière neutre les déterminants de la qualité et de l'innovation en audit interne. À cet égard, les travaux consistent à identifier les causes des observations représentées par la qualité de l'audit interne dans la deuxième étude et à la mise en place de pratiques innovantes dans la troisième étude. Les travaux considèrent ainsi ces deux objets de recherche comme indépendants de l'intérêt et de l'attention qui leur sont portés (Gavard-Perret, Gotteland, Haon, et Jolibert 2012).

S'inscrire dans ce courant suppose également de découvrir les « *meilleures explications causales* » d'un phénomène, qui se veulent être remplacées à travers les recherches postérieures par une meilleure explication (Malsch et Salterio 2016, 3). En s'inscrivant dans la lignée de cette affirmation, la deuxième étude cherche à déterminer les facteurs les plus pertinents pour améliorer la qualité de l'audit interne. De même, dans la troisième étude, les travaux examinent les sources de connaissances menant à la mise en place de pratiques innovantes. Dans ce contexte, les notions de qualité de l'audit et de mise en place de pratiques innovantes sont mesurables scientifiquement. Les deux études s'inscrivent dans un paradigme positiviste puisqu'elles envisagent de rechercher des lois menant à ces phénomènes. Ces deux études considèrent ainsi un nombre limité de variables opérationnalisant les causes (facteurs explicatifs) des phénomènes (qualité de l'audit interne et la mise en place de pratiques innovantes) et affectant ces deux phénomènes particuliers sur un nombre important d'observations.

Enfin, dans les deux études, les travaux conduisent à un positionnement extérieur aux phénomènes examinés et, à ce titre, les objets de recherche ont été considérés de manière indépendante et extérieure. Ainsi, des précautions ont été prises afin de ne pas influencer l'objet de recherche, notamment par la manière dont les données ont été collectées *via* l'accès à la base de données CBOOK. D'autre part, la mise en place de variables de contrôle dans l'analyse des données empiriques apparaît comme un moyen d'encadrer les expérimentations et d'assurer la neutralité et l'objectivité des études.

### 7.3 Positionnement méthodologique

Après avoir présenté le positionnement épistémologique de notre travail, cette section précise et justifie la manière dont la dimension empirique de la recherche a été envisagée. En raison des différents positionnements épistémologiques retenus dans les trois études et présentés dans la sous-section précédente, la démarche de collecte et d'analyse des données est précisée dans les sous-sections suivantes, afin de justifier de sa cohérence avec l'objet de recherche et le positionnement méthodologique retenu.

Dans notre travail sur les comités d'audit et l'audit interne, la mobilisation d'une méthodologie qualitative pour la première étude et quantitative pour les deuxième et troisième études a été proposée afin de donner un éclairage plus complet sur la part de contrôle formel et informel dans le fonctionnement de ces deux mécanismes. Ce travail ambitionne de tirer

profit des caractéristiques complémentaires de ces deux méthodologies d'analyse (Covaleski et Dirsmith 1990). En effet, le développement et l'impact de la recherche en audit sont conditionnés par la mobilisation de méthodes et de méthodologie de recherche plurielles (Malsch et Salterio 2016). L'utilisation d'une méthode de recherche mixte constitue parfois un moyen d'utiliser l'une des méthodes dans le but d'élaborer, de construire et d'interroger la seconde (Grafton, Lillis, et Mahama 2011). Les deux méthodologies visent ainsi à apporter une appréhension différente de l'objet de recherche et contribuent à l'explicitation des résultats obtenus par l'autre méthodologie (Richardson 2015). Enfin, ce double positionnement provient de notre appétence à la fois pour la méthodologie d'analyse qualitative et quantitative ainsi que de la volonté d'expérimenter ces deux méthodologies pendant ce parcours doctoral.

### 7.3.1 Positionnement méthodologique de la première étude

La méthodologie d'analyse qualitative a été retenue pour la première étude, tout en tenant compte du fait que le paradigme interprétativiste n'impose pas nécessairement cette méthode de recherche (Prasad et Prasad 2002). Par exemple, Malina et Selto (2001) se positionnent dans un paradigme positiviste en réalisant une étude sur les tableaux de bord prospectifs d'entreprises industrielles exclusivement à partir d'entretiens. Néanmoins, l'approche qualitative est perçue comme un moyen alternatif de développer une théorie (George et Bennett 2005) et plusieurs facteurs nous ont amenée à nous inscrire dans une méthodologie d'analyse qualitative.

Le premier facteur retenu réside dans le mode opératoire mobilisé afin d'élaborer et de justifier la connaissance créée. À ce titre, la méthodologie qualitative permet l'étude d'un terrain de recherche conçu par l'intérêt du chercheur. Cette approche implique une réflexion sur les données à collecter en les positionnant puis en les confrontant à la théorie tout au long des travaux de recherche (Ahrens et Chapman 2006). La première étude propose ainsi d'étudier le fonctionnement du comité d'audit dans son ensemble à l'aide du support de la théorie du climat éthique organisationnel. Cette étude ambitionne d'appréhender la part de contrôle formel et informel dans le fonctionnement du comité d'audit en collectant et analysant les données de diverses sources (rapports d'activités des comités, observations, entretiens et supports de présentation utilisés en réunion) afin d'en rendre compte à la lumière de la théorie du climat éthique organisationnel. Ainsi, la mise en place d'une approche qualitative semble la plus à même de donner une vision d'ensemble du phénomène considéré.

Le deuxième facteur justifiant de l'utilisation d'une méthodologie qualitative provient du recueil d'information et de la nature des données à collecter. Le choix de l'approche qualitative a donc été motivé par la recherche de nouvelles informations difficilement identifiables par la soumission d'un questionnaire. À ce titre, la collecte de données peut être guidée par les observations et perceptions du chercheur (Heem 2000; Ahrens et Chapman 2006). Notre accès aux représentations du fonctionnement du comité d'audit a mobilisé différentes sources complémentaires, afin d'enrichir, de remettre en question et de vérifier les données obtenues (Yin 2014). En outre, la difficulté d'accès aux données a également justifié la mobilisation d'une approche qualitative, comme cela a auparavant été réalisé pour les réunions du conseil d'administration et de ses sous-comités (Leblanc et Schwartz 2007; Gendron 2018). Dans cette étude, le rôle des acteurs du comité d'audit a été prépondérant quant à l'accès aux données : un entretien constructif avec un membre de comité d'audit, un auditeur interne ou externe nous a souvent ouvert la voie vers

l'obtention de données supplémentaires en facilitant les entretiens puis l'accès à des réunions et à des documents.

Enfin, la place accordée à l'individu dans le processus de recherche constitue l'un des arguments de l'utilisation d'une méthodologie qualitative. En effet, les membres et participants aux réunions de comités d'audit sont parties prenantes actives de la nature du contrôle exercé lors des réunions. Il paraît ainsi légitime de considérer ces individus en tant que participants au processus de production de connaissance, ce que permet la méthodologie qualitative. Cette étude propose ainsi d'explorer l'un des aspects du fonctionnement du comité d'audit, ne témoignant pas d'une réalité objective mais créée à travers les interactions des acteurs participant aux réunions.

### **7.3.2 Positionnement méthodologique des deuxième et troisième études**

À la différence de la première étude, les deuxième et troisième études mettent en œuvre une méthodologie d'analyse quantitative. En effet, la plupart des études traitant de la gouvernance d'entreprise se révèlent de nature quantitative et fonctionnaliste (Brown, Beekes, et Verhoeven 2011; Gendron 2018). Au-delà de la prépondérance des études quantitatives dans la littérature, plusieurs raisons encouragent à s'inscrire dans cette orientation méthodologique pour notre travail.

En premier lieu, la méthodologie quantitative propose d'examiner un aspect en particulier d'un phénomène, en mettant à l'épreuve des hypothèses issues d'un vaste corps théorique (Ahrens et Chapman 2006). Dans le cadre de ces études, celle sur la qualité de l'audit interne se focalise d'une part sur l'examen de facteurs spécifiques issus de la littérature en audit et menant à la qualité de l'audit interne tels que la structure de gouvernance, le capital humain et la communication des auditeurs. La troisième étude est quant à elle consacrée à la détermination des sources de connaissances menant à des pratiques innovantes par les fonctions d'audit interne. À ce titre, il existe un vaste champ théorique décrivant l'influence des sources de connaissances sur l'innovation dans la littérature spécifique à cette discipline (Frenz et Ietto-Gillies 2009).

D'autre part, à la différence de la première étude de ce travail pour laquelle des données ont pu émerger lors de la démarche de collecte, les données utilisées pour les deuxième et troisième études sont issues de la base de données CBOK et le choix méthodologique envisagé a donc été une conséquence de l'accès à ces données. Il a également été nécessaire d'identifier par la suite les variables d'intérêt en amont de leur traitement. La démarche a ainsi consisté à déterminer les variables « clés » opérationnalisant le phénomène et à les mettre à l'épreuve à travers un nombre important d'observations. En outre, dans l'objectif d'examiner les notions bien spécifiques de la qualité et de l'innovation en audit interne, les travaux ont supposé la définition d'un processus permettant de contrôler les variables pouvant potentiellement influencer les résultats. La mise en œuvre d'une méthodologie quantitative a donc permis de répondre aux conditions d'expérimentation nécessaires à la réalisation des objectifs des études sur la qualité de l'audit interne et sur ses pratiques innovantes.

## **7.4 Bornes géographiques**

À la différence de travaux académiques examinant l'audit interne à des échelles locales ou régionales (Abdolmohammadi 2009; Abdolmohammadi et Sarens 2011; Abdolmoham-

madi 2012), la présente recherche considère l'influence des normes professionnelles sur l'audit interne à une échelle internationale. Ce choix a été guidé par les données de la base CBOOK de l'Institute of Internal Auditors Research Foundation (IIARF), utilisée pour les deuxième et troisième études, qui comprennent les réponses d'auditeurs internes à travers le monde. Le tableau suivant présente ainsi l'origine géographique des répondants de la base de données CBOOK.

TABLEAU 4 – Répartition géographique des répondants de la base de données CBOOK (utilisée pour les 2ème et 3ème études)

Zone géographique	Nombre de répondants
Asie de l'Est et Pacifique	3561
Europe et Asie Centrale	3293
Amérique Latine et Caraïbes	1954
Moyen-Orient et Afrique du Nord	1153
Amérique du Nord	2686
Asie du Sud	642
Afrique Sub-Saharienne	925
Total	14214

Il a donc paru intéressant de ne pas examiner une zone géographique en particulier, en conservant les réponses des auditeurs internes indépendamment de leur origine géographique pour enrichir les résultats de ces études. Néanmoins, la variable liée à l'origine géographique des répondants est contrôlée dans les deux études, notamment pour prendre en compte le fait que les départements d'audit interne sont plus matures dans les zones européennes et nord-américaines, tandis que l'existence de départements d'audit interne dans des entreprises de pays dans certaines régions du monde n'est pas toujours établie (Alzeban et Gwilliam 2014).

Dans le cas de la première étude sur les comités d'audit, la disponibilité des données et l'accès au terrain de recherche ont orienté le périmètre géographique du travail. L'accès aux réunions de comité d'audit ainsi que les échanges avec les administrateurs et participants aux réunions ayant été en partie permis par des contacts avec professionnels des comités d'audit et de l'audit interne, le périmètre géographique de la première étude porte plus particulièrement sur la zone européenne. Cette proximité géographique avec les acteurs et avec le terrain a permis d'assister aux réunions sur site et d'appréhender le climat éthique organisationnel plus précisément, par exemple à travers les gestes des administrateurs plus difficiles à saisir lors de réunions à distance.

## 7.5 Bornes temporelles

La présente recherche vise à montrer la part explicative du contrôle formel issu de la réglementation et des normes professionnelles sur le fonctionnement des comités d'audit et de l'audit interne dans la période où ce travail doctoral a été mené. Si l'évolution de la réglementation sur les comités d'audit est évoquée dans la première étude, ce travail doctoral n'a pas pour objet d'établir une analyse comparative de l'impact de la réglementation au cours de différentes années sur une période donnée. Dans le cas de la première étude, une

telle analyse aurait nécessité des travaux de plus grande ampleur et sur plusieurs années afin de pouvoir saisir l'évolution des perceptions du climat éthique organisationnel au cours du temps. D'autre part, l'enquête réalisée auprès de professionnels de l'audit interne en 2015 par l'IIARF aboutissant à la base de données CBOK utilisée dans les deuxième et troisième études de ce travail avait également été effectuée en 2006 et en 2010. Néanmoins, les questions correspondant aux variables d'intérêt pour les deux études n'étaient pas présentes ou n'étaient pas posées de manière similaire dans les questionnaires envoyés aux professionnels de l'audit interne en 2006 et 2010. Dans l'objectif de pouvoir examiner les variables liées à la communication des auditeurs ou à la capacité d'innovation des départements d'audit interne (absentes des enquêtes de 2006 et de 2010), il n'a pas été possible d'obtenir des données de panel et seule la base de données issue de l'enquête CBOK de 2015 a été utilisée.

## 7.6 Perspective adoptée

Bien que cette recherche évoque de manière récurrente différentes parties prenantes liées aux activités du comité d'audit et de l'audit interne (auditeurs externes, dirigeants, ...), ce travail exclut du périmètre de recherche la perspective et le point de vue des « clients » de ces deux mécanismes de gouvernance vis-à-vis de l'influence des réglementations et normes. En ce qui concerne le comité d'audit, ce groupe de « clients » est constitué par le conseil d'administration. Ce dernier reçoit des recommandations de la part du comité d'audit qui sont ensuite discutées en réunion de conseil et ratifiées le cas échéant. Pour l'audit interne, deux groupes de clients existent : le comité d'audit et la direction (Van Peursem 2005 ; Abbott et al. 2010).

Dans les trois études constituant cette recherche, il n'a pas été possible de saisir ni d'analyser le point de vue de ces acteurs. En effet, le comité d'audit étant un sous-comité du conseil d'administration et l'ensemble des membres de ce dernier n'assistant pas aux réunions de comité d'audit, la perception du climat éthique organisationnel par l'ensemble des membres du conseil n'était structurellement pas envisageable. De manière analogue à la délimitation temporelle de ce travail, le point de vue du comité d'audit et des dirigeants de l'organisation sur la qualité de l'audit interne et sur l'innovation par les départements d'audit interne n'a pas pu être appréhendé compte tenu des questions disponibles dans les enquêtes CBOK. En effet, ce questionnaire est uniquement destiné aux professionnels de l'audit interne et, malgré des questions sur la nature des outils permettant d'évaluer la performance de l'audit interne (i.e questionnaire de satisfaction des audités, réponse aux attentes des parties prenantes, ...), la perspective de la direction ou des membres de comité d'audit ne fait pas partie des variables disponibles.

Enfin, chacune des études de cette recherche vise à montrer l'influence du contrôle formel et du contrôle informel sur deux mécanismes de gouvernance, la première sur le comité d'audit et les deuxième et troisième sur l'audit interne. Ainsi, bien que les travaux de ces mécanismes soient étroitement liés, l'attention n'a pas été portée directement sur l'impact réglementaire vis-à-vis de la relation entre le comité d'audit et l'audit interne. Néanmoins, cette recherche examine les interactions entre le comité d'audit et la fonction d'audit interne de manière indirecte : la perception du climat éthique organisationnel constituant le cadre théorique de la première étude sur les comités d'audit prend en considération l'influence des participants aux réunions, dont les auditeurs internes. De manière réciproque, la deuxième étude examine les compétences en communication des auditeurs internes, permettant en définitive de présenter les travaux d'audit interne aux membres du comité à

l'issue des missions. La troisième étude considère également le comité d'audit en tant que source d'information interne permettant aux départements d'audit interne d'innover.

## 8 Motivations vis-à-vis du projet de recherche

Cette thèse est le fruit de la convergence de plusieurs préoccupations qui m'ont animées tout au long de mon parcours doctoral. Le début de ce travail de recherche a coïncidé avec mon entrée dans le monde professionnel après mon diplôme de Master. Tout en étant auditrice interne dans un cabinet d'audit proposant des services d'audit interne externalisé, j'ai réalisé ce travail en parallèle de mon activité professionnelle, durant mon temps libre. La motivation principale de ce projet personnel relève de la recherche d'une compréhension du sens et des phénomènes sous-jacents à la pratique de l'audit interne. Dans la mesure où les travaux confiés à un auditeur junior (recruté en fin de formation initiale) sont principalement axés sur la réalisation de tâches systématiques encadrées par les normes professionnelles (i.e. tests de détail, mise à jour de documents de travail, ...) mais n'apportant que peu d'explications sur l'efficacité et la reconnaissance de la fonction d'audit interne dans l'organisation, j'ai souhaité m'interroger sur l'influence de la réglementation sur le travail d'auditeur interne ainsi que sur la manière dont ce travail est appréhendé par le comité d'audit. Ma première préoccupation était de chercher à comprendre dans quelle mesure les travaux que l'on attendait de moi contribuaient en définitive à une bonne gouvernance d'entreprise tant du point de vue de la fonction d'audit interne que de celui du comité d'audit. Ce travail doctoral a également été l'opportunité d'avoir une démarche intellectuelle en parallèle des activités récurrentes à réaliser en tant qu'auditrice, afin de penser les pratiques d'audit au-delà du cadre que l'on attend d'un auditeur, mais que permettent les activités de recherche.

Ma seconde motivation réside dans le fait de vouloir renforcer les liens entre le milieu académique et la pratique de l'audit, dans la mesure où la production de connaissance nécessite d'être débattue entre praticiens, décideurs politiques et chercheurs (Parker, Guthrie, et Linacre 2011). En conséquence, cette recherche propose de contribuer à réduire l'écart entre recherche et pratique puisque « *la question de la pertinence et de l'impact de la recherche en audit à la pratique de l'audit reste un sujet hautement débattu* » (Leung White, et Cooper 2011, 82). Le parcours suivi au cours de cette recherche a tenté de montrer que les travaux du monde académique et du monde professionnel sont à même de contribuer les uns aux autres (Tucker et Lowe 2014). Ainsi, mon activité en tant qu'auditrice interne m'a permis d'obtenir des contacts afin d'avoir accès à un terrain de recherche difficilement accessible, notamment en ce qui concerne l'étude relative aux comités d'audit. De manière réciproque, mes travaux de recherche m'ont amenée à conduire une autoréflexion et à formuler des propositions alternatives concernant les pratiques mises en place dans le cadre de mon activité professionnelle.

Au moment où j'achève mon parcours doctoral, j'espère avoir contribué à apporter des réponses aux voies de recherche peu explorées du domaine de l'audit mais, aussi, à donner des pistes d'amélioration pour les professionnels des comités d'audit et de l'audit interne.



## 9 Plan de la recherche

Ce travail suit un schéma en trois chapitres, respectivement rattachés à une étude indépendante. Chaque étude présente sa propre revue de littérature, son cadre théorique, sa méthode de recherche, ainsi qu'une présentation et discussion des résultats et enfin une conclusion propre. La conclusion générale de cette thèse s'attache quant à elle à résumer et à mettre en perspective les principaux résultats, au regard de la question de recherche globale qui consiste à comprendre quelle est la part de contrôle formel et informel dans le fonctionnement des comités d'audit et de l'audit interne. Les contributions, limites et perspectives de la recherche y sont également développées.

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# Etude 1 : Behind the Scenes of Audit Committees' Formal Control : Shaping Their Work Through Informal Control and a Caring Ethical Climate

## Abstract

The purpose of this study is to advance the understanding of audit committees' operations. Going beyond the studies that have focused on their effectiveness, we extend the literature by shedding light on the process surrounding their meetings. Through original theoretical and methodological angles, we draw on ethical work climate theory to examine how audit committee control is exerted in practice. Specifically, we mobilize four data collection methods, including first-hand observations of two audit committee meetings, in-depth interviews with audit committee members and participants, publicly available reports and internal documents. Our exploratory study underlines that the formal control expected from this governance mechanism is not legitimized and is called into question. We suggest that the work of audit committees is surprisingly shaped by informal controls through emphasis on trust and dialogue. By challenging the traditional conception of formal control within governance mechanisms, our results encourage internal policymakers to consider informal control when implementing measures to improve corporate governance.

**Keywords:** audit committee; ethical work climate; formal control; informal control.

## 1 Introduction

*“What do directors actually do?”* (Leblanc and Gillies 2005, 102). One of the governance mechanisms subject to scrutiny by the public and legislators when corporate scandals occur is the audit committee, and its responsibilities remain a major concern; despite it being considered a key element of good governance, implementing an audit committee does not ensure good practices, as demonstrated by well-known corporate governance failures that have shed light on unethical behaviors (Castille, Buckner, and Thoroughgood 2018). While the literature related to various aspects of audit committee effectiveness has grown notably in recent years, there are still unanswered questions regarding its functioning process (Gendron, Bédard, and Gosselin 2004). First, studies investigating audit committee effectiveness examine in a vast majority of cases the relationship between audit committee features and outcomes such as financial reporting quality (Bédard and Gendron 2010). However, if the literature focuses on board and audit committee structure and transparent outcomes, process issues remain neglected by researchers (Cullen and Brennan 2017). Second, despite the growing number of studies seeking to bring to the fore the effects of regulatory prescriptions to improve corporate

governance, the way that regulation is perceived remains obscure. While organizations have constantly deployed strategies to thwart any attempt to impose a mandatory evaluation regarding the financial reporting process (Shapiro and Matson 2008), the incentives of the regulation have provoked surprising consequences: the willingness of audit committee members to strictly follow the rules to avoid sanctions. Thus, the scant studies that shed light on how regulation is perceived by audit committee members and how participants' work impacts its functioning provide unexpected results.

Our exploratory study is thus motivated by developing knowledge on the understanding of audit committee functioning, in line with the literature attempting to unveil the audit committee process (Beasley, Carcello, Hermanson, and Neal 2009; Brennan and Kirwan 2015). More particularly, we seek to provide insights into how the audit committee's control is exerted in actual practice during and outside meetings. We conduct our study based on ethical work climates, as proposed in the seminal works of Victor and Cullen (1988). Ethical work climates (hereafter EWC) constitute the shared perception of what is desirable behavior, which influence decision-making in organizations (Martin and Cullen 2006). Unethical actions like corporate fraud and insider trading are influenced by an organization or group's ethical climate (Arnaud 2010). Our interest in EWC is instilled in the values derived from different forms of climates because EWC is a key feature that enables a company to achieve its objectives and implements a strategic direction (Cornell 1955). Our study is driven by our interest in unveiling the perceptions of regulatory and ethical incentives, and we seek to better understand which type of climate is perceived at the audit committee level. Indeed, with the types of climate being indicators of different forms of control, our goal is to deepen our knowledge of the committee's functioning in the midst of growing regulation.

To perform our investigation, we captured empirical materials from multiple sources, with the aim of collecting relevant information to triangulate our data and sharpen our conclusions. We first reviewed publicly available documents, such as annual reports, to gain an understanding of how organizations formally report on audit committees' work. We next got closer to the field and supplemented our empirical material with an invaluable source of data consisting of two on-site observations of audit committee meetings. Furthermore, we carried out 27 semi-structured interviews with audit committee members and individuals who attended the meetings, such as partners of the audit firms and chief audit executives. Finally, we complemented our data with the review of a wide range of internal documents, such as audit committee minutes and documents from the audit committee and those presented during the meetings we attended.

Overall, our work illuminates that control is perceived and constructed along two main EWCs. In line with the willingness to frame corporate governance, key elements of the law and codes climate are frequently mentioned by interviewees. Nevertheless, contrary to what might be expected from a governance mechanism responsible for the monitoring of the quality of the financial information, laws and regulations regarding audit committees are criticized in both substance and form. Furthermore, our analysis indicates that caring climate perceptions are dominant, suggesting that informal control is fostered by attendees. Our results emphasize the notion of trust gained through dialogue and exchanges: on the one hand, for the wellbeing of people around the table and, on the other hand, for the interest of the organization as a whole.



The remainder of the paper proceeds as follows. In the next section, we introduce how audit committees have been framed through regulation and how some voices bid for other modes of control. Subsequently, we describe EWCs and discuss their influence on groups. This is followed by a description of how data were collected and our analysis procedures. Empirical material is presented and analyzed in the subsequent section. Our conclusions and the main contributions and implications of the paper are offered in the final section.

## 2 Literature review

### 2.1 Audit committee control provided by the regulation

After corporate failures, regulatory bodies focused on the board of directors to frame corporate governance through formal control. The surrounding assumption of regulations and codes was that corporate failures were attributable to poor decision-making by the board. Consistent with this stream, laws have emphasized the need to regulate the structure of the board and its subcommittees. Consequently, the trend has been to regulate audit committees by defining the main expectations focusing on its composition and responsibilities. As illustrated by SOX (2002), many laws have been passed after corporate collapses to prevent and detect reporting problems due to inadequate controls (Heier, Dugan, and Sayers 2005) since firms considered fraudulent have poor governance mechanisms (Farber 2005). Previous studies are limited to investigating associations between proxies flowing from regulations and measurements of audit committee effectiveness. One of the most prominent points developed by regulation and investigated by scholars relates to audit committee independence (Cohen, Gaynor, Krishnamoorthy, and Wright 2011). Moreover, the literature has examined the influence of members' financial literacy and expertise (Tanyi and Smith 2015), industry expertise (Cohen, Hoitash, Krishnamoorthy, and Wright 2014) and compensation (Keune and Johnstone 2015) and focused on audit committees' effectiveness. Studies also investigate audit committees' effectiveness through indicators of financial quality reporting (Carcello, Hermanson, and Ye 2011) and monitoring by internal control systems (Hoitash, Hoitash, and Bédard 2009). The oversight of external auditors (Beck and Mauldin, 2014), of the internal audit function (Barua, Rama, and Sharma 2010) and the monitoring of the whistleblowing process (Lee and Fargher 2018) are also key responsibilities widely examined in the literature.

Despite new regulations framing audit committees and the large body of studies having examined their effectiveness, new events have shown that dysfunctional behaviors still call into question such a control mechanism. Accordingly, academics suggest that the effects of regulation should be interpreted with caution. Indeed, links between structural attributes imposed by regulation and positive outcomes are far from obvious (Pomeroy 2010). For instance, audit committees are more likely to fail to identify fraud in financial statements when the chairperson has expertise in the industry of the company (Brazel and Schmidt 2019). Mixed results are thus found regarding the relation between accruals quality and dimensions of corporate governance (Larcker, Richardson, and Tuna 2007). Similarly, audit committee members are less likely to favor a joint provision of audit and non-audit services if auditors' fees are publicly disclosed, even while they judge that audit quality may be improved (Gaynor, McDaniel, and Neal 2006). Thus, the influence of regulation on audit committees is a complex phenomenon rather than only a mechanical relationship between regulation-based inputs and effectiveness indicators.

## 2.2 Limits of formal control?

Despite the ambition to bring more ethics within the organization, some firms benefit from the gaps in the regulation so that they can get around new requirements, which do not appear to be an effective safeguard against corporate collapses (Schminke, Arnaud, and Kuenzi 2007). Regulation can lead to resistance from the profession it is supposed to oversee (Malsch and Gendron 2011). While opposition to governance reforms seems to be confined within the audit committee room, members appear to adopt a logic of resistance in the face of the nature and consequences of regulatory prescriptions (Tremblay and Gendron 2011). When bad accounting is disclosed in financial statements or a fraud case is discovered, consequences for directors are far from being anecdotal. When a company must issue severe restatements of financial disclosures or undergoes fraud cases, audit committee members are often replaced (Srinivasan 2005), and they may also lose their seats on other boards (Fich and Shivdasani 2007).

Thus, formal control, defined as *“both the current procedures applicable within the organization, as well as the laws and regulations which may have preceded them”* (Chtioui and Thiéry-Dubuisson 2011, 291), seems to be insufficient to support ethical behavior. In view of the apparent failure to curb financial scandals, studies suggest that informal control could reveal the mechanisms often felt to be missing in formal control. Values provided by informal control positively affect governance outcomes such as financial reporting quality (Reding, Sobel, Anderson, Head, Ramamoorti, and Salamasick 2007). Thus, core values guide behaviors within organizations (Belak 2013) and prompt the importance of informal mechanisms. These values are disseminated in the higher levels of the firms (Cohen 1995). Specifically, the board of directors effectively instills values to guide oversight individuals’ behaviors, unlike governments that have failed to frame them (Rockness and Rockness 2005). By obtaining a set of unwritten norms from their management, individuals are provided a common guide to act within the organization (Falkenberg and Herremans 1995). Consequently, an organization’s governance based on informal control mechanisms is considered to effectively guide ethical decision-making (Goebel and Weißenberger 2017).

Another important factor that affects behavior in organizations and teams relates to the dominant culture among its members. Next, we turn to EWCs to show how this aspect of organizational culture can influence the functioning of an audit committee.

## 2.3 Ethical work climates

Derived from an organization’s culture (Schein 1985), ethical work climates are *“shared perceptions of what is ethically correct behavior and how ethical issues can be handled”* (Victor and Cullen 1988, 51). As a subset of a firm’s work culture (Schminke et al. 2007), EWCs help to define a work group’s ethical characteristics. Ethical climates are often viewed as a mediating variable for describing managerial and organizational processes that affect performance and other workplace outcomes (Newman, Round, Bhattacharya, and Roy 2017). VanSandt et al. (2006) found evidence that EWC is a primary predictor of moral awareness in organizations. EWCs are also viewed as a dominant social system defining the values and norm structures of organizations or groups (Arnaud 2010). The climate is a description of how recurring behavioral patterns within a group are perceived (Isaksen 2007). It was *“... developed as a descriptive indicator of the prevailing mode of ethical thought within an organization”* (VanSandt et al. 2006, 410).

Victor and Cullen's original model has been used to examine the effect of organizational roles on climates (Weber and Gerde 2011). Other research on EWCs has focused on leader attempts to affect the workplace climate (Dickson, Brent Smith, Grojean, and Ehrhart 2001; Shin, Sung, Choi, and Kim 2015; Sims 2000). Brock Baskin et al. (2016) examined how EWCs affect rule-breaking behavior in organizations. While it is likely for different sub-groups of an organization to have their own EWC (Weber 1995), to our knowledge, no study to date has examined how the EWC of a specialized committee affects work group's functioning. Our paper looks at EWCs as an influence on the internal process of audit committee work.

Ethics is a key feature of informal control (Merchant and Van der Stede 2012), and we root our study deep within EWC (Victor and Cullen 1988). Recent research states that EWC plays a significant role in fraudulent corporations (Murphy, Free, and Branston 2012). Poor EWC and lack of commitment to ethical principles are key features of organizations having known fraud cases (Soltani 2014). One study compared firms where auditors discovered employee theft with ones where no theft was detected. The firm that did not have theft was linked to a morally preferred EWC (Weber, Kurke, and Pentico 2003). Considering that their work provides meaningful insights for organizational outcomes (Shin 2012), Victor and Cullen's writings are relevant for organizational governance and control (Wimbush, Shepard, and Markham 1997) and have already been examined as part of auditing research (Shafer, 2008; Shafer, Poon, and Tjosvold 2013). Specifically, EWC has been used for comparing boards of profit and non-profit organizations (Brower and Schrader 2000) and studying the links between stewardship and organizational issues (Matherne 2015).

A two-dimensional theoretical typology is disclosed for determining climate type (Cullen, Victor, and Stephens 1989). The first dimension relates to the criteria used for ethical decision-making. Ethical criteria induce the reasoning processes by which decisions are made, namely, egoistic, benevolent and principled. The second refers to the locus of analysis that represents the referent group that determines the source of moral reasoning, such as individual, local and cosmopolitan levels of analysis. In sum, each dimension is composed of three categories that shed light on nine theoretical climates. Nevertheless, five different climates are mostly found in empirical studies investigating EWCs in organizations (Newman et al. 2017): instrumental, law and codes, rules and procedures, caring and independence. In the paragraphs below, we detail how each type of EWC reflects different values and beliefs and suggests a particular perception of organizational practice.

## 2.4 Overview of EWC dimensions

*Instrumental.* Consideration in instrumental climate is broadly focused on self-interest, even if the behavior is detrimental to others. Individuals refer to norms emphasizing self-interest, which encourage ethical decision-making from an egoistic angle (Martin and Cullen 2006). In other words, when this type of climate is prevalent, employees do not act for the benefit of others, which fosters intentions toward misconduct (Barnett and Vaicys 2000).

*Law and Codes.* In climates that promote law and codes, individuals are expected to strictly follow laws or professional codes of conduct (Martin and Cullen 2006). Since law and codes are not questioned, employees are not making decisions that may violate them.

Individuals' actions are thus based on the compliance with existing laws and adherence to codes to avoid any legal violations.

*Rules and procedures.* Rule- and procedure-driven climates are characterized by individuals motivated to comply with organizational rules and policies (Wimbush et al. 1997). If this type of climate is dominant, decision-making is conducted following company procedures, with the major consideration of respecting them (Shapira-Lishchinsky and Even-Zohar 2011).

*Caring.* In organizations with a caring work climate, individuals are sincerely concerned with the wellbeing of others since the underlying construct related to a caring climate is benevolence (Martin and Cullen 2006). They take into consideration not only themselves but also think about the organization and the consequences of their behavior on others (Upchurch and Ruhland 1996).

*Independence.* Individuals in an independence climate are encouraged to make decisions based on personal morality entrenched in their deep values (Martin and Cullen 2006). In this type of climate, individuals are led by universal principles of morality. Ethical reasoning originates from individuals' beliefs, disregarding external influences.

It should be noted that the literature on EWCs has identified that an organization's climate type has an effect on stakeholders' commitment to the organization (Kaur 2017). Thus, while EWC was not originally developed to be a normative construct (VanSandt, Shepard, and Zappe 2006), some climates elicit different behavioral patterns that may be considered as more desirable to firms than others. Shafer (2008) found that climates dictated by benevolence (including a caring, other-regarding concern) are less likely to exhibit unethical behavior. Weber et al. (2003) found that employees identified morally preferred climates as being associated with rules and law/code, and that these EWCs elicited no employee theft.

## 2.5 From climate to control

We base our exploratory study on the idea that EWC constitutes complex representations that convey meaningful information on audit committee control. Indeed, the EWC framework fosters the links between Ouchi's (1980) forms of corporate governance and distinct types of EWCs. The three types of governance forms (markets, bureaucracies and clans) may be linked to the type of EWC perceived by employees, according to the different level of control required by the policies and procedures implemented. In a market form of corporate governance, few controls are in place, and this structure emphasizes instrumental behavior and individual initiative. In a bureaucratic structure, where there is a degree of ambiguity on expected employee performance, a climate of rules and laws is predominant. Ultimately, in governance forms such as clans, individuals support each other's work even if they work independently and consider the wellbeing of others so that caring and independence climates become more prominent. By determining which distinct type of EWC noted above is prevalent in an audit committee room, we aim to understand how its control is exerted and in turn how its functioning is characterized.

## 3 Methods

### 3.1 Data collection

Our aspiration underlying data collection and analysis is to explore how EWC is perceived in audit committee meetings. As such, activities and processes in the top levels of corporations are relevant study fields to implement qualitative research. Accordingly, the academic literature investigating the audit committee process relies on qualitative research (Bédard and Gendron, 2010). The main idea of our data collection is to capture empirical materials coming from multiple sources, to increase our study's validity and reliability and to foster our academic and theoretical contributions (Malsch and Salterio, 2016). We began the process of data collection by reviewing publicly available documents on audit committees, namely, annual reports, to gather a general overview of information formally issued to stakeholders about audit committees' activities.

To obtain a comprehensive view of EWC in audit committees, we negotiated full access to two audit committee meetings of global companies to address the charge to *“get closer to audit committees, directors and other participants to collect primary data about audit committee processes, power and influence”* (Bédard and Gendron 2010, 181). We thus had the opportunity to engage in unobtrusive observations of audit committee meetings, which represents an invaluable data source. Indeed, field observation is difficult to achieve since directors may be reluctant to give access to outsiders (Leblanc and Gillies 2005). We preselected a large set of European companies, with the aim of maximizing our chances to access audit committee rooms. The choice of these companies was governed by the regulatory requirements they faced and the high quality of their audit committees as disclosed in their annual reports. Out of the preselected companies, our final cases for onsite observations were motivated by the opportunities we obtained through our contacts (who “sponsored” our research request). We finally attended an audit committee meeting at two companies during the same period. The audit committee meetings we attended each lasted approximately 150 minutes and involved between four and six persons, including members and guests participating in turn. In addition to the records of the meetings, we took field notes to capture the exchanges and dialogues held among members and with guests, as well as the audit committee attendees' gestures and body language. The objective was to deepen our understanding of how meetings unfold in practice and to have an external view of EWC apparent in the audit committee room.

In addition to these observations, we supplemented our collection of empirical material with 27 semi-structured interviews. Interview-based data collection is acknowledged to be a valuable source of information, namely, in regard to inquiring about the meanings that individuals make of their experience. Interviews are a relevant data collection mechanism complementary to observation-based material (Yin 2014). The interviews were carried out with 12 individuals who were audit committee members at the time of the interview: nine audit partners, five chief audit executives and one chief executive officer as disclosed in Appendix 1. Our major intention was to encourage interviewees to share information impossible to capture with a direct observation. In sum, interviews were opportunities to collect additional empirical material to underline the topics that audit committee members and guests considered significant and enrich, temper or amend data collected during attendance of audit committee meetings. Among the most dominant topics discussed with interviewees were their thoughts on their experience of the audit committee meetings. Additionally, we asked interviewees to share their views

regarding the audit committee’s evolution and thoughts about changes in regulation. As most interviewees had extensive experience with audit committee meetings, we also encouraged them to discuss the potential changes in their attitudes and practices over time. For the vast majority of the interviews, we let interviewees discuss these themes extensively, asking questions from time to time that were consistent with the flow of our discussion, or to clarify some thoughts. Before the end of each interview, we ensured that all the main themes had been covered. Interviews lasted, on average, between 60 and 120 minutes. We also ensured that complete anonymity would be provided to our study’s participants. All interviewees agreed to the taping of their interview. All interviews were led by one or other author and were tape recorded and then transcribed.

Finally, we were granted access to and collected a wide range of confidential internal documents, such as audit committee minutes and the presentation performed by the audit partner during a meeting we observed. Although many interactions during the audit committee were carried out verbally, these documents helped us to better understand judgments, decisions and observations captured during audit committee meetings. These written documents were also useful for mitigating the bias our informants might have had during our interviews. A summary of our data source is disclosed in Table 1. As a result, our onsite observations allowed us to question and contrast interviewee perceptions of EWC, while using interviews and reviewing internal documents facilitated the supplementation, confirmation or refutation of our observations (Werner and Schoepfle 1987).

TABLE 1 – Data sources for our study

<b>Data type</b>	<b>Detail</b>	<b>Rationale</b>
Publicly available information	Reviewed annual reports and specifically audit committee’s activity reports	Used to broaden the understanding of audit committees and challenges they face
First-hand observation of audit committee’s meetings	Tape-recorded audit committee’s meetings (between 2 hours and 2 hours 30 minutes for each committee meeting)	Used to directly observe EWC during audit committee’s meetings
Interviews of audit committee members and participants	Conducted semi-structured interviews of audit committee members (12), audit partners (9), chief audit executives (5) and CEO (1)	Used to determine perceptions of EWC
Audit committee documentation	Reviewed audit committee agenda, minutes and papers	Used to compare with observations and to provide deeper understanding of audit committee’s EWC

### 3.2 Data analysis

Our study is exploratory, and we broadly followed an iterative process to inductively perform our data analysis. We began by reviewing publicly available reports to obtain insights into the way in which audit committee meetings were arranged and how activities are disclosed to stakeholders. We were particularly interested in better understanding how the audit committee’s process was described, and we identified points of attention to

leverage our onsite observations of audit committee meetings.

Then, we qualitatively reviewed our observations of audit committee meetings to develop an understanding of which type of climate was dominant based on the criteria presented in the Ethical Climate Questionnaire proposed by Victor and Cullen (1988). From these initial observations, we retrieved audit committee members' and participants' contributions by reconciling our impressions with their words. We thus performed our analysis by the transcription of tape-recorded audit committee meetings and interviews. Then, we analyzed our empirical materials using qualitative procedures involving the development of a data coding scheme (Miles and Hubermans 1994). Specifically, we developed a coding scheme while reading the transcripts to enhance data sensitivity. By analyzing all transcripts and searching for key themes in our material, we sought to highlight the criteria needed to identify which type of EWC presented above was prevalent in the audit committee room. Finally, we proceeded with a detailed investigation of audit committee documents to deepen our understanding of the perceptions of EWC provided by previous analysis. We next re-inspected our full dataset to bring to the fore corroborating and disconfirming criteria to sharpen our conclusions.

Although we presented several nuances, we acknowledge that the perception of EWC is a complex phenomenon. Our data analysis process was thus iterative, and we moved back and forth between our materials, interpretations and theory until the storyline of our study emerged. In presenting our narrative, we disclosed excerpts from observations, experiences and interviews.

## 4 Analysis

The analysis of our empirical materials provides a better understanding of which type of EWCs is prevalent in the audit committee room. Thus, within the framework proposed by Victor and Cullen (1988), our results indicate telltale signs that the law and codes climate and caring climate are dominantly perceived by audit committee members and participants.

TABLE 2 – Summary of main patterns captured

Codes	Types of climate					TOTAL
	Instrumental	Caring	Independence	Rules and Procedures	Law and Codes	
Independence of members	5	6	0	3	5	19
Competencies of members	2	9	7	4	10	32
Diversity in the audit committee	0	2	3	0	13	18
Audit committee as a governance mechanism	4	15	4	6	7	26
Interactions	2	74	20	20	6	122
Information (provided and disclosed)	3	64	13	4	3	87
Activities surrounding the audit committee	2	10	2	24	12	50
Cultural context	4	0	0	7	54	65

Constraints	0	2	4	1	14	21
Motivation to sit in the audit committee	13	1	0	2	1	17
Interest of the management	6	3	0	0	3	12
Influence of the investors/shareholders	5	4	0	0	4	13
<b>TOTAL</b>	46	190	53	71	132	492

From the perspective of the law and codes climate, the major consideration for audit committee members and participants is regulation. When performing their oversight duties, the first consideration is whether actions and decisions violate the law or professional standards. From the caring climate viewpoint, the most important concern is the good of all individuals and the company as a whole. The audit committee acts following a line where it always considers what is right for the public in regard to monitoring the financial reporting process and internal control system. Table 2 presents an overview of the number of sentences found in the audit committee meetings and the interviews along every climate type, categorized with the main analytical themes that emerged from our qualitative analysis. Although our empirical section does not strictly follow the frequency of apparent climates in our material, the main themes nonetheless underlie the discussion. The most frequently coded themes relate to ways that directors and attendees interact, information provided and disclosed during meetings, and perceived constraints around audit committee structure and missions. Thus, the law and codes and caring climates are dominant with 190 and 132 excerpts, respectively.

The first part of our results illustrates that the control exerted by the audit committee cannot be interpreted without considering the formal control represented by the importance of the perceived law and codes climate. Second, our results go further into understanding audit committees' control, since they show that the caring climate is predominant, which tends to highlight the importance of informal means of control.

#### **4.1 The law and codes climate perceived in the audit committee: maintaining formal control through regulation**

The interviews show that audit committee members and participants pay attention to regulation surrounding the audit committee process. Interviewees recognize that formal control brought by law, codes of conduct and best practices is a means to improve corporate governance. However, regulation framing the audit committee work is perceived in a contrasting way. Their feelings about regulation are mostly defiant and called it into question.

##### **4.1.1 Perception of the law and codes climate: considering law and professional standards to improve corporate governance**

Consistent with the shifting demand placed on governance mechanisms after corporate failures, many interviewees maintain that governance has been improved by new requirements and expectations. As such, they are required to be aligned with applicable regulations and professional standards. An audit partner thus retraces his or her changes in view about audit committees, brought about by regulations, which continue to improve the work performed.



There was a time where audit committees were a bit like lounge conversations: people came there, but they did not say many things. Today, audit committee members seem to me much more attentive and concerned to do their job properly, in particular because they are aware that their responsibility becomes more bound and that will be more largely reinforced with the audit reform. I think that there will be a major event this year, the audit reform, which will have a serious impact on the way the audit committee worked up to now, and also on the relationship with auditors. (EA12)

As mentioned by an audit committee member, regulation had the effect of professionalizing the role of audit committee members, suggesting that regulation has improved behaviors of directors during meetings.

Twenty years ago, there was what we called complacency directors. That is to say, people who were appointed to boards because of their relations, because of services rendered, etc. Today, requirements towards directors are such that the profession is much more centered; requirements in all fields are well known. (AC24)

To perform activities required by regulation, we observed that audit committee meetings were framed by a predefined agenda that was followed during the discussions, as it is prescribed by many guidelines framing the audit committees' work. The meetings began with the chairperson appointment, agenda items were discussed as planned, and the meeting ended according to the scheduled time. We also noticed in the minutes that great care is taken in terms of witnessing audit committee work, showing that audit committee members "have been duly informed of and to have fully acknowledged the agenda of the meeting".

From an external point of view to the organization, there is a feeling that a given audit partner supports the positive effects of the professionalization of audit committee members by strictly following legal and professional standards. The following excerpt highlights the weak commitment of audit committee members when he had to participate in meetings during the early 2000s, in line with the ceremonial role often attributed to them at that time (Jun Lin, Xiao, and Tang 2008).

I had an audit committee in a company (...) although it was a company pretty exemplary on grounds of governance, financial information quality, it had a frightening audit committee. It was really a kind of audit committee that should not be seen now, which means it was there only as a façade, to say "we have an audit committee", and nothing else. Apart from the chairman who must invest a bit because he leads the debates, though he was not very good, the others could have been good if they were appropriately invested, but they did not invest. So, this really offered something without interest. The work had been made upstream, and we felt that there was interest neither by the company nor for us, by the way, to transmit anything. (EA9)

Moreover, as expected by regulation, more financially literate members compose audit committees than before, with the final outcome of improving corporate governance, as underscored by the excerpt below.

The quality of the audit committees of listed companies in France, as I generally observe it, greatly increased by involving people that are professionals in these audit committees. In some audit committees can be found former accountants, that have a sound understanding of figures and who are able to bring a point of view on the provided financial information, or former auditors. I think that this brought, at any rate, better governance. So yes, we can say, about better governance, this probably has an influence on ethics and behaviors. (EA13)

Overall, the material above suggests the importance of the law and codes climate in interviewees' perceptions of audit committee work, as is also the case for auditors. Our

interviews seem to witness bureaucratic governance structures with professional members, where regulation is a means to avoid making any decision that may violate the law and where formal control is dominant. Regulation has enforced audit committees' control in a formal way so that directors understand their missions, and their responsibilities contribute to reinforcing their control of external and internal audits.

Paradoxically, both audit committee members and participants criticize the oversight duties based on regulation and the audit committee structure mandated by law. For a vast majority of interviewees, the enforcement of regulations is not beneficial for audit committee functioning nor for the company as a whole. Depending on the circumstances, interviewees underscore the counterproductive effect of such laws, contrasting them with the reasons for which they have been implemented.

#### 4.1.2 The audit committee's control by regulation: confessing reluctance

The following interview extract suggests that the main reasons for resistance are due to the administrative burden implied by regulations. This line of thought takes several forms in terms of outcomes but reaches a consensus for each category of interviewees. For instance, mandatory requirements are perceived to provide a mechanistic aspect of the audit committee process that is considered time consuming and slows down productivity.

Many are worried about this “mechanical” aspect sometimes, I do not know if the word “mechanical” is very elegant, but it is something like that: we want to ensure that we want to tighten the screws somehow, but after having tightened these screws, we must not prevent the vehicle we are responsible for from moving forward. (AC4)

This view raises the consequences in terms of human resource management and the costs that organizations must bear to be compliant. Aspects of ineffectiveness are also underscored since our interviewees argue that implementation of regulations could have an adverse cost/benefit impact. This audit committee member uses the metaphor of “layers”, which is a characteristic of bureaucratic structures where the strength of the hierarchy is significant. Furthermore, he or she sheds light on the limits of regulation, where formal control leads to a kind of fear.

That is a very important cost. The more the systems are increased, the more the marginal gain becomes lower. We add a layer, it brings twice as less as the main layer, and it costs twice as much. And, the limits of the game are a bit of the crux of things. On some topics for instance, the fact of auditing all the subcontractors, all the clients, all in the profession, is infeasible. Thus, the law is like this, so that this puts companies under the risk of a judge who sanctions for any reason. I think this is extremely dangerous. (AC18)

As such, this quotation echoes the sounds of audit committee members, confessing superficial adherence and questioning the regulation enforced after the Enron collapse. Beyond the first impression emerging from our data, our analyses also indicate that most interviewees deplore that issued regulations are not well-defined and appropriately targeted. In the same theme as the literature that casts doubt on the effectiveness of formal control, the CEO who participated in our study specifically criticizes the principle of “one size fits all”.

The construction of resistance against regulation is also done around particular matters in the substance of the law, such as the notion of parity that was introduced in several interviews. Recent regulatory initiatives surrounding audit committee structure have promoted equal opportunities for women in the boardroom (Leblanc and Gillies 2005). Financial

scandals have increased pressures to promote women to audit committees, assuming that it will be a way to reduce self-interest and excessive risk-taking. Nonetheless, studies examining the influence of female directors on the quality of financial statements seem to overturn this assumption (Sun, Liu, and Lan 2011). According to our interviewees (the vast majority being males), even if the presence of women in audit committees is desirable, palpable outcomes of effectiveness do not seem to be guaranteed when enforcing a quota. An audit partner, with this line of thought, refocuses the debate of women on boards toward the necessity of an audit committee member to be competent, without distinction of gender. Arguing that the latter is neutral on the topic, it appears that regulation does not address the correct issue.

I prefer to have a competent woman rather than an incompetent man and vice versa.  
I have no opinion regarding that. It is more in relation to competence than gender.  
(EA14)

Interestingly, we obtained the point of view of a female director regarding the willingness to find a balance of gender in audit committees. As suggested by her comment, she confirms that gender should be removed from such discourses (Tremblay, Gendron, and Malsch 2016).

I do not consider that boards or committees are obviously better because they involve women. For me, this is not the justification for diversity. The justification for diversity is that the world is mixed, that is all. (AC25)

While the study revealed that for some interviewees, the law and codes climate is perceived as predominant, a deep analysis emphasizes that regulation is thought to bring more issues than benefits. Even if members perceive the law as a major concern and do not expect to free themselves from it, regulation does not reach the objectives of obtaining a consensus on the audit committee's formal control.

In summary, this subsection highlights a discourse that, by showing resistance to regulation, seems to question the formal control that laws would wish to enforce. Our study thus allows directors and audit committee participants to give meaning to their perception of control through the key features of a caring climate.

## **4.2 Managing the audit committee's work by informal control: perceptions of the caring climate**

Though regulatory incentives were intended to instill the law and codes climates as part of the audit committee's work, our study identifies attributes suggesting that audit committee members and participants perceive a caring climate in the audit committee room. Surprisingly, several criteria of the framework proposed by Victor and Cullen (1988) are telltale signs that the caring climate guides the control exerted in an informal way. First, company and public interest are seen as cornerstones of an audit committee's work. Thus, it is expected that members and participants do what is right for the public. Second, this climate is perceived through the expectation for audit committee members and participants to work efficiently. Finally, our analysis highlights the exchanges and dialogues between members and attendees and suggests that their major concern is the wellbeing of all the people in the audit committee room.

### **4.2.1 Oversight based on society and public interest**

Our analysis appears to be consistent with the definition of the caring climate. First, interviewees agree on the audit committee's role as an important governance mechanism,

seeking to maintain the interest of the company (Shepardson 2019) and of investors (Kang 2019). The following quotation emphasizes the role played by the audit committee going beyond potential individual interests and doing what is right for the public:

The Audit and Account Committee is outside all these powers of individual interest. It is based on fidelity, transparency and the accounting precision of the company. It is major, major in all respects. It is major for the management of the company, it is major for the image of the company, for the comparison of this company with others that are more or less good, and this is of capital importance, for the face of the public and face of public savings. So, if there should be a very independent and operational committee, this would be the audit committee. (AC4)

As a result, the overall interest of the company is paramount even if additional costs have to be incurred and justified to the board of directors to provide additional resources to internal audit engagements, as explained by an audit committee member:

Even if it is contrary to our reputation, for me, what is the most essential, it is not the budget, but it is to mitigate the risks. And if the budget is not respected, it must be pointed out, and we must find a solution. (AudCom2<sup>1</sup>)

Our observations of meetings were also an opportunity to understand how audit committee members and auditors personally take into account the preservation of the company and of the public interest. Thinking about a control deficiency presented by the chief audit executive, an audit committee member spontaneously translated his or her concerns, mentioning physical symptoms.

There are just my feelings. I have a little stomachache when I hear all this. (AudCom2)

Consequently, this concern has also been materialized and reflected in the related minutes we reviewed. As such, the audit committee member specifically expects a robust action plan to be implemented by management, with strict deadlines. In the same line of thought, to issue the audit opinion according to a favorable schedule for the company and its shareholders, the audit partner agrees to meet the strong expectations from audit committee members, even if the management and the external audit team have to work under important time constraints, as shown by the quotation captured during a meeting.

If you wish, you tell us. We will be able to manage it, there is no problem. There is still a part of compressible works for both society and for us. We can, in terms of planning, always move forward. (AudCom1<sup>2</sup>)

Finally, we find indicators of the need to inquire about an organization's interests since in the audit committee's meetings we observed, and in the examined minutes, the chairperson ensures that all members are able to act "in the best interest of the company".

#### **4.2.2 Working efficiently as a key consideration for audit committee members and participants**

According to the data collected, relationships between audit committee members and participants appear to be the major concern for working efficiently. Top-down requests from the audit committee toward auditors seem to be typical since the audit committee is commonly perceived as being at the top of the governance triangle. Interestingly, these expectations from external auditors enable audit committee members to fulfill their responsibilities efficiently.

1. AudCom2 refers to the second audit committee meeting we attended

2. AudCom1 refers to the first audit committee meeting we attended

The external auditors are asked to comment on the accounts presented. So, from there, a debate begins on the significant points reported, involving members of management, the external auditors and the members of the audit committee. And now, we get into the practices. Well, I, for example, I usually arrive at the audit committee meetings, and I have between 3 and 10 questions to ask. I prepared them when I looked at the preparatory files. I know which points raise questions or require clarification from my point of view. (AC6)

Illustrating the need for information to act in an efficient way, we observed during one of the meetings we attended that some directors requested an audit partner's inputs on Sapin II Law related to the fight against bribery. This director inquired about the thresholds for mandatory implementation and the potential outcomes of timely noncompliance, and the audit partner agreed to provide specific explanations and underline the relevance of the point raised.

Most importantly, during the other meeting we attended, members and guests discussed a difficult situation that, in our view, confirms the clear expectations of audit committee members regarding auditors' work. In our specific case, we noted that a last minute "hot topic" resulted in more interactions between members and internal auditors, to help fix the issue. The discussion was thus concluded by the following sentence, made by a member to the chief audit executive: "you know what has to be done; we trust you". (AudCom2)

As a result, audit committee members rely on external auditors to have an opinion on several matters, and they make decisions according to information held or presented by attendees. The following quotation underscores the role played by external auditors when specific topics are discussed during meetings. The term "security" is thus considered, referring to potential threats incurred by audit committee members if they fail to fulfill their responsibilities. Without being precisely cited, it appears that the underlying notion behind the need for security is the responsibilities they hold, accorded by regulation.

We are highly sought by audit committee members, who ask us about many topics. Of course, they ask our opinion in a general way, but on some precise topics they say to us, "What do you think of that? What do the external auditors think about that?" Yes, we bring value because we bring security. (EA13)

As they are not involved in day-to-day audit activities, audit committee members rely on the audit assignments led by external and internal auditors to trawl relevant information and to raise potential matters. Gathering information is a prerequisite of the audit committees' monitoring responsibilities (Brennan and Kirwan 2016).

The idea is to make sure that the chairman of the board is not in an ivory tower, that he receives papers that have been issued by intermediaries, but that he also meets people that are in the field. Because the aim is that the decisions he will take, he takes them in a more enlightened way. And an audit committee chairman, no matter how excellent he is, has not much more than an interpretation of things that are expressed by others. These are not just the internal auditors or the head of risk or finance who speak in these kinds of committees, who bring the useful message, but this is the confrontation and the juxtaposition of all the feedback which directors consume to form their opinions. (CAE23)

As observed in our material, it is expected from auditors to make sure that they do not present data but have to make sure that the audit committee is getting information. Indeed, external auditors do not have to disclose uncertainties related to accounting estimates but are required to defend their point of view and judgments to the audit committee. Potential concerns must be raised to so that they are quickly understandable by directors, without

focusing on a too-refined level of granularity. Auditors are thus expected to tailor the information provided according to members' expectations. All interviewees agreed on time constraints before and during audit committee meetings. Thus, they expect impactful presentations to share relevant and sensitive information.

Any person who speaks to directors should wonder what this director has in mind, what are his concerns on the day he speaks to him. "What does he want to know?" This does not mean that I should say to him things that please him, but instead "What does he want to hear?" This means "I have a topic, how do I introduce it to hit the mark, to meet the target?" (AC24)

Furthermore, as working efficiently is a major concern, some directors thus illuminate the request made to follow awareness sessions on topics linked to audit committee practices and to the organization's business environment. As an organization's internal function, internal auditors seem to be considered as the best adapted to implement tailored training, a role that they readily accept, suggesting that it could improve efficiency.

I was about to say that this is also our role to accompany them (audit committee members). Clearly. So, it is really up to us to see the knowledge gap, to be sufficiently educational when we explain to them the problems we identified and to recommend the appropriate training. This is part of our role. (CAE21)

In turn, our observations also bring to the fore the need for directors to be aware of the internal audit process and to receive validation from the chief audit executive regarding his understanding of the various steps of the engagements.

Following risk cartography and audit engagements, there are action plans, aren't there? However, the result is also for you to say if it is reasonable, if it is correct, if it is made according to the state of the art. (AudCom2)

Moreover, during his presentation performed while attending a meeting, the audit partner takes a pedagogical approach and spends time explaining step by step to the audit committee members how an external audit engagement results in a report containing the audit opinion.

I propose to present to you the different steps of the engagement, how an audit engagement takes place. I think it's not bad to present a little bit of the flow, the order of the different jobs, what we do to get to the end, which is the report. There is the identification of the business, of the environment, the risk assessment, the materiality, the scope of the work, and then the conclusions and the reports. There is a whole process to get to the report. (AudCom1)

### 4.2.3 Audit committee members and participants: seeking what is the best for everyone

Our study finally brings to the fore a third attribute of the caring climate: the concern of looking out for what is best for the other persons. Maintaining a consistent group between directors seems to be a necessary condition for board functioning (Nicholson, Pugliese, and Bezemer 2017). As such, the audit committee is considered a team acting for the company, and it is suggested that CEOs' and boards' potential divergences should be avoided for company wellbeing.

It (*the audit committee*) should be interested in the society's interest. So, to only be interested in the interests of the company would mean to not have any other interest. So, I believe that the audit committee and the CEO work as a collaborative team. And we want that this team operates for the interest of the company. (AC7)

The quotation above resonates with the transparency in relationships claimed by an external auditor. By fostering audit committee members' interests before his or her own, he or she seeks to build trust with other attendees. To illustrate such a situation, he or she claims his or her honesty in regard to confessing potential wrong judgments previously made regarding accounting treatments.

We have good relationships, and we have known each other for a long time. I have never hidden anything from them. I think that this is what they feel in some ways, including doubts, including jokes, including questions we can have. But I am always very frank with them, by explaining "I may have said something stupid". (EA14)

Illustrating the need for comfort ahead of concerns about risks, audit committee members consider themselves as comfort seekers and need to be reassured in view of uncertainty about the business environment and emerging risks by auditors as comfort providers (Sarens, De Beelde, and Everaert 2009).

What is essential and what is a topic that should also be treated is the research for comfort for the audit committee. What does this mean? This means that many topics are sensitive topics. (...) This means to express sincere reporting, based on objective techniques, and which will reassure because the director will be reassured about the operations; he is not in direct charge of the management, and he is not in direct charge of the company. By definition, he is an independent director, and the audit committee will tend to engage him more regularly or to associate in a more conciliatory way to offer the function that brings this comfort to him. And I repeat, comfort does not mean to fall asleep over banalities, but it is at the same time to have the feeling that there are alerts, but also to be reassured because there are corrective actions that are taken. And if this comfort provider reaches out to play on these two elements, he will be a privileged interlocutor for the audit committee. (AC24)

Contrary to what would be mandated by the law, the hierarchical authority mentioned in the excerpt below is seen as an obstacle to trust building. Consistent with clan-based types of governance structures, the willingness is to consider all individuals equally. In summary, a perceived caring climate seems to indicate the importance of soft controls to understand how audit committee members interact with internal and external auditors and with top management.

To inspire trust, all our dialogue turns around this. But I think that this is important. And to inspire trust, effectively, I would say that there is not necessarily a purely hierarchical aspect. You should not behave as an examiner, or I would say, as a line manager, not that. I would say that we dialogue just as well, say, with the top management, the financial director, the auditor, the external auditor; that is what is important. (AC15)

The wellbeing of attendees is also a key element of audit committee meetings. This wellbeing is thus first ensured by the importance given by the freedom to speak for all the attendees. In accordance, a "benevolent" climate encourages individuals to think about the welfare of the organization before themselves and to consider external stakeholders in their decision. As mentioned by an audit partner, exchanges are characterized by a two-way dialogue rather than paper-based presentations, which fosters human relationships and takes into account the needs of invitees.

It is a place for meetings. We share writings, but writings are a support, and speech is extremely important in such a moment. Speech, glances. So, I believe that we can speak to each other. If I want to question, to give a strong message, I can do it. I have been offered a forum as it were. I have been offered a forum. (EA8)

Contrary to the mechanical aspect of regulation regretted by interviewees, an audit committee member illustrates the consideration of human beings during meetings and rejects

the vision sometimes offered that professionalization has transformed members and participants into machines. This director suggests that priority is given to exchanges and dialogue, as explained below.

There are also main actors: the CFO, the chief audit executive, the chief risk officer, the chief of internal control if any, etc. Because all of this is human anyway; it is not a spreadsheet. So, people must absolutely see themselves and speak to each other, to feel themselves. It is very important to have this direct physical contact. (AC20)

As we obtained the opportunity to observe an audit committee in “action”, we provide similar insights about the importance of the ways that exchanges are maintained. As a matter of fact, during one of the meetings we attended, a director participated via conference call, making discussions with him awkward, and differences in involvement between him and other directors were pointed out by the audit partner after the meeting. Thus, the atmosphere we felt typically reflected the need for physical presence.

This shared view sheds light on the caring climate perceived during meetings and induces a work atmosphere organized around informal controls, confirming that at the board level, the perception of an open and friendly atmosphere where the culture of decision-making is defined by cohesion, openness and generosity (Huse, Minichilli, and Schoning 2005). Far from enforcing its monitoring over the internal and external audit functions and invoking law requirements, most audit committee members highlight the desire to avoid conflicts and seek compromise solutions.

In audit committees, there are different points of views that should be gathered, a consensus must be attempted, there are different sensitivities ahead of the valuation rules or fraud topics. Sensitivities are generally very different. So, this means little tensions, and through debating and listening to one another, to try to get everyone to agree on a common attitude. There are no winners and no losers around the table. A consensus should be created, because at the end of the meeting, the following day, the audit committee chairman will be at the board, and he will speak. People who had diverging points of view on the one or the two days before will meet around the same table. (AC24)

The interview extract below suggests that the concept of community may be reflected when making sense of EWC in the audit committee room. In practice, interviewees stress the willingness to reach a consensus in audit committee recommendations issued before meetings of the board. In sum, the audit committee has to reach a consensus among functions that could have different interests. The ultimate role played by this governance body is thus mentioned, in order to raise awareness that all contributions are required for the organization’s wellbeing, since the audit committee is primarily responsible for financial communication provided to shareholders and potential investors.

It (*the audit committee*) will, during the mission, be the perfect ambassador, the most independent possible between the interests of the company via the board and offer the most representative accuracy on the clarity and the objectivity of accounts, with accountable experts and with the whole authority with which our accounts are disclosed. Therefore, there should be this consensus to come to an agreement that is compliant with many data streams, compliant with the law first, then with the rules, and finally with the recommendations of the auditors, and with the notes and files or acceptance of the board. (AC4)

Echoing the need for security felt by audit committee members, the wellbeing of auditors, namely, of internal auditors, is an emerging concern described in our transcripts so that they can report potential issues independently and without pressures from management. Consistent with the issue raised by scholars, this audit committee member points out the



protection to be offered to auditors, but with the important mention of still considering the CEO view in a caring perspective, as people seek the common good.

It is a question of offering some freedom of expression, and thus some guarantee, to people that have difficult, delicate duties in the company. Those who are responsible for accounts or control have particular missions. Thus, unless the authority of the company CEO or his vision is reduced, it is preferable that they have some autonomy, or at least some independence. (AC7)

In a relatively analogous way, the next quotation accentuates the role of “forum” constituted by the audit committee looking for the best in everyone, as quoted by another interviewee. In particular, external auditors point out that meetings help toward the valuation of their work by other stakeholders. The audit committee is thus considered a body acknowledging the validity and the soundness of their work. In other words, audit committees seem to care for other functions in an unintended way, since the need for comfort gives participants a position of relative strength.

If attributes of the caring climate are frequently captured during the meetings, the caring relationship is also built from exchanges prior to and outside formal meetings. Several conflicts are solved outside formal meetings to discuss the issues upstream (Gendron and Bédard 2006), confirming that informal control overrides formal control behind the closed doors of audit committees (Turley and Zaman 2007). Interestingly, the auditors, whether there are chief audit executives or audit partners, witness the leveling of auditing issues before meetings.

The CFO has exposed the conflict with us and opposed it, has exposed this in front of the audit committee, and the audit committee said to the CFO, “Sorry, but we will trust in the external auditors”. So, this has been decided like this twice. And the CFO said to us later, “That must not take place again”. In other words, he may be more likely to listen to us today to avoid this coming to the audit committee. (EA9)

An audit partner explains this practice to avoid time consumption during meetings or avoid conflicts because of backstage teamwork with management, where prior coordination between the CFO and external auditors prevents unpleasant surprises behind closed doors of the meetings (Compernelle 2018). Building and maintaining a caring atmosphere during formal meetings is also contingent upon the relationships and the concessions made in an informal way. In line with best practices that encourage informal meetings between audit committee members and external auditors, directors and top managers also share information and address ‘hot’ topics outside the audit committee room.

There are things that are decided before. Because people know each other, obviously. So, the management can discuss with directors, before. Thus, subjects are dealt. There are things that are told outside the audit committee. (EA8)

The perceived caring climate thus seems to be built from the quality of relationships between audit committee members and attendees. As a consequence, efforts made prior to formal presentations are then reflected during meetings by discussions and exchanges seeking to satisfy all the actors.

In summary, at the audit committee level, our material reveals criteria of the law and codes climate and suggests that regulation and professional standards are addressed. However, by focusing on mechanical aspects of audit committees’ practices, this type of climate may engender formal control, about which interviewees underscore counterproductive effects. Thus, regulation seems to be the victim of the administrative burden brought by its own expectations. On the other hand, our study identifies the main attributes of the

caring climate. Most notably, the audit committees encourage cooperation and community and seem to draw on informal controls. Driven by the research of everyone's interest, audit committee members and participants tend to foster discussions and dialogues where the wellbeing of others and of the organization is legitimized.

## 5 Discussion and conclusion

The aim of this exploratory study is to rely on perceptions of EWC to assess the control patterns in discourses expressed by audit committees' attendees. This paper corroborates previous research on audit committees, which emphasizes the informal control exerted (Turley and Zaman 2007). By relying on EWC, it goes beyond studies investigating associations between audit committee key features and its effectiveness and makes sense of how the control is built. It shows that despite the positive effects of regulation to improve corporate governance reinforcing the audit committees' control, law, codes of conduct and best practices are not enough to describe the climate perceived by members and attendees. We identify two dominant climates within the confinement of the audit committee room: law and codes and caring climates. On the one hand, we have shown how formal control is perceived through law and codes climates in audit committees. This line of thought involved several considerations of how regulation frames the audit committee process. First, it is acknowledged that legislation and codes of conduct have improved the quality of audit committee work. Nonetheless, a second line of thought points to the limits of formal control, which implies defiance and inefficiency by audit committees. This view appears to nuance the confessed objectives of legislators since at first sight, regulation seemed to reinforce the historically dominant idea that formal control was a solution to improve corporate governance. On the other hand, contrasting with the law and codes climate, we identified the patterns that underlie soft controls are legitimized in ways that lead people to feel a caring climate in the audit committee room and emphasize the wellbeing of others and of the audit committee's interests as a whole.

Our greatest contribution involves our onsite observations of audit committee meetings, which has never been achieved in auditing literature. We thus supplement data collected through interviews and document analysis to enrich our storyline. Having had invaluable access to audit committee rooms, we provide new insights to understand how the audit committee actually functions. Second, a significant contribution is the use of EWC for the investigation of the audit committee's control and as applied to auditing research in general, since studies that have recently implemented such a theory are focused on public accounting firms (Shafer et al. 2013). We contend that the EWC framework represents a promising theoretical lens to be used in investigating corporate governance mechanisms. Our use of EWC applied to audit committees, according to which the exerted control is not merely related to the law and codes climate but led by caring climate characteristics, adds to the body of research calling to develop an understanding of the audit committee process. Our research findings raise many key questions, and we hope that our research will promote deep exploration of the audit committee process.

Our study naturally has limitations. First, considering our interviews to be exploratory and given the aim of focusing on the perception of EWC in the audit committee, we were not able to assess the influence of audit committee members' and participants' experience and personality traits on how control is exerted. Indeed, relationships between ethical decision-making and personal attributes have been evidenced by academics (Weber 1996).

As a result, the persons we interviewed were quite experienced and had participated, as a member or attendee, in several audit committees. This background may have framed their perception of EWC according to situations they previously faced. In sum, we contend the claim for expanding the agenda for future research based on consideration of an individual's influence on the perception of EWC (Newman et al. 2017). Second, we did not specifically ask questions on the effects of the perceived climate on audit committees' effectiveness or generally on governance outcomes. Returning to the field and operationalizing the types of EWC and their palpable consequences with questionnaires would have helped us to discuss their influence on improving corporate governance. Third, while we presented the two dominant types of climates, we also captured perceptions of the three other types of EWCs. Another interesting area for research would be to answer calls of those studies seeking to identify the potential existence of different climates within subunits and departments of the same organization (Weber 1995; Wimbush et al. 1997). In other words, depending on the firm context, the audit committee agenda, the personalities of members and attendees and issues to be dealt with, the perceptions of EWC may differ for a given audit committee. While the caring climate and thus informal controls may be dominant, all the audit committee members and participants may exert, at some point, their control in different ways according to their role and the situation. Finally, the European research field of our study brings to the fore another future research avenue. Since empirical research on EWC highlights the influence of the cultural context (Laratta 2009), we consider that our results could be complemented by shedding light on the perceptions of EWC of audit committees outside a European scope.

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## 7 Appendix

TABLE 3 – Interview characteristics

Interviewee	Involved in other audit committees?	Main current occupation	Length of the interview (in minutes)
EA 1	No	Audit partner	120
EA 2	No	Audit partner	120
EA 3	No	Audit partner	120
AC 4	No	Audit committee member	120
CEO 5	No	Chief executive officer	60
AC 6	Yes	Audit committee member	120
AC 7 <sup>1</sup>	No	Audit committee member	120
AC 7	No	Audit committee member	90
EA 8	No	Audit partner	120
EA 9	No	Audit partner	120
EA 10	No	Audit partner	120
CAE 11 <sup>2</sup>	Yes	Chief audit executive	90
EA 12	No	Audit partner	60
EA 13	No	Audit partner	60
EA 14	No	Audit partner	90
AC 15	Yes	Audit committee member (chairman)	70
AC 16	Yes	Audit committee member	60
AC 17	Yes	Audit committee member	90
AC 18	Yes	Audit committee member (chairman)	60
AC 19	Yes	Audit committee member (chairman)	90
AC 20	Yes	Audit committee member (chairman)	90
CAE 21	No	Chief audit executive	120
CAE 22	No	Chief audit executive	60
CAE 11	Yes	Chief audit executive	60
CAE 23	No	Chief audit executive	90
AC 24	Yes	Audit committee member (chairman)	120
AC 25	Yes	Audit committee member	60

<sup>1</sup> AC7 was interviewed twice<sup>2</sup> CAE11 was interviewed twice

# Etude 2 : How can Governance, Human Capital, and Communication Practices Foster Internal Audit Quality?

## Abstract

This study addresses recent calls to enhance understanding of the determinants of internal audit quality (IAQ). Using the CBOK dataset from the Institute of Internal Auditors Research Foundation, we first propose innovative indexes of three IAQ determinants: governance, human capital and communication. Second, we investigate whether these indexes enhance IAQ, independently or in combination. Although our econometric results suggest that internal audit departments should work on human capital development, they also show that internal auditors' communication skills and strong governance practices also foster IAQ. Interestingly, our results reveal that organizations arbitrate between available determinants of IAQ: an improved IAQ often results from the choice to implement one of the practices independently, without seeking synergies between them. Our results thus encourage practitioners to investigate the rationales underlying decisions to enhance IAQ.

**Keywords:** internal audit quality; communication index; governance index; human capital index; econometrics; complementarity.

## 1 Introduction

Stressing the importance of financial reporting for corporate governance, research into the determinants of audit quality has mainly investigated the influence of factors derived from expectations of regulatory bodies on external auditors' attributes (Aobdia 2019), without considering internal audit practices. Thus, despite the recent increase in studies investigating internal audit quality (IAQ hereafter), little research has examined the determinants of IAQ. A key feature of the literature is this lack of a comprehensive view of factors improving IAQ (Lenz, Sarens, and D'Silva 2014). Another is that research on IAQ uses indicators forged for the analysis of external audit quality (e.g. Mazza and Azzali 2015). Consequently, several publications point out that with relevant aspects of IAQ either still missing or underestimated, the time has come to develop new IAQ indicators (Trotman and Duncan 2018; Behrend and Eulerich 2019).

In this article, we address this gap, providing new insights on the determinants of IAQ and probing the separate and joint influence of these factors. As such, we aim to quantify the potential benefits of implementing identified determinants by internal audit departments. Using the Common Body of Knowledge dataset (CBOK 2015) from the Institute of Internal Auditors (hereafter IIA) Research Foundation and implementing econometric estimators, we propose three core classes of determinants, to which internal

audit departments may pay particular attention if they are willing to invest in enhancing IAQ.

We first focus on the governance threats faced by internal audit. Following the literature (e.g. Christopher, Leung, and Sarens 2009), we elaborate a governance index related to practices firms implement to preserve the independence of their internal audit departments. Second, we develop a human capital index. Human capital is defined as skills and knowledge developed through investments in education, training and experiences (Becker 1993). While expected to play a key role in explaining audit firm performance (Morris and Empson 1998), human capital has never been examined as part of IAQ. Lastly, while the detailed investigation of factors such as auditors' independence and auditing competencies has enhanced understanding of internal audit practices, we assume that soft skills might improve IAQ. As emphasized by Chambers (2018), "*an outstanding internal auditor with extraordinary communication skills is often seen as a crown jewel in any internal audit department.*"<sup>1</sup> Scholars widely agree with this, and several studies emphasize the role of communication in the audit process (Nelson and Tan 2005). Other studies (e.g., Roussy and Brivot 2016) suggest that communication is important to the outputs of audit work, such as when the internal audit report is drafted, where written communication skills are expected. In this study, we build on the few studies highlighting auditors' communication by investigating quantitatively whether internal auditors' communication skills improve audit quality. Overall, we investigate whether internal audit departments should work on these determinants separately to improve audit work.

In addition, our article seeks to advise internal audit departments on the potential benefits of granting additional resources to the competing practices previously identified. Auditing research says nothing about potential synergies between determinants of IAQ, since empirical studies generally test each indicator individually (Roussy and Perron 2018). To address this gap, we examine previously identified determinants of IAQ in combination. We aim to determine whether governance, human capital and communication practices work together to improve IAQ. Our study expands the auditing research on determinants of IAQ, searching for the supermodular properties between audit practices (see Milgrom and Roberts 1995).

Our econometric results suggest that human capital improvement strategies improve IAQ, since better audit quality is provided by firms that make efforts to hire highly skilled internal auditors and that promote professional development. We also find that internal audit departments with strong governance practices or led by auditors with good communication skills can increase IAQ to a similar extent. Our findings hint that poor auditing outcomes may be mitigated by a governance aligned with best practice (e.g. frequent audit committee meetings and chief audit executives' (CAEs) reporting line to the audit committee) or effective communication by auditors throughout the audit engagement. These results are confirmed by our investigation of combined practices: we do not find indexes of governance, human capital, and communication complementary or even substitutable with regard to IAQ. In particular, communication does not lever good governance or human capital practices. Organizations thus arbitrate between the three practices independently

1. Richard Chambers, president and CEO of The Institute of Internal Auditors. Full article available online on Internal Auditors blogs at: <https://iaonline.theiia.org/blogs/chambers/2018/Pages/5-Sure-Signs-You-Are-Well-Suited-for-a-Career-in-Internal-Auditing.aspx>

and tend to invest resources in one costly practice or another when seeking to improve IAQ. Our results also suggest that firms may not be aware of the potential benefits of devoting resources to all practices simultaneously, focusing only on one practice and ignoring others.

Our study makes important contributions to the auditing literature. First, we build original governance, human capital and communication indexes linked to IAQ. Although they are often used in the organization and governance literatures, these constructs have never been tested together in this way in the auditing literature. Second, we expand research on auditors' communication, since no previous study has directly tested the influence of internal auditors' communication on IAQ. Finally, we investigate whether the three indexes can improve IAQ in combination, while the standard auditing literature relies on regression models that assume multiple factors to be independent from one another. We also provide insights on the black box of internal audit quality by identifying the levers increasing the quality of audit fieldwork and outcomes. Our findings have direct implications for business firms looking to improve IAQ, namely in a context where the rationale behind resource allocation is a major concern.

The remainder of this article is structured as follows. First, we discuss the relevant literature and develop our hypotheses. This is followed by a presentation of our research methodology. We then present and discuss our empirical results. We conclude by setting out the implications of our findings, the limitations of our study, and future research areas.

## **2 Background to IAQ, prior research and hypotheses**

### **2.1 Background to IAQ and prior research**

In the wake of high-profile frauds conducted in the 2000s, stakeholders expect greater audit quality. Academic researchers have worked to refine their definitions of this concept, but still differ (Bédard, Johnstone, and Smith 2010). Indeed, a universally accepted empirical definition of audit quality remains elusive, leading to the development of different indicators. Professional organizations have also continued to develop the definition of audit quality. Responding to the array of indicators used to assess external auditing, the International Accounting and Auditing Standards Board (2014, 2) formulated a framework that is also recognized in the academic literature. Interesting frameworks have thus been developed for external audit quality (Francis 2004, 2011; Knechel, Krishnan, Pevzner, Shefchik, and Velury 2013; Gaynor, Kelton, Mercer, and Yohn 2016): a dichotomous vision of the concept is limited, and it has to be seen as a continuum, from low to high audit quality. In this regard, our study uses units of analysis that characterize the intrinsic quality of an audit based on inputs, process, audit firms, the audit industry, institutions, and audit outcomes. The audit firm selection, in terms of size and revenues, reflects a high-quality audit (Krishnan 2003; Chi and Chin 2011; Kim and Song 2011; Kim, Lee, and Park 2015; Kanagaretam, Lee, Lim, and Lobo 2016; Wu and Wilson 2016; Forst and Hettler 2019). Francis (2004), meanwhile, highlighted traditional audit quality indicators from observable variables, such as the nature of evidence collected and the seniority of those reviewing the working papers (Jensen and Payne 2005), compliance with auditing standards (Krishnan and Schauer 2000), audit results in terms of audit opinions (Hossain, Monroe, Wilson, and Jubb 2016; Huang, Chang, and Chiou 2016), financial reporting quality measures (Choi, Kim, and Zang 2010, Choi, Kim, Kim, and Zang 2010; Asthana and Boone 2012; Choi, Kim, Qiu, and Zand 2012; Eshleman and Guo 2014a, 2014b;

Gaver and Paterson 2014; Johnstone, Li, and Luo 2014; Kwon, Lim, and Simnett 2014; Chung, Sonu, Zang, and Choi 2019) and transparency reports (Deumes, Schelleman, Vander Bauwhede, and Vanstraelen 2012). Knechel et al. (2013) identify four categories: inputs, process, outcomes and audit context. Positive impacts made in one category or at one stage carry over to successive stages. For instance, the training and recruitment of competent auditors and the audit firm's organization could improve the audit process, which in turn could improve audit outcomes (Christensen, Glover, Omer, and Shelley 2016).

Building on previous frameworks developed for use in public accounting, Trotman and Duncan (2018) identify the inputs-process-outcomes-context model to frame IAQ. Their study points out weaknesses in previously developed models. First, to obtain measurable indicators of audit quality, a reliable and verifiable approach is needed, focusing directly on the competence and independence of auditors (Aobdia 2019). Unsurprisingly, these measurements are widely used by scholars (DeFond and Zhang 2014) and are leveraged by external auditors to rely on the internal audit function (Brandon 2010; Desai, Gerard, and Tripathy 2011; Abbott, Parker, and Peters 2012; Bame-Aldred, Brandon, Messier, Rittenberg, and Stefaniak 2013; Pike, Chui, Martin, and Olvera 2016). They are beneficial because they are derived from a standard-based, traditional view of audit quality (Brivot, Roussy, and Mayer 2018), although alone they are insufficient to influence audit quality (Abbott, Daugherty, Parker, and Peters 2016). Second, the internal audit profession and academics have identified other mechanisms that might influence IAQ. Recent research points to alternative potential indicators (Roussy and Perron 2018) and develops new frameworks which stress auditors' relationships (Lenz and Hahn 2015). They focus on internal auditors' communication throughout the audit process, from communication within the audit team to reporting the findings to auditees and the audit committee. However, although auditors' communication skills are occasionally mentioned in the academic literature, or revealed through qualitative approaches (Dirsmirth and Covaleski 1985; Compernelle 2018), to date, no study has examined the impact of this factor quantitatively. Third, little empirical work has investigated the conditions under which traditional IAQ indicators (competence and independence) and those based on internal auditors' relationships (such as communication) may actually complement each other. Going beyond traditional, standard-based indicators, our study fills these research gaps by investigating which variables improve IAQ, alone or in combination.

## 2.2 Hypotheses

As described above, the literature provides limited guidance regarding determinants and proxies of IAQ. Among the many identified indicators, standards are used to guide the audit process, contributing to quality assurance (Zhang 2007), uniform audit practices (Alzeban 2015), guidelines for sustainability reporting production (Trotman and Trotman 2015), and confidence about the reliability of information contained in audit findings (Burnaby and Hass 2011). Internal auditors are expected to follow standards to maintain their professionalism (Alzeban 2015) and to demonstrate their independence and objectivity with regard to their responsibilities and traditional assessment services (Abdullatif and Kawuq 2015; Jiang, Messier, and Wood 2020). Compliance with standards is furthermore perceived as an indicator of internal audit function effectiveness (Fadzil, Haron, and Jantan 2005) and IAQ (Jiang, André, and Richard 2018). Academic research on compliance with IIA standards relies on descriptive studies in different geographical regions (Leung and Cooper 2009; Marais, Burnaby, Hass, Sadler, and Fourie 2009; Burnaby and Hass 2011). We thus draw on studies testing the influence of indicators on the use of and compliance

with IIA standards (Abdolmohammadi 2009) to define our IAQ measure. Further, in the following sections, we identify and discuss explanatory variables to present our research hypotheses.

### 2.2.1 Governance practices

For good governance, firms should have an internal audit function to serve the interests of different stakeholders (Al-Twajry, Brierley, and Gwilliams 2003), with a direct reporting line to the audit committee, which allows independence with respect to management: the greater the audit committee's influence, the more likely its recommended activities are to be performed (Eulerich, Henseler, and Kohler 2017), even when internal auditors acknowledge that information is often filtered by management (Norman, Rose, and Rose 2010; Roussy 2015), namely when the CAE's compensation is linked to company performance (Chen, Chung, Peters, and Wynn 2017). The audit committee's influence over the internal audit function seems to focus on the budget granted to the function: the financial investment is greater when the audit committee is diligent and more involved in internal audit activities (Barua, Rama, and Sharma 2010).

Standards and best practices also recommend the establishment of meetings between the CAE and the audit committee. Audit committees foster the implementation of internal audit recommendations through meetings with the CAE. The more frequent these meetings, the greater the audit committee's awareness of issues faced by the internal audit department, and the more it contributes to implementing recommendations (Alzeban and Sawan 2015) that enable compliance with standards. These results are consistent with those of Scarbrough, Rama and Raghunandan (1998), who found that private meetings between audit committee and the CAE are positively associated with involvement of the audit committee in the internal audit program. Lin, Pizzini, Vargus, and Bardhan (2011) specify that audit committees often review issues such as assessments of the control environment, material audit findings, and ethics or compliance. This direct reporting line would seem to give the internal audit department power to resist pressure from the management and provide internal auditors with independence (Zain and Subramaniam 2007). Informal interactions between the audit committee and the CAE appear to improve the latter's moral courage to resist management pressure (Khelil, Hussainey, and Noubbigh 2016). The characteristics of the reporting line and the frequency of meetings between the CAE and the audit committee are two of the most commonly cited organizational governance practices promoting the independence of internal auditors. Recognizing that a composite factor combining previously established features may improve IAQ, we propose the hypothesis below:

*H1: Governance practices are positively related to IAQ.*

### 2.2.2 Human capital

According to IIA Standards, "internal auditors must possess the knowledge, skills, and other competencies needed to perform their individual responsibilities" (Standard 1210, 6). Regulators and standard setters expect internal auditors' competencies to benefit IAQ. Although this might be the case, the question remains as to whether human capital practices influence IAQ. Empirical studies provide little evidence of this because they focus on external audit quality (Van Linden and Hardies 2018) or examine the consequences of human capital in audit firms in terms of performance or revenue, using financial and

market information (Pennings, Lee, and Van Witteloostuijn 1998; Brocheler, Maijor, and Van Witteloostuijn 2004). Nevertheless, no research on human capital practices has to date investigated the relation between internal auditors' human capital and IAQ. We bridge this research gap by using an internal audit-specific dataset describing the individual characteristics of auditors to estimate internal audit departments' human capital.

Human capital is defined as individual's skills and knowledge, developed via investment in schooling, job training and experience (Becker 1993). Professionals have their own knowledge capital, which can be considered a particular asset. Any organization' stock of these assets produces resources and earnings (Becker 1962; Becker 1964; Preisdorfer and Voss 1990). Schultz (1961) identifies five sources of the production and improvement of human capital, including the education system and professional training. The notion of education is closely tied to schooling (Becker 1962), where schools and institutions provide specific knowledge or broader, more diverse skills. Education is thus defined as a potential solution to the issue of recruiting a sufficient number of qualified auditors (Carcello 2008). In this respect, higher education levels are thought to increase external audit quality (Burke, Hoitash, and Hoitash 2018).

Becker (1962) also argues that workers develop new skills and knowledge as they perform their assigned tasks and complete firm-specific training, characterized by knowledge about unique routines and procedures (Pennings et al. 1998). This knowledge can be developed while performing daily work, through learning-by-doing. For this reason, work experience in a professional field or within a firm may be measured as on-the-job training (Becker 1962). It has also been shown that lack of experience leads to knowledge differences between expert and novice auditors (Bédard 1989), leading them to implement different decision processes and pushing less experienced auditors to be influenced by irrelevant information (Shelton 1999). The greater an auditor's experience, the higher the audit quality appears to be (Chen, Dai, Kong, and Tan 2017).

The discussion so far makes it clear that senior auditors with extensive professional experience develop industry-specific human capital (Goodwin and Wu 2014), including skills regarding auditing tools and practices such as sampling, risk assessment, financial accounting and forensic (Pennings, Lee and Van Witteloostuijn 1998; Church, McMillan, and Schneider 2001). These specific skills may be improved by professional training or by studying for official professional certifications. Obtaining a professional certification, as an indicator of industry-specific human capital, is also identified as a determinant of internal audit quality, since it indicates a precise degree of competence (Gramling and Myers 1997). As such, internal audit certification is positively related to compliance with standards (Abdolmohammadi 2009) and demonstrate expertise in particular audit practices, such as IT audits (Abdolmohammadi and Boss 2010). Human capital may also be improved through auditors' training (Carrera, Carmona, and Gutiérrez 2008) and investments in human resources are expected to increase audit quality (Kang, Lee, Son, and Stein 2017). Prior empirical findings have shown that continuous training can improve external audit quality on several levels: by reducing dysfunctional auditor behavior (Svanström 2016), facilitating the implementation of analytical procedures (Plumlee, Rixom, and Rosman 2015), fostering professional skepticism (Nelson 2009) and encouraging auditors to comply with the characteristics of forensic engagements (Dennis and Johnstone 2018).

In sum, education, experience, certifications and professional training are considered as crucial sources of audit-specific human capital (Naslmosavi, Sofian, and Saat 2013). However, while we might reasonably assume that such features affect audit process and outcomes independently, we actually know very little about the specific role of human capital in improving IAQ. Although a number of scholars have recognized the importance of human capital to external auditing (Chang, Chen, Duh, and Li 2011; Samagaio and Rodrigues 2016), this has never been tested with regard to IAQ. We hypothesize that human capital practices developed by internal audit departments are significantly related to IAQ.

*H2: Internal audit department human capital is positively related to IAQ.*

### 2.2.3 Auditors' communication

Although research has greatly emphasized the effect of auditors' competence and independence on IAQ, comparatively little evidence has emerged about the effect of relational factors (Lenz et al. 2014). However, internal auditors' communication appears to interact with both human capital and governance. Requirements in this area are cited in standards, making clear the role of communication in human capital development as well as internal audit department governance: audit plan communication to management and audit committee (Standard 2020), communication on the level of achievement of the audit plan (Standard 2060), communication of risks and controls to relevant departments (Standard 2110), and findings communication (Standard 2400). Thus, at every step of the audit process, communication enhances IAQ since "*auditors do not work in an isolated way, so it is crucial to understand how persons, tasks and environment that auditors interact influence auditors' performance*" (Nelson and Tan 2005, 59). Communication may encompass several dimensions, such as formal/informal or verbal/written communication (Goby and Lewis 1999). The scant literature mainly deals with how communication interacts with human capital or with governance.

Communication is often characterized as involving elements that interact with human capital. Indeed, audit firms expect to develop their human capital, improving communication skills through auditors' tacit knowledge (Bol, Estep, Moers, and Peecher 2018). Interestingly, communication depends on audit experience. The communications of the CAE, who is often considered as the most experienced internal auditor, directly improve auditors' judgements during audit strategy development (Hoos, Kochetova-Kozloski, and D'Arcy 2015). Results demonstrate the significant effect of the message sent by the CAE to auditors, particularly with regard to removing controls and supporting the management's viewpoint. Such communication can thus influence an auditor's ability to establish a judgement. Within the audit team, this particular competence improves auditors' judgement quality through advice given by peers and brainstorming (Carpenter, Reimers, and Fretwell 2011; Kadous, Leiby, and Peecher 2013), helps them to resolve auditing issues (Bobek, Daugherty, and Radtke 2012), and enhances auditors' professional development, namely when experienced auditors provide feedback using effective communication and listening skills (Andiola and Bédard 2018). Thus, face-to-face interactions with auditees encourage auditors to ask questions (Kachelmeier 2018; Bennett and Hatfield 2018), and listening to interviewees' responses allows them to paraphrase and recall what is said (Craig 1991). Stone, Lightbody, and Whait (2013) support the importance of listening skills, underlining how they create a climate of confidence. As such, auditors are encouraged to assess their ability to interact with auditees to improve their effectiveness



(Guéni-Paracini, Malsch, and Paillé 2014). With regard to communicating and negotiating adjustments to financial statements, a cooperative style with appropriate language and facial expressions encourages auditees to accept the auditors' position (Hatfield, Houston, Stefaniak, and Usrey 2010; Perreault and Kida 2011). Silence can also encourage auditees to provide relevant information to fill the void. An appropriate tone also contributes to good communication, since an unprofessional tone from an auditor can lead to adverse reactions (Saiewitz and Kida 2018). The latter study, in particular, shows that perceptions of a lack of professionalism encourage auditees to provide biased information. For this reason, Ma'ayan and Carmeli's (2016) conclusions indicate that auditors' behavior influences their communication with auditees significantly. Transparent communication with auditees improves internal audit efficiency, since open dialogue facilitates the discovery of problems during the audit engagement (D'Onza and Sarens 2018). Examples cited include resolving questions with auditees before the final results are released, and highlighting positive aspects in auditees' operations (Mihret and Yismaw 2007). Specifically, communication is instrumental to the clear reporting and to the timely implementation of recommendations (Cahill 2006). In sum, internal auditors' familiarity with companies' operations, acquired with experience, improves exchanges with auditees and allows them to report relevant information to audit committees (Sarens, De Beelde, and Everaert 2009).

With regard to governance, the internal audit department maintains complex relationships with the key actors in its environment, namely senior management, the board of directors, and the audit committee or external auditors (Lenz and Hahn 2015). Internal auditors' effectiveness appears to depend on their structured, semi-structured and unstructured communication with others, in both formal and informal communication networks (Van Peurseem 2005). For instance, senior management expects the internal audit department to communicate its added value by providing risk assessments and audit reports (Sarens and De Beelde 2006). Internal auditors seek to give true, precise and timely information on the organization's situation to different stakeholders during the audit process (Schillemans and van Twist 2016). Communication also plays a key role in financial and accounting reporting processes (Yuthas and Dillard 2002; Rasche and Esser 2006). Indeed, in addition to verbal communication and listening skills, studies point to the importance of written communication in reporting. Thus, to maximize audit report clarity, the literature also highlights form attributes that appear in reports as presentation or writing style (Roussy and Brivot 2016) and the attribution of grades to recommendations depending on their urgency, making it possible to identify significant deficiencies (Lin et al. 2011). When findings are expressed inaccurately or incompletely, potential issues may be overlooked, with adverse consequences for audit quality (Bennett and Hatfield 2013). Auditors' written communication competencies improve their ability to express the results of their works effectively, as required by standards. More generally, some studies (e.g., Zaman and Sarens 2013) suggest that communication plays an important role in corporate governance, particularly with the audit committee since internal auditors spend time communicating with audit committee members following Sarbanes Oxley Act requirements (Cohen, Gaynor, Krishnamoorthy, and Wright 2007). Consequently, the ability to communicate effectively, both verbally and in writing, with these different actors with different interests, can influence IAQ. Prior findings lead us to investigate the following hypothesis:

*H3: Internal auditor's communication skills are positively related to IAQ.*

### 2.2.4 Complementarity of human capital, governance practices, and communication skills

Recent studies have paid increasing attention to audit quality (DeFond and Zhang 2014), in particular the use of different inputs in parallel to enhance audit outcomes. Concurrently with this approach, a previously unexplored research area has emerged, that of the relationships between audit quality indicators. Libby and Luft's study (1993, 426) tries to define "what allows experienced accountants [...] to perform their tasks efficiently and effectively". Particularly, they investigate whether or not knowledge, motivation, environment and ability interact to contribute to performance. Wilks and Zimbelman (2004) argue that understanding a client's organization and business model, together with fraud training and experience, could help improve strategic reasoning, identify potential fraud schemes, and develop procedures to detect them. From this perspective, combining brainstorming and strategic-reasoning interventions at the audit planning stage seems to modify audit procedures in favor of fraud detection (Hoffman and Zimbelman 2009).

Research on the determinants of audit quality has tended to treat competencies and independence as two separated constructs. Nevertheless, some studies suggest that these two characteristics are hard to capture independently from each other. Watts and Zimmerman (1986) highlight a similar conclusion in their work defining audit quality: the likelihood of an auditor revealing a breach depends on his likelihood of discovering the breach (through competence) and his likelihood of reporting it (through independence). In the same way, Schandl (1978) states that auditors can only apply their competencies if they are independent, whereas Lee and Stone (1995) assert that competences are a prerequisite of independence. This argument is consistent with the position of Abbot et al. (2016, 34), who state that audit effectiveness depends on the joint importance of competence and independence. At the heart of these studies is the discussion of the complementarity or substitutability of standard-based audit-quality indicators.

However, the auditing literature still contains little theoretical or empirical work on such organizational synergies impacting IAQ. However, research into the economics of organization (see Milgrom and Roberts 1995; Topkis 1998; Brynjolfsson and Milgrom 2013) provides a clear analytical framework to analyze synergies between determinants of IAQ: complementarity (substitutability) is assumed to exist between two factors if an increase of one factor can improve (reduce) the marginal return to the other. Thus, two (or more) IAQ determinants are complementary when their value or usefulness increases if they are implemented in combination. Investigating the existence of complementarities between internal audit determinants can help understand how firms reach high IAQ levels and how investing more in one activity increases the return on investment in another (Miller and O'Leary 1997). Whereas studies examining links between competence and independence suggest that these audit quality inputs are likely to be complementary and reinforce each other in raising IAQ, we contend that such synergies can be expanded: the degree of complementarity of governance, human capital, and communication may also influence IAQ. We thus posit the following hypothesis:

*H4: Complementarity of governance, human capital and communication is positively related to IAQ.*

### 3 Methodology

Below, we present our data, variables, and econometric methods.

#### 3.1 Data

Data for our study come from the IIA’s Global Internal Audit Survey of 2015, conducted by the IIA Research Foundation, and known as the Common Body of Knowledge (CBOK hereafter). It is the world’s largest study of the internal audit profession (Islam, Farah, and Stafford 2018). The CBOK questionnaire consists of responses by internal auditors and their stakeholders to a survey focusing on internal audit activities across the globe, covering topics such as staffing, planning, standards, competencies, tools, and risk management. Responses are anonymous, and respondents’ firms cannot be identified or matched with other datasets to enrich the dataset. In 2015, the survey covered 14,518 respondents from 166 countries. 7,496 CAEs responded to the survey. After eliminating observations with missing data, our final sample comprised 939 CAEs.

Declared audit practices and their perceptions can be influenced by differences in the respondent’s position in the firm (e.g., Jiang et al. 2018), differences between countries in national legal and regulatory requirements, and national governance systems or cultures (Seol, Sarkis, and Wang 2017; Erasmus and Coetzee 2018). In this study, we do not restrict data initially. We consider heterogeneity and sample selection problems later, through different robustness tests.

#### 3.2 Variables

##### 3.2.1 Explained variables

Following a long tradition of index definitions measuring IAQ (e.g., Copley, Doucet, and Gaver 1994; Prawitt, Smith, and Wood 2009; Lin et al. 2011; Messier, Reynolds, Simon, and Wood 2011; Ege 2015; Christ, Masly, Sharp, and Wood 2015), we propose two explained variables approximating IAQ based on IIA standards.

The first variable is declared use of IIA standards. Its definition appears in Table 1 with the other variables from CBOK (2015). Use means that firms use IIA standards as a uniform and reliable reference for respondents (Burnaby and Hass 2011) and/or that they are engaged in a quality certification process (Zhang 2007). The level of use of IIA standards,  $IIAU^*$  hereafter, is a latent, unobserved variable. It governs the different observed values of a trichotomic variable  $IIAU$ , defined by the intersections of conditions on the level of use of IIA standards: when auditors consider the level of use of every component  $i$  among the  $m$  dimensions of IIA standards as larger than a threshold (if  $IIAU_i^* > \tau, i = 1, \dots, m, \forall i$ ), the internal auditor declares that the firm uses all of the  $m$  IIA standards. Then  $IIAU$  is set to 2. When the level of use of each of the  $m$  different IIA standards is too low to satisfy a minimum threshold (if  $IIAU_i^* \leq \tau, \forall i$ ), the internal auditor declares that IIA standards are not used, and the observed value of  $IIAU$  is 0. When a component  $i$  satisfies the first condition  $IIAU_i^* \leq \tau$  but others do not ( $IIAU_i^* \geq \tau$ ), the respondent considers that the use of IIA standards is partial, and  $IIAU$  is then set to 1. In other words, the observed values for  $IIAU^*$  form  $IIAU$ , a trichotomic variable ( $IIAU = 0, 1 \text{ or } 2$ ) that can be considered as an ordered variable.

Our second explained variable is declared compliance with IIA standards reported in the CBOK, as a proxy for achieved audit quality (e.g., Abdolmohammadi, 2009; Jiang et al. 2018). Compliance levels are measured by 12 latent, unobserved variables ( $IIAC_i^*$ )<sup>2</sup>. The observed compliance levels for each of the 12 standards are declared by auditors ( $IIAC_i$ ). As with the previous variable, each variable  $IIAC_i$  ( $i = 1, \dots, 12$ ) is set to 2 when the auditor considers that the achieved quality level  $\tau_2$  is high enough to declare that the firm is fully compliant with the dimension  $i$  ( $IIAC_i = 2$  if  $IIAC_i^* \geq \tau_2, \forall i$ ).  $IIAC_i$  is set to 0, when quality is too low for the auditor to consider even partial compliance ( $IIAC_i = 0$  if  $IIAC_i^* < \tau_1, \forall i$ ).  $IIAC_i$  is set to 1 for intermediate values of quality, leading auditors to declare partial compliance ( $IIAC_i = 1$  if  $\tau_2 > IIAC_i^* \geq \tau_1$ ). We can thus define an IIA standards compliance index, IIAC, as the sum of the different internal audit dimensions with which the firm is considered fully compliant. IIAC is thus a count variable between 0 and 12. Larger scores mirror a higher quality internal audit department that complies with IIA standards. Some missing responses on compliance lead to our sample falling from 939 to 863 CAEs.

### 3.2.2 Explanatory variables

We followed the same index strategy to reduce the number of variables dealing with governance, human capital and communication competencies and obtain three indexes based on their related dichotomic variables (listed in Table 1).

Governance practices, such as reporting lines or frequency of meetings between the CAE and audit committee are usually operationalized to build a measure of internal audit function quality (Prawitt et al. 2009; Messier et al. 2011; Prawit, Sharp, and Wood 2012; Ege 2015; Pizzini, Lin, and Ziegenfuss 2015). Elaborating on previous works (e.g. Christopher et al. 2009), we create an original innovative index, aggregating 8 different dichotomic governance variables measuring the alignment of governance practices with 8 different best practices. The 8 continuous internal audit governance practices ( $G_k, k = 1, \dots, 8$ ) are discretized and transformed into eight dummies ( $G_k^{bin}, k = 1, \dots, 8$ ), which equal 1 when the definition (see Table 1) is fulfilled. Our composite governance Index (GOV) is then the sum of the  $G_k^{bin}$  variables ( $GOV = \sum_{k=1}^8 G_k^{bin}$ ) and ranges from 0 to 8. It is easy to define a dichotomized governance index  $GOV^{bin}$  set to 1 when the  $GOV$  index value is at the median or beyond, 0 otherwise.

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2. Purpose, Authority, and Responsibility ( $IIAC_1$ ); Independence and Objectivity ( $IIAC_2$ ), Impairment to Independence or Objectivity ( $IIAC_3$ ); Proficiency and Due Professional Care ( $IIAC_4$ ); Quality Assurance and Improvement Program ( $IIAC_5$ ); Managing the Internal Audit Activity ( $IIAC_6$ ); Nature of Work ( $IIAC_7$ ); Engagement Planning ( $IIAC_8$ ); Performing the Engagement ( $IIAC_9$ ); Communicating Results ( $IIAC_{10}$ ); Monitoring Progress ( $IIAC_{11}$ ); Communicating the Acceptance of Risks ( $IIAC_{12}$ ).

TABLE 1 – Variables definitions

<b>EXPLAINED VARIABLES</b>		
IIAU	Index of use of IIA standards	The sum of dimensions which the CAE considers that her firm use the IIA standards
IIAC	Index of compliance with IIA standards	The sum of dimensions in which the CAE considers her firm as compliant.
<b>EXPLANATORY VARIABLES</b>		
<b>GOV</b>	<b>Governance index</b>	<b>The sum of <math>G_1^{bin}</math> to <math>G_8^{bin}</math> practices.</b>
$GOV^{bin}$	GOV index dichotomized $GOV^{bin}$ is 1 when GOV is higher than the median.	
$G_1^{bin}$	Administrative Reporting	$G_1^{bin}$ is set to 1 when the CAE reports administratively to the Audit committee or to the board of director; set to 0 otherwise (Chief executive officer, Chief financial officer, Chief risk officer, Chief compliance officer, Chief operating officer, Controller, or other staff members).
$G_2^{bin}$	Functional Reporting	$G_2^{bin}$ is set to 1 when the CAE reports functionally to the Audit committee or to the board of director; set to 0 otherwise (Chief executive officer, Chief financial officer, Chief risk officer, Chief compliance officer, Chief operating officer, Controller, or other staff members).
$G_3^{bin}$	Appointment of the CAE	$G_3^{bin}$ is set to 1 when the CAE is appointed by the Board or the chair of the Board, the Audit committee or the Chair of the audit committee; set to 0 otherwise (Chief operating officer, Chief financial officer, or other staff members).
$G_4^{bin}$	Evaluation of the CAE	$G_4^{bin}$ is set to 1 when the CAE is appraised by the Board or the Chair of the Board, the Audit committee, or the Chair of the audit committee; 0 otherwise (Chief executive officer, Chief operating officer, Chief financial officer, senior management, or other staff member, or when the CAE is not appraised).
$G_5^{bin}$	Existence of Audit Committee	$G_5^{bin}$ is set to 1 when an Audit Committee exists; and set to 0 otherwise.
$G_6^{bin}$	Frequency of Audit Committee	$G_6^{bin}$ is set to 1 when the annual frequency of audit committee meetings is greater than the median (5 meetings); set to 0 when the frequency is equal to or fewer than 5 meeting per year.
$G_7^{bin}$	Attendance of CAE to Audit Committee	$G_7^{bin}$ is set to 1 when the CAE attends all audit committees; 0 otherwise.
$G_8^{bin}$	CAE-Audit Committee Meeting Without Management	$G_8^{bin}$ is set to 1 when the Management does not attend the meeting between the CAE and the Audit Committee; 0 otherwise.
<b>HC</b>	<b>Human capital index</b>	<b>The sum of H1bin to H5bin practices.</b>
$HC^{bin}$	HC index dichotomized	$HC^{bin}$ is 1 when HC is higher than the median.
$H_1^{bin}$	Master lever	$H_1^{bin}$ is set to 1 when the auditor holds a Master degree or PhD
$H_2^{bin}$	Academic major	$H_2^{bin}$ is set to 1 when the academic major is either internal auditing, external auditing or accounting, 0 otherwise
$H_3^{bin}$	Double Competencies	$H_3^{bin}$ is set to 1 when $H_2^{bin}$ is 1 with a second major in social sciences (economics, law, finance, business, management or art), hard sciences (Computer science, IT, Maths, Engineering, physics, chemistry, biology) or other fields.

$H_4^{bin}$	Experience	$H_4^{bin}$ is set to 1 when the auditor has more than 8 years' experience in internal audit, 0 otherwise.
$H_5^{bin}$	Certifications	$H_5^{bin}$ is set to 1 when the auditor is a Certified Internal Auditor, 0 otherwise.
$H_6^{bin}$	Training	$H_6^{bin}$ is set to 1 when hours of training per year are greater than 40, 0 otherwise.
<b>COM</b>	<b>Communication index</b>	<b>The sum of <math>C_1^{bin}</math> to <math>C_7^{bin}</math> practices.</b>
$COM^{bin}$	COM index dichotomized	$COM^{bin}$ is 1 when COM is higher than the median.
$C_1^{bin}$	Verbal Communication	$C_1^{bin}$ is 1 when the CAE declares him/herself advanced or expert in verbal communication skills; 0 otherwise.
$C_2^{bin}$	Written communication	$C_2^{bin}$ is 1 when the CAE declares him/herself advanced or expert in written communication skills, 0 otherwise; 0 otherwise.
$C_3^{bin}$	Listening communication $C_3^{bin}$ is 1 when the CAE declares him/herself advanced or expert in listening communication skills; 0 otherwise.	
$C_4^{bin}$	Collaborative skills	$C_4^{bin}$ is 1 when the CAE declares him/herself advanced or expert in collaborative skills; 0 otherwise.
$C_5^{bin}$	Persuasion and consensus building skills	$C_5^{bin}$ is 1 when the CAE declares him/herself advanced or expert in persuasion and consensus building; 0 otherwise.
$C_6^{bin}$	Leadership skills	$C_6^{bin}$ is 1 when the CAE declares him/herself advanced or expert in leadership skills; 0 otherwise.
$C_7^{bin}$	Relationship building skills;	$C_7^{bin}$ is 1 when the CAE declares him/herself advanced or expert in building relationships; 0 otherwise.
<b>Control Variables</b>		
	Age	Declared age of the CAE
	Gender	Set to 1 when the CAE declares himself male, 0 otherwise.
	IA Size	Fulltime equivalent employees in the respondent's internal audit department (in logarithm).
	Size	Number of FTE employees (in logarithm).
	Listed	Set to 1 when the CAE's firms is listed, 0 otherwise.
	Geographic scope	A set of 4 indicators set to one when the firm is either local, regional, national or international

To operationalize internal auditors' human capital in an IAQ variable, previous studies aggregated attributes such as experience, certifications, or training (see Prawitt et al. 2009; Messier et al. 2011; Christ et al. 2015; Ege 2015) and adding variables related to education (e.g., Pizzini, Lin, and Ziegenfuss 2015) and industry knowledge (e.g., Zain, Zaman, and Mohamed 2015). We propose to define a human capital index (hereafter HC) as the sum of 6 dichotomized employment variables related to auditors' education, experience, certifications, and training, where  $HC = \sum_{l=1}^6 H_l^{bin}$ .  $HC$  can also be dichotomized into  $HC^{bin}$  that is set to 1, when  $HC$  is found to be beyond the  $HC$  median.

Auditors' communication competences identified in CBOK include verbal, written and listening communication skills, along with collaboration, consensus building, leadership,

and relationship building skills. We define our communication index  $COM$ , like the other two, as the sum of 7 discrete communication variables ( $COM = \sum_{r=1}^7 C_r^{bin}$ ) (see Table 1). This composite measure ranges from 0 to 7.  $COM$  is also dichotomized as  $COM^{bin}$  that is set to 1 for  $COM$  values higher than the  $COM$  median.

### 3.2.3 Control variables

In our model, we use the following variables to control for organization-specific factors (see Table 1), based on prior research, which shows that organizational and personal variables may influence a firm's use of and compliance with IIA standards (Abdolmohammadi 2009). We include personal demographic variables such as age and gender as control variables. Studies investigating gender and audit quality document that female auditors improve audit quality (Nekhili, Javed, and Chtioui 2018), through lower abnormal accruals in client firms (Ittonen, Vahamaa, and Vahamaa 2013) and by expressing going-concern opinion more often (Hardies, Breesch, and Branson 2016). Organizational variables also include internal audit department size, based on the number of employees (as in Islam et al. 2018), and organization size (proxied by total number of employees) to control for potential effects related to larger companies (Sarens and Abdolmohammadi 2011). Finally, we use a set of fixed effect, to control for the possible influence of country and sector on IAQ (Jiang et al. 2018), since our sample covers an array of countries and industries. When a MNE (multinational enterprise) uses IIA standards worldwide (Leung and Cooper 2009; Marais et al. 2009; Burnaby and Hass 2011), local, regional, or national subsidiaries may interpret the rules and/or comply with the rules in different ways. We thus further control for the organization's geographical scope. Finally, we control whether the organization is listed in order to control for the specific local regulatory requirements and the related scrutiny likely to influence auditing practices.

## 3.3 Econometrics

IIAU is an ordered variable with three values (not used, partially used, used) and is likely to require an ordered probit or logit estimator. However, very few firms admit to not using IIA standards at all (11 percent only). To compute marginal effects, we need to reduce the trichotomic IIAU variable to a dichotomic variable by aggregating "no use" and "partial use". We then implemented a standard probit estimator instead of an ordered probit estimator.

The variable  $IIAC$  counts the numbers of practice types and is censored: when firms declare themselves as compliant, we are unable to observe their different levels of compliance for the entire set of 12 practices. Similarly, firms may be compliant in dimensions not considered in the questionnaire, or their compliance level may not reach the threshold for consideration, and thus they declare zero compliance when they are in fact partially compliant. To consider these two kinds of censorship, we introduced a censored Poisson model instead of a standard Tobit estimator (see Cameron and Trivedi 2013). For the Probit and the Poisson model, we tested H1, H2 and H3 by computing and reporting the marginal effects at the sample mean.

The test for H4 is more complex. We use the literature on supermodularity (see Milgrom and Roberts 1995; Carree, Lokshin, and Belderbos 2011) to test whether HC, communication and governance are complementary, independent or substitutable.  $IIAU$  and  $IIAC$  depend on a function of three binary variables defined

as  $f(GOV, HC, COM) = \alpha_0 + \alpha_G GOV + \alpha_H HC + \alpha_C COM + \alpha_{GH} GOV \times HC + \alpha_{GC} GOV \times COM + \alpha_{HC} HC \times COM + \alpha_{GHC} GOV \times HC \times COM$ . The  $f$  function can be redefined using an indicator function with 8 indicators  $I_{D=(g,h,c)}$  set to 1 for each of the possible combinations in  $D = \{(000), (100), (010), (001), (110), (101), (011), (111)\}$ . Two polar combinations are, for example:  $I_{111} = 1$  if  $(g, h, c) = (1, 1, 1)$  where all 3 determinants of our two indexes are 1 and  $I_{000} = 1$  if  $(g, h, c) = (0, 0, 0)$  where all 3 IAQ determinants are 0. We have  $f(GOV, HC, COM) = \beta_0 + \beta_{100} I_{100} + \beta_{001} I_{001} + \beta_{010} I_{010} + \beta_{110} I_{110} + \beta_{011} I_{011} + \beta_{101} I_{101} + \beta_{111} I_{111}$ , where  $GOV$  and  $HC$  are complementary when one of the two following is strictly unequal:  $\alpha_{GH} = \beta_{110} + \beta_{000} - \beta_{100} - \beta_{010} \geq 0$  and  $\alpha_{GH} + \alpha_{GHC} = \beta_{111} + \beta_{001} - \beta_{101} - \beta_{011} \geq 0$ .

In this article, we first follow the testing procedure proposed by Carree et al. (2011), rearranging  $IIAU = \alpha_0 + \alpha_G GOV + \alpha_H HC + \alpha_C COM + \alpha_{GC} GOV \times COM + \alpha_{GH} GOV \times HC + \alpha_{HC} HC \times COM + \alpha_{GHC} GOV \times HC \times COM + control\ variables + \varepsilon$  where  $\varepsilon \sim N(0, \sigma_\varepsilon^2)$  as  $IIAU = \alpha_0 + \alpha_G GOV + \alpha_H HC + \alpha_C COM + \alpha_{GH}(GOV \times HC - GOV \times HC \times COM) + \alpha_{GC} GOV \times COM + \alpha_{HC} HC \times COM + (\alpha_{GH} + \alpha_{GHC}) GOV \times HC \times COM + control\ variables + \varepsilon$ . The t tests for  $\alpha_{GH} \geq 0$  (Coeff1) and  $\alpha_{GH} + \alpha_{GHC} \geq 0$  (Coeff2) can be conducted directly to assess the complementarity, for example, between  $GOV$  and  $HC$ . Complementarity holds when one of the above two inequalities holds strictly, at 1 percent, 5 percent or 10 percent of risk. When the coefficients are negative, substitutability is found, in our example, when at least one of  $\alpha_{GH} \leq 0$  and  $\alpha_{GH} + \alpha_{GHC} \leq 0$ , is strictly unequal. We applied the same test for the complementarity of  $GOV$  and  $COM$  and between  $HC$  and  $COM$ . The specification can either use the index ( $GOV$ ,  $HC$  and  $COM$ ) or the dichotomized indexes ( $GOV^{bin}$ ,  $HC^{bin}$  and  $COM^{bin}$ ). The set of tests is similar when we replace  $IIAU$  with  $IIAC$ .

When organizational practices are numerous, complementarity can also be tested by introducing into our equations, clusters of internal audit practices beside internal audit variables (see Ichniowski, Shaw, and Prennushi 1997). To use this method, we first determine internal audit clusters. Based on the Wards' linkage method, we conducted a cluster analysis on the set of 21 internal audit practices ( $G_1^{bin}$  to  $G_8^{bin}$ ,  $H_1^{bin}$  to  $H_6^{bin}$  and  $C_1^{bin}$  to  $C_7^{bin}$ ) to define three main organizational IA practice modes (IA  $Form_1$ , IA  $Form_2$  and IA  $Form_3$ ). Following Ichniowski et al. (1997), we used two strategies to test the hypothesis of complementarity in a simple fashion. In the first strategy, the cluster of internal audit practices brings additional information to the  $IIAU$  or  $IIAC$  equations, whereas a marginal change in individual practices has no significant influence on  $IIAU$  or  $IIAC$ . We therefore launched 21 models, where we do not expect the coefficient of each internal audit practice (e.g.,  $G_1^{bin}$ ) introduced alone, along with the internal audit cluster dummies (IA  $Form_1$  and IA  $Form_3$  with IA  $Form_2$  as a reference) to differ significantly from 0. The second strategy tests whether the magnitude of the effect of the internal audit practice system on  $IIAU$  or  $IIAC$  is greater than the sum of the marginal effects of adopting each internal audit practice. If positive interactions between internal audit practices occur, the internal audit cluster dummies (IA  $Form_2$  and IA  $Form_3$ ) will remain significant, even if all 21 practices ( $G_1^{bin}$  to  $G_8^{bin}$ ,  $H_1^{bin}$  to  $H_6^{bin}$  and  $C_1^{bin}$  to  $C_7^{bin}$ ) are introduced into the model at the same time. We added internal audit cluster dummies simultaneously, along with the other 21 internal audit practice variables, expecting them to be positively related to  $IIAU$  or  $IIAC$ .



## 4 Results

### 4.1 Descriptive statistics

We provide descriptive statistics in Table 2. 64 percent of respondents report using IIA standards. CAEs declare that their firms comply with 9 of the 12 IIA standards, while 33 percent of them state that their firm complies with all 12 IIA standards, and 7 percent state that their firm does not meet any of the 12.

With regard to the explained variables, our calculation of cross variables shows that companies implement several types of practices to ensure IAQ. 25 percent of companies implement a substantial amount of governance practices, HC practices and communication practices ( $GOV^{bin} = 1$  &  $HC^{bin} = 1$  &  $COM^{bin} = 1$ ). Our calculation of clusters on the different types of practices ( $G_1^{bin}$  to  $G_8^{bin}$ ,  $H_1^{bin}$  to  $H_6^{bin}$  and  $C_1^{bin}$  to  $C_7^{bin}$ ) reveals three organizational forms of internal audit activities IA ( $Form_1$ , IA  $Form_2$  and IA  $Form_3$ ). A first form, Form1, concerns 28 percent of companies with weak governance practices. This form can be found in the literature, which documents unequal maturity in internal audit department governance between organizations and countries. For instance, scholars note that in developing countries, few companies give internal auditors direct access to the board of directors (Al-Twajiry et al. 2003).  $Form_3$  covers 21 percent of the 863 declarations and includes firms with particularly weak communication skills. Finally,  $Form_2$  firms (51 percent of the sample) are relatively strong in all internal audit practices, reinforcing our assumption that our respondents often manage mature internal audit departments.

TABLE 2 – Descriptive statistics

Variable	All		IA Form1		IA Form2		IA Form3	
N	863		241		439		183	
Obs	Mean	Std	Mean	Std	Mean	Std	Mean	Std
<i>IIAU</i>	0,64	0,48	0,59	0,49	0,70	0,46	0,56	0,50
<i>IIAC</i>	9,13	3,62	8,95	3,77	9,73	3,16	7,91	4,12
<i>GOV</i>	5,45	1,54	4,00	1,29	6,29	5,35	1,46	
<i>COM</i>	5,76	2,20	6,72	0,65	6,81	0,52	2,00	1,90
<i>HC</i>	3,60	1,27	3,73	1,31	3,61	1,26	3,40	1,23
<i>Cross<sup>gh</sup></i>	19,71	9,28	15,14	7,79	22,80	9,11	18,34	8,71
<i>Cross<sup>gc</sup></i>	31,59	15,47	26,90	8,98	42,81	7,62	10,85	11,09
<i>Cross<sup>hc</sup></i>	21,05	11,29	25,17	9,15	24,60	8,82	7,09	7,54
<i>Cross<sup>ghc</sup></i>	115,62	72,91	102,05	53,06	155,33	63,17	38,23	42,34
<i>GOV<sup>bin</sup></i>	0,56	0,50	0,13	0,34	0,82	0,38	0,49	0,50
<i>HC<sup>bin</sup></i>	0,54	0,50	0,60	0,49	0,53	0,50	0,48	0,50
<i>COM<sup>bin</sup></i>	0,75	0,43	0,93	0,26	0,96	0,20	0,02	0,13
<i>Cross<sup>bingh</sup></i>	0,30	0,46	0,09	0,28	0,45	0,50	0,23	0,43
<i>Cross<sup>bingc</sup></i>	0,43	0,50	0,11	0,32	0,78	0,41	0,02	0,13
<i>Cross<sup>binhc</sup></i>	0,42	0,49	0,57	0,50	0,51	0,50	-	-
<i>Cross<sup>binghc</sup></i>	0,24	0,43	0,08	0,27	0,44	0,50	-	-
<i>IAForm1</i>	0,28	0,45	1	-	-	-	-	-
<i>IAForm2</i>	0,51	0,50	-	-	1	-	-	-
<i>IAForm3</i>	0,21	0,41	-	-	-	-	1	-
<i>Age</i>	46,53	8,40	46,85	8,28	46,47	8,58	46,23	8,14
<i>Gender</i>	0,73	0,44	0,73	0,45	0,73	0,45	0,74	0,44

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<i>IAsize</i>	1,87	1,25	1,72	1,02	1,97	1,27	1,82	1,44
<i>Size</i>	7,17	2,27	7,59	2,00	7,20	2,27	6,55	2,48
<i>Listed</i>	0,54	0,50	0,56	0,50	0,54	0,50	0,52	0,50

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The average age of our respondents was 47, and 73 percent of them were male. Unsurprisingly, *Form*<sub>2</sub> contains the largest firms. In contrast, *Form*<sub>1</sub> firms have the largest internal audit teams, significantly larger than *Form*<sub>2</sub> firms ( $z = 2.80$  at  $p < 0.01$ ). The difference is at odds with other studies that found stronger governance practices in large internal audit departments (e.g., Anderson, Christ, Johnstone, and Rittenberg 2012). However, the latter results were obtained from North American samples, where regulatory requirements for governance are stronger. Finally, more than half of the firms are listed, confirming the bias toward large, public companies in our sample.

## 4.2 Econometric results

We present our econometric results in Tables 3, 4 and 5. Table 3 presents the impact of the three governance, HC and communication indexes on the use of and compliance with IIA standards. Overall, our findings complement and enrich the few studies examining the influence of indexes on internal audit effectiveness (see Coetzee and Erasmus 2017).

The implementation of governance practices aligned with best practices has a significant, positive impact on the use of IIA standards (Col. 1 and 5 in Table 3) and on compliance with IIA standards (Col. 3 and 7). This result supports H1 on the positive impact of governance practices on the use of and compliance with IIA standards. Our results are robust when we use the plain governance index *GOV* (in Col. 1 and 3) or, the dichotomized governance index *GOV*<sup>bin</sup> (in Col. 5 and 7) as a substitute explanatory variable. We find the same conclusion for H2: better HC practices in internal audit departments significantly promote the use of and compliance with IIA standards (Col. 1 and 5, Col. 3 and 7 in Table 3). The positive impact of HC is significant whether or not we use the dichotomized explanatory variables *HC* or *HC*<sup>bin</sup>, respectively in Table 3, Col. 5 and 7 vs. Col. 1 and 3. Finally, firms that comply with IIA standards have better communication skills. Once more, the results are robust when we use a dichotomized explanatory variable (*COM*<sup>bin</sup> in Col. 7), supporting H3. More precisely, communication capabilities only foster compliance with IIA standards, since the impact on their use is positive but not significantly different from 0 (see Col. 1 and Col. 5). In sum, being a good communicator does not lead an auditor to use IIA standards, but improves IAQ through compliance with a higher number of standards.

TABLE 3 – Econometrics results

	(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)
VARIABLES	Probit IIAU	Probit IIAU	Count IIAC	Count IIAC	VARIABLES	Probit IIAU	Probit IIAU	Count IIAC	Count IIAC
<i>GOV</i>	0.061*** (0.011)	0.041 (0.096)	0.177** (0.086)	1.040 (0.812)	<i>GOV<sup>bin</sup></i>	0.148*** (0.035)	0.232** (0.092)	0.539** (0.259)	1.392** (0.704)
<i>HC</i>	0.060*** (0.014)	-0.039 (0.150)	0.457*** (0.101)	1.572 (1.289)	<i>HC<sup>bin</sup></i>	0.194*** (0.034)	0.256*** (0.092)	1.187*** (0.256)	1.780** (0.732)
<i>COM</i>	0.011 (0.008)	-0.002 (0.081)	0.205*** (0.061)	1.062 (0.724)	<i>COM<sup>bin</sup></i>	0.059 (0.041)	0.145* (0.078)	1.181*** (0.287)	1.936*** (0.556)
<i>GOV</i> × <i>HC</i>		0.021 (0.028)		-0.216 (0.228)	<i>GOV<sup>bin</sup></i> × <i>HC<sup>bin</sup></i>		-0.046 (0.141)		-0.632 (1.012)
<i>GOV</i> × <i>COM</i>		0.004 (0.015)		-0.164 (0.129)	<i>GOV<sup>bin</sup></i> × <i>COM<sup>bin</sup></i>		-0.118 (0.110)		-1.190 (0.825)
<i>HC</i> × <i>COM</i>		0.017 (0.024)		-0.215 (0.204)	<i>HC<sup>bin</sup></i> × <i>COM<sup>bin</sup></i>		-0.092 (0.112)		-0.853 (0.853)
<i>GOV</i> × <i>HC</i> × <i>COM</i>		-0.004 (0.004)		0.041 (0.036)	<i>GOV<sup>bin</sup></i> × <i>HC<sup>bin</sup></i> × <i>COM<sup>bin</sup></i>		0.065 (0.155)		0.936 (1.239)
Age	-0.003 (0.002)	-0.003 (0.002)	-0.023 (0.016)	-0.022 (0.016)	Age	-0.003 (0.002)	-0.003 (0.002)	-0.023 (0.016)	-0.023 (0.016)
Gender	0.002 (0.039)	0.006 (0.040)	-0.186 (0.291)	-0.176 (0.292)	Gender	0.007 (0.040)	0.011 (0.040)	-0.122 (0.291)	-0.104 (0.292)
IA Team Size	0.056*** (0.018)	0.057*** (0.018)	0.296** (0.128)	0.289** (0.128)	IA Team Size	0.054*** (0.018)	0.055*** (0.019)	0.279** (0.128)	0.284** (0.129)
Firm Size	0.007 (0.010)	0.006 (0.010)	-0.012 (0.074)	-0.009 (0.074)	Firm Size	0.008 (0.010)	0.009 (0.010)	-0.009 (0.074)	-0.008 (0.074)
Listed	-0.021	-0.019	0.444	0.435	Listed	-0.012	-0.013	0.425	0.423

	(0.039)	(0.039)	(0.284)	(0.285)		(0.039)	(0.039)	(0.286)	(0.287)
Local scope	-0.075	-0.077	-0.188	-0.202	Local scope	-0.064	-0.070	-0.145	-0.194
	(0.076)	(0.077)	(0.541)	(0.541)		(0.076)	(0.076)	(0.543)	(0.543)
Regional scope	-0.045	-0.046	-0.130	-0.086	Regional scope	-0.030	-0.029	-0.144	-0.129
	(0.063)	(0.063)	(0.438)	(0.441)		(0.063)	(0.063)	(0.437)	(0.439)
National scope	-0.070	-0.070	-0.732**	-0.723**	National scope	-0.067	-0.068	-0.753**	-0.753**
	(0.044)	(0.044)	(0.309)	(0.309)		(0.044)	(0.044)	(0.309)	(0.309)
Industry FE	Yes	Yes	Yes	Yes	Industry FE	Yes	Yes	Yes	Yes
HQ Country FE	Yes	Yes	Yes	Yes	HQ Country FE	Yes	Yes	Yes	Yes
Observations	939	939	863	863	Observations	939	939	863	863
All $\beta = 0$	133.16***	135.94***	132.11***	134.19***	All $\beta = 0$	134.81***	133.52***	138.35***	140.98***
All Coeff cross = 0		3.14		1.91	All Coeff cross = 0		1.92		2.61
All $\beta$ Industry=0	23.37***		39.16***		All $\beta$ Industry=0	24.83***		40.87***	
All $\beta$ HQ country=0	2.83		6.37		All $\beta$ HQ country=0	2.53		6.76	
All $\beta$ Country scope=0	8.92		12.31**		All $\beta$ Country scope=0	8.79		12.10**	
All $\beta$ Country Respondent=0	4.17		5.43		All $\beta$ Country Respondent=0	3.67		5.39	
LL	-562.47	-561.06	-1678.67	-1677.62	LL	-561.48	-560.48	-1675.54	-1674.23

Marginal effects are computed at the mean. Standard errors in parentheses, \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$  dummy variables. Column 5 to 8 are results with dichotomized indexes on Governance, HC and Communication. Of 840 observations, 495 are uncensored. 56 and 289 are censored respectively on the left (0) and on the right (12). Hypothesis of all coefficients equal to zero are Wald test for Probit models and LR test for Poisson models. The test of nullity of cross-variables is also a Wald test. International scope of organizations is taken as a reference.

The computation of marginal effects coefficients (reported in Table 3) provides insights into the magnitude of the positive effects identified.

When we consider IIAU, an additional type of governance practice has a similar impact to an additional type of HC practice, with an increase in the likelihood of using IIA standards of about 6 percent, while the use of standards is not influenced by communication skills. When we consider the dichotomic values of the indexes (Col. 5 or 6), results are similar: firms with high levels of Governance and HC practices increase their likelihood of using IIA standards to a similar degree (by 15 percent and 19 percent respectively whereas communication efforts lead to less use of IIA standards. These results suggest that IIA standards may not be useful for firms whose internal auditors have better communication skills. Perhaps IIA standards are not precise enough regarding communication to foster such practices.

When we consider compliance with IIA standards and IAQ (Col. 3), one additional type of internal audit HC, communication or governance practice boosts the number of standards with which the internal audit engagement complies by 0.46, 0.20 and 0.18, suggesting that HC efforts have twice the effect of efforts in communication or governance. The use of a dichotomized index (Col. 7 and 8) confirms that efforts with regard to governance have the weakest impact on IAQ. The results suggest however that firms improving their HC practices improve their compliance with IIA standards more than those investing in communication (Col. 3). Firms whose internal auditors communicate well obtain a similar gain in audit quality to firms with high HC (Col. 7 and 8).

These results highlight a key finding of our study. The development of HC practices is an effective way for organizations to improve IAQ. As such, our finding echoes studies emphasizing the value of HC (Chang et al. 2011), through investments to develop practitioners' auditing skills (Abdolmohammadi 2012) and knowledge of business process and risks (Abdolmohammadi 2013). This result suggests that the development of HC practices deserves more attention when firms aim to enhance IAQ, especially when they can be developed at low cost.

Nevertheless, this interesting result must not overshadow the substantial positive impact of communication skills on IAQ. Our results suggest that good verbal or writing skills can improve an auditor's ability to complete an audit engagement with a high perceived quality. Thus, even if we do not disentangle the potential roles of communication on IAQ, our findings suggest utilitarian aspects of this particular skill. One interpretation is that communication skills allow internal audit teams to adhere to IIA standards better and more efficiently. Another interpretation is that such auditors communicate the value added of internal audit activity more effectively (Burnaby and Hass 2011). A third role of this skill, for auditors in general, would be to communicate effectively towards regulators and institutions, including institutions in charge of standards settings (e.g., the IIA or the PCAOB) in order to refine the definition of audit quality (Aobdia 2019) and thus improve the perception of their work by the public.

Organizations implementing best governance practices (such as frequent audit committee meetings, or CAEs regularly reporting to the audit committee chair without the presence of management) also improve IAQ significantly, even if the internal audit department is unable to dedicate resources to improving HC. Despite its positive impact

on audit quality, our results suggest that better governance seems to have a lower rate of return than HC or communication efforts.

The introduction of cross effects induces multicollinearity in our models (see Col. 2 and Col. 4), making the coefficients of interest not significantly different from 0. The problem is however alleviated when we use dichotomized indexes as explanatory variables. When we introduce internal audit form dummies (IA Form1 and IA Form3), none of the internal audit forms is superior to the others (results available upon request). However, the complementarity of governance, HC and communication is however tested properly only in Table 4 and Table 5. In Table 4, we follow Carree et al.s' (2011) method to test the complementarity of the three pairs (GOV and HC, HC and COM and GOV and COM) rearranging the specification used in Table 3 to read the signs of Coeff1 and Coeff2 directly. In each of the different scenarios we explore, the two coefficients are not significant. These results lead us to reject the hypothesis that the three types of internal audit practices are complementary. Using the method proposed by Ichniowski et al. (1997) provides no support for H4 either: the introduction of cluster dummies (Form1 and Form2) in the equation does not reduce the explanatory power of each governance practice. Only 2 coefficients out of 21 became insignificant for IIAU, and 7 for IIAC (see Table 5). Unsurprisingly, when we introduce Form1 and Form2 simultaneously with the set of internal audit practices, the model is not strengthened on either IIAU or on IIAC (results available upon request). Thus, our different investigations testing H4 converge, leading us to reject the idea that the internal audit practices act in combination to improve organizational use of or compliance with IIA standards. Our results also show that GOV and HC cannot replace each other, and that the same is true for HC and COM, and GOV and COM. Hence, we find that the three determinants of IAQ are independent.

The lack of complementarity underlines the fact that investing in governance, HC and communication are costly but worthwhile ways to improve IAQ, especially compliance with IIA standards. However, this finding also underlines the fact that accumulating resources, competencies or practices, while useful, may not produce any synergies: to be efficient, high HC does not require high governance alignment. Communication skills thus foster IAQ (H3), but cannot be considered as leveraging governance practices or HC. In other words, investments in communication skills do not influence the returns on governance or HC investments. This result highlights another key finding of our study. IAQ depends on cumulative internal audit practice efforts but cannot be expected to evolve through synergies. The lack of substitutability between IAQ determinants also suggests that governance, HC and communication cannot compensate for each other: we identify no pattern of substitution between the three types of determinants. Organizations do not seem to find dividing available resources between the three types of practices an effective way to improve IAQ. One reason for this may be that firms are somewhat myopic regarding the relative costs of resources and practices influencing IAQ. They may consider it beneficial to invest extensively in one such practice, without being aware of the potential benefits of implementing the three practices simultaneously. Another reason may be that resources are dedicated to one or another practice intermittently, according to the wishes of audit committee members or the CAE, but without any cost benefit consideration. They may, for instance, be influenced by market trends or by adverse events impacting the organization. However, this interpretation does not match previous findings, which suggest that some firms aim to minimize the costs of their internal departments by outsourcing some or all internal audit activities (see Swanger and Chewning 2001; Abbott,

Parker, Peters, and Rama 2007; Prawitt, Sharp and Wood 2012).

TABLE 4 – Complementarity test for IA practices (H4) (Following Carree et al. 2011)

Explained Variables	Complementarity Between	Coeff1	(s.e.)	Coeff2	(s.e.)	Complementarity?
<i>IIAU</i>	$GOV \times HC$	-0.117	(0.360)	0.054	(0.203)	No
<i>IIAU</i>	$GOV \times COM$	-0.304	(0.284)	-0.133	(0.298)	No
<i>IIAU</i>	$HC \times COM$	-0.236	(0.288)	-0.065	(0.294)	No
<i>IIAC</i>	$GOV \times HC$	-0.059	(0.096)	0.026	(0.055)	No
<i>IIAC</i>	$GOV \times COM$	-0.111	(0.078)	-0.026	(0.078)	No
<i>IIAC</i>	$HC \times COM$	-0.080	(0.080)	0.005	(0.076)	No
<i>IIAU</i>	$GOV^{bin} \times HC^{bin}$	0.053	(0.071)	0.044	(0.060)	No
<i>IIAU</i>	$GOV^{bin} \times COM^{bin}$	0.009	(0.039)	0.000	(0.029)	No
<i>IIAU</i>	$HC^{bin} \times COM^{bin}$	0.044	(0.061)	0.034	(0.051)	No
<i>IIAC</i>	$GOV^{bin} \times HC^{bin}$	-0.020	(0.021)	-0.016	(0.018)	No
<i>IIAC</i>	$GOV^{bin} \times COM^{bin}$	-0.015	(0.012)	-0.011	(0.009)	No
<i>IIAC</i>	$HC^{bin} \times COM^{bin}$	-0.020	(0.019)	-0.016	(0.016)	No

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Line 1 tests  $H_0 : \alpha_{GH} \geq 0$  (Coeff1) with  $H_0 : \alpha_{GH} + \alpha_{GHC} \geq 0$  (Coeff2): to be complementary, at least one of the two inequalities has to hold strictly.

Only coefficient 1 and 2 are reported to determine complementarity. Other explanatory variables are not reported. The specification is the same as in Table 3.

TABLE 5 – Complementarity test for IA practices (H4) (Following Ichniowski et al. 1997)

VARIABLES	IIAU	IIAU	Change	IIAC	IIAC	Change
Including IA form variables	NO	YES		NO	YES	
$G_1^{bin}$	0.206*	0.138	Yes	0.049*	0.054*	No
	(0.105)	(0.109)		(0.028)	(0.029)	
$G_2^{bin}$	0.430***	0.359***	No	0.013	0.006	No
	(0.115)	(0.118)		(0.033)	(0.034)	
$G_3^{bin}$	0.374***	0.288**	No	0.008	0.002	No
	(0.101)	(0.124)		(0.028)	(0.035)	
$G_4^{bin}$	0.429***	0.409***	No	0.069***	0.095***	No
	(0.093)	(0.129)		(0.025)	(0.035)	
$G_6^{bin}$	0.050	0.009	No	-0.037	-0.040	No
	(0.093)	(0.094)		(0.025)	(0.025)	
$G_7^{bin}$	0.330***	0.317***	No	0.031	0.034	No
	(0.108)	(0.109)		(0.030)	(0.031)	
$G_8^{bin}$	0.226**	0.184*	No	0.086***	0.079***	No
	(0.101)	(0.102)		(0.028)	(0.028)	
$H_1^{bin}$	0.149*	0.163*	No	0.071***	0.069***	No
	(0.090)	(0.090)		(0.024)	(0.024)	
$H_2^{bin}$	0.017	0.033	No	0.038	0.042	No
	(0.107)	(0.108)		(0.029)	(0.029)	
$H_3^{bin}$	0.081	0.078	No	0.016	0.015	No
	(0.110)	(0.111)		(0.030)	(0.030)	
$H_4^{bin}$	0.097	0.104	No	0.053**	0.047*	No
	(0.096)	(0.097)		(0.026)	(0.026)	

$H_5^{bin}$	0.467*** (0.091)	0.486*** (0.092)	No	0.076*** (0.024)	0.073*** (0.024)	No
$H_6^{bin}$	0.361*** (0.092)	0.351*** (0.092)	No	0.075*** (0.024)	0.069*** (0.024)	No
$C_1^{bin}$	0.195* (0.116)	0.119 (0.159)	No	0.115*** (0.031)	0.057 (0.046)	Yes
$C_2^{bin}$	0.196 (0.125)	0.072 (0.174)	No	0.113*** (0.035)	0.039 (0.048)	Yes
$C_3^{bin}$	0.155 (0.120)	-0.001 (0.173)	No	0.117*** (0.032)	0.053 (0.047)	Yes
$C_4^{bin}$	0.204 (0.124)	0.121 (0.170)	No	0.070** (0.034)	-0.033 (0.046)	Yes
$C_5^{bin}$	0.236*** (0.111)	-0.036 (0.176)	Yes	0.075 (0.031) **	-0.036 (0.047)	Yes
$C_6^{bin}$	0.164 (0.113)	0.041 (0.169)	No	0.118*** (0.031)	0.063 (0.045)	Yes
$C_7^{bin}$	0.236** (0.111)	0.173 (0.160)	No	0.094*** (0.031)	0.019 (0.043)	Yes
Number of changes			2			7

$G_5$  is not reported because of collinearity problems hampering identification.

Among the control variables, firm size does not foster IIAU or IIAC even if firm size is usually found to be a determinant of the existence of an internal audit department (see Carey, Simnett, and Tanewski 2000). Outside the US, the creation of an internal audit department is often left to the organization's discretion, although this increasingly occurs in medium- and large-sized companies (Mennicken and Power 2013). Nevertheless, we find that the size of the internal audit department does matter for IAQ. One additional team member increases the likelihood of using IIA standards by 6 percent and the level of compliance by 0.3 units. Thus, size influences the use of IIA standards more than compliance with them: compliance cannot only be achieved through an increase in the number of internal auditors, but also requires greater investment in structural dimensions such as governance, HC, or communication skills. Listed companies are not more likely to use or comply with IIA standards. The results do not align with previous results on listed firms (see Jiang et al. 2018). However, our sample includes firms from many countries, where the auditing requirements for listed companies may be less stringent. Finally, as expected, we found the respondents' age and gender to be significant.

Whilst the country or region where the headquarters are located does not influence the use of and compliance with IIA standards, sectoral effects are significant. A company's international scope is significant with regard to complying with but not using IIA standards. More precisely, multinational firms are more likely to be compliant than national firms (results available upon request). International companies are indeed influenced by environmental uncertainty caused by intense industry competition and the need to deal with regulatory requirements. This appears to improve compliance with IIA standards to satisfy multiple expectations and requirements (Jiang et al. 2018). Our results suggest that the situation is similar for local or regional firms: they are likely to use and comply with international standards. However, national firms are significantly less likely to use and comply with international standards to signal their quality.



Our results are thus shown to be robust to different proxies for governance, HC and communication practices. To test the robustness of our results further, we also used alternative estimators. In place of our censored variable IIAC, we used standard Tobit and ordered probit models. The results differ only when we use the dichotomized governance index with the ordered probit model (results available upon request).

## 5 Conclusion

Our article investigates associations between IAQ and various attributes of internal audit department governance, human capital and internal auditors' communication, using the CBOOK database collected by the IIA Research Foundation. First, we show that the dedicating resources to develop human capital in the internal audit department contributes to improve IAQ, since our human capital index is related to both our proxies for IAQ. Firms whose internal auditors are good communicators, or whose governance aligns closely with best practices can also provide audits of quality in cases, even when where their human capital is low. Our results also suggest that efforts in communication make a greater impact than efforts in governance.

Another of our key findings is the fact that our three constructs are not complementary. Firms tend to invest heavily in one type of practice and neglect the others, being reluctant to divide their resources between governance, human capital and communication. Our results suggest that organizations must decide how much to invest in governance, human capital and communication practices separately. Overall, our findings suggest the need for studies to examine the determinants of IAQ both separately and concurrently, to help organizations allocate their resources effectively so as to improve internal audit quality.

Our study makes several contributions to the literature. First, most studies examining IAQ, report extensively on auditors' competence and independence attributes, testing each attribute independently. Instead, we build new indexes of governance, human capital and communication, forming clusters making it possible to test the effect of a set of practices on IAQ. Second, no study to date has linked internal auditors' communication skills directly with IAQ, but we provide evidence of the role of communication in the audit process, as suggested in prior research (Nelson and Tan 2005). Thirdly, from a methodological perspective, we analyze quantitatively how governance, human capital and communication interact to improve IAQ. As noted previously, few studies have examined the determinants of IAQ in combination, and our study helps fill this gap using an econometric approach (Milgrom and Roberts 1995) that is innovative in the audit field. Finally, while most research focuses on English-speaking countries (e.g., Abbott et al. 2016), our study expands the literature by investigating the determinants of IAQ perceived by CAEs throughout the world. Our results also provide internal audit departments with managerial insights. They suggest ways to improve IAQ, by investing not only to increase human capital, but also to strengthen governance practices or auditors' communications skills. Our results also suggest ways companies, and particularly audit committees, can enhance IAQ by allocating resources to the development of auditors' communication skills. But internal audit departments cannot expect to use communication as a cross-functional skill, leveraging their governance or human capital investments in IAQ.

This study naturally has several limitations. Most notably, we assume that the

CBOK survey tends to cover larger firms with relatively mature, well-organized internal audit departments. This could introduce bias into our findings, since the internal audit departments participating in the survey may be more proactive and sophisticated than similar departments elsewhere. Furthermore, our sample was not randomly selected, so the dataset could not capture a broad range of perceptions of IAQ. This limits the generalizability of our findings to companies whose internal auditors did not complete the CBOK survey. Moreover, our measure of IAQ is based on the use of and compliance with IIA standards, and we cannot guarantee that this variable captures all dimensions of the underlying construct. Finally, consistent with Abdolmohammadi (2009), we only included the responses of CAEs. Although we acknowledge that extending our study to include all internal audit practitioners would be an interesting avenue for future research, we limited our work to CAEs' responses because, as the head of the internal audit department, they are the audit committee's first contact, and can develop policies and procedures to comply with IIA standards.

Since our study suggests that IAQ may be enhanced by developing human capital and by strengthening governance practices or communication skills, future research could investigate the cost of implementing such practices. It would be interesting to estimate the return expected for each practice, to help organizations decide how to allocate resources. Furthermore, it would be useful to increase understanding of the combined influence of IAQ determinants. As such, we call for further analysis of complementary indexes expected to improve IAQ. Other proxies of IAQ should also be considered, such as publication of the internal audit report, as suggested by Trotman and Duncan (2018), or managers' compliance with internal audit recommendations. Although audit reports are an acknowledged indicator of external audit quality (Church, Davis, and McCracken 2008; Mock et al. 2013), this measure has not been used for internal auditing. Furthermore, since our study considered all the countries covered by the database, with no national or regional focus, future research could compare determinants of IAQ in different cultures, as suggested by the cultural relativism literature (e.g., Bik and Hooghiemstra 2018).

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# Etude 3 : Knowledge Sources of Internal Audit Innovation

## Abstract

The research on innovation has grown into a substantial body of literature and has drawn attention to knowledge sources. However, little is known about the drivers of audit innovation. This article seeks to identify, delineate and categorize the impact of knowledge sources on internal audit innovation. We implement an econometric knowledge production function model and find that internal audit departments developing search capabilities to modify their processes are able to innovate in their practices. Among intrafirm knowledge sources, management's reviews of internal functions are key factors fostering innovation. Among external sources, interactions with professional associations and certifying bodies influence a firm's propensity to innovate. Our study contributes to the literature on auditing and innovation by illuminating the innovative potential of internal audit functions. Using the original measures of internal search capabilities and innovation, our findings highlight the effects of search, intrafirm and external knowledge sources on internal audit innovation.

**Keywords:** internal audit; innovation; search; internal knowledge sources; external knowledge sources; absorptive capacity.

## 1 Introduction

*"I need to be an innovator so that people say 'internal audit'. Yes, that is the place you need to be. That is where you want to work".*<sup>1</sup> Auditors are not often seen as professionals using their critical thinking (Bucaro 2019) but rather as mechanistic ones, strictly following rules and standards. As a result, affinity between innovation and compliance is not a priori a basic hypothesis expounded upon. Until recently, it has been argued that the fields of 'accounting' and 'control' have stifled innovation (Ditillo 2004). However, spurred by studies theorizing the relationships between management control systems and innovation in alternative ways, a new stream of research has addressed this gap and has begun to investigate the role of accounting and management control systems in innovation (Davila and Foster 2007). Recent studies have even revealed that control functions have a direct effect on innovativeness (Müller-Stewens, Widener, and Möller 2020) and that management control and management accounting systems can improve innovation (Chenhall and Moers 2015).

A second area of research has explored the drivers of the adoption of management accounting innovations and their diffusion (Ax and Bjørnenak 2005), such as regulation (Chiwamit, Modell, and Scapens 2017), environmental uncertainty (Otley 2016) or organizational culture compatibility (Ax and Greve 2017). Within accounting departments,

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1. This is a quote from Sabine Scholz, Senior Vice President, Internal Audit, Fresenius (Protiviti, 2016, 31).

researchers have documented the standardized role of accounting language in the facilitation of innovation (Brown and Martinsson 2018). More attention has been devoted to the abovementioned management accounting and control fields. Nevertheless, another control system, which is responsible for verifying the accuracy and integrity of the information reported to management, is the internal audit function (San Miguel and Govindarajan 1984).

Internal audit innovations are viewed as relying mainly on different technologies that influence auditing processes and outputs. Data analytics (Perols, Bowen, Zimmermann, and Samba 2016), artificial intelligence and machine learning (Davenport 2018), embedded audit software (Lombardi and Dull 2016), blockchain (Rooney, Aiken, and Rooney 2017), remote auditing (Teeter, Alles, and Vasarhelyi 2010), machine learning (Perols 2011) and the use of drones (Appelbaum and Nehmer 2017) can be cited as other types of innovations based on information and communication technology (ICT), on which scholars usually focus. From this perspective, technology accelerates, assists, transforms or even replaces internal audit processes and outputs.

To date, the innovation drivers of internal audit functions have largely been ignored. Following the research on management innovation showing that organizational problem solving improves business performance and survival (Volberda, Van Den Bosch, and Mihalache 2014), some studies have focused on the performance derived from novel auditing practices (Curtis, Humphrey, and Turley 2016). Beyond ICT and its impact on the audit process, the literature has also questioned the transformation of reporting content observed in the last 30 years. Scholars emphasize the efforts made toward innovation audits (Nixon 1998), the emergence of integrated reports combining financial and nonfinancial data (Higgins, Stubbs, and Love 2014), and the increase in sustainability reports (Trotman and Trotman 2015). Aligned with the literature on auditing technologies, that on the determinants of new reporting practices mainly analyzes the role of firms' specificities and the adoption context (Jensen and Berg 2012). Whereas studies have dealt with the lack of human capital hampering innovation adoption (Maroun 2018), very little is known about the knowledge that disseminates into the internal audit department and enables it to innovate.

The lack of attention paid to the knowledge sources of audit innovation is surprising given that the economics and management of innovation provide robust theoretical and empirical evidence that innovation and adoption strategies are usually based on internal knowledge production and on the efforts made to identify and access external knowledge (Frenz and Ietto-Gillies 2009). When insisting on ICT adoption in auditing, the literature also recognizes that process audit innovations depend on the external providers of technological knowledge (Gambetta, García-Benau and, Zorio-Grima 2016). Regarding product audit innovations, the literature insists, for example, on the pressure of key stakeholders' dissatisfaction regarding traditional reporting practices (Adams 2015) and the need for auditing systems and processes to be integrated into the real-time requirements of stakeholders (Smith 2016). The links between internal audit and stakeholders are the means to voluntarily or involuntarily obtain information or knowledge from firms' stakeholders.

As little is known about the sources of internal audit innovations, several research questions have arisen. A first research question concerns knowing how internal auditors produce knowledge for audit innovation. A second question concerns seizing the

importance of open innovation strategies for internal auditors who rely on internal and external bodies as information and knowledge sources. A third research question concerns examining to what extent the search capabilities of internal auditors enable the identification and use of the information and knowledge coming from outside the internal audit team. To the best of our understanding, no research has attempted to empirically delineate, categorize, and identify the impact and articulation of different knowledge sources on internal audit innovation. Our article represents a first attempt at identifying these roles that influence internal audit innovation.

We propose the implementation of an econometric knowledge production function model (Griliches 1990) to identify the relative impact of internal audit search activities, of other intrafirm knowledge sources and of external sources of innovation on internal audit innovation. Using the 2015 Common Body of Knowledge (CBOK) survey (CBOK 2015) from the Institute of Internal Auditors (IIA) Research Foundation and the answers of more than one thousand internal audit practitioners, we identify to what extent internal audit teams innovate due to their internal search capabilities and the different internal and external sources of knowledge that they can absorb.

Our results confirm that internal audit departments rely mainly on their own search capabilities to innovate. Internal sources are found to have a significant triggering role for innovation. The results are more scattered regarding external sources of innovation, where, for example, ICT consultants are not always found to be influential and internal search capabilities are not always found to be systematically useful for absorbing external knowledge.

Our article contributes to the clarification of the theoretical model explaining internal audit innovation and represents an attempt to address the three streams of the literature dealing with innovation within the audit field. First, our article complements the literature on innovation management, examining which sources of innovation have a significant influence on innovative activities in internal audit departments. Second, this article challenges the traditional view of auditing as a guardian (Malsch and Gendron 2011) and depicts internal audit as an innovative profession and thus rejuvenates the analysis of innovation in auditing. Third, we add to the literature on innovation, expanding a knowledge production function analysis to the case of internal audit function, using the original measures of innovation and search capabilities.

The remainder of this article is organized as follows. In Section 2, we examine the relevant literature that relates to innovation in auditing to identify the sources of internal audit innovation, and we propose our research hypotheses. Section 3 presents the data used and our methodology. In Sections 4 and 5, we disclose and discuss our results. We conclude in Section 6 and provide avenues for further research.

## **2 Sources of audit innovation: background and hypotheses**

### **2.1 Knowledge sources and internal auditing**

Central to the innovation literature is technology with process and product innovations. Their success depends on investments and complementary innovations, whether technological (ICT or packaging) or nontechnological (design, organization, or business

models). A significantly high proportion of studies in the field of innovation are concerned with technological innovations, focusing on the determinants of innovation and on the impact of such innovation on firm performance. The economics of innovation demonstrates the positive role of open innovation, where firms benefit from an array of external sources such as competitors, suppliers, customers, public research organizations, and consultants (Tether and Tajar 2008), which are triggered by their internal absorptive capacities (ACs) (Cohen and Levinthal 1990) and embedded in national, regional, technical or sectorial systems of innovation (Lundvall, Johnson, Andersen, and Dalum 2002; Malerba 2002).

Whereas the emphasis was previously on technological innovation in manufacturing, scholars have extended the theoretical and empirical models to nontechnological innovation (Černe, Kaše, and Škerlavaj 2016) and to innovation in services, including consulting (Pina and Tether 2016). Despite the importance of the results on the role of search activities or external links, the innovation process taking place inside companies and its role in knowledge sourcing often remains sketchy (Bogers and Lhuillery 2011). However, most writers have ignored how in which to enter the organization of innovation activities within companies.

Over recent years, important efforts have been undertaken to more precisely identify and categorize the determinants of innovative activities. These ongoing efforts include, for instance, a categorization of determinants related to organizational resources, financial management strategies, and environmental factors or of internal and external actors (Schweisfurth 2017), and the research on management innovation is no exception. Defined as *“the generation and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals”* (Birkinshaw, Hamel, and Mol 2008, 829), management innovation produces changes in the organization’s managerial procedures and administrative systems (Vaccaro, Jansen, Van Den Bosch, and Volberda 2012). Some empirical works further show that different modes of control practices can be found to cope with business environments (Otley 2016). Consequently, internal audit departments, which are in essence functional departments, are expected to articulate different dynamic capabilities that can be traced through their knowledge production and knowledge sourcing activities.

## 2.2 Search activities by internal audit

Serendipity can explain many radical innovations. However, innovation and its success are most often based on intentional *“problem-solving activities that involve the creation and recombination of technological ideas”* (Katila and Ahuja 2002, 1184). Problem-solving efforts in firms can be based on local or distant searches (Cyert and March 1963). Distant or exploratory searches are performed when the required knowledge bases are not available on an organization’s shelves and when the problem required to access various external competencies (such as artificial intelligence) is embodied in individuals or organizations. The empirical literature indicates that firms tend, however, to use local searches to fix their problems, using the current knowledge base accumulated by their industry and by their past experiences to innovate in an incremental way (Stuart and Podolny 1996), and that too many problem-solving activities may damage innovation capabilities (Laursen and Salter 2006).

The innovation literature focusing on R&D as an uncertain exploratory search activity is based on science and technology and is performed offline by specialists in an organized



and systematic way (Foray 2004). It is well documented that such search activities can, however, be informal and unplanned (Criscuolo, Salter, and Ter Wal 2013) and conducted online by employees, impacting different management techniques (e.g., marketing and accounting). A role model of such online search activities was early identified as learning by doing or learning by using, where experience led users to ease their burden by changing their techniques, instruments and machines (von Hippel 1978).

The primary internal audit source of innovation is mainly derived from an experienced-based mode of learning, relying on doing and using auditing techniques, while the conscious production and use of new codified scientific and technical knowledge remains very scarce. Influenced by their environment, internal auditors must master a large body of technical and complex analytical knowledge and heuristics and control business and managerial processes, combined with utilizing communication skills in their teams and operational divisions. Following Cyert and March (1963), internal auditors' behaviors are expected to adopt a "problematic search" when auditors' decision making through traditional rules and procedures is found to be insufficient to reach a satisfactory audit quality. As a result, new audit practices and techniques are expected.

Auditors' problematic search is found to evolve with perceived risks in complex environments. Auditors' learning abilities are particularly relevant when evaluating the internal control system (Bryant, Murthy, and Wheeler 2009) and when conducting a balanced information search when managing a high-risk client, resulting in a more objective judgment (Kadous, Magro, and Spilker 2008). The literature emphasizes that even in high-risk situations, internal auditors may, however, be tempted by local searches: following rules and favoring learning by doing and similar responses, in lieu of encouraging the use of alternative innovative procedures to facilitate auditing practices (Kang, Piercey, and Trotman 2020). Several scholars thus insist on the importance of searches, with the related improvement of auditors' structured thinking (Backof, Bamber, and Carpenter 2016), critical thinking (Bucaro 2019) or skepticism (Nelson 2009): these auditors' traits may enable search capabilities with a better appraisal of the risks involved, deploying new practices dealing with more information and with contradictory information, for an enhanced description of situations and their alternative outcomes.

Finally, auditors that are able to move away from their routine and knowledge bases are associated with better job performance (McKnight and Wright 2011). Auditors endowed with problem-solving abilities are also found to be more likely to obtain superior performance evaluations (Tan and Libby 1997). Whereas the impact of search activities on the implementation of novel auditing practices or novel technologies improving performance is not explained, the findings support the idea that auditors' search capabilities are the main driver for audit innovation within firms.

The search processes achieved by internal audit are not yet well documented and are not systematically related to novel audit processes or outputs. However, the critical importance of the search process for performance has already been acknowledged by scholars. We contend that innovation in internal audit is aligned with other management innovations and relies on internal audit's search capabilities. We thus posit the first empirical hypothesis as follows:

*H1: Audit innovation capabilities will be positively associated with the search capabilities*

of internal audit departments.

### 2.3 The role of internal knowledge sources

Although auditors' search skills are the core of audit innovation, the search activities also depend on the pool of incoming information and knowledge that is available inside internal auditors' organizations. Three types of internal sources of audit innovation are mainly put forward in the literature: peers, management, and audit committees.

Within organizational groups and subgroups, scholars have first documented how the diffusion of innovation is influenced by peers (Dahl, Løken, and Mogstad 2014). Informal discussions with peers often take place prior to formal discussions to review audit works with supervisors (Thorne and Hartwick 2001) and provide an impetus for complying with auditing standards (Houston and Stefaniak 2013). During this process, peers can either trigger ideas and new practices to improve audit quality (Duh, Knechel, and Lin 2020) or foster standardized routines and hinder innovation. The empirical literature provides only a few insights into the fostering role of peers' experience. Internal audit may explore peers' insights to implement novel practices for improving their predictions, avoiding audit failures (Casterella, Jensen, and Knechel 2009). If innovations derive from the heterogeneity of individuals in audit teams and departments (Young 2009), then the leading role of senior auditors endowed with technical and problem-solving abilities is emphasized (Tan and Libby 1997; Gissel and Johnstone 2017), improving junior auditors' technical and search skills (Westermann, Bedard, and Earley 2015).

Internal auditors also implement sourcing strategies from management. Heads of internal functions are willing to hire nonaccounting business professionals from other departments within the organization to obtain and absorb new information and apply it to their own business strategy to develop new practices (Bartlett, Kremin, Saunders, and Wood 2017). This absorption of information involves, for instance, the integration of practitioner-driven (e.g., executives, compliance officers, and administrative staff) information systems, which allows organizations to venture new opportunities such as using positive incidents to drive innovation or risk management to process abstract innovation (Schermann, Wiesche, and Krcmar 2012). If they are able to manage auditees' concerns about the information spillover involved in the auditing process (Aobdia 2015), then internal auditors can contribute to the implementation of innovative solutions for other departments within the organization (Tsai, Chen, Chang, Leu, and Chen 2015). The internal audit department also contributes to innovation at the firm level by supporting managers through their ability to offer recommendations to address unexpected risks, helping managers understand the logic behind the business processes and offering strategies for improvement. As a result, traditionally considered a formal structure, the internal audit function provides management with *"a wide range of contextual information designed to help them interact creatively with the broader organization and environment"* (Adler and Borys 1996, 74).

Within organizations, the board is often considered an internal driver of the innovation decisions made by managers (Robeson and Colarelli O'Connor 2013). The literature on audit innovation is aligned with the governance literature when insisting on the role of the audit committees that oversee the internal audit function (Barua, Rama, and Sharma 2010). Meetings with internal audit departments enable communication among participants, including the knowledge of audit committee members for improving

internal audit practices (Turley and Zaman 2007). The audit committee also increases the likelihood of adopting technology-based innovations for strategic information disclosure (Hsu, Moore and Neubaum 2018). In line with the literature on interlocking directors and their role in the dissemination of innovation, internal audit innovation may further benefit from the information and knowledge coming from outside the organization through committee members with multiple chairs and alternate sources of information (Shropshire 2010; Sharma, Sharma, Tanyi, and Cheng 2020).

While internal sources of knowledge can somehow reinforce standardized routines for promoting internal audit quality, the literature shows that internal audit departments are also prone to benefit from information and knowledge, triggering innovation that is provided by stakeholders inside the firms. We then posit our second general hypothesis:

*H2: Audit innovation capabilities will be positively associated with the different internal sources of knowledge surrounding the internal audit department.*

## 2.4 The role of external knowledge sources

The external sources of knowledge at stake in incoming spillovers usually encompass clients and suppliers, competitors, public labs and consultants (Lundvall 1992). According to Vasarhelyi, Kogan, and Tuttle (2015), internal audit will increasingly rely on external information and technologies (e.g., for blockchain or big data analysis). Firms indeed use external providers or suppliers due to the small pool of sufficiently IT-qualified internal auditors involved in the development of new systems and critical projects (Pyzik 2012; Mubako 2019).

While the role of ICT suppliers is expected to be critical for internal audit, recent institutional analysis reminds us that intermediaries such as professional associations, standard setters and regulators may also play an important role in innovation processes in regulated industries (Curtis et al. 2016; Boland, Daugherty, and Dickins 2019). External third parties, such as public accounting companies, are also found to be service providers that support internal audit, accessing specific skills that are unavailable in-house (Galanis and Woodward 2006) and increasing their efficiency (Mubako 2019).

In line with studies on the sources of innovation, academic research is found to be a sporadic source of audit innovation (Baldvinsdottir, Mitchell, and Nørreklit 2010) but is nevertheless highly influential, as shown by the design of accounting information systems (Geerts and McCarthy 2000), the performance of audit ERP systems (Vasarhelyi and Greenstein 2003) and the improvement of audit techniques (Bell and Carcello 2000; Bell, Bedard Johnstone, and Smith 2002; Rezaee, Sharbatoghlie, Elam, and McMickle 2002). The role of academic research is, however, rather indirect; auditors rely more on intermediaries for knowledge transfers. Some works first identify the role of consultant-researchers and consultants who act as gatekeepers between academia and practice (van Helden, Aardema, ter Bogt, and Groot 2010) in areas such as risk assessment (Johnstone and Bedard 2003), internal control (Ashbaugh-Skaife, Collins, Kinney, and LaFond 2008), and fraud detection (Asare and Wrights 2004). Firms also strategically use external audits and consultants as critical information and knowledge providers when they craft or adopt new auditing practices (Wieczynska 2016).

Innovation in reporting may also be derived from pressures stemming from professional

associations. The issuance of frameworks is a driver that increases the efficiency of information and communication processes (Balakrishnan, Matsamura, and Ramamoorti 2017), especially in uncertain environments (Blind, Petersen, and Riillo 2017). Exchanges between peers of these associations may be instrumental for challenging and altering the organization's institutionalized behaviors and identities (Brunsson, Rasche, and Seidl 2012). Professional associations such as the IIA (IIA 2017), Association of Certified Fraud Examiners (ACFE) and National Association of Corporate Directors (NACD) are good examples of institutions triggering the introduction of occupational fraud detection and efficiency (Westhausen 2017) in internal audit. Internal auditors are also influenced by standard setters who promote good practices and issue certifications (IIA 2017). Regarding technology-based audit techniques, auditors can, for example, be certified by many certifying organizations such as the ISACA<sup>2</sup> (Lord 2004) or obtain the CISA<sup>3</sup> certification (Abdolmohammadi and Boss 2010). These information system audits and security certifications have been found to be positively associated with the development of cybersecurity risk management programs in internal audit departments (Islam, Farah, and Stafford 2018).

Finally, the production and adoption of innovations in auditing occurs in a highly regulated profession (Fogarty and Rigsby 2010). Audit and financial reporting processes are triggered and shaped by a rising number of regulations and professional guidelines. For example, the use of lie detection techniques during forensic audits remains controversial (Grubin and Madsen 2005) and depends on national regulations (Greely and Illes 2007). The new ICT-based technological auditing processes are regulated (Appelbaum and Nehmer 2017) due to privacy concerns related to big data analytics (e.g., GDPR in Europe). Such regulations induce novel practices to be compliant but also create opportunities for further audit innovations (Wang and Cuthbertson 2015).

The scattered results on the role of external sources lead us to posit a third hypothesis:

*H3: Audit innovation capabilities will be positively associated with the different external knowledge sources surrounding the internal audit department.*

## 2.5 The mediating role of ACs

Whereas organizations are increasingly dependent on external knowledge sources to foster innovation success (Love and Roper 2004), they face difficulties in leveraging such sources (Lhuillery and Pfister 2009). To overcome such difficulties, organizations must develop costly AC that enables firms to identify, acquire, assimilate, transform and apply external knowledge (Cohen and Levinthal 1990; Zahra and George 2002). AC is an organizational capability that can be achieved through different modes (Lane and Lubatkin 1998) depending on the cognitive distance between the knowledge available and that likely to be absorbed and on intraorganizational traits and the appropriation regimes influencing the level of spillover (Volberda, Foss, and Lyles 2010).

In the management innovation literature, AC is no longer centered on the knowledge and expertise of R&D (Cohen and Levinthal 1989). Capabilities to learn can be identified and organized across different departments and functions (Brunswick and Vanhaverbeke

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2. ISACA: Information Systems Audit and Control Association

3. CISA: Certified Information Systems Auditor

2015), managing all types of knowledge. Accumulating research indicates that AC first encompasses learning skills that are embedded in specific individuals who are, within their organization, in charge of external knowledge sourcing activities and named gatekeepers (Ter Wal, Criscuolo, and Salter 2017), internal agents (Birkinshaw et al. 2008) or boundary spanners (Dekker 2016). Alternatively, AC is considered a set of specific routines developed inside companies to absorb and secure knowledge from outside sources (Lewin, Massini, and Peeters 2011).

The literature on management innovation has enriched the literature on AC, showing that management control systems constitute a capability that provides firms with an advantage in identifying external partners for innovation (Dekker 2016), further confirming that AC depends on organizational structure and culture, for example, the role of top management in driving AC (Elbashir, Collier, and Sutton 2011) and the influence of organizational culture and background with the proximity between the adopter's values and beliefs and those linked to external knowledge (Ax and Greve 2017). Finally, some contributions expand the scope of AC activities and the routines deployed by gatekeepers to achieve absorption: representation activities to perpetuate firm networks, including legitimation efforts and reputation management (Zhang, Zhao, Lyles, and Guo 2015), appropriation skills, and rules to be able to achieve arbitrage between communication and secrecy during social interactions (Puyou 2018).

However, scarce results have been provided thus far on the arrangements necessary to manage different external knowledge sources. The literature on technology adoption by audit teams insists on the critical role of competencies in traditional auditor teams (Boiral, Heras-Saizarbitoria, Brotherton, and Bernard 2019), the related needs for training (Vasarhely and Romero 2014) and the need for collaborative competencies (Dekker 2016). Second, the observed rise in permanent or temporary IT experts in audit teams (Kotb, Sangster, and Henderson 2014) also underlines their role in the absorption of the ICT-based knowledge, such as business intelligence systems, provided by suppliers, experts and consultants (Fayard, Lorraine, Leitch, and Kettinger 2012). Third, the literature insists on the influence of standards and thus certifiers, leading to a conservative view of audit procedures that may hamper innovation (Knechel 2013) and deterring auditors from leveraging AC to find new and innovative audit practices. Standards can, however, initiate transformations within or outside the regulatory boundaries: internal audit departments can leverage external information sources rather than standardized sampling techniques to collect evidence (Commerford, Hatfield, Houston, and Mullis 2017) or can consider specialists' advice for complex accounting estimates (Backof et al. 2016).

Whereas different knowledge sources are usually identified by scholars (Lewin et al. 2011), the focus is usually placed on the determinants and content of AC or on the control of interfirm relationships (Caglio and Ditillo 2020). Subsequently, little is known about the role and efficiency of AC in managing knowledge from interactions with different external knowledge sources, such as competitors, suppliers, academic labs, consultants, certifiers or regulators. The link between the ease of absorption and the distance between internal and external knowledge is indeed not clear, hampering a distinct ranking between the roles of the different external sources that influence audit innovation. Following the attention paid by scholars to the role of ICT or certifiers, we expect that the two types of sources are more influential than other types of knowledge sources. In our study, we thus simply contend that the AC of internal audit departments acts as a mediator of external

knowledge sources to influence internal audit innovation capabilities. Thus, we posit our last hypothesis as follows:

*H4: Innovation capabilities are higher when external knowledge sources are associated with greater internal audit departments' search capabilities.*

## 3 Methods

### 3.1 Data

The data for our study come from the 2015 IIA's Global Internal Audit Survey, conducted by the IIA Research Foundation and known as the CBOK<sup>4</sup>. It is the world's largest study of the internal audit profession (Islam et al. 2018). The CBOK questionnaire focuses on internal audit activities across the globe, covering topics such as staffing, planning, standards, tools, risk management and internal auditors' competencies. Many academic studies use the CBOK database to investigate the attributes related to the internal audit function (e.g., Jiang, André, and Richard 2018).

The 2015 questionnaire was launched in 23 languages with responses from approximately 14,500 auditors. The sampling response rate is lower than 10 percent in South Asia and Sub-Saharan Africa and higher than 20 percent in Central and East Asia, the Pacific and Europe, leading to a heterogeneous sample, where North American, Chinese or Indian respondents are dominant but some countries are overrepresented (e.g., Spain, South Africa, UAE or Switzerland). Among respondents, 27 percent and 9 percent work in the public and nonprofit sectors, respectively. Furthermore, chief audit executives (CAEs) (or equivalent) represent 26 percent of respondents.

Some items included in our different measures are, however, proposed only to the CAEs and are unavailable for the other respondents of the CBOK survey. After eliminating observations with missing data, retired respondents, nonprofit-oriented companies, public administration, firms with no employees or no employees in the internal audit function, and firms with more than 50 percent declared internal auditors, our final sample comprised 1,013 observations.

### 3.2 Explained variables

An original feature of the CBOK questionnaire is its inquiry into innovation in internal audit practices. The questionnaire does not measure the different outputs of the innovation process, such as technological process, product innovations or nontechnological innovations, as in standard innovation questionnaires (e.g., the Community Innovation Survey in Europe<sup>5</sup>). Remarkably, it measures the competency of internal audit to initiate and develop innovative approaches for enhancing internal audit: it thus encompasses both the technological and nontechnological types of innovation likely to be introduced at the internal audit level. Compared to previous indicators, the CBOK innovation variable also allows for the evaluation of innovation capabilities whenever there is no innovation project alive. The level of audit innovation competencies is declared by CAEs on a five-point Likert scale (Table 1). To enable precision in the computation of marginal effects in our

4. <https://global.theiia.org/iia/f/Pages/Common-Body-of-Knowledge-CBOK.aspx>.

5. <https://ec.europa.eu/eurostat/web/microdata/community-innovation-survey>.

econometric model, we merge the first, second and third levels due to the restricted number of observations in levels one and two. The explained variable is thus a three-point Likert scale.

### 3.3 Explanatory variables

Search activities are the first driver of innovation in organizations (Laursen 2012), and they can be restricted to local knowledge or distant knowledge and to internal knowledge and external knowledge. Along with R&D activities, search activities can be systematized in companies even if in an informal or online way. To date, many papers use R&D as a proxy for search, explaining managerial innovation (Mol and Birkinshaw 2009). The CBOK survey uses, however, an original five-point Likert scale to identify the level of competencies of internal audit regarding the use of techniques for solving problems.

TABLE 1 – Variable definitions

Variables	Definition
<b>Explained Variable</b>	
Innovation <sup>a</sup>	Internal audit develops innovative approaches to enhance internal audit activity in a novice, trained or competent way (set to 1), advanced way (set to 2), or expert way (set to 3).
<b>Explanatory Variables</b>	
Peers <sup>a*</sup>	Set to 1 when the internal audit uses peer reviews.
Management <sup>a*</sup>	Set to 1 when the internal audit uses at least 2 of the 3 following tools: a balanced scorecard, internal quality assessments or reviews by the internal quality assurance function; 0 otherwise.
Audit Committee Yes <sup>a*</sup>	Set to 1 when an audit committee exists.
Audit Committee <sup>a*</sup>	Set to 1 when the audit committee is a resource for an internal audit; 0 otherwise.
External Audit <sup>a*</sup>	Set to 1 when internal audit uses external auditors to support or perform internal audit; 0 otherwise.
ICT Consultant <sup>a*</sup>	Set to 1 when internal audit uses consultants for data analysis; 0 otherwise.
Certifier <sup>a*</sup>	Set to 1 when internal auditors are expert at maintaining knowledge of the IIA standards; 0 otherwise.
Regulator <sup>a*</sup>	Set to 1 when internal audit uses regulator reviews; 0 otherwise.
Search <sup>a*</sup>	Set to 1 when internal audit applies problem-solving techniques to address issues in an advanced way or expert way; 0 otherwise.
<b>Control Variables</b>	
IAQ <sup>a</sup>	Prawitt quality index, as the sum of 6 dichotomic variables measuring internal auditor experience, certification, objectivity, specialization in finance, training and relative size.
ICT Level <sup>a*</sup>	Set to 1 when the internal audit extensively uses information technology; 0 otherwise.
Internal Audit Size <sup>a</sup>	Share of internal auditors in the total number of FTE employees.
Firm Size (log) <sup>b</sup>	Number of FTE employees (in logarithm).
Listed <sup>b*</sup>	Set to 1 when the firm is listed; 0 otherwise.
Age <sup>c</sup>	Declared age of the respondent.
Gender <sup>c*</sup>	Set to 1 when the respondent declares himself/herself as male; 0 otherwise.
Master Level <sup>c*</sup>	Set to 1 when the respondent holds a master's degree or PhD.
Industries <sup>*</sup>	Set of dummies defined at the 2-digit level of the CITI classification.

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Geographic Localization *	A set of 6 indicators set to one when the firm is in Africa, Asia, Europe, Latin America, US/Canada/Caribbean, or Oceania.
Geographic Scope *	A set of 4 indicators set to one when the firm is local, regional, national or international.

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<sup>a</sup> Internal audit level, <sup>b</sup> Firm level, <sup>c</sup> Respondent level, \* Dichotomic variables.

We follow Prawitt et al. (2009) to build an IAQ index as the sum of 6 dichotomic variables. Internal audit experience, certification, objectivity, specialization in finance, training and relative size are approximated in our article as follows: the relative size of the internal audit in its industry by the declared sufficient level of resources for the internal audit department relative to the extent of its audit responsibilities. The internal audit focus on financial tasks is set to one when the internal audit department considers financial risks as being among the top five priorities for 2015; training is set to one for a value higher than the median of the average number of hours of training of internal auditors per year; the weight of financial audits in internal audit activities is also considered; and objectivity is set to one when the internal audit is declared with an expert level in objectivity by the respondent. Certification is set to one when firms are higher than the medial regarding the share of auditors with CIA or CPA certifications. Experience is set to one when the respondent declares an increase in the number of internal auditors over the last year.

The CBOK questionnaire allows us to measure the interactions that internal auditors may have with different types of knowledge sources that are likely to influence their innovation activities, allowing for the identification and disentanglement of external knowledge sources from internal knowledge sources (listed in Table 1), as in Mol and Birkinshaw (2009) or Damanpour, Sanchez-Henriquez, and Chiu (2018). External knowledge sources provide insights into internal audit in a voluntary or involuntary way or in a formal or informal way. The CBOK questionnaire is focused on suppliers or intermediaries, identifying four different types of external sources: public accounting firms providing internal audit services, ICT suppliers, certifiers and regulators on which they can rely. Internal sourcing is identified around three different types of entities: peers are internal auditors within the internal audit function, reviewing the activities of their fellows. Interactions in teams provide a variety of insights and criticisms that are likely to modify audit practices. Outside the internal audit function, the CBOK questionnaire allows us to identify sourcing and/or interactions with management but also of course with the audit committee when it does exist.

The characteristics of the internal audit function may influence the level and types of innovative activities. We control for the relative size of internal audit teams in a business firm (as in Islam et al. 2018). We further control for internal audit quality by introducing an index based on 6 dichotomic variables (Prawitt, Smith, and Wood 2009) and an ordered variable measuring the level of ICT implemented during internal audit activities (Table 1). Following prior works on innovation, we further control for firm-level traits: first for size (proxied by the total number of employees) to control for potential effects related to larger companies (Sarens and Abdolmohammadi, 2011) or whether the organization is listed to control for the specific local regulatory requirements and the related scrutiny likely to influence auditing practices. We also use a set of fixed effects to control for the possible influence of country and sector on audit practices (Jiang et al. 2018). We finally control for respondents' personal traits that may both influence their perception of firms' use of and compliance with IIA standards or competences (Abdolmohammadi 2009) and trigger or hamper innovation depending on their own characteristics, as evidenced for CFOs (Naranjo-Gil, Maas, and Hartmann 2009).



### 3.4 Econometrics

The probability that innovation capabilities  $Innovation_i$  are equal to the declared value  $v_d$  with  $d = 1, 2, 3$  for our three-point Likert scale, where  $v_0 = 1$ ,  $v_1 = 2$  or  $v_2 = 3$ , is provided by the probability that  $x_i\gamma + \varepsilon_{1i}$  falls between the cutoff points  $k_0$  and  $k_1$ ,  $k_1$  and  $k_2$ , and  $k_2$  and  $k_3$ , respectively, with  $Pr(Innovation_i = v_d) = Pr(k_{d-1} < x_i\gamma + \varepsilon_{1i} \leq k_d)$ .  $x_i$  is the independent variable,  $u_{1i}$  is a random error term (Wooldridge, 2010), and  $k_0$  and  $k_3$  are set to  $-\infty$  and  $+\infty$ , respectively. The maximum likelihood estimator for this ordered probit model provides the coefficients of interest  $\gamma$  and the  $k_1$  and  $k_2$  values. We then compute marginal effects for each value of the Likert scale to evaluate the magnitude of the parameters of interest, which are all expected to be positive drivers of internal audit innovation. The triggering effect of ACs is evaluated by introducing cross-effects between the search variable and external sources.

Several auditors from different affiliates of a single business group may respond. However, we cannot consider unobserved correlations among residuals, clustering residuals as in Chen, Martin, Roychowdhury, Wang, and Billet (2018), because the CBOOK dataset is provided without the firm-level identity of respondents. Other econometric issues are explored in a robustness subsection. A first issue is to control for firms' heterogeneity, whereas we use fixed effects in our core specification. A second issue relates to the differences between countries in national legal and regulatory requirements and national governance systems or cultures (Seol, Sarkis, and Lefley 2011). We propose controlling for possible sample selection bias by introducing a selection equation— $s_i = 1(z_i\beta + \varepsilon_{2i} > 0)$ —where  $s_i = 1$  when, for 1,013 observations, we observe all the variables introduced in our core equation, and 0 otherwise (for 5,573 observations with the selection equation covariates available).  $z$  is the set of variables explaining the sample selection, and  $\beta$  is the coefficient of interest that we want to identify with the maximum likelihood estimator.  $\varepsilon_{2i}$  is a random error term following a normal distribution, and  $(\varepsilon_{1i}, \varepsilon_{2i})$  follows a bivariable normal distribution with a mean of zero and a variance matrix, with  $\rho$  as the correlation between  $\varepsilon_{1i}$  and  $\varepsilon_{2i}$ . When the hypothesis that  $\rho \neq 0$  is rejected, our simple ordered probit model provides consistent, asymptotically efficient estimates for our parameters of interest.

## 4 Results

### 4.1 Descriptive statistics

The descriptive statistics are listed in Table 2. First, they show the importance of innovation in internal audit, with 43 percent and 26 percent of firms reporting being advanced or expert in their audit innovation skills, respectively. The external sources identified that are the most frequent are public accounting firms and ICT consultants, while certifiers and regulators seem to be more rarely prone to influence audit innovation. Regarding internal sources, the audit committee exists in 82 percent of observations and, when it does exist, is found to be a frequent source of information and knowledge for audit innovators, while management and peers are most rarely cited as sources or partners. Thirty percent of companies consider search methods as being expertly implemented by auditors.

TABLE 2 – Descriptive variables

Variable	Mean	S.D.	By Innovation Level			$H_0 : 1 \neq 2$	$H_0 : 2 \neq 3$		
			1	2	3				
n	1,013		310	439	264				
Innovation <sup>a</sup>	1.95	0.75	31%	43%	26%				
Peersa <sup>*</sup>	0.17	0.38	0.13	0.18	0.20	2.086	**	0.526	
Audit Committee Yes <sup>a*</sup>	0.82	0.38	0.80	0.85	0.82	1.685	*	0.791	
Audit Committee <sup>a*</sup>	0.63	0.48	0.55	0.66	0.68	3.119	***	0.538	
Management <sup>a*</sup>	0.20	0.40	0.11	0.22	0.27	4.256	***	1.243	
Regulator <sup>a*</sup>	0.17	0.38	0.10	0.20	0.22	3.911	***	0.864	
Certifier <sup>a*</sup>	0.20	0.40	0.06	0.17	0.42	4.584	***	7.235	***
External Audit <sup>a*</sup>	0.40	0.49	0.39	0.39	0.45	0.174	1.552		
ICT Consultant <sup>a*</sup>	0.26	0.44	0.24	0.25	0.31	0.372	1.703	***	
Search <sup>a*</sup>	0.29	0.45	0.07	0.19	0.69	4.964	**	14.635	***
IAQ <sup>a</sup>	2.23	1.32	1.66	2.29	2.79	6.797	***	5.147	***
ICT Level <sup>a*</sup>	0.14	0.35	0.06	0.16	0.19	4.786	***	0.969	
Firm Size (log) <sup>b</sup>	7.44	1.88	7.18	7.55	7.54	2.742	***	0.042	
Internal Audit Size <sup>a</sup>	0.01	0.01	0.01	0.01	0.01	1.468	0.162		
Listed <sup>b*</sup>	0.49	0.50	0.47	0.49	0.50	0.358	0.321		
Age <sup>c</sup>	46.03	8.52	45.63	46.01	46.55	0.589	0.846		
Gender <sup>c*</sup>	0.74	0.44	0.72	0.74	0.75	0.565	0.465		
Master Level <sup>c*</sup>	0.53	0.50	0.45	0.57	0.57	3.221	***	0.124	

<sup>a</sup> Internal audit level, <sup>b</sup> Firm level, <sup>c</sup> Respondent level, \* Dichotomic variables.

Sectoral and geographic indicators are not presented for the sake of brevity. The largest size is over 2 million employees. Ages range between 25 and 69 years old. T-tests on the difference between means are two-sided. \*\*\*, \*\* and \* indicate significance at  $p < 0.01$ , 0.05, and 0.10, respectively.

An analysis of the sectoral breakdown (not reproduced but available on request) shows a dominance of banking-insurance service firms (39 percent) and manufacturing firms (17 percent). Approximately 15 percent belong to agriculture, mining, utilities and construction industries, and 14 percent are trade, transportation and information firms. The headquarters of companies are located in Europe (35 percent), in the US/Canada/Caribbean islands (22 percent) and in Asia (21 percent). Fifty percent of the firms conduct international activities, and 30 percent conduct national activities, and more than half of the firms are listed.

## 4.2 Econometric results

Table 3 presents the econometric results for the competences to innovate in internal audit.

The results concerning the impact of the ability to search confirm its positive and significant impact (at p-value < 0.01 percent) on the ability of firms to innovate. The internal audit department capable of looking for solutions to its problems or exploring ideas to modify processes and production is, as expected, found to be more able to discover solutions and to innovate in its practices and contributions. The calculation of the marginal effect shows that being advanced or expert in search activities leads to an increased probability of being an expert in innovation, approximately 29 percent higher than being simply novice-trained or competent in search activities. This

result, which provides support for H1, is in line with the results usually obtained on technological innovation, where internal R& D is found to be the main source of innovation. The magnitude of the marginal effect is much higher than the magnitudes of the individual impact of internal and external sourcing activities that we discuss thereafter.

Internal audit innovations are first influenced by internal knowledge sources. The econometric results on our main model reported in column (1) in Table 3 show that the different internal sources positively influence innovation. A Wald test confirms that the set of internal sources is significantly lower than the log likelihood of our model (critical value is 16.93, with a p-value  $< 0.01$ ), supporting our argument that internal sources of information and knowledge improve internal audit innovation capabilities (H2). More precisely, management is an internal knowledge source that is positively related to audit innovation, with a p-value  $< 0.01$  percent, whereas the impact of peers is found to be positive but not significantly different from zero (with a p-value = 0.55). The impact of audit committees is also found to be positive when the committees exist, with a p-value  $< 0.10$ . However, the existence of an audit committee is found to be negatively related to audit innovation. Hence, a formal organization of authority negatively impacts the capabilities to innovate in internal audit, but once introduced, it fosters innovation and is likely to compensate for its negative effect. Our data do not allow us to identify whether there is a difference between the types of innovation triggered by an audit committee and that triggered by its absence. It, however, suggests that whereas a horizontal flow of knowledge is likely to foster internal audit innovation, a vertical flow is found to be an internal driver of internal audit innovations.

Our results also provide support for our argument that external sources positively influence innovation in internal audit (H3): aligned with internal sources, the coefficients of external sources are found to be positive, and the null hypothesis regarding these coefficients is rejected, with a p-value  $< 0.01$  (the critical value is 20.34). The coefficients identified for public accounting firms, ICT consultants and regulators are, however, not significantly different from 0. Certifiers are the sole external source identified as being positive and significantly linked to innovation. The introduction of external sources one by one allows us to confirm that there is no collinearity problem among the external sources. Hence, whereas the role of certifiers is in line with that in the literature, the lack of an impact of ICT consultants is more surprising and not aligned with the idea that innovation is mainly driven by IT suppliers or intermediaries. Firms with auditors searching for solutions to problems are more likely to find innovative solutions. Once more, these results are in line with expectations that the production of knowledge is the core of innovation in companies and in technical functional activities such as internal audit.

TABLE 3 – Factors influencing audit innovation (ordered probit)

Column	(1)		(2)		(3)	
Estimator	Ordered Probit		Ordered Probit		Heckman Ordered Probit	
Variable	Coef.	Marg. Eff.	Coef.	Marg. Eff.	Coef.	Marg. Eff.
Peers	0.059 (0.100)		0.046 (0.100)		0.056 (0.098)	
Management	0.341*** (0.097)	0.08	0.345*** (0.097)	0.08	0.325*** (0.094)	0.07
Audit Committee Yes	-0.233* (0.134)	-0.05	-0.236* (0.135)		-0.221* (0.129)	-0.05
Audit Committee	0.171* (0.101)	0.04	0.181* (0.101)	0.04 0.166*	0.04 (0.098)	
External Audit	0.082 (0.078)		0.095 (0.086)		0.078 (0.075)	
ICT Consultant	0.076 (0.089)		-0.024 (0.100)		0.072 (0.085)	
Certifier	0.477*** (0.112)	0.11	0.569*** (0.143)	0.13	0.455*** (0.109)	0.10
Regulator	0.115 (0.105)		0.236** (0.117)	0.05	0.109 (0.101)	
External Audit × Search		-0.102		(0.192)		
ICT Consultant × Search		0.361* (0.215)	0.08			
Certifier × Search		-0.213 (0.219)				
Regulator × Search		-0.392* (0.219)	-0.09			
Search	1.296*** (0.103)	0.29	1.383*** (0.162)	0.31	1.247*** (0.121)	0.26
IAQ	0.147*** (0.034)	0.03	0.144*** (0.034)	0.03	0.142*** (0.033)	0.03
ICT	0.152 (0.111)	0.03	0.157 (0.111)	0.04	0.149 (0.110)	0.03
Listed	0.103 (0.086)	0.02	0.106 (0.087)	0.02	0.097 (0.083)	0.02
Internal Audit Size	6.926** (3.344)	1.56	6.924** (3.417)	1.56	6.723** (2.982)	1.41
Firm Size	0.026 (0.029)	0,006	0.028 (0.029)	0.01	0.034 (0.027)	0.01
Age	0.003 (0.005)	0,001	0.002 (0.005)	0,001	0.003 (0.005)	0,001
Male	0.035 (0.087)	0.01	0.035 (0.088)	0.01	0.053 (0.087)	0.01
Master	0.137* (0.080)	0.03	0.144* (0.080)	0.03	0.148* (0.079)	0.03
Geographic Scope Fixed Effects	Yes	Yes	Yes			

Headquarter Country Fixed Effects	Yes	Yes	Yes
Working Country Fixed Effects	Yes	Yes	Yes
Selection Equation	No	No	Yes
Log Likelihood	859.04	-855.37	-1,753.0
$H_0$ : All coeff. = 0	386.49***	390.31***	359.24***
$H_0$ : $\rho = 0$			2.12
Selected	1,013	1,013	1,013
Nonselected			488
Pseudo R <sup>2</sup>	0.21	0.21	

The table presents the coefficients of the ordered probit model in columns (1) and (2) and the Heckman probit model in column (3).

, and indicate significance at  $p < 0.01$ , 0.05, and 0.10, respectively. Standard errors are in parentheses and are heteroscedasticity-consistent. Listed marginal effects are those computed for  $P(\text{Innovation} = 3)$  for the three specifications. They are computed at the mean for continuous variables.  $z$  variables such as age, male, master, specialization, geographic scope fixed effects, headquarter country fixed effects, and working country fixed effects are introduced as explanatory variables into the sample selection equation. Specialization is set to one when the respondent declares himself/herself as being specialized is introduced. The results from the selection equation in the Heckman ordered probit model (Col. (3)) is not reported here.  $\rho$  is the correlation among residuals from the selection and ordered probit model in the Heckman ordered probit model. The log likelihood and the Wald test on the simultaneous nullity of all explanatory variables are obtained for the two equations of the Heckman model.

The computation of marginal effects after the ordered probit allows us to comment on the magnitude of such effects. If, for the sake of brevity, we comment on the marginal effect regarding only the impact on the probability for an internal auditor to be an expert or advanced in innovation (i.e., for  $Pr(\text{innovation} = 3)$ ), we find that the probability is 8 percent higher when information and knowledge are derived from interactions with management and approximately 4 percent higher when the audit committee is used as a resource. Note that the lack of an audit committee fosters innovation by 5 percent, suggesting that the net effect of an audit committee on innovation expertise is reduced or even negative. When internal audit departments comply with IIA standards, it positively boosts their innovation expertise by 11 percent. Hence, despite the difficulty of comparing marginal effects due to the heterogeneity of the indicators implemented, our results suggest that internal sources are more numerous than external sources but that certifiers are a dominant source of innovation for internal audit. However, firms that are experts in problem-solving activities are more likely to be innovative by 29 percent, showing that innovation in internal audit departments relies first on internal auditors and their search capabilities. This result is in line with the literature on innovation and the dominant role of internal R&D as a source of innovation compared to external sources.

The introduction of cross-variables allows us to test H4 on AC. The results are reported in column (2) in Table 3. A Wald test on the simultaneous nullity of cross-effect coefficients leads us to not reject the null hypothesis (critical value is 7.21 with a p-value = 0.13); thus, we do not find support for H4 on AC. Hence, the impact of the cross-effect does not significantly improve our model, suggesting that the search activity is not critical for absorbing external knowledge. Out of the four coefficients introduced, there is a significant coefficient of the cross-effect between regulators and search capabilities, which suggests that regulators positively influence innovation in firms but negatively influence the innovative activity of firms with a search capability. This result indicates that firms

with low search capabilities adopt innovation initiated or negotiated with regulators, whereas firms with problem-solving capabilities avoid regulators as a source of innovation. The cross-variable between search and ICT consultants is positive and significant but only at 10 percent, which reveals that firms that are experts in problem solving are more prone to benefiting from this type of external knowledge source. The computation of the marginal effects of the interaction terms between search and external sourcing in the ordered probit model (available upon request) confirms that no sourcing or sourcing from ICT consultants does not greatly modify (+0.5 percent only) the probability of being an expert in innovation with a low search capacity, whereas sourcing from ICT consultants improves innovation expertise by +12 percent when search capacity is high. Similar computations show that the impact of regulators is higher for low search capabilities (+5 percent) and is found to be lower for high search capabilities (−4 percent), suggesting different types of audit innovations.

Turning to the control variables, the results depicted in Table 3 confirm that firms with the highest internal audit quality and the highest technological level are those the more likely to innovate. Whereas large firms and listed firms are not found to be more likely to innovate, the size of the internal audit department significantly affects the likelihood of being innovative. The introduction of the set of sectoral fixed effects significantly lowers the log likelihood of our model (chi-square critical value is 29.73, with a p-value < 0.05). The coefficients of sectoral dummies (not reported) suggest that innovation is significantly higher in sectors such as utilities, construction or transportation and warehousing businesses. The geographic localization of headquarters is important for innovation. Testing the nullity of the different coefficients of headquarters geographic localizations leads to a critical value of 17.34 for the Wald test and the rejection of the hypothesis at risk p-value < 0.01. Internal audit departments located in Asia and Latin America are found to be less innovative. Firms with headquarters in Oceania, Africa and Asia are found to be more innovative in internal audit, whereas no differences are found among Europe, the US and Latin America. The geographic scope of activities is, overall, not found to be influential on internal audit innovation (critical value is 2.61, with a p-value = 0.46).

Finally, among respondents' personal traits, only the level of education is found to be influential on innovation, suggesting that graduated CAEs are more prone to considering changes in internal audit as innovative. The localization of the audit team is not found to be influential overall (Wald test critical value for working areas is 7.83, and the nullity is not rejected with a p-value = 0.17). Respondents working in Asia, the Pacific, and Middle and East Africa are found, however, to be less likely to find their audit team innovative.

### 4.3 Robustness

To test the robustness of our results, we conducted several additional econometric tests. A common econometric problem related to the ordered variable is the parallel regression assumption (Wooldridge 2010). Using a Brant test, the equality of slopes is not rejected for any explanatory variable at 5 percent. The test performed using a generalized logistic regression model leads to similar results: only the equality of the slope for the regulator coefficients is rejected at the 5 percent level of significance.

The results are also robust when the sample is reduced to 919 firms, excluding firms doing business in services and thus consulting activities (with 2-digit North American

Industry Classification System codes higher than 56). Our results are also robust to the removal of country or industry fixed effects. We further test whether our results are robust to sample selection effects since out of the 1,877 CAEs who responded, only 1,013 were selected in our final sample: we introduced a Heckman ordered probit model with a selection equation, where the likelihood of belonging to our final sample relies on CAEs' characteristics (age, gender, master level and specialization) and firms' characteristics (firm size, IA size, industry, country, headquarters country, and geographic scope). The introduction of such variables reduces the number of responding CAEs from 1,877 to 1,501. We then test the potential selection bias derived from the selection of 1,013 observations out of the 1,501 CAEs. We do not reject the nullity of the correlation among residuals for the two equations (the Wald critical value is 2.12, with a p-value = 0.145). Hence, there is no evidence that our core results are biased by sample selection effects, as shown by column (3) in Table 3: the ordered probit part of the Heckman model disclosed delivers very similar results to those in Table 3, supporting H1, H2 and H3. The results on H4 (not listed) are also similar, with the nullity of interaction effects not being rejected (the Wald critical value is 6.82, with a p-value = 0.15).

For H4, we chose to identify the role of ACs by introducing cross-variables into our core model. We also checked for the impact of external and internal sources on search competencies in an auxiliary regression, which confirmed that search activities do not depend on external knowledge sources. Missing variables may also hamper the identification of the parameters of interest. Standard models of innovation usually consider the appropriation variable as a proxy for the incentive to derive rewards from innovation. To tackle this dimension, we introduced the expert level of internal auditors at maintaining confidentiality throughout the audit process, assuming that this capability is a good proxy for the ability to keep new audit practices secret. The positive role of confidentiality in audit innovation is found to be positive and significant (at p-value < 0.01), with a marginal impact on the probability of being an innovation expert near 14 percent. The result does not modify the other coefficients of interest on internal and external sources of information and knowledge.

The role of AC in external knowledge sourcing is weak compared to other results in the literature on the economics of innovation, suggesting the importance of local knowledge production. Though our study explored the role of AC in absorbing external knowledge, we overcame its potential role in absorbing internal knowledge. To check the relevance of our core specification, we introduced into our model the interactions between the search variables and the different internal sources, which are likely to provide information and knowledge to internal auditors. The results (not presented here) are similar to those obtained on the cross-effects between searches and external sources: the coefficients are not found to be significantly different from 0. Internal audit innovation depends on internal and external knowledge sources, but search capabilities are more useful for producing knowledge internally than for absorbing it from outside the internal audit department

## 5 Discussion

Our original econometric study first supports the finding that the search capabilities of internal audit departments are a crucial driver of innovation. Internal sources are also found to be influential to the propensity to innovate, but with a distinction between different actors: whereas the impact of the insights coming from other departments are legitimized as a valuable source of knowledge, those on the impact of audit committees on

internal audit innovation are more scattered. Our findings are also conflicting regarding the external sources of innovation since only professional associations and certifying bodies allow for innovation to be fostered in internal audit departments and because the internal search capabilities fail to absorb all the external knowledge sources.

Our results are in line with the innovation literature by examining the influence of search capabilities on firms' trends to innovate (Criscuolo et al. 2013). As we use a variable linked to problem-solving capabilities to measure search activities, our work complements previous studies investigating auditors' professional judgment. In this respect, the prior research focused on building on alternate perspectives to restructure audit tasks and adopt less routine-based audit approaches to better appraise and gather information when faced with complex situations (Bucaro 2019).

Surprisingly, our results show that peers are not significantly influential in fostering innovation, while prior studies often indicate the positive role of peer reviews in the dissemination of innovation (Dahl et al. 2014). Our findings suggest that peer reviews are limited to providing feedback on established practices to increase audit quality (Gold, Gronewold, and Salterio 2014). An interpretation is that peers are endowed with knowledge that is too similar to trigger distant searches by auditors or that peers may also not allow internal audit departments to go beyond compliance with standardized auditing practices and foster innovation.

Our results also provide evidence of the influence of internal knowledge sources on the development of innovation practices in internal audit departments. We supplement the few studies that have already indicated the benefits of quality assurance and improvement programs to improve the legitimacy of internal audit departments (Coetzee, Fourie, and Burnaby 2015) by showing the positive role of the internal and independent reviews performed by management to assess the work of the internal audit function in innovation. Although not significant, our results are aligned with those of studies on the positive impact of governance mechanisms on innovation (Lhuillery 2011) since we find that overall, audit committees foster innovation. Nevertheless, our refined findings show that the sole existence of the audit committee impairs the innovation process and suggest that its formal authority is considered an obstacle to innovation by CAEs. In contrast, our results confirm the impact of audit committees on innovative behaviors and on the adoption of technology-based innovations for strategic information disclosure (Hsu et al. 2018). Once audit committees are implemented, the knowledge flow coming from the interactions between the internal audit department and the audit committee has positive outcomes for developing innovation.

Our investigation of the impact of external knowledge sources leads us to demonstrate the prominent role of professional associations and certifying bodies on internal audit innovation, and thus, we complement the literature that has shown the impact of certifications to perform IT audit assignments (Almadhoob and Valverde 2014) or to involve internal audit departments in cybersecurity risk management programs (Islam et al. 2018). Our results confirm that interactions with practitioners are also a key driver of innovation, reinforcing the interest in the professional literature providing an overview of the current internal audit profession (e.g., reports performed with the results of the CBOK surveys), of the conference regularly organized by the IIA, and of informal meetings between practitioners. Surprisingly, the influence of public accounting firms and ICT consultants, for



which IT audit reviews may be outsourced, is not found to be significant, which contrasts sharply with the innovation literature that underlines the impact of ICT outsourcing on the innovation process (Ciappini, Corso, and Perego 2008). Despite a growing need for computer audit specialists (Brazel and Agoglia 2007), our findings challenge the benefits of the outsourcing of internal audit activities found by prior studies when there is a lack of qualified in-house staff (Mubako 2019). However, an interesting result is that internal audit departments with higher search capabilities are able to absorb the knowledge provided by public accounting firms and ICT consultants more than internal audit teams with lower levels of search capabilities. This finding is aligned with the literature arguing that interactions with stakeholders who are external to the local organization are key drivers of innovation success (Powell, Koput, and Smith-Doerr 1996). Consistent with studies in the audit field, we do not find evidence that regulators are a valuable source of the innovation of internal audit departments. We thus confirm that the regulator provides strong incentives for firms to strictly follow the standards of the auditing profession (Khalifa, Sharma, Humphrey, and Robson 2007), and our findings suggest that regulation does not allow for the full scope of innovation. Interestingly, our study also indicates that firms developing higher search capabilities are more prone to derive from regulators' requirements compared with those with weak search capabilities. These findings are aligned with studies that have evidenced that some organizations deliberately deviate from standards (Witt and Fainshmidt 2018) because compliance with such standards does not seem to add value (Breger, Edmonds, and Ortegren 2020) and because management appears to provide them with little support for compliance (Burnaby, Abdolmohammadi, Hass, Sarens, and Allegrini 2009).

## 6 Conclusions

Our study is an attempt to inquire about the theoretical foundations of internal audit innovation. By distinguishing search capabilities and internal and external knowledge sources as distinct sources leading to innovation, we point out which category of actors has a significant influence on innovation in internal audit departments. We also expand the extant auditing literature by using original measures of search capabilities and innovation that are specifically tailored to internal audit practices by relying on variables linked to problem-solving techniques and the abilities to adopt innovative approaches. From a methodological point of view, we apply a knowledge production function model to the case of the internal audit function, the use of which is very scarce in the auditing literature. Our article goes beyond the traditional views considering 'control' functions as, by essence, being detrimental to innovation (Davila, Foster, and Oyon 2009), and we complement the growing body of literature that has recently begun to grasp the innovative potential of such functions.

Our results are limited by the variables we introduced into our model, as mentioned. Innovation competencies are measured in 2015, and the explanatory variables are also measured for the same period. As in many studies on innovation (e.g., Mol and Birkinshaw 2009), the lag between innovative activities and the outcomes of such activities with the use of novel audit practices and technologies is not controlled for. The literature on innovation persistence (Lhuillery 2011) finds, however, that firms that are investing in search activities keep the pace with investing over time as well as introducing innovations, which suggests that the introduction of a lag would not change the results.

A second caveat is that some missing variables in our specification may hamper a proper identification of coefficients. The CBOOK survey does not disclose any question allowing us to measure the rare role of academic researchers in the knowledge-sourcing strategies deployed by internal auditors as an external source of information (Ratzinger-Sakel and Gray 2015). In addition, within the organization's internal sources underlined by previous studies (Steinbart, Raschke, Gal, and Dilla 2012), we were not able to grasp the role of the IT department as an information provider for the internal audit department to facilitate innovation. We restricted our variables of interest to the data disclosed in the CBOOK survey, and we call for further research to examine these two dimensions.

A third caveat is that our innovation proxy does not allow us to distinguish between the types of innovation, as in Mol and Birkinshaw (2009), or to identify the degree of novelty of managerial innovations. We cannot identify whether knowledge sourcing, mediated or not by search capabilities, is triggering product innovation more than process innovation or radical innovation instead of incremental innovation. Regarding the variables included in our innovation production function, a related and more serious problem is, however, the causal relationship between the innovation competencies of internal auditors and the internal or external links they design for innovation. Internal auditors may indeed also find knowledge sources because they signal that they are an innovative internal audit unit. The impact of audit innovation on internal audit networking is, however, beyond the scope of a cross-sectional model.

Finally, our article takes the internal audit function as a single focal point, whereas complementarities can exist between the different managerial control systems and control practices inside multinational corporations (Bedford 2015), a dimension for which we cannot control with the 2015 version of the CBOOK questionnaire.

Despite these limitations, we are confident that our paper has important implications for the stakeholders of internal audit functions. For CAEs, our study provides insights into the beneficial sources of knowledge to foster innovation and allows them to identify where resources and efforts are to be allocated to grasp information to boost innovation practices. Our findings also support the initiatives of professional associations and certifying bodies to encourage internal audit professionals to adopt best practices through dedicated reviews, guides and professional literature and to share their experiences with respect to innovation in both formal and informal ways. As internal auditing standards do not disclose any requirements regarding innovation, regulators should pay attention to the willingness of internal audit departments to innovate for the purpose of fostering internal audit practices. In addition, regulators may consider the different behaviors regarding innovative activities since some internal audit functions adopt only those innovations initiated and validated by regulators, whereas others tend to avoid regulators as a source of innovation, perhaps considering that regulation is a barrier to innovation. Finally, we encourage researchers to narrow the gap between academia and professional practice by reconsidering the view that the auditing profession relies only on standards and is not able to think outside the box to innovate. Our findings present an opportunity for researchers in the audit field to move closer to internal audit activities and to be involved in the practices developed to foster internal audit innovation.

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# Conclusion générale

## 1 Conclusions

*« Les instituts professionnels s'investissent beaucoup dans la production de directives officielles défensives mais, au final, l'audit fait figure de beau désordre où les professionnels expérimentés essaient de se débrouiller du mieux qu'ils peuvent. L'assurance et le contrôle ne présentent aucune garantie et il est impossible de les quantifier pour les auréoler d'une aura d'objectivité. » (Power 2003, 263).*

**Les réglementations et les normes professionnelles sont nécessaires mais ne suffisent pas à décrire le fonctionnement des comités d'audit et de l'audit interne. Le contrôle formel découlant des réglementations n'explique pas à lui seul le déroulement des réunions du comité d'audit et les pratiques actuelles des professionnels de l'audit interne. Appréhender le fonctionnement des comités d'audit et de l'audit interne, c'est saisir la part du contrôle informel dans les pratiques de ces deux mécanismes de gouvernance.** Telle est la thèse défendue dans ce travail.

La progression du travail de recherche s'est réalisée à partir de trois études indépendantes sur les plans théoriques et méthodologiques, mais soutenant ensemble la thèse défendue dans notre travail. Avec leurs spécificités, elles visent à montrer conjointement la manière dont le contrôle est caractérisé dans les comités d'audit et les départements d'audit interne. Ces études cherchent particulièrement à saisir la part d'influence du contrôle informel dans le fonctionnement et les activités de ces deux mécanismes de gouvernance. Pour éprouver la thèse défendue, trois propositions ont été présentées et ont été respectivement examinées par chacune des études constituant ce travail doctoral.

**Première proposition : étudier les modalités de contrôle au sein du comité d'audit, c'est s'intéresser à son processus de fonctionnement à travers une approche qualitative et aller au-delà de l'examen quantitatif des relations entre critères d'efficience du comité et les attributs de structure décrits dans la réglementation.**

La mise en œuvre d'une approche qualitative dans la première étude de cette recherche met en évidence les limites du contrôle formel, qui se traduit par de la défiance envers la réglementation de la part des membres de comités d'audit et des participants aux réunions. Ce point de vue semble nuancer les objectifs anticipés par le législateur puisqu'à première vue, la réglementation semble renforcer l'idée historiquement dominante que le contrôle formel est une solution pour améliorer la gouvernance d'entreprise. En revanche, des modèles qui sous-tendent l'existence de pratiques liées au contrôle informel émergent des données empiriques analysées dans ce travail. Par exemple, les aspects relationnels lors et en dehors des réunions ainsi que les valeurs partagées telles que la recherche de confort, le dialogue et la confiance entre les membres du comité et les auditeurs internes et externes témoignent des aspects informels du contrôle exercé par le comité. Ces résultats s'inscrivent donc dans la lignée des études ayant examiné le processus de fonctionnement des comités d'au-

dit (Spira 2002 ; Gendron, Bédard, et Gosselin 2004 ; Gendron et Bédard 2006 ; Gendron 2009) et qui semblent indiquer des pratiques liées au contrôle informel lors et en dehors des réunions (Turley et Zaman 2007).

Ainsi, la mise en place dans la première étude de l'approche suggérée par cette proposition a permis de saisir la part de contrôle formel et informel dans le fonctionnement du comité d'audit.

**Deuxième proposition : Si l'indépendance et les compétences techniques des auditeurs font partie des exigences décrites dans les normes d'audit interne, les compétences en communication sont décrites dans une moindre mesure dans ces normes mais contribuent néanmoins à la qualité de l'audit interne.**

Les résultats présentés dans la deuxième étude de cette recherche montrent que le fait de consacrer des ressources au développement du capital humain (qui englobe des variables liées aux compétences techniques des auditeurs) dans le département d'audit interne contribue à améliorer la qualité de l'audit. Les entreprises dont la gouvernance (qui reprend des variables liées à l'indépendance des auditeurs) s'aligne étroitement sur les meilleures pratiques peuvent également fournir des audits de qualité. Néanmoins, les résultats indiquent également que la qualité de l'audit est améliorée lorsque les auditeurs internes sont de bons communicants et que les efforts entrepris en matière de communication ont un impact plus important que les efforts en matière de gouvernance. Cette dernière conclusion permet d'étayer de manière quantitative l'importance des compétences en communication des auditeurs dans le processus d'audit comme l'avaient proposé d'autres études (Nelson et Tan 2005 ; Fanning et Piercey 2014 ; Roussy et Brivot 2016). Les travaux de cette étude concourent ainsi à montrer l'influence du contrôle informel sur la qualité de l'audit à travers la communication des auditeurs avec les différentes parties prenantes des missions d'audit.

Les résultats de la deuxième étude ont permis de soutenir notre proposition qui suppose une part de contrôle informel dans le fonctionnement de l'audit interne *via* les compétences en communication des auditeurs.

**Troisième proposition : la mise en oeuvre d'activités innovantes et les sources de connaissances menant à l'innovation en audit interne permettent de questionner le contrôle formel des normes professionnelles et de repenser les pratiques d'audit traditionnelles.**

Le travail réalisé dans la troisième étude de cette thèse permet de définir et d'opérationnaliser la notion d'innovation en audit interne. Alors que les normes n'évoquent pas les échanges de connaissances dans le cadre des missions d'audit ni même la notion d'innovation en audit interne, ce travail soutient l'hypothèse selon laquelle les capacités de recherche des départements d'audit interne sont un moteur essentiel de l'innovation. Les résultats montrent également que les sources de connaissances internes à l'organisation ont une influence sur la propension à innover, mais avec une distinction entre les différents acteurs : alors que l'impact des informations provenant d'autres départements est légitimé comme une source précieuse de connaissances, celles concernant l'impact du comité d'audit ne sont effectives que lorsque celui-ci est déjà établi dans l'organisation. En ce qui concerne les sources externes de connaissances, les résultats montrent que les associations professionnelles permettent de favoriser l'innovation dans les départements d'audit interne, suggérant un échange informel de pratiques entre professionnels de l'audit sur leurs activités innovantes.

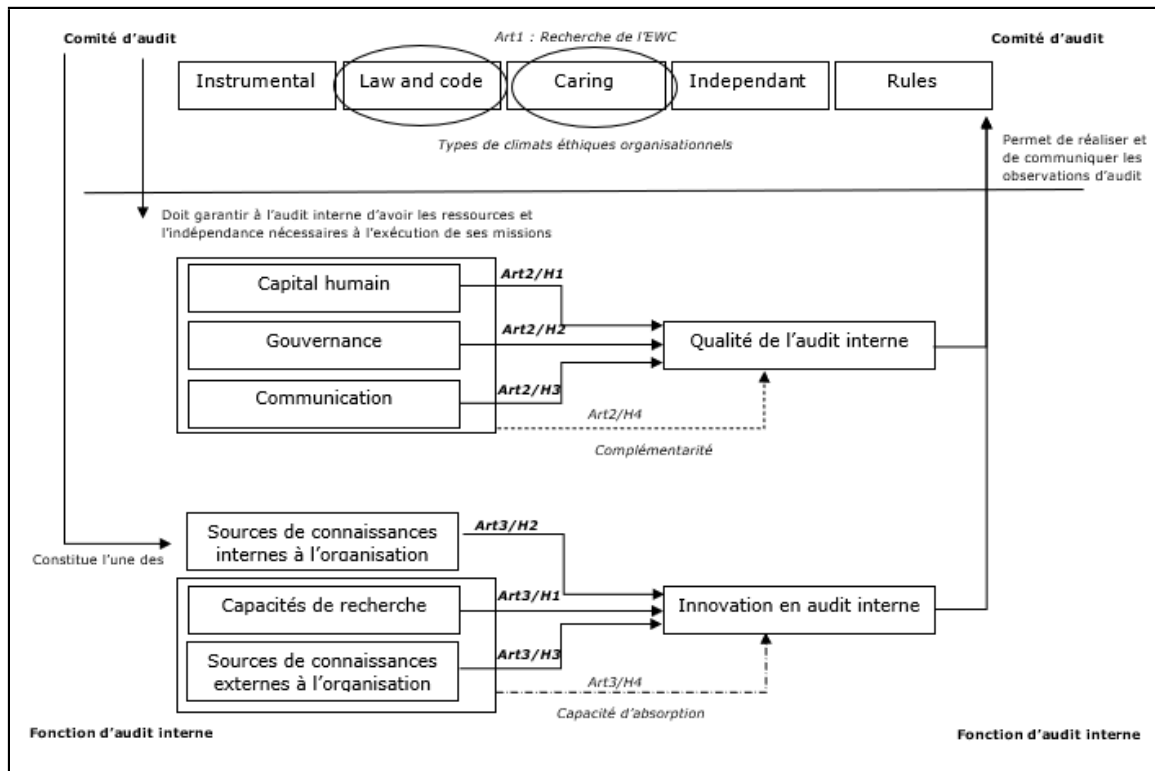
Les résultats de la troisième étude ont permis de soutenir notre proposition en montrant que le contrôle informel, caractérisé par les échanges de connaissances notamment *via* les associations professionnelles, est un vecteur de l'innovation en audit interne.

Notre schéma de la figure 3 présente les résultats spécifiques de chacune des études qui constituent ce travail. La partie consacrée à la première étude sur les comités d'audit, en haut du schéma, montre les types de climats éthiques organisationnels identifiés : le climat de type « law and codes » et le climat de type « caring ». La perception de ces deux climats suggère ainsi une part de contrôle formel et informel dans le fonctionnement du comité d'audit.

La partie du schéma liée à la deuxième étude sur la qualité de l'audit interne montre une validation des trois premières hypothèses émises. Les deux premières hypothèses liées au capital humain du département d'audit interne, caractérisées par les compétences techniques des auditeurs, ainsi qu'à l'influence de la structure de gouvernance sont validées et indiquent la part de contrôle formel dans les travaux de l'audit interne. La validation de la troisième hypothèse, indiquant l'influence positive de la communication sur la qualité de l'audit interne, suggère la part de contrôle informel dans le fonctionnement de l'audit interne. Néanmoins, l'absence de validation de la quatrième hypothèse montre que les départements d'audit interne semblent arbitrer entre ces déterminants formels et informels pour améliorer leurs pratiques.

La troisième partie du schéma liée à l'étude sur l'innovation en audit interne met en évidence la validation des trois premières hypothèses émises. Les capacités de recherche des fonctions d'audit interne améliorent ainsi de manière significative l'innovation. Les sources de connaissances internes et, en particulier, les échanges avec les dirigeants et avec le comité d'audit lorsqu'il est établi, favorisent les pratiques innovantes dans les départements d'audit interne et témoignent de la part de contrôle informel dans leur fonctionnement. De manière analogue, les sources de connaissances externes et plus précisément les échanges de connaissances initiés par les associations professionnelles ont une influence positive sur l'innovation. Néanmoins, la quatrième hypothèse relative à l'association entre les capacités de recherche de la fonction d'audit interne et des sources externes de connaissances est invalidée.

FIGURE 3 – Résultats détaillés de la recherche doctorale



De manière générale, la présente recherche a permis de montrer dans quelle mesure les pratiques informelles mises en œuvre au sein des comités d'audit et des départements d'audit interne, en parallèle des réglementations et des normes professionnelles, contribuent au fonctionnement effectif de ces deux mécanismes de gouvernance d'entreprise. En questionnant le rôle du contrôle formel dans le fonctionnement des comités d'audit et des départements d'audit interne et en montrant que le contrôle formel peut mener soit à des réserves, soit s'avère nécessaire mais non suffisant pour témoigner des activités de ces mécanismes de gouvernance, ce travail doctoral suggère que les différentes réglementations et normes encadrant leurs travaux ne constituent parfois qu'une illusion de contrôle. Ainsi, les résultats rejoignent la littérature incitant à étudier le contrôle informel dans les disciplines de gestion (Henri et Wouters 2020; Braumann, Gabner, et Posch 2020) et indiquent que des éléments caractérisant le contrôle informel sont présents dans les pratiques des comités d'audit et des départements d'audit interne alors que ces éléments sont évoqués dans une très faible mesure par les lois, réglementations et normes encadrant les travaux de ces mécanismes. Enfin, ce travail montre comment des pratiques informelles peuvent être développées au-delà des missions et des exigences définies par les textes, dans la lignée de la littérature indiquant une complémentarité entre ces deux typologies de contrôle (Cardinal, Sitkin, et Long 2004, Kreutzer et Lechner 2010; Kreutzer, Cardinal, Walter, et Lechner 2016; Gerdin, Johansson, et Wennblom 2019).

Dans un contexte où les organisations sont exposées à de plus en plus de complexité et d'ambiguïté, la littérature sur le contrôle organisationnel tend à adopter une approche holistique du contrôle et examine comment les formes de contrôle peuvent se combiner voire

se compléter (Cardinal, Kreutzer, et Miller 2017). À la différence des études indiquant un effet de substitution entre les différents de formes de contrôle (i.e. Ouchi 1977; Choudhury et Sabherwal 2003), ce courant de recherche montre l'existence d'une complémentarité entre le contrôle formel et le contrôle informel. Le développement d'un ensemble de contrôles formels et informels dans une organisation apparaît ainsi conditionner un environnement de travail sain (Passetti, Battaglia, Testa, et Heras-Saizarbitoria 2020) et améliore l'innovation (Henri et Wouters 2020). En favorisant les échanges et la coopération, la combinaison de systèmes de contrôles formels et informels apporte également une influence positive sur la performance des équipes (De Jong, Bijlsma, et Cardinal 2014; Cardinal et al. 2016). La mise en place de contrôle formel et informel de manière équilibrée et harmonisée, en cohérence avec les caractéristiques spécifiques de l'organisation, semble ainsi être un prérequis de sa stabilité et de son efficacité (Falkenberg et Herremans 1995). Ces deux types de contrôles semblent donc présenter des aspects indivisibles afin de former un tout cohérent. Dans cette configuration, le contrôle informel est une composante indispensable, dont le système global de contrôle d'une organisation doit se saisir, afin de prévenir et de détecter les erreurs et les fraudes (Chtioui et Thiéry-Dubuisson 2011). Entre une volonté de mise en place de toujours plus de contrôle formel, qui découle mais qui entraîne également plus de réglementations, et la recherche de systèmes de contrôles alternatifs destinés à maîtriser les pratiques informelles dans les organisations, notre étude a permis de mettre en lumière les interactions possibles entre le contrôle formel et le contrôle informel dans le fonctionnement des comités d'audit et de l'audit interne.

## 2 Contributions

Les résultats présentés invitent à exposer les contributions de ce travail doctoral qui sont d'ordre académiques, méthodologiques et professionnelles.

### 2.1 Contributions académiques

Premièrement, d'un point de vue académique, les principales originalités des études constituant ce travail doctoral sont diverses. Ce travail doctoral a permis d'examiner, à travers une même recherche, la part de contrôle formel et informel de deux mécanismes de gouvernance liés à la notion d'audit. Là où la littérature propose traditionnellement l'examen de variables liées au contrôle formel qu'imposent les lois, réglementations et normes professionnelles, cette recherche a permis de saisir les attributs relatifs au contrôle informel. À cet égard, ce travail a apporté une piste de réflexion pour tenter d'expliquer certaines conclusions des études antérieures, ayant notamment souligné l'échec de la réglementation dans l'amélioration du fonctionnement des comités d'audit et des départements d'audit interne.

Au-delà des apports de ce travail au regard de la thèse défendue, chaque étude a généré des contributions académiques spécifiques. La première étude a ainsi mobilisé le cadre théorique du climat éthique organisationnel dans le champ de recherche lié à l'audit et, plus particulièrement, au comité d'audit, afin de mieux comprendre la manière dont son contrôle est exercé. À ce titre, ces travaux ont introduit les notions d'éthique, de valeurs et de contrôle informel afin de mieux comprendre le fonctionnement du comité d'audit, là où la majorité des études ont examiné des attributs de structure et de composition liés au contrôle formel imposés par la réglementation (Bédard et Gendron 2010).

La deuxième étude, en examinant des facteurs de la qualité de l'audit interne, a contribué à la définition de déterminants tels que la communication, n'ayant fait l'objet que de peu d'attention dans la littérature. Des indices de gouvernance, de capital humain et de communication ont été élaborés et représentent un apport original au regard des indices examinés dans la littérature en audit. En outre, ce travail a mis quantitativement en évidence les liens entre la communication des auditeurs et l'amélioration de la qualité de l'audit interne, dans la mesure où l'importance de la communication est soulignée dans la littérature mais majoritairement examinée de manière qualitative (e.g. Roussy et Brivot 2016).

Enfin, la troisième étude a permis d'opérationnaliser la notion d'innovation en audit interne, ce qui, au regard de la littérature, n'avait pas été réalisé dans les rares études appréhendant cette notion (e.g. Fogarty et Rigsby 2010). Par ailleurs, ce travail a été le premier à identifier, délimiter et catégoriser les sources d'innovations à travers les concepts de sources internes et externes de connaissances ainsi que les capacités de recherche des départements d'audit. Bien que ces concepts soient bien connus et examinés dans la littérature en innovation (Tether et Tajar 2008 ; Frenz et Ietto-Gillies 2009), l'influence de ces derniers n'avait jamais fait l'objet de tests dans la littérature spécifique à l'audit.

## 2.2 Contributions méthodologiques

Deuxièmement, sur le plan méthodologique, ce travail a apporté de nombreuses contributions. En effet, il a mobilisé au sein d'un unique travail des méthodes de recherche quantitatives et qualitatives. À ce titre, la première étude a mis en œuvre une méthode de collecte et d'analyse qualitative afin d'examiner le processus de fonctionnement des comités d'audit. Ainsi, l'observation de deux réunions de comités d'audit constitue un apport majeur de cette étude puisque l'accès aux réunions représente un défi pour les chercheurs dans le domaine (Gendron 2018). Une attention toute particulière a également été portée à la diversité des sources de données : des entretiens semi-directifs avec des membres et participants aux réunions de comité ainsi que la revue de documents confidentiels relatifs à ces réunions a été effectuée afin d'augmenter la validité et la fiabilité des analyses. En ce sens, la spécificité de la méthodologie de collecte et d'analyse de données mise en œuvre a contribué à faire émerger des éléments questionnant le rôle du contrôle formel et indiquant celui du contrôle informel dans le fonctionnement du comité d'audit.

Par ailleurs, la deuxième étude a examiné de manière conjointe les facteurs de la qualité de l'audit interne à l'aide d'une approche économétrique, à travers l'examen de la complémentarité entre les indices de gouvernance, de capital humain et de communication élaborés. D'un point de vue méthodologique, là où les études mettent principalement en œuvre des modèles de régression logarithmiques, cette étude invite la littérature à mobiliser des techniques économétriques et à rechercher des propriétés de supermodularité (Milgrom et Roberts 1995) au regard des différentes problématiques liées à l'audit. En effet, cette démarche constitue une approche innovante dans le champ de recherche de l'audit et a permis d'estimer quantitativement les parts explicatives conjointes des contrôles formels et informels, à travers les liens entre le capital humain, la gouvernance et les compétences en communication, sur la qualité de l'audit interne. En mettant également en œuvre un modèle économétrique de « fonction de production de connaissance »<sup>1</sup> (Griliches 1990) afin d'examiner l'impact relatif des sources de connaissances

1. Traduction française de « knowledge production function » (KPF).



sur l'innovation dans les départements d'audit interne, la troisième étude a ainsi repris et élargi les perspectives de recherches méthodologiques décrites dans la deuxième étude et a contribué à souligner et à approfondir l'intérêt de l'économétrie dans la littérature en audit.

Ce travail a ainsi été l'opportunité de mettre en œuvre deux méthodologies d'analyses distinctes mais se révélant complémentaires pour tenter d'améliorer la compréhension des comités d'audit et de l'audit interne en explicitant la part de contrôle formel et informel dans leur fonctionnement. Au-delà d'une appétence personnelle pour ces deux méthodologies et de la volonté de développer nos compétences sur ces deux aspects au cours de ce travail doctoral, cette recherche a permis de tirer profit des caractéristiques complémentaires de ces deux méthodologies d'analyse (Covaleski et Dirsmith 1990). Les deux méthodologies de recherche ont ainsi apporté une appréhension différente de la manière dont le contrôle formel et le contrôle informel sont caractérisés dans le fonctionnement des comités d'audit et de l'audit interne mais ont contribué de manière réciproque à la confrontation puis à l'explicitation des résultats obtenus par l'autre méthode. L'analyse qualitative a permis de se concentrer sur le processus des réunions du comité d'audit, tandis que la méthode quantitative a permis d'établir des liens entre certains facteurs et la qualité de l'audit interne d'une part ainsi que des liens entre les sources de connaissances et les pratiques innovantes en audit interne. Si l'approche se révèle différente, les résultats mis en évidence dans les trois études constituant ce travail témoignent des parts explicatives conjointes du contrôle formel et informel dans le fonctionnement des comités d'audit et de l'audit interne.

### 2.3 Contributions professionnelles

Troisièmement, les contributions professionnelles de cette recherche ont permis de mieux comprendre les deux mécanismes de gouvernance considérés. Ce travail a contribué à compléter les implications pratiques de la recherche dans le champ de l'audit. En ce sens, cette recherche a interrogé la manière dont l'influence de la réglementation sur le comité d'audit et l'audit interne est caractérisée. Les résultats ont mis en lumière l'importance du contrôle informel dans leur fonctionnement, malgré la volonté croissante de vérification et de contrôle formels par le régulateur, à travers par exemple « *une explosion de l'audit* » (Power 2005, 27). Pourtant, il semble que la mise en place de nouveaux standards ait entraîné un phénomène de résistance de la part des professionnels de l'audit (Jeppesen 2010). En ce sens, ce travail a permis de donner des pistes au régulateur et aux décideurs politiques pour mieux comprendre ces mécanismes de gouvernance, notamment par la prise en compte du contrôle informel.

Ce travail a également contribué à donner des leviers d'action pour les professionnels et parties prenantes des comités d'audit et de l'audit interne. L'étude sur les comités d'audit a permis de donner une meilleure information pour les administrateurs et participants quant à la manière dont le contrôle est exercé hors et pendant les réunions. Les résultats ont ainsi contribué à améliorer la compréhension des attentes et enjeux des différents acteurs (membres de comités d'audit ainsi qu'auditeurs internes et externes) afin d'améliorer la qualité des présentations et du reporting réalisés lors des réunions et, en définitive, le fonctionnement de ce mécanisme. En conséquence, ce travail a participé à donner des axes de réflexion autour de la prise en compte du contrôle informel lors de la réalisation des codes de bonne gouvernance et de la mise en place de nouvelles réglementations.

Par ailleurs, la deuxième étude a concouru à examiner de manière spécifique les

facteurs menant à l'amélioration de la qualité de l'audit interne. Cette étude a permis de donner aux départements d'audit interne un éclairage sur la manière dont les ressources disponibles peuvent être allouées entre les différents facteurs afin d'améliorer la qualité de l'audit interne. D'autre part, ces travaux entendent constituer une aide à la décision pour les départements d'audit interne lorsqu'il s'agit de statuer sur la réalisation d'investissements financiers de manière jointe ou indépendante dans les pratiques liées au contrôle formel (gouvernance et capital humain) et au contrôle informel (communication). En ce sens, au regard de l'objectif général de la recherche, les résultats ont indiqué que l'amélioration de la qualité de l'audit interne dépend non seulement du contrôle formel à travers le développement du capital humain et du renforcement des pratiques de gouvernance mais aussi de l'investissement dans le contrôle informel à travers les capacités en communication des auditeurs. En ce sens, cette étude a contribué à démontrer le rôle joué par le contrôle informel, à travers la communication des auditeurs dans le processus d'audit interne.

Enfin, l'un des apports les plus originaux de la présente recherche réside dans la mise en lumière de l'innovation pouvant être menée par les départements d'audit interne et des facteurs qui y contribuent, alors que les professions liées à l'audit et à la comptabilité sont traditionnellement considérées comme réticentes à ce type d'activités (Ditillo 2004 ; Malsch et Gendron 2011). Les résultats de la troisième étude concourent à donner aux responsables des départements d'audit interne des indications sur les sources de connaissances dans lesquelles il pourrait être bénéfique d'investir afin de favoriser l'innovation. À ce titre, les travaux ont notamment montré que le fait d'être membres d'associations professionnelles et les connaissances acquises de manière informelle qui en résultent s'avèrent être une pratique significative pour favoriser l'innovation. La présente étude suggère que le régulateur devrait ainsi prendre en considération les pratiques informelles mises en œuvre par les départements d'audit interne lors de l'élaboration de nouvelles normes, telles que les échanges de la fonction d'audit interne avec ses différentes parties prenantes lorsqu'il s'agit d'encadrer de nouvelles pratiques.

### 3 Limites

Comme tout travail de recherche, celui mené dans le cadre de ce travail doctoral possède des limites inhérentes. Outre les limites spécifiques de chacune des études présentées, il a semblé important de dresser les limites générales de la thèse soutenue dans le cadre de notre travail.

La première limite est liée à l'hétérogénéité du terrain de recherche au sein et entre les différentes études constituant ce travail. Pour réaliser la première étude, une méthodologie qualitative a été privilégiée car celle-ci se prête particulièrement bien à l'examen du fonctionnement des comités d'audit (Bédard et Gendron 2010 ; Malsch et Salterio 2016). En revanche, la mise en œuvre de cette méthodologie pour étudier les modalités du contrôle au sein des comités d'audit nécessite de pouvoir avoir accès au secret des réunions du comité et d'obtenir le témoignage d'administrateurs qui choisissent (ou non) de répondre aux demandes d'entretiens. Si ce travail doctoral a permis de collecter à la fois des données par observation de réunions et de réaliser des entretiens avec des membres de comités et des auditeurs participant aux réunions, ce qui est confirmé être très rare dans la littérature (Leblanc et Schwartz 2007 ; Compernelle 2018 ; Gendron 2018), l'accès aux réunions de comités d'audit et la réalisation d'entretiens a été majoritairement effectuée

avec les personnes ayant accepté de répondre à nos demandes. Il aurait cependant été souhaitable d'obtenir un ratio plus important de membres de comités par rapport aux auditeurs ayant accepté de témoigner de leur expérience. De même, pouvoir obtenir le point de vue de membres du comité, d'auditeurs internes et d'auditeurs externes de la même organisation, ou même encore de réaliser l'ensemble de ces entretiens avec les trois acteurs des réunions des comités auxquelles il a été possible d'assister aurait permis d'approfondir les analyses réalisées. En outre, l'hétérogénéité du terrain de recherche de ce travail est caractérisé par le point de vue adopté dans les deux autres études. En effet, les données des deuxième et troisième études de la présente recherche ont été obtenues à travers la base de données CBOOK de l'IIA et analysées par une approche quantitative. Si cette base de données s'avère riche puisqu'elle présente les réponses de près de 15 000 auditeurs internes à travers le monde et a été utilisée dans de nombreuses études de la littérature (e.g. Jiang, André, et Richard 2018 ; Islam, Farah, et Stafford 2018), celle-ci ne présente pas le point de vue des membres de comités d'audit sur les pratiques des départements d'audit interne. L'hétérogénéité du terrain de recherche se traduit enfin par la différence de périmètre géographique entre la première étude d'une part, et les deuxième et troisième études d'autre part. Si les deuxième et troisième études constituant ce travail appréhendent les pratiques d'audit interne sur l'ensemble des régions du monde, le périmètre géographique de la première étude s'est limité à des entreprises européennes, du fait de la difficulté de l'accès aux réunions des comités d'audit et de la localisation effective des administrateurs ayant accepté de participer à cette recherche. Néanmoins, compte tenu de la nature des résultats obtenus, il semble que ceux-ci traduisent dans une large mesure une certaine « logique » dans la part de contrôle informel dans les pratiques des comités d'audit et des départements d'audit interne.

Une deuxième limite de ce travail est celle de l'opérationnalisation des notions de contrôle formel et informel. Ces notions sont appréhendées pour la première étude à travers la perspective théorique du climat éthique organisationnel et identifiées par les climats de type « law and codes » pour le contrôle formel et « caring » pour le contrôle informel. Dans la deuxième étude, les aspects de contrôle formel sont opérationnalisés par les indices de capital humain et de gouvernance, tandis que les compétences en communication des auditeurs internes permettent de mesurer le caractère informel de certaines pratiques dans le processus d'audit interne. En outre, pour la troisième étude, le fait que les départements d'audit interne soient en capacité d'innover et puisent leur connaissance dans leurs échanges avec différentes parties prenantes, témoigne de certaines « déviations » vis-à-vis de la mission de cette profession définie par les normes d'audit interne. Bien que les choix effectués pour mesurer le contrôle formel et informel s'appuient sur des travaux de la littérature et qu'il n'existe pas de consensus quant à la définition du contrôle formel (Pfister 2009) et quant au contenu des contrôles informels (Roth 1998 ; Buhariwalla 2006), le choix spécifique de ces mesures demeure subjectif et lié à la perspective adoptée dans ce travail. Un examen des notions de contrôle formel et informel à travers d'autres prismes théoriques et avec une opérationnalisation à travers d'autres variables serait éventuellement nécessaire afin d'appréhender de manière plus exhaustive, mais plus précise aussi, l'influence du contrôle formel et informel sur les comités d'audit et les départements d'audit interne.

## 4 Perspectives

En dépit des remarques précédentes, les résultats de ce travail doctoral ouvrent la voie à plusieurs pistes de recherche. L'étude de la nature du contrôle au sein des comités d'audit et des départements d'audit interne recèle d'autres pistes de recherche que celle de l'examen de la part de contrôle formel et informel dans le fonctionnement des comités d'audit et de l'audit interne de manière mutuellement exclusive. Il serait à ce titre intéressant d'étudier dans quelle mesure la relation entre les comités d'audit et l'audit interne est impactée par ces formes de contrôle.

Il semble également souhaitable d'étendre ce travail en obtenant le point de vue du régulateur vis-à-vis des notions de contrôle formel et de contrôle informel et de déterminer dans quelle mesure, le cas échéant, l'influence des pratiques informelles des comités d'audit et des départements d'audit interne est prise en compte lors de la définition de nouvelles réglementations et normes pour encadrer les activités de ces mécanismes de gouvernance. Une étude de cas sur le processus d'élaboration des normes professionnelles au sein d'un organisme tel que l'IIA serait sans doute instructive quant aux modalités de prise en considération du contrôle informel lors de la définition de nouvelles normes.

Il serait également intéressant de réaliser un examen de l'influence des réglementations sur les travaux de la fonction d'audit externe qui, par essence, détient des liens privilégiés avec les comités d'audit et les départements d'audit interne, afin de pouvoir comparer la typologie du contrôle au sein de cette fonction. Cette approche permettrait éventuellement de confirmer les tendances relevées dans la présente étude sur les pratiques liées au contrôle formel et informel, puis de les affiner. La thèse ouvre ainsi de multiples voies afin d'examiner l'influence du contrôle formel et informel sur l'adoption de nouvelles pratiques de gouvernance d'entreprise, ou de toute autre innovation en matière de contrôle organisationnel.

Enfin, si notre travail suggère une part explicative des contrôles formels et informels dans le fonctionnement des comités d'audit et de l'audit interne, il serait intéressant d'approfondir notre réflexion par l'étude de l'influence de ces deux types de contrôle sur l'efficacité des comités d'audit et de l'audit interne. Existerait-il une « recette » idéale ou un équilibre optimal entre contrôle formel et informel afin de maximiser l'efficacité de ces deux mécanismes ? Des études cherchant à répondre à cette question révéleraient peut-être toute la richesse des concepts de contrôle formel et informel pour l'étude du contrôle organisationnel.

Influencer les différents acteurs pouvant être concernés par ce travail n'est pas chose aisée, notamment à cause de la distance existant encore entre le monde académique et celui des praticiens (Rynes, Bartunek, et Daft 2001). Cependant, j'espère que les résultats présentés à l'issue de cette recherche trouveront un écho au-delà des pages de cette thèse et de mon parcours doctoral.

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# Annexe - Liste des publications et présentations en séminaires

## Articles de recherche (soumis et en cours de revue)

« Beyond the Scene of Audit Committees' Formal Control : Shaping Their Work Through Informal Control and Caring Ethical Climate », soumis à *Accounting, Auditing and Accountability Journal*. Deuxième Round. Co-auteurs : Marion Tellechea, Stéphanie Thiéry, David Wasieleski (Duquesne University).

« How can Governance, Human Capital and Communication Practices Foster Internal Audit Quality ? », soumis à *Auditing : A Journal of Practice and Theory*. Premier Round. Co-auteurs : Marion Tellechea, Stéphanie Thiéry, Stéphane Lhuillery.

« Knowledge Sources of Internal Audit Innovation », soumis à *Technovation*. Premier Round. Co-auteurs : Stéphane Lhuillery, Marion Tellechea, Stéphanie Thiéry.

## Séminaires

Février 2021 - « Knowledge Sources of Internal Audit Innovation », *Neoma Business School*, Reims.

Novembre 2020 - « Knowledge Sources of Internal Audit Innovation », *Séminaire de Recherche PRISM, Université Paris Sorbonne*, Paris.

Juillet 2019 - « How can Governance, Human Capital and Communication Practices Foster Internal Audit Quality ? », *Neoma Business School*, Reims.

Juin 2019 - « Influence des prescriptions réglementaires sur les mécanismes de gouvernance liés à l'audit : examen à travers deux méthodes de recherche », *XIème journée de l'ED SJPEG*, Prix de la meilleure présentation, Nancy.

Janvier 2019 - « Prescriptions on three governance mechanisms under trial : an illusion of control ? », *Doctoral Workshop, ICN Business School*, Nancy.

Décembre 2018 - « Mise à l'épreuve des prescriptions sur le triangle de la gouvernance : une illusion de contrôle ? », *Journée des doctorants du laboratoire CEREFIGE*, Nancy.

Novembre 2017 - « Etude du processus de prise de décision du comité d'audit », *Journée des doctorants du laboratoire CEREFIGE*, Nancy.

## Article non évalué par les pairs

Novembre 2020 - « Le secret d'un audit interne de qualité? Compétences, indépendance et communication ! » <https://blog.neoma-bs.fr/secret-dun-audit-interne-de-qualite->



competences-independance-communication/, *Blog de Neoma Business School*.

