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ABSTRACT

Purpose: This study seeks to identify how professional accountants in France are educated in sustainability; we examine the French accounting programs in regard to sustainability accounting education recommendations.

Design/Methodology/Approach: We analyze a variety of documents to ascertain what comprises the typical accounting education program in France. Additionally, we conduct five interviews of various stakeholders to understand the importance of sustainability accounting and education in the French context.

Findings: We note an interesting paradox in the French context: while the government requires the reporting and auditing of corporate sustainability information, we find that sustainability is not greatly present in the government-funded French accounting education program. We determine that the government's power in setting the education agenda combined with its budget restrictions and ability to defer responsibility to other parties has resulted in this paradox in the French setting.

Practical Implications: This research draws attention to the consequences of society ignoring sustainability education for professional accountants.

Originality: This research contributes to the important domain of sustainability accounting education. We also explore additional implications for the accounting profession and the general public.

Keywords: accounting curriculum, sustainability accounting, France, professional accountants, accounting education, competency map, education program.

INTRODUCTION

One of the main challenges in accounting today is determining not only what an accountant is, but also what an accountant should be. Determining the necessary skills and competencies that are important to educate accountants to be responsible today and tomorrow is a major ongoing challenge for the profession. A key consideration is how these competencies affect the accountant's professional boundaries. These are ongoing and fluid deliberations. A recent report stresses the importance of a long-term focus including knowledge of sustainability concepts to ensure long-term success (Botes et al., 2014). Additionally, the International Accounting Education Standards Board (IAESB) (IAESB, 2017), the American Accounting Association (AAA) and the Institute of Management Accountants (IMA) (Lawson et al., 2014) agree that sustainability and a long-term career focus needs to be included in the education of accountants today.

While the concept of a long-term career focus seems simple enough, gaining the approval of stakeholders and ascertaining which competencies are important remains a challenge. In some countries, like France, the government plays a key role in determining the content of the education program. Integration of sustainability in education programs ignites debates between supporters and opponents, where politics, paradigm shifts and money intersect. This study focuses on the French accounting education regimes in relation to sustainability. France has a regulated environment that requires the audit and reporting of sustainability information for large companies under its jurisdiction. The government has advocated for increased sustainability information from corporations in recent years and by mandating audits of the information, aims to ensure a high quality output for users and the general public. Based on this, it is expected that there will be a high-level of sustainability accounting education for professional accountants in France. However, due to the lack of previous studies on the level of sustainability in programs

that lead to an accounting designation, it is unclear what level of sustainability accounting education will actually be found.

This study aims to explore how professional accountants are educated in sustainability in France. Our research questions are: What place should sustainability take in the pre- and post-designation accounting programs? What place does sustainability occupy in these programs? And, what does the future look like for sustainability accounting in France?

This research addresses these important questions while expanding the discussion on the implications that lay ahead in the accounting profession and society as it relates to sustainability and in doing so uncovers a paradox. While the government touts sustainability on the one hand, mandating both the reporting and auditing of accounting information by large firms, we do not find the corresponding sustainability competencies in the government funded accounting education program. In France, we find that the government's power to set the required competencies for accountants, combined with its desire to limit the financial resources spent on education and its narrow view of what an accountant is, has led to the low level of sustainability content in the pre-designation accounting education program. The government is responsible for the costs associated with the pre-designation education program but not for any post-designation education. Given this clear break in financial responsibility, it remains satisfied with deferring sustainability content to the post-designation education programs; here, accountants, engineers and other professionals are responsible for paying for self-education and compete amongst each other to engage in sustainability reporting, auditing, and consulting. Consequently, both the pre- and post-designation programs are deficient in sustainability content. In line with Gray and Collison (2002), we reiterate that sustainability is in the public interest and, given that the accounting profession proclaims to uphold this interest, it follows that sustainability should be

included in its education program. There are therefore consequences for society to cede sustainability accounting to non-accountant professionals, particularly consultants, as they do not have the same professional obligation to protect the public interest. As a reminder, to be qualified as professional accountants, candidates have to obtain the requisite diplomas, pass exams, gain work experience, and acquire continuous education throughout their career. This study is well timed since France is revising its competency map and education program. In this paper, the French competency map we rely upon is the Bulletin officiel du ministère de l'Enseignement Supérieur et de la Recherche (2014).[1]

This paper contributes to the discussion on the lack of sustainability competencies in education programs to educate responsible professional accountants. We contribute to the literature by examining how and why such competencies are (not) covered. Given the rise of non-accountant specialist professionals producing critical sustainability information, this poses a serious threat to the general public and society. Additionally, we respond to Gendron and Spira's (2009) call for more in-depth qualitative research about the backstage of auditing to enhance our understanding of emerging insurance and auditing practices. To this end, our paper contributes to the discussion on the future of the French accounting profession in relation to sustainability.

The paper proceeds as follows: Section 2 presents the literature review and framework, Section 3 the institutional setting, Section 4 the method, and Section 5 the analysis and results. A final section presents a discussion, conclusion and future research avenues.

LITERATURE REVIEW and FRAMEWORK

What is sustainability?

Sustainability is a challenging concept to define and remains debated amongst academics and practitioners alike. Research has found that this is due, in part, to a variety of definitions and levels of understanding (Byrch et al., 2015). To facilitate ease of understanding, we will retain Elkington's (1998) concept of sustainability which incorporates environmental, social and economic considerations. This is arguably one of the best understood conceptualizations of sustainability as well as one of the broadest. In keeping with a broad interpretation, aspects of sustainability will include the consideration of stakeholder needs.

The importance of including sustainability within accounting education

If the definition of sustainability itself remains hotly debated then so does its place in accounting education. The benefits of including sustainability accounting in the curriculum are numerous from increasing the sensitivity of students to ethical and moral considerations (Mangion, 2006) to developing critical, transdisciplinary skills (Saravanamuthu, 2015). Sadly, most accounting education programs have had little change in the past quarter century (Deegan, 2017). It appears that some organizations design competency maps and education programs to prepare accounting candidates for entry-level jobs (Lawson et al., 2014). This leaves out competencies that may not be immediately required for long-term career development. It is possible that sustainability may be left to industry itself to provide the necessary knowledge or that by the very nature of sustainability as a long-term concept, it may be covered in accounting education post-designation course offerings. Regardless, over time, the inclusion of sustainability in the day-to-day jobs of accountants worldwide is expanding with accountants being called upon to engage in environmental management accounting, integrated reporting, the development of stand-alone sustainability reports, the communication of sustainability data, supporting information for stakeholders and the assurance of sustainability reports (O'Dwyer, 2011; Zvezdov et al., 2010).

This is reiterated by O'Dwyer et al. (2011) who note increasing levels of demand for the assurance of sustainability reports. With integrated reporting on the rise, Owen (2013) highlights the need to make changes to the current accounting curriculum. Integrated reporting requires a longer-term outlook with more focus on qualitative information and the ability to measure, interpret and communicate broad business performance metrics. At the same time, international bodies like the International Auditing and Assurance Standards Board (IAASB) are revising their standards to include explicit references to both sustainability reports and integrated reports (International Standard on Assurance Engagements, ISAE, 2013). Within organizations, professional accountants are finding that their skills are needed to verify and validate the use of sustainability information in relation to internal control processes as well as with other accounting information (Zvezdov et al., 2010).

In the face of this changing landscape for accountants, a number of international actors have put forth the call for accountants to be competently trained in sustainability. Academics, accountants and accounting graduates note that sustainability should be included in accounting programs (Botes et al., 2014) however, research examining the sustainability content of professional accounting education programs is scarce. This position is echoed by the IAESB [2], as well as the AAA and the IMA.

The AAA-IMA Framework for Accounting Education

The AAA-IMA Framework (figure 1) represents a holistic approach to the development of the professional accountant. The development of the Framework was informed by a comprehensive review of the professional and academic literatures, integrating the competencies identified by the Pathways Commission (2012) and a variety of pre-eminent organizations providing

convergent validity [3]. The participant international organizations are applicable to the French context and France has member chapters accordingly. For example, IFAC sets out the recommended education competencies for accounting education programs internationally, including France. In regards to the AACSB, France has currently 25 business schools with this accreditation. France is an active member of the GRI. The Framework focuses on the long-term view of the role of the accountant in society for a wide variety of careers. This is important because research indicates that the vast majority of accountants, 80% or more, pursue careers that fall outside of traditional public accounting (Siegel et al., 2010; Jiles, 2014).

<Insert Figure 1 about here>

The management accounting section of the AAA and the IMA came together to make recommendations in the context of an educational environment that continues to reinforce public accounting education despite evidence that this does not reflect the accounting job market. One of the main recommendations arising from this venture is that the education of accountants should focus on longer-term career prospects (Lawson et al., 2014).

The Framework itself divides the necessary accounting competencies into three categories: *Foundational, Broad Management* and *Accounting Competencies.* While all areas are important, some of the sub-competencies in these areas relate more directly to sustainability. *Analytical Thinking* is a *Foundational Competency* and refers directly to the consideration of stakeholders. This consideration of all stakeholders is a key component of the social aspect of sustainability and its importance as a *Foundational Competency* cannot be understated. While shareholders are one form of stakeholder, the firm is dependent on a variety of stakeholders to survive and prosper so it is important that a professional accountant be aware of the role these stakeholders play in the long-term sustainability of the firm and the effect that the firm has on them in return.

The Framework proceeds to outline some *Broad Management Competencies* which allow the professional accountant to get into more influential roles in management. Both *Leadership* and *Ethics & Social Responsibility* have explicit ties to sustainability. The *Leadership* competency of the *Broad Management Competencies* refines the stakeholder thinking to ensure that accountants are aware of their "responsibility to the community and larger society" (Lawson et al., 2014, p. 302). This elevates the foundational awareness of stakeholders to management level responsibility over the actions of the firm and its role in society. The *Ethics & Social Responsibility* competency extends this further by ensuring that accountants recognize that these responsibilities go beyond what is legally acceptable to consider human rights, labour practices and being stewards of the environment (ibid). This may include the dissemination of such information vis-a-vis sustainability or integrated reporting, leveraging their reporting skills but requiring the accountant to follow different guidelines such as the Global Reporting Initiative (GRI) or the Sustainability Accounting Standards Board (SASB).

In the *Accounting Competencies* portion of the Framework, there are three applicable areas to sustainability accounting. *External Reporting & Analysis* requires that accountants are prepared to communicate a variety of both financial and non-financial information, such as that required in sustainability reporting. Through *Planning, Analysis and Control,* accountants must be prepared to encounter a variety of tools including Sustainability Balanced Scorecards and Environmental Management Accounting systems. These are just a couple of the types of tools an accountant may find that support the execution of the competencies noted above: consideration of the stakeholder, analysis of the effects of expansion on the environment or local communities, communication of social and environmental information through sustainability reporting.

Finally, the *Professional Values, Ethics and Attitudes* are the competencies that envelop the professional accountant's behaviours. This includes the ability to develop and contribute to a culture that promotes societal responsibility and integrity alongside professional judgment. The Framework overall outlines many competencies that are integral to the long-term career of accountants and highlights the need for consideration and inclusion of sustainability related topics.

INSTITUTIONAL SETTING

The landscape of sustainability in France

French companies are subject to vastly different legal requirements than abroad. In France, the government enacted the Law on New Economic Regulations (NRE) in 2002, which requires public companies to disclose information about their social and environmental impacts (Doucin, 2013). However, there remained disparities between different industries in the level of reporting so the government then enacted Grenelle I in 2009 and Grenelle II in 2010 which broadened the scope of the reporting required as well as who was required to report. With the implementation of Grenelle II and the enactment in the French law of a European directive on reporting in 2017, any company with more than 500 employees or greater than 100 million euros on the balance sheet is now subject to the reporting requirements; there are now 42 topics that must be reported around social, environmental and sustainable development commitments. These statements are known as 'extra financial performance' and include information on the firm's impact on climate change, its commitments to sustainability such as the circular economy and its fight against food waste. Additionally, firms must also provide information about collective agreements and working conditions, the promotion of multiculturalism and initiatives against discrimination. Of particular relevance for our study, independent auditors are now required to give their opinion on any omissions and the firm's explanation for such omissions; the entire report must be verified

by an independent third organization who certifies the quality of the report and its accuracy (ibid). Only professional auditors, certified by the French Accreditation Committee (COFRAC), may issue these audit reports. Currently in France, only about thirty firms are COFRAC certified, including the Big 4. Interestingly, this indicates that presently, a minority of French professional accountants are knowledgeable, and work in, sustainability accounting.

The various French regulations on social and environmental reporting, and the audit of this environmental information, provide a specific context for French professional accountants. We observe the birth of new environmental accounting jobs such as 'Chief Value Officers' in multinationals (King and Atkins, 2016) or responsibility for 'Nature Sustainability' for the CFO at Danone (Danone, 2018). We also see the advent of 'the environmental management controller' (Renaud, 2014) and the development of new types of accounting systems, such as carbon accounting (Gibassier et al., 2017). Specific to the French context are examples like the chart of accounts for sustainable development or the valuation of CSR initiatives by Cabinet de Saint Front (2018). To perform these reporting and audit tasks, French professional accountants need to be trained to do the accounts and the audit of environmental and social information, where it is expected that sustainability accounting is learned through the education program. Given that the French legal and business setting require higher levels of sustainability reporting and auditing than in other areas of the world, and, that reporting and auditing are traditionally the domain of accountants, it is anticipated that the development of sustainability in the accounting education program is significantly more advanced compared to other countries. This is a logical expectation that the accounting education system will properly train French accountants to professionally perform their jobs and execute their legal duties. Here, we refer to the French professional accountants as the Experts-Comptables and the Commissaires aux Comptes.

The landscape of accounting education in France: pre-designation

In France, the Diploma in Public Accountancy, referred to locally as the Diplôme d'Expertise Comptable (DEC), is a state requirement for two designations: the Expert-Comptable and the Commissaires aux Comptes. There is a third relevant group in France called contrôleur de gestion or management controller [4].

The DEC certifies the requisite level of knowledge for professional accountants in France. The program leading to the DEC consists of one prerequisite credential: a graduate diploma in accounting and management (DSCG: Diplôme Supérieur de Comptabilité et de Gestion). One may enroll in the DSCG diploma after having completed one of a variety of degrees, but the normal path is to obtain a diploma in accounting and management (DCG: Diplôme de Comptabilité et de Gestion).

Professional accounting in France is government-supervised and professional bodies do not deliver their own accounting qualifications - it is delivered by the state. France is a country in which auditing and accounting are treated as different activities and professions, even though one person may perform the two roles. L'Ordre des Experts-Comptables (the national accounting body) falls under the jurisdiction of the Ministry of Economy and Finance while the Compagnie Nationale des Commissaires aux Comptes (the national auditing body) falls under that of the Ministry of Justice. An Expert-Comptable can work as an independent practitioner, within an accounting firm, or within organizations.

Continuing Professional Development: post-designation

One key aspect of the education of accountants comes post-designation. Continuing Professional Development (CPD) is learning that develops and maintains professional competence to enable

professional accountants to continue to perform their professional roles (IAESB, 2017*)*. The purpose of CPD is to protect the public interest and society, promote best practices, and meet or exceed international standards. Non-compliance with CPD requirements can lead to suspension or cancellation of membership of the professional accountant from the professional body. CPD is considered necessary to assure the competencies of qualified professional accountants to maintain public trust.

CPD activities may be prescribed or not, depending on the professional association requirements and generally includes both verifiable and unverifiable learning activities. Verifiable CPD refers to activities that can be independently confirmed such as serving as a lecturer, or publishing articles. Unverifiable CPD refers to learning activities that cannot be verified objectively including reading professional magazines. For example, in France, for members licensed to practice external audit, the CPD recommendation is 120 hours per 3-year period, where 60 hours must be in audit through certified training organizations, and a minimum of 20 hours yearly.

CPD may act as an important mechanism to supplement key knowledge not covered in the competency maps and related educational programs. CPD courses may cover a wide range of business, accounting and related topics, are not constrained by specific prerequisites or exams, and can be delivered in various formats, in-person or online amongst others. Accordingly, it becomes possible for a professional accounting association to promote a topic, for example sustainability, through prescribed and verifiable CPD. The benefit of this approach is its simplicity, there is no need to wait for the competency map review period, involving numerous stakeholders and unknown outcomes, nor the challenge of integration within the current university course curriculum.

METHOD

To address our research questions, we utilize both qualitative and quantitative methods. This allows us to analyze the questions from different angles to ensure we gain a more complete understanding. We determined that a field study is the most appropriate method. This includes the analysis of various documents, supplemented by interviews with knowledgeable parties. Yin (2013) describes the field study as a method that explores real-world phenomenon through the descriptions of decision-makers and parties involved.

We utilized keyword frequencies with the assumption that it represents the relative importance of the concepts presented within the competency map (Mobus, 2011; Shauki, 2011). We collected and analyzed the competency map and documentation for the French DCG and DSCG. Additionally, we analyzed relevant documents related to the post-designation training of professional accountants including CPD course offerings.

Only the specific competencies required for the accountant are examined and the context in each case is considered to exclude double counting (i.e. *social* considerations are not double counted in corporate *social* responsibility). Contextually, the relevant sustainability meanings are included and are carefully considered to avoid misinterpretation (i.e. corporate *environment* would not be counted towards sustainability however *environmental* audits would count). The following sustainability related keywords and translations into French are used (Table 1):

<Insert Table 1 about here>

To supplement and reveal additional insights into the context of sustainability education for accountants in France, we report here on five semi-structured interviews planned and performed throughout the spring and summer of 2017. By granting anonymity to the interviewees, we have

been able to discuss sensitive topics and opinions that we would not otherwise be able to gain access to. The timing is key; discussions to change the program in France were ongoing at the time of our research making this period of time appropriate for our study. Discussions with French accountants and academics indicate that three key stakeholders are involved in the determination of the accounting education program in France: the government, accounting associations and educators. This drives our choice of selected respondents. The five interviewees comprise members of each identified key stakeholder group: a map committee member (MC), a government representative (GR), a public accountant (PA), a university professor (UP) and an auditor from one of the Big 4 who conducts sustainability audits (AU). Each interviewee was carefully selected to ensure appropriate representation for the corresponding stakeholder group. The interviews were recorded and transcribed. By utilizing the semi-structured interview, it gives us the flexibility to follow a train of thought while giving overall structure to the meeting (Table 2 provides details of interviewees).

<Insert Table 2 about here>

ANALYSIS and RESULTS

Analysis of sustainability competencies in the Diplôme de Comptabilité et de Gestion (DCG) and the Diplôme Supérieur de Comptabilité et Gestion (DSCG)

We examine how sustainability is integrated into the French program to answer our question about what place sustainability takes in the French accounting educational context.

Quantitative analysis. In the French Competency Map, 'sustainability' is present 3 times, 'environment' 8 times, 'social' 6 times, and 'corporate social responsibility'/'CSR' 2 times, and there are no references to 'ecological', 'biological' or 'sustainable'. In comparison, 'financial' is present 106 times, 'strategy'/'strategies' 79 times, 'financial reporting' 7 times, 'governance' 12 times, and 'finance'/ 'financing' 63 times. It appears that the financial aspect is more important in the French Map, with 267 keywords (93%) falling into the traditional accounting area, while

only 19 keywords (7%) falling into the sustainability area. This keyword analysis demonstrates the limited importance of sustainability as compared to more traditional accounting concepts in so far as the keywords represent the relative importance and coverage of the respective topics in the accounting education program [5].

Qualitative Analysis. In the DCG program, we find two main references to sustainability competencies: 1) Unité d'Enseignement (UE) 6: Business Finance, and 2) UE7: Management. UE6: Business Finance requires that candidates be aware that: "different non-financial criteria may be used to show that the investment decision is not just a simple financial calculation; The size of the project, its level of risk (economic, *environmental, social,* organizational, technological), its duration and its consistency with the company's strategy can be taken into account" (Bulletin officiel du ministère de l'Enseignement Supérieur et du la Recherche, p. 23, 2014, emphasis added). While this competency encourages students to think beyond financial criteria, it only references environmental and social considerations from a risk perspective and not on its own merits nor how the firm may benefit from such considerations. The second reference in the DCG program comes from its management unit (UE7) where candidates need to be aware that: "the challenges facing management today include *sustainable development* and *corporate social responsibility*, and risk management" (ibid, p. 25, emphasis added). The competency is framed in a negative light noting that students should be aware of the challenges and highlights a risk management perspective. We conclude that based on these competencies, students in the DEC are being exposed to sustainability ideas but in a risk-oriented way.

We see greater presence of sustainability concepts in the DSCG, which is at first encouraging, finding it in: 1) UE2: Finance, 2) UE3: Management and Management Control, 3) UE6: Contemporary Economic Debates, and 4) UE1: Legal, Fiscal and Social Management. In UE2:

Finance students are required to engage in stakeholder analysis with a goal of being able to "address the issue of corporate governance by highlighting the desirable coherence between governance structures and stakeholder analysis...." (Bulletin officiel du ministère de l'Enseignement Supérieur et de la Recherche, p. 50-51, 2014). It is unclear how deep the stakeholder analysis will take students into the governance of the firm or how stakeholder consideration is to be incorporated. Next, candidates must be competent in identifying "the criteria for the overall performance of organizations...and to show the links between economic performance, financial performance and *social* and *environmental* performance" (ibid, p. 52, emphasis added) within UE3: Management and Management Control. The competency states an expectation for qualitative and quantitative approaches. While encouraging, the competency is vague in terms of explaining what criteria would be important and how students should go about measuring or obtaining information about social and societal performance. In UE6: Contemporary Economic Debates, we see the introduction of inequality, specifically that candidates be aware of "*social* and *environmental* imbalances", "internal *social* imbalances" and "*environmental* imbalances" (ibid, p. 60, emphasis added). While discussion of these issues helps students to see problems that exist, it does not appear to provide them with any tools by which to address such problems. Finally, in UE1: Legal, Fiscal and Social Management students are expected to demonstrate competency in understanding the "*environmental* dimension" (ibid, p. 43, emphasis added) of its business and what its "corporate *environmental* reporting requirements" (ibid, p. 43, emphasis added) are. This competency appears to take only a legal requirement perspective on providing information and does not appear to delve into other forms of corporate reporting including voluntary information or sustainability reports.

Relating these findings to the AAA-IMA framework, we find that with regards to the framework's three overarching areas (foundational, accounting and broad management

competencies), the French accounting program is lacking in each area. Remarkably, there are no sustainability competencies related to foundational competencies in either the DEC or DSCG programs. Only the DSCG includes one sustainability component in its management module (UE7) that falls under the framework's broad management competencies. While we do see some coverage of sustainability in the accounting competencies, it is notable, given the French regulatory context, that sustainability competencies in auditing and assurance are completely absent. This analysis highlights that there are major gaps between the competencies recommended by the framework for a long-term focus on sustainability and those actually provided by the current French accounting education program.

Analysis of Continuing Professional Development (CPD)

Since sustainability is not extensively covered in the French education program, we collect data on CPD offerings on sustainability to determine if, and how, this knowledge is being acquired post-designation. As members are not obliged to attend, this may indicate the interest of professional accountants in sustainability. We are informed that each professional may train oneself in many different ways as a large variety of courses are available and recognized by the professional associations. In fact, much of the relevant current sustainability CPD courses are developed and customized within the few accounting firms already operating in the sustainability area.

French accounting professionals may obtain recognized courses from institutes such as the Centre de Formation de la Profession Comptable (CFPC), the Institution de formation (IFOR) and the Expert-Comptables et Commissaires aux Comptes de France (ECF). For the CFPC, there is only one course on sustainability, out of 176 CPDs. The course is on one day, the title is "CSR

Risks and Opportunity" and covers: What is CSR and Norms? What are the roles of the Auditor? What are the Role of the Expert comptable? and How to practice CSR in an accounting firm?

In regard to IFOR, there is also only one CPD on sustainability, out of 57 CPDs. The course title is "From a Large Vision of the Subject to Concrete Application", covering: What is CSR? How to link accounting and CSR? How to select the most pertinent action for clients? How to sensitize clients and start CSR consulting?

Finally, for the ECF, there is not a single course on sustainability, out of 56 CPDs. In short, there are only two courses on sustainability out of 289 examined or approximately 0.7%, paralleling levels found with the memoires from experts-comptables candidates. While the 'right' percentage remains up for debate, this appears to be inadequate for substantial education in this area based on the recommendations in the Framework.

This system may appeal to the government since the cost is borne by the professionals, allowing the national education program to stay within budget. Discussion with representatives indicates that education in sustainability is not a priority for accountants and auditors, suggesting that the interest of CPD in sustainability is still low. At present, the CPD focus on sustainability in France is rare and limited, which does not help the development of this competency among French professional accountants.

Emerging themes on sustainability education

We conduct a number of interviews in France to gain additional insight on the French professional accounting education program. To do the accounts and the audit of sustainability information, how are the French Experts-Comptables and Commissaires aux Comptes educated? What role do the stakeholders play, namely the professional accounting bodies, the educators,

and the French government in the education program? How will the French accounting profession evolve? Three themes emerge from the interviews about the professional accountant education process. The information in this section is largely drawn from the interviews conducted, and we insert quotes where appropriate.

The education program and the revision process

In France, the education program content (DCG, DSCG and DEC) is reviewed when there is a mismatch between the skills required by a) the accounting firms, b) the accounting associations and c) the educators, versus the skills acquired by recent trainees. Historically, program revisions are performed every 5 to 10 years, showing a certain 'stability' of the program. During the period of our study, a program revision was carried out. We explored how program content changes are made as a result of the revision process. This will help us to understand the dynamic nature of the competency map and education program created in France, and how sustainability content may be included, or not, into the program.

During the revision process, the program revision team consists of three key stakeholders: 1) professional accounting associations, 2) government representatives and 3) professors/educators. The education program revision consists of three groups, one for each diploma (DCG, DSCG and DEC), and a coordinator is appointed for each group. The coordinator structures the work. For example, for the DCG, the coordinator worked with forty individuals, selected according to their skills, innovativeness, and relationship with the coordinator. The government has the final word on the coordinator's choices and the revision process.

The education program's goal is to provide practical knowledge for mandatory regulated accountancy topics. Regulation is the driving factor in the diploma content design; what is in the

current law must be included. While the law mandates sustainability reporting and audit, and reporting and auditing are traditional accounting topics, sustainability does not appear to be perceived as solely in the accountant's domain. Additionally, there is a perception by revision coordinators that the content is a zero-sum game: there is no more room for additional material. A direct consequence is that other professionals or consultants, not constrained by the inclusion of other legislated material or financial considerations, may provide the "extra financial information" and related reports required by laws and needed by French organizations. Interviewees indicate that the management controllers are already fulfilling a significant share of French firms' information needs [6]:

> *"…since there is strict regulation of the French accounting profession, it becomes very difficult to bring changes…management controllers have much more freedom to provide sustainability information" (PA)*
>
> *"…today, this information on sustainability is already produced…and not by professional accountants, and as it looks, I don't know how it may be produced by them"* (AU)

For other pertinent but non-regulated topics, a theoretical approach is taken. Revision coordinators must trade off the program content between regulated topics, and pertinent but non-regulated topics, taking into account two major limitations: 1) the number of hours of education (this cannot be increased due to the significant cost involved), and 2) the students' learning ability (they are already at full-absorption capacity) (Gray and Collison, 2002). Even if some professors would like to teach sustainability, in the end they may have no choice but to devote time to the official education program to prepare candidates to pass professional exams (ibid), a situation similar abroad.

Through the revision process, interviewees indicate that since the government is the party providing funds and the regulator, it retains the most power. Professional accounting associations, who put forward the requisite competencies and enforce these with the coordinators

and experts in the revision team, would exert less power. Finally, with the least power to influence the process, are the professors/academics:

> *"we are in a context of a public funding shortage, making it very difficult to deliver the education program. Moreover, we are facing a growing number of students, which will add to the cost and amplify the current budgetary constraints"* (UP)

In short, the production of regulated accounting information drives the education program content. Program revisions are rare, mainly arising when there is pressure from the accounting profession and firms. The lack of flexibility of this stringent framework opens the door to other groups of professionals to cover new areas such as sustainability accounting.

Impact of budgetary constraints on the education program content

Interviewees indicate that the government's key concern is the cost of the education program. As the euros budget for programs is fixed and currently cannot be increased, the per student amount will decrease with the anticipated rise in the number of students. With more students in universities/schools enrolled in the DCG, DSCG and DEC, this will result in stress on the financial budget:

> *"…adding sustainability content means more teaching hours…we are rather in a logic of class-hour reduction not only here, but in all French universities. Consequently, we have to change our current teaching methods and delivery channels toward a reverse pedagogy approach" (UP)*

According to interviewees, reverse pedagogy is envisioned as a solution to overcome the growth in student numbers in the face of tight financial budgets. Reverse pedagogy is an instructional strategy where an education program combines online digital media outside of the classroom, with presence in a traditional classroom.

Interviewees indicate that the government cannot acquiesce to all of the professional accounting associations and firms' requests as the DCG and DSCG are not exclusively diplomas for public

accounting. These diplomas are also for students interested in the accounting and management control fields including those pursuing other professions, such as the Management Controller, or those who wish to work in the accounting field but are not interested in pursuing a professional designation.

Interviewees indicate that the government is not against the inclusion of additional sustainability content in the program, as long as it does not increase the costs. Accordingly, it appears that the government position on sustainability is rather neutral:

> *"…absolutely, being the funder, the government has the final word on the revision, making the final decision…but it does not use this authority for decisions relating to the education program content. The government is rather concerned and intervenes in regard to the reorganization to be put into place resulting from education content change" (MC)*

Interestingly, the cost argument may also be used by the professional accounting association representatives to block any changes that they do not want to have. For instance, if they are not convinced of the need to include sustainability elements, they may restrain sustainability content in supporting it only in a superficial way, or simply object to the inclusion completely. Accordingly, sustainability coverage may well depend on both the chosen individuals in the team for the program revision as well as the budget limit.

Specialization in sustainability

Interviewees indicate that the Ordre des Experts-Comptables clearly recognizes that the automation of accounting activities is a threat to the profession. Due to the continuous progress in information technology and machine learning, others such as Frey and Osborne (2013) predict that accounting and auditing jobs will eventually become mostly automated. For instance, the posting and collection of accounts receivable are already automatable and more complex tasks performed by professional accountants in reporting and auditing are prime candidates for

automation due to the routine nature of the tasks (Richins et al., 2017). Interviewees reiterated these ideas noting:

> *"…yes, accounting entry is now automated. Any robot or smart machine is capable of entering an invoice. So, we have to enhance the expertise…to do so, they (professional accountants) have to develop new competencies" (GR)*

This concern has led the Ordre to rethink the profession in identifying and eventually occupying other promising and lucrative business areas through specializations in specific consulting activities:

> *"…I see now three groups of professionals; two very well organized and matured, the Experts-Comptables and the Commissaires aux Comptes, and one under development, the consulting firms…the accounting profession understood that its future is in consulting services…this is at the meeting agenda of both professional accounting associations…they are working toward the development of professional accountants' specialization" (MC)*

To offer clients services in sustainability, we learn that accounting firms are either merging with others who already have this expertise, or are opting to concentrate their activities in this specific niche domain [7]. Sustainability can be a niche chosen by professional accountants to differentiate themselves from their competitors through sustainability accounting, auditing and consulting. However, the current Experts-Comptables education program does not equip candidates with the necessary skills to work in this area. While it is possible that through CPD individuals may acquire some of these competencies, this knowledge must be at advanced levels, to be recognized by peers and clients as 'sustainability experts' and, as noted previously, is not readily available. While demand for this expertise is expanding, the majority of Experts-Comptables' clients are of small size and may not be able to afford (Labonne, 2006) or may not require sustainability reporting or auditing services (Loucks et al., 2010); the law mandates that large firms provide this information but does not require it from small firms. For smaller sized accounting firms, and those with predominantly small clients, the current context may not incentivize these accounting firms to specialize in sustainability:

> *"…sustainability is progressively drawing attraction from professional accountants, more specifically those in large firms…for them, this is a business that really takes off, being very present in this market, in particular with the audit of environmental information. For smaller size firms interested in sustainability, developing a specialty is the path to follow" (PA)*

In France, we learn from our interviews that a typical sustainability team in the large accounting firms consists of professional accountants, who supplement their education with CPD, as well as 'experts' in the sustainability area. Interestingly, the desired profile for recruiting the latter does not generally include those holding an accounting designation, the DSCG, and/or DEC diplomas *"due to their advanced-level technicality associated with the production of accounting regulated information*" (PA). These accounting firms prefer to hire non-accountant specialists who are perceived to have a more holistic vision of organizations and society, or who hold a general master's degree from business schools; this also includes engineers majoring in sustainability. When necessary, the accounting firm provides in-house workshops in sustainability to those lacking the required knowledge to perform the job:

> *"It is the solution that would be taken in the short term. As they are not trained in sustainability...accounting firms take the best candidates. Then accounting firms train them in audit techniques which integrate sustainability accounting" (UP)*

Interviewees indicate that covering more sustainability in the education program could have better positioned professional accountants as information production leaders in organizations. However, as the French Experts-Comptables and Commissaires aux Comptes are not really equipped and trained in sustainability, other groups such as the Management Controllers and Engineers are stepping into the role. While it is generally recognized that sustainability is a multi-disciplinary problem best tackled with multiple perspectives, accountants are being left out of the problem-solving process due to their lack of education in sustainability. Consequently, the limited coverage of sustainability in the education program has a direct consequence on recognition of accountants' expertise; in the French business consulting field, they are not

known as established producers of sustainability information. This reduces potential mandates and results in various consequences for Experts-Comptables and Commissaires aux Comptes:

> *"…it is to professional accountants to break new ground in being a kind of conductor (chef d'orchestre)…there must be a conductor, as it takes a captain in a rugby team…well, who should be the captain? It ought to be one having the most comprehensive view of organizations, being global and open…thinking outside the accounting box…most French professional accountants do not want, and cannot play, this conductor role…they should not only see themselves as accountants who keep accounts, but also as accountable information producer, moving from the field of accounting to accountancy……they have to broaden their business activities, otherwise they are dead and no longer serve any purpose" (AU)*

To say that French professional accountants *"do not want, and cannot play"* the role of conductor for the production of sustainability information for organizations, are strong words. To state that accountants must expand their range of consulting activities or else "*they are dead and no longer serve any purpose"* is an ominous prediction for the profession. We find a consensus amongst our interviewees that French professional accountants have lost relevance and must diversify their activities to survive.

Due to the difficulties in changing the content of the competency map and the corresponding education program in the short and medium terms, the only hope of advanced sustainability knowledge will likely remain through CPD. Unfortunately, this is a similar situation internationally in places like Canada. This situation will be challenging as the current education provided to French professional accountants is technical and exists essentially to fulfill regulatory purposes, without an overall understanding of a firm's role in society:

> *"…it takes time to integrate new courses into the program…one solution is to shift sustainability training to CPD…allowing to get advanced practical education" (GR)*

Sustainability coverage in the French education program - a summary

What place does sustainability occupy in the French accounting education program? A content analysis indicates it is covered in a scattered way within the DCG and DSCG diplomas.

Concepts related to sustainability are included in a broad way to align with the regulatory framework. However, it appears that while the government has mandated the production and audit of sustainability information from firms, paradoxically, it has not provided the funding required, and the leadership, for accountants to obtain the appropriate education in sustainability. Since others have stepped up to fill the gap and the government is limiting funds for education, the government may have no real incentive to require this education of accountants exclusively. French regulations on the production of non-financial information are still in development, as such, related courses remain very theoretical. This poses a challenge since the DCG and DSCG diplomas are designed according to the legislation preparing accountants to respond to specific accounting rules and practices. This is consistent with experience beyond the French context, where the issue of how to properly integrate sustainability with the other accounting areas remains challenging.

Our analysis indicates that increased coverage of sustainability in the education program for accountants may only happen when: 1) the market need for competent professional accountants specializing in sustainability rises considerably, 2) society emphasizes the importance of sustainability resulting in more regulations in this area, and 3) accountants proactively include sustainability in their reference body of knowledge. A related question is how to best protect the public interest: is it important that sustainability information be produced and audited by qualified professional accountants, who demonstrate sufficient competencies and who must comply with stringent rules and codes of conduct? Or will production of this information by other consultants suffice?

DISCUSSION, CONCLUSIONS AND FUTURE RESEARCH

The purpose in conducting our investigation was to understand how French professional accountants are being educated in sustainability. To do so, we examine the context of France, reviewing the education programs pre- and post-designation through content analysis and interviews. We also sought to understand what the consequences are for society if the French accounting profession does not occupy the sustainability information field.

The introductory knowledge provided in the DCG may frame the way students see sustainability going forward and may limit their understanding of sustainability in its own right (Mangion, 2006; Deegan, 2017). This limited understanding has consequences for the rest of society and may limit new opportunities for business that are better for the planet and society (Porter and Kramer, 2011). Additionally, it fails to acknowledge the positive aspects of sustainability consideration for business as noted by recent research. Jo and Harjoto (2012) highlight that social and environmental performance has a causal positive effect on financial performance giving yet another reason for businesses to engage in sustainability practices. In examining the DSCG, we find additional content coverage but it lacks depth. In fact, it appears to reinforce a 'minimal legal requirement perspective' for reporting and, while touching upon some theoretical concepts, does not provide education in tangible tools for addressing sustainability issues.

It is important to note that there are many aspects, covered in the AAA-IMA Framework, not currently incorporated in the French accounting education program. Most curiously, it is an interesting paradox that the French program lacks exposure to social and environmental reporting and auditing given that this is mandated by law. Accounting's traditional anchoring in reporting and auditing seems to provide a natural entry into sustainability. We continue our analysis to determine if these competencies are present in the post-designation educational

program, with a focus on determining how accountants are meeting the regulatory requirements in France.

What we discover is that while our selected framework recommends the inclusion of sustainability in accounting education programs, there is little evidence of this to date in France. Interestingly, while the French program is designed around regulatory accounting needs, the government does not appear to consider professional accountants as the primary source to supply legally mandated sustainability reports and audits. It appears that while the government has mandated sustainability reporting and auditing on the one hand, on the other hand the government is more focused on budgetary considerations. This financial focus on pre-designated accountants has left the fulfilment of sustainability accounting and audit education to post-designation CPD providers or to other professions to fulfill. With concentrated power and little opposition, the accounting profession is left to fulfil its traditional role in external and internal financial audit and financial reporting. With the development of Macron's law (2014) allowing accounting professionals to market themselves, this may well open the door to greater consultancy opportunities but, it will be up to the profession itself to fund any post-designation training in sustainability short of any new government interventions to the contrary.

The International Federation of Accountants explicitly defines the 'public' in 'public interest' as including "those seeking sustainable living standards and environmental quality, for themselves and future generations" (IFAC, p. 2, 2012) and includes consideration of sustainability matters (ibid). Saravanamuthu (2015) note that accountants should get critical, transdisciplinary and communicative competencies through education to protect the public interest via sustainable accounts. Sadly, while this idea was noted more than 15 years ago (Gray and Collison, 2002), it appears that accountants have not moved much closer to incorporating sustainability education

into accounting programs. One could ask the same question today as was asked then: Are we really upholding the public interest if we fail to educate accountants on the relevant topics to do so? We concur with the comments by Collison et al. (2014) that the inclusion, or failure to do so, of sustainability in accounting education may have one of two consequences in either "making sustainability more difficult by failing to equip those who study accounting (and go on to practise the accounting art) with the knowledge and ability to question the status quo and the founding principles of their discipline; or in advancing sustainability by enabling those educated in accounting to respond to new needs and public interest obligations in a conceptually coherent and fundamental way" (Collison et al., 2014). These are important consequences to consider: if we fail to educate accountants in sustainability the planet suffers. Our window to become more sustainable without dire consequences is rapidly closing and this challenge will only be more difficult if we fail to train those responsible to measure, report and audit corporate sustainability information. Professional accountants have the educational base in measuring, reporting, and auditing information and an obligation to uphold the public trust. These elements put accountants in a prime position to further global sustainability. Non-accountant professionals, particularly independent consultants, do not have the same professional obligation to protect the public interest. For instance, the Ordre has stringent professional rules to uphold the public interest and if anyone feels that they have been wronged, they can lodge a complaint to the Ordre. As a consequence, the Ordre has the power to revoke the accountant's designation, a serious and economically punitive outcome. The obligations of an accountant must be discharged with integrity from informing clients about potential fees and providing detailed explanations of the statement to upholding a code of ethics. The accountant must also commit to and provide evidence of continuing education to ensure the maintenance of current knowledge. While these obligations have severe consequences if not observed by accountants, the same is not always true with non-accountants. Sustainability in accounting education is fundamental to

upholding the public interest and has the potential to either impede or advance sustainability for our society.

Additionally, the risks of the loss of jurisdiction over sustainability accounting are real and represent the latest challenge to the profession. Research outlining the accounting profession's expansionary and contractionary jurisdiction over various subject matters over time speaks to the risks faced by the profession. Historically speaking, Himick (2016) notes the role that actuaries have come to play in the production of pension accounting information outlining how actuaries established themselves as having the dominant method for valuing pensions in the early 20th century. This resulted in the accounting profession effectively being forced to accept these actuarial techniques into the accounting fold, conceding partial jurisdiction of this knowledge area to actuaries. While this represents an historical example of loss of jurisdiction, accountants have had the opportunity to expand their boundaries and have done so, particularly in the case of bankruptcy proceedings. Walker (2004) outlines the effective birth of the accounting profession in England in the latter part of the 1800's. With new regulation in the form of the Bankruptcy Act of 1869, accountants came together to create new, more formalized groups of accountants establishing their professionalism in order to gain business in the lucrative bankruptcy market of the time. This was a battle won against lawyers who previously had a monopoly on the bankruptcy market. These historical examples demonstrate both the opportunity and the threat posed by inter-professional rivalry and jurisdictional knowledge boundaries.

The accounting profession is changing rapidly. Modern changes require the use of outside expertise in greater proportions because the accounting profession is not responding quickly enough to the changing needs of businesses; sustainability accounting is simply one more example to add to the list. Will the necessary educational instruction be provided to accountants

to retain/expand their jurisdiction over sustainability accounting? Or will professional accountants cede this knowledge area to other professionals keen to expand their own jurisdictional boundaries? Is sustainability information important enough for society to demand that it be produced by qualified professional accountants with an obligation to protect the public interest?

Our analysis indicates that without exposure to sustainability during the education program, it becomes difficult for candidates to the accounting profession to develop an interest in this subject and to consider the societal impacts of decisions in organizations (Thomson and Bebbington, 2005; Mangion, 2006). In France, the DCG, DSCG, and DEC are a sequential education process where candidates deepen the knowledge they have acquired previously. If students are introduced to sustainability, this may initiate a change in the profession in the training of professional responsible accountants to be more concerned about the societal impacts of business. This may open up new opportunities and help to ensure the future of French professional accountants (Mathews, 1997; Waddock, 2005). They may play a greater advisory role, including the provision of activities such as sustainability reporting, auditing, and consulting. Some accounting firms have already taken a more proactive approach to move into the field of sustainability accounting, not waiting for changes in the national education program. For instance, there is evidence that the 'Big 4' moved into new areas of expertise including sustainability accounting (Power, 1997, 2003; Gendron and Barrett, 2004; Free et al., 2009; O'Dwyer, 2011). As documented, this group of accountants has taken the initiative to develop specializations in the area of sustainability.

We have explored an interesting paradox in the French context. In the recent past, the French government has enacted various laws requiring French organizations to provide information on sustainability: The NRE obliges French companies to account for social and environmental

information in annual reports and Grenelle 2 enforces the independent verification of social and environmental information by certified COFRAC auditors. This creates a unique legal and business context for the French accounting profession. To perform these accounting and auditing activities, it would seem obvious that French professional accountants would be fully educated in sustainability accounting throughout their education program, more so than in other countries where the requirements for sustainability reporting and auditing are lower. However, paradoxically, this is not the case as the government that funds the pre-designation program has focused on financial cost containment and program co-ordinators view the program as a zero-sum game where there is no room to add additional content

During an interview regarding the education program revision process, we learned that a new course called 'marketing of services' will be included in the future; this is a novelty. The course objective would be to train future French professional accountants in selling consulting services, beyond the traditional production of regulated financial information. This initiative is in line with 'Macron's Law' (2014) allowing Experts-Comptables to perform a broad range of new business consulting activities, as long as consulting does not exceed 49% of the firm's overall activities. The Experts-Comptables we interviewed strongly believe that consulting is the future of the French accounting profession:

> *"…so I called attention on this. In the DCG curriculum, there is a rearrangement…offering the possibility to include...marketing and consulting content...we cannot work in business consulting if we do not have acquired notions of marketing...this is a must" (MC)*

This move from traditional accounting and audit activities to consulting has already been observed in other countries. Some describe this phenomenon as a shift from a professional perspective to a commercial perspective. This comes with benefits for some - more business activities and revenues for accountants - and risks - the loss of professionalism and independence

(Carter and Spence, 2014), which may have an impact on society. Interestingly, while sustainability does not currently appear to be considered an important competency, our investigation indicates that it will become more significant through the various consulting services to be offered by French professional accountants.

Future research could investigate the inter-professional rivalry occurring in sustainability accounting including, but not limited to, the encroachment of engineers. Similarly, it would be useful to know what employers are looking for when they hire sustainability experts. With the growing threat of inter-professional rivalry, it would be interesting to see where the accounting profession stands in the employer's eyes in relation to sustainability.

There are limitations to this research. We utilize the interview method, which provides rich, in-depth information, but limits us from revealing sensitive details. As a reminder, we conducted five interviews among key stakeholders. However, we do not believe this limitation undermines our contributions or reduces the relevance of our research. While the map examined provides a good proxy for what is learned by candidates, the actual content and testing of competencies may change over time and by instructor and so we cannot be certain of exactly what students are exposed to or tested on. Some professors use their academic freedom for course content. Nevertheless, we feel that it does not hamper our interpretations of the data collected. Last, France has not yet fully finalized the revision of its competency map and education programs. That said, we believe the probability that more sustainability content will be included is low.

Professional accounting associations, universities, schools and society have had to deal with an important recurrent question: What sustainability education should be included in accounting curricula to train responsible professional accountants? This study aimed to address this, and

other related questions, to draw attention to these issues and the consequences for the accounting profession and society of ignoring education in sustainability.

NOTES

[1] A "Bulletin officiel" is an official publication from the French State. The "Bulletin officiel" from ministère de l'Enseignement Supérieur et de la Recherche diffuses reglementary texts related to the implementation of ministerial measures like educational programs.

[2] The IAESB sets the international educational standards that many of the professional accounting designation bodies follow. While the organization offers many standards, there are a few that stand out in relation to sustainability accounting: International Education Standard 2 (IES 2), IES 4 and IES 8. IES 2 makes specific reference to competence in interpreting a variety of reports including sustainability and integrated reports (IAESB, 2017). IES 4 outlines an accountant's commitment and focus on social responsibility making repeated references to the topic (ibid) while IES 8 acknowledges that the transference of skills is necessary and, while mainly referring to audits, outlines how these skills can be transferred into other domains including the assurance of social and environmental information (ibid).

[3] These organizations are the AACSB (Association to Advance Collegiate Schools of Business), COSO (Committee of Sponsoring Organizations), ACCA (Association of Chartered Certified Accountants), ICAEW (Institute of Chartered Accountants in England and Wales), IFAC (International Federation of Accountants), AICPA (Association of International Certified Professional Accountants), GRI (Global Reporting Initiative), and CPA Canada (Chartered Professional Accountant of Canada).

[4] The Management Controller may be considered a third player in the French accounting field. Management Controllers assist managers with operations and strategic management. The Management Controller has outstanding accounting systems knowledge and works in every business sector. She/he is generally a member of the National Association of CFOs and Management Controllers (Association Nationale des Directeurs Financiers et de Contrôle de Gestion, www.DFCG.fr). Various education paths lead to the Management Controller title including diplomas from business schools with specializations in finance, management control, or audit, a Masters in accounting-control-audit, the DSCG, and engineering diplomas supplemented by education in managerial finance.

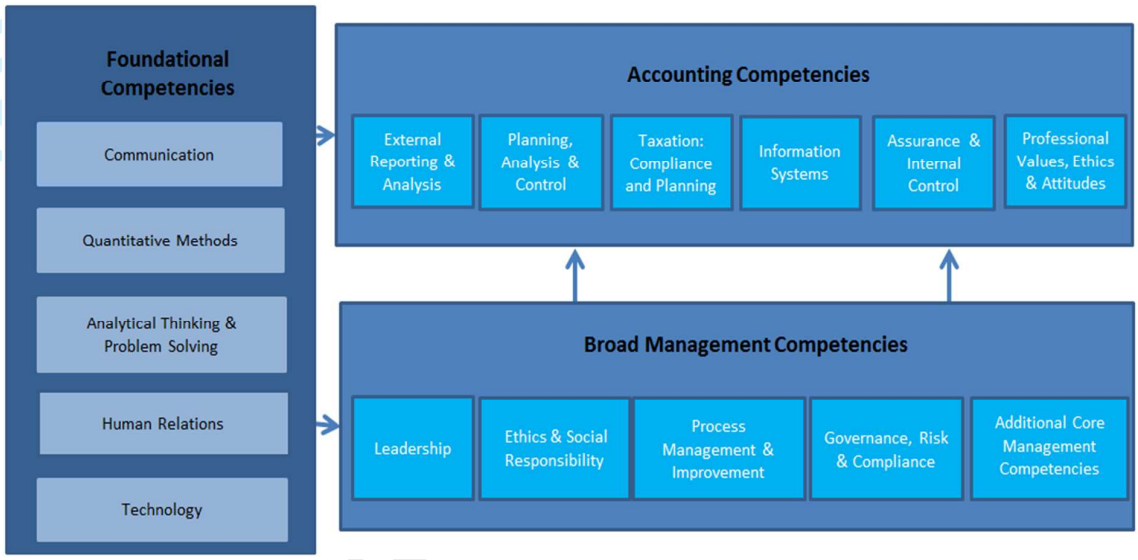
[5] As additional information, we reviewed the essays (mémoires d'expertise comptable) performed by the candidates for the Expert-Comptable designation. This essay is a requirement during the Expert-Comptable three-year internship, where the topic of the essay is chosen by the candidate. Our analysis indicates that out of 8500 essays examined, only 39 refer to sustainability, less than 0.5%.

[6] As a reminder, for the identification of interviewees, MC means Map Committee Member, GR: Government Representative, PA: Expert-Comptable, UP: University Professor and AU: Big 4 Auditor.

[7] For example, Deloitte and PWC have acquired environmental engineering firms, Biointelligence and Ecobilan respectively (Bio by Deloitte, 2018; PWC France, 2018).

FIGURE

Figure 1: Integrated Competency Framework for Accounting Education



Source: (Lawson et al., 2014), p. 300.

TABLES

Table 1: Keywords Utilized for Content Analysis

Sustainability terms:	
English: 1. sustainability 2. sustainable 3. environment 4. social 5. corporate social responsibility or CSR 6. ecological 7. biological	French: 1. développement durable 2. durable 3. environnement 4. social 5. responsabilité ou responsabilité sociétale de l'entreprise 6. écologique 7. biologique
Traditional accounting terms:	
English: 1. financial 2. strategy or strategies 3. financial reporting 4. governance 5. finance or financing	French: 1. financier 2. stratégie 3. communication financière 4. gouvernance 5. finance / financement

Table 2: Description of Interviewees

Person interviewed	Diploma	Date	Duration (min.)
MC: Map Committee Member, Expert-Comptable	Business School Master, DEC	27.07.2017	103
GR: Government Representative	Grand École	18.07.2017	52
PA: Expert-Comptable	DEC	06.07.2017	32
UP: University Professor	Grand École	24.07.2017	53
AU: Big 4 Auditor, CSR Audit, Commissaire aux comptes	Business School Master, DEC	04.07.2017	37

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