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ORIGINAL ARTICLE

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Quo vadis, internal auditing? A vision for internal auditing in 2030

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We aim to respond to calls in international auditing (IA) literature and to the current changes in the IA field by describing the driving forces and vision of the future for IA in the year 2030. The goal was to prompt in-depth discussion informed by the divergent views of experts. As a contribution, we identify three key driving forces: prolific data and its application, globalization and new value chains between organizations. Further, the study reports a vision for the future of IA. By surveying a wide range of stakeholders, including the board, management, internal auditors, teachers and a legislator, we expand on the views in earlier literature regarding IA, IA developments and the application of Delphi argument analysis in voluntary IA context. The findings are of value in researching, planning, educating and developing IA activities to understand where IA is going and where divergences among stakeholders arise.

KEYWORDS

change, corporate governance, Delphi, driving forces, education, future, internal auditing, internal control, stakeholders

1 | INTRODUCTION

The direction of development in auditing and internal auditing (IA) research and practice is a continuous topic of interest (see Barac et al., 2021; Hay, 2021; Moll & Yigitbasioglu, 2019). Transformations in IA have been studied, and the role of IA has evolved due to laws and regulations, digitalization, environmental issues and the changing demands of stakeholders (Kapoor & Brozzetti, 2012; Liu et al., 2020; Nickell & Roberts, 2014; Roussy, 2013; Soh & Martinov-Bennie, 2011; Spekle et al., 2007). Kapoor and Brozzetti (2012) identified several factors contributing to this change, including the increased complexity of a globalized marketplace, high-profile fraud and scandals, new laws and regulations, and increased demand from stakeholders for greater assurance. During the last 20 years, under the influence of rapid and continuous changes in the business environment, companies' exposure to various risks, including financial scandals, has increased, and the control mechanisms have also changed, echoing the views of the risk society and the audit society (Beck, 2002; Power, 2000), instead

of general agency theory considerations (Mihret, 2014; Nickell & Roberts, 2014). In such a context, establishing functioning internal controls and internal audit in the company is important to long-term business success.

In parallel with the focus on the role and importance of IA in improving company performance, the issue of ensuring IA effectiveness in the future has emerged. Internal audit function needs to meet the demands from multiple stakeholders and increasing digitalization, thereby creating added value for the company and/or other stakeholders (see Nickell & Roberts, 2014; Roussy, 2013). However, the roles of internal auditors are not clear, and the impact of information technology (IT) on IA work is still unknown (Roussy & Perron, 2018). Therefore, we look further and ask: *where is IA going and what will IA be in 2030?*

IA has evolved from control towards consultancy, and the function currently provides services to a variety of different stakeholders in the organization (Güner, 2008; Roussy, 2013). The internal audit function essentially ensures compliance with current laws and

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regulations and can therefore be viewed as an assurance service. It also provides consulting services to management seeking to accomplish objectives, manage risk and strengthen corporate governance (Güner, 2008; Nickell & Roberts, 2014). Empirical evidence on the roles of IA units in Europe shows that their activities have increasingly focused on consulting, governance, IT and management audits and less on compliance and financial audits (Allegrini et al., 2008; Arena & Azzone, 2009).

Moreover, there is only a limited amount of qualitative research in the internal audit field (see Everett & Tremblay, 2011; Neu et al., 2011; Roussy, 2013; Spira & Page, 2003), and quantitative research has mainly focused on the present state of the profession (see the Common Body Of Knowledge studies: CBOK Common Body of Knowledge, 2006, 2010, 2015; O'Leary & Stewart, 2007; Sarens, 2009; Selim et al., 2009; Van Peurse, 2004). Recent literature (e.g. Roussy et al., 2020) has focused on IA significance (including outcomes, focus and learning) and called for research on the emergent IA functions. Further, Lenz and Sarens (2012) and Soh and Martinov-Bennie (2011) called for research critically evaluating IA in various geographic and regulatory contexts. Researchers have also been encouraged to implement new research methods and theoretical frameworks (Lenz & Hahn, 2015), and the environmental concerns are possible topics in IA (Liu et al., 2020), even if future developments remain uncertain. This article responds to these calls and utilizes a future-oriented method that has not previously been used in IA research, namely, the Delphi argument analysis (see Rowe & Wright, 2011), which aims to outline *the future prospects of IA by analysing stakeholder expectations*.

In order to obtain a likely view of the future of IA in 2030 from different perspectives, a panel of experts was used. The involvement of internal auditors, managers, board members, a legislator and academics ensured that both the supply and demand sides of IA were included in the panel. The empirical evidence provided by the panelists revealed hitherto unexplored driving forces for IA development. Alternative views on the future of IA were gathered, and images of the future were produced. One objective of this research was to present the vision of the future as a tool to be employed in interactions between corporate governance actors. To be more precise, this research focused on the following:

1. Identifying and ranking the driving forces in internal auditing
2. Examining alternative views on IA
3. Constructing a vision of IA in 2030

We applied a Delphi argument analysis in the form of a multi-stage and anonymous survey process, where the goal was not to obtain consensus among the respondents as in many traditional Delphi projects but to prompt in-depth discussion among multiple stakeholders to elicit relevant issues by exploiting the divergent views of experts. The method aims to elicit new and previously unrecognized phenomena and obstacles (Rowe & Wright, 2011). We conducted our research in Finland, a Northern European and EU country with no mandatory IA requirements and no formal requirement that internal

auditors possess a university degree. However, many internal auditors take the Certified Internal Auditor (CIA) exam by the Institute of Internal Auditors (IIA). We believe that the voluntary IA context, multiple stakeholders and the various educational backgrounds of the experts foster a wide variety of views about the future directions of IA.

In sum, the contributions of this paper are as follows. First, it identifies and ranks the driving forces of IA as evaluated by experts. Second, it shows that the future of IA is not viewed similarly across diverse groups. Third, it however provides a common vision of the future of IA using the statements which were agreed upon by all groups. Fourth, the methodological contribution potential of the research lies in its application of the Delphi argument analysis, including the views of legislators and managers, an approach that has not previously been used in the IA field. As a result, this study reports issues concerning the future of IA, and the findings can be of value to those involved in planning and educating or in practically developing IA. We suggest a vision for IA and analyse where divergent positions among stakeholders, such as auditors and management, arise. Finally, we identify topics warranting further research.

2 | STATE OF THE ART AND RESEARCH QUESTIONS

IA faces ambivalent expectations from many stakeholders (Lenz & Sarens, 2012), leading to potentially contrasting objectives, trade-offs and growing complexity (Arena & Sarens, 2015; Chambers, 2008, 2014). As Everett and Tremblay (2011) noted, internal auditors have limited autonomy and are typically deeply immersed in organizational politics. This indicates that they are frequently threatened by symbolic sanctions and under pressure to submit to and satisfy external demands (Bourdieu, 1993, pp. 86–87; Reynolds, 2000). The external demands may include demands for control efficiency to support financial business success and to assess and mitigate ecological risks and risks of terror and societal turbulence (see Beck, 2002; Güner, 2008; Nickell & Roberts, 2014; Power, 2000). Further, current topics of interest in IA research include developments in work and in the skills needed in different contexts (e.g. IT), as well as sustainability considerations (see Barac et al., 2021; Christ et al., 2021; DeSimone et al., 2021; Lee, 2016; Liu et al., 2020). In addition, professional or organizational developments can cause tensions among stakeholders (Hood, 2002) and uncertainty around future directions and visions (Barac et al., 2021; Chambers & Odar, 2015).

Roussy (2013) saw the roles of IA as offering a protective shield for managers, being a keeper of secrets, supporting organizational performance and serving as a guide or trainer. The IA function has witnessed rapid changes (Arena & Sarens, 2015), but the direction of developments or the emphasis on these roles remains unclear. Therefore, long-term planning for IA based only on historical data may be misleading. Further, IA autonomy and regulation (mandatory or voluntary) vary by country (e.g. Jokipii & Di Meo, 2019). Therefore, there is

a need to clarify the future expectations of IA held by the various stakeholders so that changes in laws and regulations, tasks, education and work roles and other necessary decisions can be made in time. That vision of the future is particularly important in contexts where IA is not mandatory but depends on the co-operation of multiple stakeholders. Further, considering the calls made in earlier literature, Lenz and Hahn (2015) suggest that IA is at a crossroads and under pressure to choose the path forward (see also IIA, 2013; PWC, 2013). In addition, we answer research calls to recognize the factors (we call driving forces) that affect the future development of IA (see Arena & Sarens, 2015; Christ et al., 2021).

Only a few studies concentrating on the future of IA have been published. Birkett (1999) used a Delphi approach in a survey with three expert groups: internal auditors, academics and teachers. Nevertheless, the study did not define the future timespan, making interpreting its results rather challenging. Further, the panel did not include any experts from the board, management or a legislative body, which are important external forces in the field of IA (Behrend & Eulerich, 2019; Parker & Johnson, 2017). Similarly, the CBOK internal audit survey (2010) examined the IA role and task changes predicted by internal auditors over 5 years. However, that study did not adopt the Delphi approach, which we see as a suitable method for studying future views systematically, prompting in-depth discussion. Previous studies have emphasized the supply-side perspective, and the demand-side perspective (board members and legislators) has been ignored (e.g. Birkett, 1999). The current research redresses this issue by considering several stakeholder groups and perspectives (see Appendix A). Multiple stakeholder views are important, but as Roussy and Perron (2018) suggest, the views of external auditors can dominate IA research. Therefore, in this research, the viewpoint of external auditors is not overemphasized, but we consider the views of several experts such as internal auditors, board members, managers and teachers with external audit experience.

Christ et al. (2021) identify innovation, personnel development and agile auditing as broad areas for current IA research. However, we go beyond that view and provide insight into the future of IA to activate corporate governance actors to discuss what is needed from IA. The vision of the future presented in this paper permits the IA stakeholders to better express their opinions on whether a certain kind of development is desirable or probable.

Accordingly, our research questions are:

RQ1. What are the perceived driving forces affecting IA developments?

RQ2. What is the vision of internal auditing in 2030 according to various stakeholders?

We answer these questions by empirically examining the future expectations of both supply- and demand-side stakeholders of IA. Next, we present methodology, results and finally the discussion and conclusions.

3 | METHODOLOGY

The methods used in foresight analysis can be primarily divided into quantitative and qualitative approaches. Quantitative methods are typically understood as formal methods using mathematical modelling (Tapio et al., 2011). They can be divided into causal models, such as regression analysis or time series models, which use the occurrence of a past pattern to predict future events. These approaches are mainly used when the aim is to forecast outcome in short time periods because the extrapolation of historical data does not necessarily cover all potential long-term developments and externalities. Qualitative approaches are also used for medium and longer time periods and when the problems are not easily addressed with quantitative methods. Forecasts are more holistic and rely on personal judgment. The Delphi method is one such approach for explorative and long-term oriented forecasting.

The Delphi approach suits comprehensive examinations of complex environments characterized by uncertainty (Nielsen & Thangadurai, 2007), and in this paper, it was used to elicit potential future issues relevant to IA. The Delphi method originated in the early 1950s and has been used in many fields but not widely by accounting researchers (Worrell et al., 2013). In previous literature, it has mainly been used as a forecasting tool to evaluate the relevant importance of factors and frameworks. It is a method 'that enables researchers to ask and answer questions that, previously, they did not know how to address' (Rowe & Wright, 2011). In addition, Lenz and Hahn (2015, 26) stated that in IA research 'questions can be more important than answers', which justifies using the Delphi method as a starting point for the current study. The Delphi method is defined as a method for structuring an effective group communication process of anonymous experts to deal with a complex problem until a consensus is reached on the topic or until it becomes evident that no further convergence is possible (Anderson et al., 1994; Linstone & Turoff, 2002). It has been proven to provide more accurate decisions than other group decision techniques, such as focus groups (expert group) or nominal group techniques (Worrell et al., 2013). For example, Birkett (1999) used a Delphi approach in a study published by the IIA Foundation. The survey had two rounds and involved 136 experts from 21 countries. The expert groups involved were internal auditors, academics and teachers. The main findings concentrate on the international views on IA and the attributes of competent IA.

The Delphi method has evolved over the years, but all variants include two elements: anonymity and feedback. It involves repeated polling of the same individuals and feeding back anonymized responses from earlier rounds of polling (Popper, 2008). A third element, consensus-seeking, has changed during the method variations since the first conventional Delphi studies (Rikkonen & Tapio, 2009). Although Delphi can help demonstrate and quantify consensus, but the newer variations do not necessarily target consensus: Interesting and important issues often emerge when there is no evident consensus (Rowe & Wright, 2011). For example, the variant known as Policy Delphi generates the strongest possible opposing views on potential resolutions. It has two variants: Argument Delphi, which deepens the

discussion by bringing up relevant issues using the divergence among experts with argument analysis, and Disaggregative Policy Delphi, which uses cluster analysis to group similar views together and qualitative content analysis to provide a context for more specific issues. These approaches are intended to serve as decision-making tools, generate options and indicate alternative courses of action for consideration that can be analysed in more detail later. The process resembles the general progression of science through conjectures and refutations suggested by Popper (2014). The electronic Real Time Delphi does not have sequential rounds in order to improve the efficiency of the process.

The Delphi approach used in this study draws from the classical and especially from the argument variants in the form of a multi-stage and anonymous survey process (Rowe & Wright, 2001). The basic difference from ordinary surveys is its integral feedback, which means that the information proffered is used to generate successive Delphi rounds. The answers are analysed and fed back to the panelists to encourage them to justify their choices. Thus, the previous round forms the basis for the following one. The multi-stage process works through a series of waves and begins with loosely structured, open-ended questions and moves towards quantifiable data by collating the combined input of the participants (Turoff & Hiltz, 1996). Delphi studies use 15 alternative types of measures to measure consensus or stability in detail (von der Gracht, 2012). For example, Rogers and Lopez (2002) used the standard deviation value ± 1.64 as a consensus criterion (von der Gracht, 2012). However, the main goal of this policy study is not to identify consensus among the panelists but to deepen the discussion to find issues relevant to the future of IA in voluntary IA context.

The aim is to facilitate a discussion that elicits a broad range of responses from selected experts who are 'the most knowledgeable people in their field of specialization' and 'often ahead of others in their ideas about the future because of their exceptional understanding' (Kuusi, 1999; Laakso et al., 2012). Example criteria for selecting experts might be that the expert represents those with the highest level of knowledge in the field, is interested in a wide range of knowledge around the topic and is equipped to view problems from unconventional angles (Laakso et al., 2012). The number of participants varies between studies, but typically a panel of between 10 and 30 participants is said to be ideal (Worrell et al., 2013) or, in the case of Policy Delphi, 10–50 participants (Turoff, 2002).

During the research process, the identities of the expert panelists are not revealed to other participants. Respondent anonymity is an important part of the process to avoid the shortcomings of group participation, such as the halo effect, when one or two individuals dominate the conversation, or the bandwagon effect, when participants are intimidated into masking their real opinions or wish to be seen to agree with the majority (Wakefield & Watson, 2014).

4 | DESIGN OF THE DELPHI PROCESS

The Delphi method used in this study involves several stages (see Gordon, 2004; Rowe & Wright, 2001). Our study started in January

2014 in Finland, where IA is used in big companies, including banks and insurance companies, and in many public organizations. However, the listed firms follow the 'comply or explain' rule in their IA and corporate governance.

First, we reviewed top international IA research and professional journals to find the arguments (statements or claims) for the first Delphi round. Second, we discussed the topics identified from the literature (e.g. changes to legislation and educational requirements) individually with three internal audit experts, who were also asked to offer an opinion on the potential future topics relating to IA. Third, the topics debated most often in the interviews were selected to form the basis for the first panel questionnaire. The future of IA was approached through the following fields in the first round: driving forces, legislation, education, organizational status, tasks, cooperation and audit techniques. The panelists were also encouraged to describe other issues they foresaw in IA in 2030. The questionnaire was pre-tested in a workshop in March with eight academics and three experts, resulting in some minor changes to its wording.

5 | PARTICIPANTS

The panelists for this research were recruited to obtain multiple perspectives and experiences of internal auditing based on their position and activity in the internal auditing field. This selection mode is based on the recommendation of Turoff (2002) so that Policy Delphi panels can be more heterogeneous than conventional Delphi panels (see also Loe et al., 2016). The developments of IA are not implemented by internal auditors alone but are also affected by various stakeholders such as the board of directors and legislators. In addition, teachers, researchers and other professionals may indirectly affect the future of IA. Therefore, we needed panelists with different backgrounds but with experience in IA and an understanding of the driving forces of change.

The chosen panelists were active in professional societies such as the Institute of Directors or the IIA or had participated in public debate in the subject area. Some panelists were recommended by people active in the IA field. Candidates were first contacted by email and asked to join the panel. Interested candidates received two rounds of questionnaires via emailed links.

The expert panelists included chief internal audit executives, board members, CEOs or divisional managers, a regulator and professors or researchers in the field. The first round involved 21 panelists. The qualifications of the panel are reported in Appendix A. The group referred to as 'board' included board members, CEOs and managers that also held leading positions in the Institute of Directors of Finland (seven panelists). Board members have knowledge of various corporate functions, including audit committees. The group labelled 'teachers' consisted of professors, professional teachers and a legislator, all of whom specialized in IA or control (six panelists), but also understood external auditing research and practice. Through their expertise and research, they had up-to-date knowledge of the developments in the field. In their role, they educate future professionals,

thus affecting the skills and attitudes of many future internal auditors, board members and auditors. The legislator was in this group, bringing expertise on legislation and national standard setting. The third group, 'internal auditors', included chief internal auditors and internal auditors in the leading positions in the IIA Finland (eight panelists). They had wide experience in both the private and public sectors.

Many participants had a theoretical understanding and practical experience of external audits or audit committee tasks. In Appendix A, external auditors are not presented as a separate group because we focused on internal auditing, given that Roussy and Perron (2018) reported that external auditing views have even dominated IA research. Finally, the panelists were all Finns, which helped us to standardize the research questions and answers written in Finnish.

6 | DATA

The panelists were asked to provide numerical responses. In the first round, respondents were asked to evaluate the *probability* (prob) and *desirability* (des) of certain claims and were also encouraged to provide arguments (open comments) to rationalize their numerical responses to every claim. It has been shown that expert evaluations have improved when the panelists can also reflect on the credibility of their arguments (Gordon, 2004; Turoff & Hiltz, 1996). The first questionnaire consisted of six themes as follows: education, status, tasks, cooperation, methods and legislation (Appendix B, first round). The questionnaire also included a grouping question type with a drag-and-drop feature for driving forces. The Internet-based Delphi software eDelfoi was employed in the questionnaire design. The first Delphi round ran for 2 weeks in April–May.

The second-round claims were developed based on the analysis of the first-round answers (Appendix D). The interest was on claims demonstrating high variation in the answers among expert groups regarding probability or desirability or strong opinions in the open comments. The aim in the second round was to highlight the divergence on the issues that arose in the first round. The claims were reformulated based on probability, desirability and open comments to provide a focused perspective on the topic that could be better assessed in terms of agreement in the second round. For example, the first-round claim, 'In the year 2030, 90 % of internal auditing will be done using electronic systems', was assessed in the second round as 'Internal auditing will not fully exploit the opportunities of modern digitalization by 2030' (see Appendix B).

In the second round, the respondents were asked to indicate their agreement with the claims and provide open comments. The scale used was anchored with totally agree (+2) and totally disagree (−2). The second questionnaire featured nine claims on the following themes: regulation, consulting services, the ability of the board and management, education, know-how, collaboration, digitalization and polarization (Appendix B, second round). Again, there was an opportunity to add comments, and the claims were pretested in a workshop with eight academics and two experts.

The second-round survey was sent to the panelists in June and was again open for 2 weeks. The total number of panelists in the second round was 21; thus, the second-round response rate was 100%. Finally, responses from the second round were analysed, and the results were summarized. The results led to the common vision of the future of IA. The current turbulent world (e.g. with Covid-19) highlights the need to consider the future of IA, including the education needs and avenues for further research in IA.

7 | RESULTS

7.1 | Driving forces

The panelists were asked to rate the five most important driving forces derived from the literature according to their importance for IA development in the year 2030. The list provided to the panelists comprised 11 driving forces supplemented by one open-ended question, which allowed the panelists to add some other driving force to the list. In the analysis, the most important driving force was allocated five points and the fifth, one point.

The respondents indicated that having prolific data and applying it was the most important driving force for IA (see Appendix C). The respondents foresaw all kinds of data collecting sensors and the growing capability of computers. That growth would create a need for new skills to process the information flow to progress operations in organizations. The second driving force identified was globalization, with organizations operating in several countries or in a virtual environment that requires managing a range of regulatory systems, political risks and cultures. The third driving force identified was the shared value chains that will influence organizations and provide new ways to organize production and extend value chains beyond traditional organizational boundaries. As might be expected in the aftermath of an economic crisis in Europe, increased productivity was the fourth most popular driver, and the demands created by economic crises were seen as the fifth driver. Additional driving forces suggested by the panelists were increased regulation (2), business responsibility, transparency requirements and technological development.

7.2 | Results in the first round

Appendix D (Table D1) shows the statistics of the panelists in groups and the total for the first round. In the first round the two dimensions of *desirability* and *probability* (both with a possible scale of −2–+2) were asked about. The highest level of agreement was obtained for R1Q1_Des (0.81) and the lowest for R1Q3_Des (−1.00) statements. The strongest consensus (measured by standard deviation) was found for the probability of R1Q6_Prob (1.248) and the weakest for the desirability of R1Q4_Des (2.015).

In the first round, the panelists were unanimous about the probability of there being a master's degree university programme for internal auditors by 2030. At this moment, there is no degree requirement

for internal auditors in Finland, although many internal auditors take the IIA CIA exams. Panelists' comments included 'Education should be official to raise the status of internal auditing' (teacher) and 'Internal auditing involves many conceptual issues that cannot be understood without a high level of education' (internal auditor).

The panelists also thought that it is relatively probable that by 2030, IA would be a statutory requirement in organizations with more than 100 employees, but only internal auditors saw this as a positive development. Currently in Finland, listed companies may choose to 'comply or explain' the existence of audit committees and IA. One internal auditor commented, 'It would be better if internal auditing could achieve its own status without [relying on] legislation. Then we would always have to provide added value in all tasks.' The third statement that panelists saw as desirable was that by 2030, the internal audit function would report only to the board (audit committee). However, one respondent in the board group emphasized that 'the main thing behind the reporting lines is that internal auditing is able to provide findings and recommendations that help the organization to reach the targets in a controlled way.'

In sum, panelists had low consensus on the future focus of IA. Responses varied regarding whether internal auditors would concentrate on assurance or consultancy tasks, or if internal audit would take responsibility for coordinating all assurance tasks in organizations. In addition, there was no clear consensus among the panelists about the methods to be used in IA in the year 2030. Consequently, in the first round, signs of consensus were evident for only a few arguments (see Appendix D, Table D1).

7.3 | Results in the second round

In the second round, based on the results and learning from the first round, revised statements were presented to the panelists. As can be seen from Appendix D (Table D2), only one statement 'the standardization of internal audit education will limit the availability of tacit knowledge' (Q4_Agr) did not elicit consensus.

The respondents had a high level of agreement with the statement (R2Q6_Agr) that collaboration between IA and the organization as a whole would increase by 2030. The respondents' written arguments included: 'We can hope for this, but more regulation and expertise is needed' (teacher), 'We can already see this development, but we don't have time for this' (internal auditor) and 'If there is not enough collaboration already, I just wonder how we can develop it in future?' (board). Similarly, the panel agreed strongly that regulation of IA would increase, even though organizations need freedom to ensure flexibility (R2Q1_Agr), and they also agree that know-how would be based on teams (R2Q5_Agr). The board commented on the first statement as follows: 'We will conform with obligatory issues that are regulated, but will we really be granted the resources for flexible internal auditing that help us to manage the organization?' The internal auditor group's input included the comment 'too much regulation will harm firms' competitiveness' and continued with 'the role of teams will be important', 'this will be team play' and 'we will work with

complex issues, thus, specialist know-how will be necessary in the teams'.

The statement that internal auditing will not fully exploit the opportunities of modern digitalization by 2030 (R2Q7_Agr) was strongly refuted by the respondents. However, some respondents were sceptical; for example, an internal auditor noted, 'There are not enough resources for 'old' auditors to learn these things but the new generation will have this knowledge from school', and a member of the teacher group said, 'Unfortunately there is not enough education in this field'. The panelists were generally confident that the board and management would be exploiting the potential of IA better in 2030 than currently (R2Q3_Agr). However, additional comments included 'To succeed in this both [internal auditors and the board of directors] should really develop' (teacher) and 'I believe that when the board of directors is more professional, the role and the use of internal auditing will strengthen' (board).

For two statements, the rank order of agreement was close to zero, that is, the panelists did not know whether to agree or disagree if internal control and controls 'will be integrated better and self-evaluation will be used, thus there will no longer be a need for assurance' (R2Q2_Agr), or if internal audit departments 'will be divided into regressed and developed departments by the year 2030' (R2Q8_Agr; see Appendix B and Appendix D, Table D2).

7.4 | Comparison of the differences in mean and group mean values

It is useful to understand how the views on the statements in the groups differ from each other. Appendix D, Table D3, shows differences between the mean value and the group mean value. This table shows that for internal auditors, the level of difference in *probability* (prob) and *preferability* (pref) in the first round is mainly positive compared to other groups. Statements R1Q1, R1Q4 and R1Q6 in particular got high values from internal auditors. They regarded it most preferable that they will have responsibility for coordinating all assurance tasks in organizations and, further, that internal auditing will be a statutory requirement in organizations. The most significant differences between internal auditors and the board were found in the fourth statement, where the board members disagreed to give more responsibility to internal auditors in assurance tasks. Differences were also found in the views on master's degree programs: Internal auditors viewed them positively but the board members negatively. When comparing responses on whether IA would be a statutory requirement, both the board and the teachers saw this development as being less preferable than the internal auditors.

When analysing the responses in Round 2, we observed that consensus was found regarding that standardization of internal audit education would limit the availability of tacit knowledge (R2Q4). We note, however, that the highest negative value was found by the board in statement 8 (R2Q8). Board members disagreed that internal audit departments would be divided into regressed (undeveloped) and developed departments, whereas teachers and internal auditors saw

the future very differently. Similarly, the board members were more positive that internal auditors would exploit the opportunities of modern digitalization (R2Q7) and, further, that internal control and controls would be integrated better, and self-evaluation would be used, to negate the need for assurance (R2Q2). Interestingly, the other stakeholders held opposing views.

The teachers, unlike the internal auditors, were more sceptical that the board and management would exploit the potential of IA better than currently (R2Q3) or that the standardization of IA education would limit the availability of tacit knowledge (R2Q4). Similarly, internal auditors disagreed with the teachers' view that IA know-how will be based on teams (R2Q5). Finally, the board members do not agree that collaboration between the IA and the whole organization would increase by 2030 (R2Q6), whereas teachers and internal auditors saw this as a likely path for the future.

8 | DISCUSSION AND CONCLUSIONS

Rapid changes in IA have occurred (Arena & Sarens, 2015), but the direction of developments or the emphasis among possible roles remains unclear. Accordingly, this article was motivated by the multiple changes in IA field as a result of new laws and regulations, digitalization and multiple demands from stakeholders (Kapoor & Brozzetti, 2012; Spekle et al., 2007). These changes and uncertainties encouraged us to consider the future of IA and the applicability of future analysis through the Delphi approach. Further, research on emerging IA functions has recently been called for (Roussy et al., 2020).

In this research, the Delphi method seemed to be a suitable research approach to obtain a comprehensive view of the future of IA. The panel of experts included representatives from internal auditing, audit committees, boards of directors and management and researchers and teachers. The panelists could freely and anonymously express their opinions on the subject, which elicited contradictory opinions and interests. The iterative rounds offered an option to refine the statements and examine the subjects that provoked the sharpest differences of opinion among the participants. The approach highlights relevant issues that should be taken into account in future IA research and in the related strategic and practical conversations. Further, we add to the IA debate by showing the differences between the probable and preferable images of the future as perceived by various stakeholders.

Considering RQ1 'What are the perceived driving forces affecting IA developments?', our research results show that the three most important driving forces were having access to *prolific data* and applying it, *globalization* and the *value chains* influencing an organization. These forces point to the different aspects the panelists perceived as important, and that will affect the future development of IA. However, we did not yet see the rise of considerations of sustainability, the environment or small business concerns but more general considerations of skills, values and global trends. The global trends, however, might encompass several sub-trends, and further, IA could

be following these trends with some delay (with some context- or organization-specific lag) compared to the environmental or sustainability considerations already visible in auditing and accounting research more generally. Accordingly, we expect that environmental and sustainability topics may become part of the future of IA (see also Barac et al., 2021; Hay, 2021; Liu et al., 2020; Moll & Yigitbasioglu, 2019).

The transformation of IA in recent years has been rapid (Arena & Sarens, 2015), and therefore, long-term planning based only on historical data may be misleading or fail to address the potential development of IA. To address this limitation, we analyse the vision for the future based on the respondents' agreement with six statements in the second round. This probable image of the future indicates what should be done to realize that future. It should be noted that the result is not a forecast, but a vision or an option for future development stemming from current expectations. The results offer a view of how experts see various aspects of IA developing in the future and open the door to further discussion.

Therefore, considering RQ2, 'What is the vision of internal auditing in 2030 according to various stakeholders?', we can formulate the following *vision statement* about IA in 2030:

Collaboration between internal auditing and the whole organization will increase. Internal auditing regulation will also increase, even though organizations need freedom to ensure flexibility. Internal auditing know-how will be based on teams, where members of one team complement the knowledge of others in alternative areas. Internal auditing exploits the opportunities of modern digitalization. Both the board and the managers will exploit the potential of internal auditing better than they do today.

The vision statement shows the importance of *creating value from prolific data in a global context through improved data analysis and processes*, which echoes the perceived importance of IT and data analysis noted by Christ et al. (2021). Creating value in the future may thus require both strong business knowledge and improved IA education in general as well as organization-specific training supporting the improved data analysis needs. Besides classic financial accounting knowledge and risk analysis (see Mihret, 2014), IA education should also address risk assessment techniques (value-at-risk and option models, etc.) and finding important information and trends from big data and textual data. The team nature expected of IA may allow for better expertise and multiple roles (see Roussy, 2013).

The vision provides us also with the following avenues for future research and for developing practice:

1. Methods for effective collaboration between IA and the various stakeholders need developing.
2. The organizational positioning needs for IA should be analysed considering both existing and forthcoming regulation.
3. Further study is needed on the effects of team working on IA.

4. Methods and skills for internal auditing in digital environments need developing.
5. The board's and management's awareness of (and belief in the possibilities of) IA need analysis.

Stating these future research avenues is not meant to imply that there is no existing research in these areas but that these avenues are important to examine in a systematic future-oriented way, considering expectations, opportunities and threats.

The contributions of this research are as follows. First, we identify and rank the driving forces of IA as evaluated by experts. Second, we show that the future of IA is not viewed similarly across diverse groups. Third, we however provide a common vision of the future of IA using the statements agreed by all groups. These contribute to our knowledge of where IA is going and what skills will be needed (Christ et al., 2021; Moll & Yigitbasoglu, 2019). Fourth, the methodological contribution of the research is based on a novel application of the Delphi argument analysis including also the demand-side perspective, that is, the views of legislators and managers (thus adding two stakeholder groups compared to Delphi IIA by Birkett, 1999). The use of Delphi argument analysis answers the call of Lenz and Hahn (2015) for novel methods in IA research.

The results also have implications in education. Teachers (including professors, researchers and other teachers) agreed to a lesser degree than other groups that IA know-how would be based on teams and teamwork in the future. Earlier literature, such as Christ et al. (2021), identifies innovation, personnel development and agile auditing as broad areas for research. In contrast, we highlight digitalization, teamwork and organizational positioning to offer a complementary view of what innovation and agile practices, and education needs might include. Teachers had the least faith in the potential of the relationship between the board and internal auditing. The result suggests that the scope of teaching might be too narrow or has a very different emphasis compared to the actual practical needs in practice. There should therefore be more co-operation in IA education between different university disciplines, such as accounting, management and communication, and with actual business practice. In that way, education in general could play a big role in defining the kind of role the internal audit function adopts, what kind of audit (and IA) society is built, how control is perceived and what the culture of future IA looks like and what significance it has (see also Power, 2000; Roussy, 2013; Roussy et al., 2020). Further, some common educational requirements might facilitate building more consistent paths for the future of the internal audit.

As with all empirical studies, this study has limitations. The previous literature (see Tapio, 2003; Worrell et al., 2013) also includes criticism of Delphi methods, especially in terms of the administrative effort required, panelist selection and satisfaction and the generalizability and validation of the results. The current research did take each of those issues into account. The Delphi method used in this study required the panelists to commit time to complete surveys over two rounds. All panelists were keen to complete both surveys. The issue of potential bias in selecting of panelists was addressed by careful selection based on the panelists' relevant expertise. They were all

Finnish, which may affect the generalizability of the findings at the global level. However, the experts' knowledge of their specific domain was very strong, and they demonstrated insights above and beyond those of the representative group, suggesting that the selected panel would produce benefits for research and practice.

Further, validation of the results is problematic, but studies concerning adopting industry trends and emerging technologies, and using the Delphi method, have been reported to be effective (McCubbrey & Taylor, 2005; Worrell et al., 2013). Furthermore, the potential limitations in the initial stages of the process have been addressed; that is, the question alignment and panel design (see Worrell et al., 2013) were considered (and discussed in Section 3 of this study).

As a managerial implication, our Delphi analysis highlights the importance for professional bodies and organizations to spend some time considering future opportunities and the unforeseen risks of where their business might be going. Researchers might, in the future, use the issues revealed in the current research as a starting point for more detailed studies.

Our Finnish results may apply to voluntary IA contexts, and thus, this research answers the calls of Lenz and Sarens (2012) and Soh and Martinov-Bennie (2011). However, further research is needed on global companies because IA autonomy and regulation (e.g. Jokipii & Di Meo, 2019) may differ between countries. These differences may affect the expectations of different expert groups (board members, teachers, internal auditors) and, thus, the future of IA. Such country-specific differences (see, e.g. DeSimone et al., 2021) may also affect other business and control practices, and therefore, we call for country-specific analyses of IA in current turbulent times. Besides globalization in general, our findings highlight collaboration and teamwork, which relate to both local and global value chains, boosted by digitalization and prolific data. Therefore, understanding different cultures and collaboration needs in IA, globally and with various stakeholders, such as external auditors, demands further study, and we encourage future-oriented studies of where IA is going both in the short and long term.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to report.

DATA AVAILABILITY STATEMENT

The statistical and anonymous data, excluding data involving possibilities for participant identification, can be obtained based upon a reasonable request from the corresponding author.

ETHICS STATEMENT

This research follows the research ethics guidelines upheld by the IJA and other related stakeholders, such as the Finnish universities in question. No sensitive or personal material is involved, and participant identity cannot be recognized.

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REFERENCES

- Allegrini, M., D'Onza, G., Melville, R., Paape, L., & Sarens, G. (2008). CBOK Europe: A state of the art of the internal audit profession in Europe. Paper at First Global Academic Conference On internal auditing and corporate governance, 20-22 April, Rotterdam.
- Anderson, J., Rungtusanatham, M., & Schroeder, R. (1994). A theory of quality management underlying the Deming management methods. *Academy of Management Review*, 19(3), 472-509. <https://doi.org/10.2307/258936>
- Arena, M., & Azzone, G. (2009). Identifying organizational drivers of internal audit effectiveness. *International Journal of Auditing*, 13(1), 43-60. <https://doi.org/10.1111/j.1099-1123.2008.00392.x>
- Arena, M., & Sarens, G. (2015). Editorial: Internal auditing: Creating stepping stones for the future. *International Journal of Auditing*, 19, 131-133. <https://doi.org/10.1111/ijau.12053>
- Barac, K., Plant, K., Kunz, R., & Kirstein, M. (2021). Audit practice: A straightforward trade or a complex system? *International Journal of Auditing*, 25(3), 797-812. <https://doi.org/10.1111/ijau.12249>
- Beck, U. (2002). The terrorist threat: World risk society revisited. *Theory, Culture and Society*, 19(4), 39-55. <https://doi.org/10.1177/0263276402019004003>
- Behrend, J., & Eulerich, M. (2019). The evolution of internal audit research: A bibliometric analysis of published documents (1926-2016). *Accounting History Review*, 29(1), 103-139. <https://doi.org/10.1080/21552851.2019.1606721>
- Birkett, W. P. (1999). *The future of internal auditing: A Delphi study*. The Institute of Internal Auditors Research Foundation.
- Bourdieu, P. (1993). *The field of cultural production: Essays on art and literature*. Polity Press.
- CBOK Common Body of Knowledge. (2006). Global internal audit practitioner survey. *The institute of internal auditors research foundation*. Altamonte Springs, FL.
- CBOK Common Body of Knowledge. (2010). Global internal audit practitioner survey. *The institute of internal auditors research foundation*. Altamonte Springs, FL.
- CBOK Common Body of Knowledge. (2015). Global internal audit practitioner survey. *The institute of internal auditors research foundation*. Altamonte Springs, FL.
- Chambers, A. D. (2008). The boards black hole - Filling their assurance vacuum, can internal audit rise to the challenge. *Measuring Business Excellence*, 12(1), 47-63. <https://doi.org/10.1108/13683040810864387>
- Chambers, A. D. (2014). The current state of internal auditing: A personal perspective and assessment, EDPACS: The EDP audit. *Control, and Security Newsletter*, 49(1), 1-14.
- Chambers, A. D., & Odar, M. (2015). A new vision for internal audit. *Managerial Auditing Journal*, 30(1), 34-55. <https://doi.org/10.1108/MAJ-08-2014-1073>
- Christ, M. H., Eulerich, M., Krane, R., & Wood, D. A. (2021). New frontiers for internal audit research. *Accounting Perspectives*, 20(4), 449-475. <https://doi.org/10.1111/1911-3838.12272>
- DeSimone, S., D'Onza, G., & Sarens, G. (2021). Correlates of internal audit function involvement in sustainability audits. *Journal of Management and Governance*, 25(2), 561-591. <https://doi.org/10.1007/s10997-020-09511-3>
- Everett, J., & Tremblay, M.-S. (2011). Ethics and internal audit: Moral will and moral skill in a heteronomous field. *Critical Perspectives on Accounting*, 25(3), 181-196. <https://doi.org/10.1016/j.cpa.2013.10.002>
- Gordon, T. J. (2004). The Delphi method. The millennium project. Futures research methodology V3.0. Available from: <http://www.millennium-project.org/millennium/FRM-V3.html>
- Güner, M. (2008). Stakeholders' perception and expectations and the evolving role of internal audit. *Internal Auditing*, 23(5), 21-33.
- Hay, D. (2021). Perspectives on where international auditing research is going. *International Journal of Auditing*, 25(3), 619-620. <https://doi.org/10.1111/ijau.12251>
- Hood, C. (2002). The risk game and the blame game. *Government and Opposition*, 37(1), 15-37. <https://doi.org/10.1111/1477-7053.00085>
- IIA. (2013). Rethinking the future of audit - internal audit is at a crossroads. The Institute of Internal Auditors, The Austin Chapter Research Committee.
- Jokipii, A., & Di Meo, F. (2019). Internal audit function characteristics and external auditors' co-sourcing in different institutional contexts. *International Journal of Auditing*, 23, 292-307. <https://doi.org/10.1111/ijau.12162>
- Kapoor, G., & Brozzetti, M. (2012). The transformation of internal auditing. *The CPA Journal*, 82(8), 32.
- Kuusi, O. (1999). *Expertise in the future use of generic technologies—Epistemic and methodological consideration concerning Delphi studies*. Helsinki School of Economics and Business Administration, HeSE print 1999. 1-268
- Laakso, K., Rubin, A., & Linturi, H. (2012). The role of regulation in the mobile operator business in Finland. *Foresight*, 14(2), 154-167. <https://doi.org/10.1108/14636681211222429>
- Lee, M. (2016). How green are we? Internal audit is well-positioned to provide assurance relative to sustainability rating systems. *Internal Auditor*, 73(4), 66-68.
- Lenz, R., & Hahn, U. (2015). A synthesis of empirical internal audit effectiveness literature pointing to new research opportunities. *Managerial Auditing Journal*, 30(1), 5-33. <https://doi.org/10.1108/MAJ-08-2014-1072>
- Lenz, R., & Sarens, G. (2012). Reflections on the internal auditing profession: What might have gone wrong? *Managerial Auditing Journal*, 27(6), 532-549. <https://doi.org/10.1108/02686901211236382>
- Linstone, H. A., & Turoff, M. (2002). The Delphi method: Techniques and applications. Available from: <http://www.is.nijt.edu/pubs.php>
- Liu, X., Li, W., & Parsons, K. (2020). Exploring the antecedents of internal auditors' voice in environmental issues: Implications from China. *International Journal of Auditing*, 24(3), 396-411. <https://doi.org/10.1111/ijau.12204>
- Loe, R. N., Melnychuk, D. M., & Plummer, R. (2016). Advancing the state of policy Delphi practice: A systematic review evaluating methodological evolution, innovation and opportunities. *Technological Forecasting and Social Change*, 104, 78-88. <https://doi.org/10.1016/j.techfore.2015.12.009>
- McCubbrey, D., & Taylor, R. (2005). Disintermediation and reintermediation in the U.S. air travel distribution industry: A Delphi reprise. *Communication of the AIS*, 15, 464-477. <https://doi.org/10.17705/1CAIS.01526>
- Mihret, D. G. (2014). How can we explain internal auditing? The inadequacy of agency theory and a labor process alternative. *Critical Perspectives on Accounting*, 25(8), 771-782. <https://doi.org/10.1016/j.cpa.2014.01.003>
- Moll, J., & Yigitbasoglu, O. (2019). The role of internet-related technologies in shaping the work of accountants: New directions for accounting research. *The British Accounting Review*, 51(6), 100833. <https://doi.org/10.1016/j.bar.2019.04.002>
- Neu, D., Everett, J., & Rahaman, A. (2011). Auditing and corruption within the public sector: The case of the Canadian sponsorship scandal. In: Paper presented at the 2011 critical perspectives on accounting conference. Clearwater, Florida, 2011 July.
- Nickell, E. B., & Roberts, R. W. (2014). Organizational legitimacy, conflict, and hypocrisy: An alternative view of the role of internal auditing.

- Critical Perspectives on Accounting*, 25(3), 217–221. <https://doi.org/10.1016/j.cpa.2013.10.005>
- Nielsen, C., & Thangadurai, M. (2007). Janus and Delphi oracle: Entering the new world of international business research. *Journal of International Management*, 13, 147–163. <https://doi.org/10.1016/j.intman.2006.07.003>
- O'Leary, C., & Stewart, J. (2007). Governance factors affecting internal auditors' ethical decision-making: An exploratory study. *Managerial Auditing Journal*, 22(8), 787–808. <https://doi.org/10.1108/02686900710819643>
- Parker, S., & Johnson, L. A. (2017). The development of internal auditing as a profession in the US during the twentieth century. *The Accounting Historians Journal*, 44(2), 47–67. <https://doi.org/10.2308/aahj-10549>
- Popper, K. (2014, orig. 1963). *Conjectures and refutations: The growth of scientific knowledge*. Routledge. <https://doi.org/10.4324/9780203538074>
- Popper, R. (2008). How are foresight methods selected? *Foresight*, 10(6), 62–89. <https://doi.org/10.1108/14636680810918586>
- Power, M. (2000). The audit society—Second thoughts. *International Journal of Auditing*, 4(1), 111–119. <https://doi.org/10.1111/1099-1123.00306>
- PWC. (2013). Reaching greater heights: Are you prepared for the journey? State of the Internal Audit Profession Study, PricewaterhouseCoopers, London.
- Reynolds, M. (2000). Professionalism ethical codes and the internal auditor: A moral argument. *Journal of Business Ethics*, 24(2), 115–124. <https://doi.org/10.1023/A:1006179723979>
- Rikkonen, P., & Tapio, P. (2009). Future prospects of alternative agro-based bioenergy use in Finland—Constructing scenarios with quantitative and qualitative Delphi data. *Technological Forecasting and Social Change*, 76(7), 978–990. <https://doi.org/10.1016/j.techfore.2008.12.001>
- Rogers, M. R., & Lopez, E. C. (2002). Identifying critical cross-cultural school psychology competencies. *Journal of School Psychology*, 40(2), 115–141. [https://doi.org/10.1016/S0022-4405\(02\)00093-6](https://doi.org/10.1016/S0022-4405(02)00093-6)
- Roussy, M. (2013). Internal auditors' roles: From watchdogs to helpers and protectors of the top manager. *Critical Perspectives on Accounting*, 24(7–8), 550–571. <https://doi.org/10.1016/j.cpa.2013.08.004>
- Roussy, M., & Perron, A. (2018). New perspectives in internal audit research: A structured literature review. *Accounting Perspectives*, 17(3), 345–385. <https://doi.org/10.1111/1911-3838.12180>
- Roussy, M., Barbe, O., & Raimbault, S. (2020). Internal audit: From effectiveness to organizational significance. *Managerial Auditing Journal*, 35(2), 322–342. <https://doi.org/10.1108/MAJ-01-2019-2162>
- Rowe, G., & Wright, G. (2001). Expert opinions in forecasting: the role of the Delphi technique. In J. S. Armstrong (Ed.), *Principles of forecasting: A handbook for researchers and practitioners* (pp. 125–144). Kluwer Academic Publishers. https://doi.org/10.1007/978-0-306-47630-3_7
- Rowe, G., & Wright, G. (2011). The Delphi technique: Past, present, and future prospects – Introduction to the special issue. *Technological Forecasting and Social Change*, 78(9), 1487–1490. <https://doi.org/10.1016/j.techfore.2011.09.002>
- Sarens, G. (2009). Internal auditing research: Where are we going? *International Journal of Auditing*, 13(1), 1–7. <https://doi.org/10.1111/j.1099-1123.2008.00387.x>
- Selim, G., Woodward, S., & Allegrini, M. (2009). Internal auditing and consulting practice: A comparison between UK/Ireland and Italy. *International Journal of Auditing*, 13(1), 9–25. <https://doi.org/10.1111/j.1099-1123.2008.00395.x>
- Soh, D., & Martinov-Bennie, N. (2011). The internal audit function. *Managerial Auditing Journal*, 26(7), 605–622. <https://doi.org/10.1108/02686901111151332>
- Spekle, R., van Elten, H., & Kruis, A.-M. (2007). Sourcing of internal auditing: An empirical study. *Management Accounting Research*, 18(1), 102–124. <https://doi.org/10.1016/j.mar.2006.10.001>
- Spira, L., & Page, M. (2003). Risk management: The reinvention of internal control and the changing role of internal audit. *Accounting, Auditing & Accountability Journal*, 16(4), 640–661. <https://doi.org/10.1108/09513570310492335>
- Tapio, P. (2003). Disaggregative policy Delphi using cluster analysis as a tool for systematic scenario formation. *Technological Forecasting & Social Change*, 70, 83–101.
- Tapio, P., Paloniemi, R., Varhoa, V., & Vinnari, M. (2011). The unholy marriage? Integrating qualitative and quantitative information in Delphi processes. *Technological Forecasting and Social Change*, 78(9), 1616–1628. <https://doi.org/10.1016/j.techfore.2011.03.016>
- Turoff, M. (2002). The policy Delphi. In M. Turoff & H. A. Linstone (Eds.), *The Delphi method: Techniques and applications* (pp. 80–96). New Jersey Institute of Technology.
- Turoff, M., & Hiltz, S. R. (1996). Computer Based Delphi Processes. In M. Adler & E. Ziglio (Eds.), *Gazing into the Oracle the Delphi method and its application to social policy and public health* (pp. 56–85). Kingsley Publishers.
- Van Peurse, K. (2004). Internal auditors' role and authority: New Zealand evidence. *Managerial Auditing Journal*, 19(3), 378–393. <https://doi.org/10.1108/02686900410524382>
- Von der Gracht, H. A. (2012). Consensus measurement in Delphi studies. Review and implications for future quality assurance. *Technological Forecasting and Social Change*, 79, 1525–1536. <https://doi.org/10.1016/j.techfore.2012.04.013>
- Wakefield, R., & Watson, T. (2014). Delphi 2.0: A reappraisal of Delphi method for public relations research. *Public Relations Review*, 40(3), 577–584. <https://doi.org/10.1016/j.pubrev.2013.12.004>
- Worrell, J., Di Gangi, P., & Bush, A. (2013). Exploring the use of the Delphi method in accounting information system research. *International Journal of Accounting Information Systems*, 14(3), 193–208. <https://doi.org/10.1016/j.accinf.2012.03.003>

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APPENDIX A: THE COMPOSITION OF THE PANEL

Panelist	Group	Title	Sector	Professionalism
1	Teacher	Professor	Public	Professor of business economics for over 10 years, with internal audit and audit experience
2	Teacher	Professor	Public	Professor of business economics for over 10 years, member of board of directors for over 2 years, internal audit and audit experience
3	Teacher	Professor	Public	Professor of business economics for over 10 years, some experience as a member of board of directors
4	Teacher	Ph.D., researcher	Public	Ph.D., research and teaching background in business economics over 10 years, theoretical research experience in internal audit and audit
5	Teacher	Educator	Private	Internal auditing educator, CIA
6	Teacher	Counsellor	Public	Developer of IA from legislation side
7	Auditor	CAE	Public	CAE 10 years, in internal audit 23 years
8	Auditor	CAE	Public	Member of the IIA Finland board of directors
9	Auditor	CAE	Public	Member of the IIA Finland board of the directors
10	Auditor	CAE	Private	CAE 15 years, previous experience in auditing
11	Auditor	Auditor	Private	Member of the IIA Finland board of directors, previous experience in auditing
12	Auditor	CAE	Public	CAE 14 years, in a total of 31 years in internal audit, public sector
13	Auditor	CAE	Private	CAE 5 years, in a total of 10 years in internal audit, private sector
14	Auditor	Auditor	Private	Internal auditor 15 years, private and government, responsible for IA services, previous experience in auditing
15	Board	Director	Private	Member of the board of the director's institute of Finland, several board memberships
16	Board	CEO	Private	CEO of listed firm for 5 years, member of the board
17	Board	Division director	Private	Member of executive groups for 15 years, member of several boards
18	Board	Member of the board	Private	Member of the board of the director's institute of Finland, several board memberships
19	Board	Member of the board	Private	Professional director 4 years, 25 years in business administration, member of several boards, previous experience in auditing
20	Board	Member of the board	Private	Professional director 6 years, 20 years as CFO, member of several boards, strong audit committee experience
21	Board	Member of the board	Private	Member of the board of the director's institute of Finland, several board memberships

APPENDIX B: CLAIMS FROM THE DELPHI ROUNDS

The first round:

R1Q1. Education: In the year 2030, there will be a master's degree program for internal auditors offered at university (→questions R2Q4 and R2Q5 in the second round)

R1Q2. Status: In the year 2030, the internal audit function will report only to the board (→question R2Q3 in the second round)

R1Q3. Tasks: In the year 2030, internal auditors will only concentrate on assurance or consultancy tasks (→questions R2Q2 and R2Q8 in the second round)

R1Q4. Cooperation: In the year 2030, internal auditors will have responsibility for coordinating all assurance tasks in organizations (→question R1Q6 in the second round)

R1Q5. Methods and techniques: In the year 2030, 90% of IA will be done using electronic systems (→question R2Q7 in the second round)

R1Q6. Legislation: By the year 2030, IA will be a statutory requirement in organizations employing over 100 persons (→question R2Q1 in the second round)

Driving forces: Indicate the five most important driving forces for IA (from 12 listed) in order of significance.

The second round:

R2Q1. Regulation vs. freedom: By the year 2030 regulation concerning IA will have increased, even though organizations need freedom to ensure flexibility

R2Q2. Consulting services: In the year 2030 internal control and controls will be integrated better and self-evaluation will be used, thus there will no longer be a need for assurance

R2Q3. The ability of the board and management: In the year 2030, the board and management will not exploit the potential of IA better than they do today

R2Q4. The standardization of education: In the year 2030, the standardization of internal audit education will limit the availability of tacit knowledge

R2Q5. Group or individual expertise: In the year 2030, IA know-how will be based on teams, where members of one team complement the knowledge of others in alternative areas

R2Q6. Collaboration: The collaboration between the IA and the whole organization will have increased by 2030

R2Q7. Digitalization: IA will not fully exploit the opportunities of modern digitalization by 2030

R2Q8. Polarization: Internal audit departments will be divided into regressed and developed departments by the year 2030.

APPENDIX C: THE IMPORTANCE OF DRIVING FORCES IN IA DEVELOPMENT (FREQUENCY COUNT FOR RESPONSES)

Overall rank	Driving forces	First	Second	Third	Fourth	Fifth	WS
1.	Prolific data and its application	2	9	2	4		60
2.	Globalization	6		4	1	2	46
3.	New value chains between organizations	3	2	5	2	3	45
4.	Requirements for increased productivity	2	2	2	3	3	33
5.	Expertise at the core of economic operations	2	2	1	1	2	25
6.	Operating in virtual environments	1	1	1	5	1	23
7.	Other	2	1	1	1	3	22
8.	Unforeseen changes in the regulatory environment	1	1	1	3	3	21
9.	Economic crises	1	2	1		2	18
10.	Scarcity as a driver of innovation	1	1	1			12
11.	The development of the media			2		2	8
12.	The rise of the Eastern economies				1		2

Note: WS is weighed score of summed responses (first = 5 points, second = 4 points, third = 3 points, fourth = 2, fifth = 1 point).

APPENDIX D: DELPHI APPROACH TABLES D1–D3

TABLE D1 The mean and standard deviation of the responses (_Prob = probability; _Des = desirability) in the first Delphi round.

Group		R1Q1 Educ. _Prob	R1Q1 _Des	R1Q2 Status _Prob	R1Q2 _Des	R1Q3 Tasks _Prob	R1Q3 _Des
Board	Mean	.29	.29	.57	0.00	−.57	−1.29
	N	7	7	7	7	7	7
	Std. deviation	1.380	1.799	1.512	2.000	2.070	1.976
Teachers	Mean	.67	.83	.50	.83	−1.33	−1.17
	N	6	6	6	6	6	6
	Std. deviation	1.862	1.722	2.074	2.137	1.633	1.941
IA	Mean	1.25	1.25	0.50	0.63	−0.50	−0.63
	N	8	8	8	8	8	8
	Std. deviation	1.035	1.581	1.604	1.923	1.773	2.134
Total	Mean	.76	.81	.52	.48	−.76	−1.00
	N	21	21	21	21	21	21
	Std. deviation	1.411	1.662	1.632	1.940	1.786	1.949

TABLE D1 (Continued)

Group	R1Q4 Coop. _Prob	R1Q4 _Des	R1Q5 Methods _Prob	R1Q5 _Des	R1Q6 Legis. _Prob	R1Q6 _Des
Board	−1.43	−1.43	.71	.14	.71	−.14
	7	7	7	7	7	7
	1.134	1.397	1.704	1.952	1.380	1.773
Teachers	−.67	.83	.33	−.17	.17	−.17
	6	6	6	6	6	6
	2.066	2.041	1.751	1.722	1.472	1.722
IA	1.13	1.88	0.88	0.63	0.38	1.50
	8	8	8	8	8	8
	1.126	0.991	1.727	1.685	1.061	1.414
Total	−.24	.48	.67	.24	.43	.48
	21	21	21	21	21	21
	1.786	2.015	1.653	1.729	1.248	1.750

TABLE D2 Mean and standard deviation of the agreement responses in the second Delphi round.

Group		R2Q1 Regul. _Agr	R2Q2 Consult. _Agr	R2Q3 Ability _Agr	R2Q4 Educ. _Agr	R2Q5 Expert. _Agr	R2Q6 Collab. _Agr	R2Q7 Digit. _Agr	R2Q8 Polar. _Agr
Board	Mean	1.43	0.43	−1.14	−1.00	0.86	1.43	−1.00	−1.00
	N	7	7	7	7	7	7	7	7
	Std. deviation	0.976	1.134	1.345	1.414	1.215	0.976	1.155	1.155
Teachers	Mean	1.33	0.00	−0.33	−1.83	0.50	2.17	−0.33	0.83
	N	6	6	6	6	6	6	6	6
	Std. deviation	0.816	1.265	1.506	1.602	2.074	.408	1.633	1.722
IA	Mean	0.88	−0.13	−1.13	−0.13	1.63	2.00	−0.50	0.38
	N	8	8	8	8	8	8	8	8
	Std. deviation	1.356	1.356	1.458	1.885	0.518	0.535	1.414	1.506
Total	Mean	1.19	0.10	−0.90	−0.90	1.05	1.86	−0.62	0.05
	N	21	21	21	21	21	21	21	21
	Std. deviation	1.078	1.221	1.411	1.729	1.359	0.727	1.359	1.596

TABLE D3 Comparison of average agreement between the groups of respondents.

Claim	All	All-Board	All-Teachers	All-IA
Round 1				
R1Q1_Prob	0.76	−0.47	−0.09	0.49
R1Q1_Pref	0.81	−0.52	0.02	0.44
R1Q2_Prob	0.52	0.05	−0.02	−0.02
R1Q2_Pref	0.48	−0.48	0.35	0.15
R1Q3_Prob	−0.76	0.19	−0.57	0.26
R1Q3_Pref	−1	−0.29	−0.17	0.38
R1Q4_Prob	−0.24	−1.19	−0.43	1.37
R1Q4_Pref	0.48	−1.91	0.35	1.4
R1Q5_Prob	0.67	0.04	−0.34	0.21
R1Q5_Pref	0.24	−0.1	−0.41	0.39
R1Q6_Prob	0.43	0.28	−0.26	−0.05
R1Q6_Pref	0.48	−0.62	−0.65	1.02
Round 2				
R2Q1	1.19	0.24	0.14	−0.31
R2Q2	0.1	0.33	−0.1	−0.23
R2Q3	−0.9	−0.24	0.57	−0.23
R2Q4	−0.9	−0.1	−0.93	0.77
R2Q5	1.05	−0.19	−0.55	0.58
R2Q6	1.86	−0.43	0.31	0.14
R2Q7	−0.62	−0.38	0.29	0.12
R2Q8	0.05	−1.05	0.78	0.33E