

Meeting: IESBA
Meeting Location: Nashville, USA
Meeting Date: June 17-19, 2019

Agenda Item

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Technology

Objectives of Agenda Item

1. To receive an update from the Technology Working Group (TWG) on its analysis and observations to date, including an illustrative walk-through of the application of the conceptual framework (CF) to scenarios involving the impact of artificial intelligence (AI) and data on the professional activities of accountants.
2. To provide input to the TWG to inform the remainder of its Phase 1 work.

Activities since Last IESBA Discussion

3. Members of the TWG met in person and via teleconference in Q2 to continue analysis of information, views and comments collected through research and outreach. Also in Q2, members of the TWG met with stakeholders in Paris, Brussels and Toronto. See Appendix for a list of the outreach sessions conducted to date.
4. The TWG provided draft technology-related language to the Role and Mindset Task Force (TF) for inclusion as proposed amendments to sections 100¹ through 120² of the Code. Specifically, amendments proposed by the TWG included in **Agenda Item 2A** include:
 - Revise reference to technology in the description of objectivity and remove example of potential reliance on technology affecting objectivity in Subsection 112.³
 - Add reference to technology to the application material relating to the fundamental principle (FP) of professional competence and due care in Subsection 113.⁴
 - Add a new example of bias (“automation bias”) in the proposed paragraph 120.12 A2.
 - Revise the description of professional behavior in Subsection 115⁵ to include more affirmative language.
 - In relation to the proposals on organizational culture, add new material about adherence to ethical values in dealings with third parties.
5. It has been agreed with the IAASB that a member from the IAASB’s Technology Working Group (formerly its Data Analytics Working Group) will be added to the TWG as a correspondent member

¹ Part 1, *Complying with the Code, Fundamental Principles and Conceptual Framework*, Section 100, *Complying with the Code*

² Section 120, *The Conceptual Framework*

³ Subsection 112, *Objectivity*

⁴ Subsection 113, *Professional Competence and Due Care*

⁵ Subsection 115, *Professional Behavior*

and vice versa. The purpose of this correspondent member arrangement is to facilitate discussions and optimize coordination and collaboration on matters of mutual interest between the two Boards, and as appropriate, to optimize actions undertaken by both groups with respect to mutual stakeholders.

6. A specific focus of the TWG for Q3 2019 will be meeting with regulatory and professional accountancy organization stakeholders in the US as well as larger firms and network firms. Also, in the second half of 2019, the TWG will be considering the value and feasibility of in-person outreach events in certain regions not yet specifically covered in our work to date, such as Asia, South America and Africa.
7. Further information about the TWG's activities is available on the TWG's [project webpage](#).

Observations and Recommendations from Analysis to Date

8. Using insights gained from its research and outreach, the TWG performed an analysis of each FP and the CF to articulate the specific, discrete impacts of AI and big data/ data analytics on each FP. The purpose of this exercise is to develop a view as to whether the FPs and CF are sufficient to address behavioral issues associated with the use or development of technology by professional accountants (PAs).
9. Whilst not yet complete, the analysis to date has yielded several observations that the TWG is now evaluating further in terms of what, if any, response is appropriate for IESBA to consider. These observations are:
 - Technology impacts ethical behaviors across all the FPs in an inter-related manner.
 - Threats to compliance with the FPs, as defined currently in the CF, do not obviously capture the “complexity” risk associated with the impact of technology.
 - As digital transformation continues, the criticality and value of professional judgment will increase.
 - Common ethical principles incorporated in AI ethics frameworks broadly align with the FPs, though the former might suggest an opportunity to update the language used to describe certain FPs.

Inter-related Impact of Technology across the FPs

10. While the individual FPs are defined broadly and in a way that generally addresses technology-related risks, the TWG believes that the impact of new technology developments cuts across all five FPs in an interrelated manner. As a result, missing or not fully understanding the threat to compliance with one FP resulting from the impact of technology might also cause a risk of non-compliance with another FP. This “combined” effect, along with the fast pace of work that technology enables, suggests that it is especially important for a PA to consider the inter-related nature of the FPs.
11. The proper consideration of the impact of potential machine bias associated with the use of AI provides an example of this pervasive, inter-related impact. When AI is used, bias could be present in the datasets consumed by AI, in the algorithms that reflect biases of the human AI developers and coders, and/or in the interpretation of the system's outputs.

12. Consequently, a PA needs to think concurrently and holistically about compliance with the FPs in a technology enabled business environment:
- *Objectivity* could be impaired when undue reliance is placed on AI outputs, especially when such output has been generated from biased data or information that might compromise a PA's professional judgment.
 - In order to avoid undue reliance the PA must have the appropriate *professional competence and due care* skills to sufficiently understand and evaluate the business and technical aspects of how AI outputs were generated. Whilst a PA is not expected to have the same level of knowledge and skills as a data scientist, it is important that the accountant is capable of asking the necessary questions to ensure the quality of the information being used.
 - If the PA knew or should have known that the AI outputs were not objective or they lacked the expertise to at least ask the right questions, then this implies a lack of fair dealing or truthfulness, namely *integrity*.
 - Furthermore, since AI is fueled by the consumption of large amounts and different types of data, privacy considerations arise and can heighten the level of threat to compliance with the FPs of *confidentiality* and professional behavior.
 - Lastly, the consequences of one or more such lapses in compliance with these FPs may also discredit the profession under the FP of *professional behavior* particularly in light of an increasing demand for trust in the digital age.
13. The TWG is considering several options, solely or jointly, to address the inter-related nature of the impact of technology on the FPs:

Option A

Develop overarching application material in Part 1 of the Code that will assist PAs to turn their minds holistically to the impact of technology at the outset when complying with the FPs and applying the CF.

The TWG is of the preliminary view that such application material is not suitable as it might give technology an undue emphasis in the Code over other ethics-related considerations or factors that impact the behavior of PAs when carrying out professional activities.

Option B

Develop application material (including examples) under one or more specific FPs, such as objectivity and professional competence and due care, to explain the impact of technology.

With respect to the use of examples for one or more FPs, the TWG has formed a preliminary view that such an approach might inadvertently create an undue perception that technology does not impact those FPs for which no examples are provided.

Option C

Develop guidance material outside of the Code itself (such as staff Q&As or case studies) on the types and magnitude of the threats that are created when PAs use technology.

This approach is consistent with several comments received from stakeholders who cautioned against adding more material to the Code itself and suggested non-authoritative guidance would

be more timely and as effective as, if not more effective than, revisions to the Code. In this regard, the TWG intends to walk the Board through some specific realistic scenarios that illustrate the application of the CF to address ethical considerations of the impact of technology on a PA's work. As the TWG looks to formulate its recommendation that the Board commission supplementary guidance (e.g., webinar, executive summary of key issues, FAQs), it also seeks the Board's input on whether such scenario-type material would be useful to issue in some form of non-authoritative material.

“Complexity” Risk when applying the CF

14. Section 120⁶ of the Code states that threats to compliance with the FPs fall into one or more of five defined categories of threats: self-interest, self-review, advocacy, familiarity and intimidation.
15. Based on the TWG's review and analysis of information gathered to date and insights gained from applying the CF to identifying, evaluating and addressing technology-related ethics issues using several realistic scenarios, the TWG is considering whether the current articulation of threats to the FPs sufficiently recognizes the ethics risks inherent in the complex environment in which PAs work. It is noted that such complexity is caused by not only technology-related developments but also other factors such as the ever-expanding array of regulatory requirements and professional standards that are applicable to the work of PAs.
16. In light of the above, the TWG is reflecting on whether the IESBA should consider any new category of threats such as “complexity” threat, or address this potential gap in the Code via some other means.

Criticality of Professional Judgment

17. Stakeholders have also cited the continuing, if not increasingly important, role of professional judgment as business and society adapt and evolve in a world of dynamic change brought about by ongoing digital transformation.
18. New developments in AI such as machine learning and deep learning, coupled with the availability of big data, mean machines can take on more and more tasks, including complex analysis and predictions. The TWG has also heard that as the value of machine prediction increases (i.e., becomes more accurate, quicker, and more cost effective) the value of human judgment also increases. The considerable benefit of combining machine prediction and professional judgment is an ability to make better decisions based on more comprehensive and (hopefully) more accurate information.
19. The TWG agrees with the view that with the availability of machine-generated information comes a risk of over-reliance on AI or other forms of technology due to a tendency to favor output generated from automated systems, even when human reasoning or contradictory information raises questions as to whether such output is reliable or fit for purpose. Such tendency (referred to as “automation bias”) may impair a PA's exercise of professional judgment. The TWG recommended the inclusion of this technology-related bias in the list of examples of bias that has been proposed for inclusion in section 120 of the Code by the Role and Mindset TF.

⁶ Part 1, *Complying with the Code, Fundamental Principles and Conceptual Framework*, Section 120, *The Conceptual Framework*, paragraph 120.6 A3

Alignment of AI Ethical Principles to the Fundamental Principles

Fairness, Transparency, Accountability and Privacy/User Rights

20. Beyond an analysis of the FPs and CF as described above, the Working Group has compared the ethical principles embodied in a number of digital ethics frameworks, especially those used in the development of AI, to the FP definitions and related application material in the Code.
21. Many AI developers, governments and businesses recognize the importance of ethics around the development and use of AI and are actively proposing and implementing ethical frameworks. For instance, Microsoft has identified the following principles to guide its AI design: Fairness, transparency, inclusiveness, reliability and safety, privacy and security, as well as accountability. In recognizing the potential of AI in transforming society as well as causing significant societal damage, many government bodies around the world have also committed to developing ethical framework to ensure AI can be trusted. For instance, in April 2019, the European Commission released its [Ethical Guidance for Trustworthy AI](#) that sets out the following ethical principles based on fundamental human rights: Respect for human autonomy, prevention of harm, fairness and explicability. Denmark has also published a National Strategy for Artificial Intelligence, which sets out six ethical principles for AI, which include responsibility (i.e, accountability) and explainability.
22. In reviewing the various ethical frameworks used for the development, implementation and use of AI, the TWG has observed that they consistently include considerations of fairness, transparency, accountability and privacy/protection of data and user rights. It is likely these considerations are included to address public (customer, consumer or regulatory) expectations that data inputs to, processing of, and outputs from AI have been obtained, generated, and used responsibly and in a trustworthy manner.
23. The TWG has started to evaluate whether, and if so how, the concepts of fairness, transparency, accountability and privacy are covered in the Code to determine if there might be a need or benefit to more explicitly relate these ethical principles to the FPs. For example, in light of today's "information" economy where the sharing and use of large amounts of data have become accepted (and somewhat expected) in order to create benefits for employees, customers and clients, the TWG has undertaken a critique of section 114, *Confidentiality*. Considerations being addressed in this review include the currency of the language used in this section, the relationship between confidentiality and privacy, and whether there is an inherent tension between confidentiality and the dependence on open, transparent information flows in the digital economy.

Professional Skills Including a Growth Mindset

24. Many stakeholders identified having the right skill sets as a key to securing the profession's future. In this regard, there seems to a consistent acknowledgement that PAs need to upskill themselves on understanding how technologies work and to keep this knowledge current in the face of ongoing technological advancements. Many stakeholders also acknowledged that as more and more tasks can be performed by machines, the role of PAs will evolve, giving rise to a greater need for PAs to develop their "soft" skills in areas such as emotional intelligence, communications, agility and leadership.
25. The TWG observed from discussions with stakeholders the importance of "mindset" as an important component of success for a PA in the digital age. Comments ranged from PAs at large having a

mindset that adapts to new technology to expanding their mindset from compliance one to also an advisory one.

26. Of note, one stakeholder has also highlighted the importance of a growth mindset in the age of digital transformation. In this regard, the TWG has observed that whilst there are various definitions of “growth mindset,” each of them includes similar concepts, such as a belief that abilities and acumen can be developed, and the capacity to feel comfortable in one’s ability to overcome obstacles and challenge one’s own identity, and to extend oneself into new areas. These concepts align with an earlier ACCA report [“Ethics and Trust in a Digital Age”](#) which highlights the need for continuous learning and the importance of the principle of professional competence and due care in a digital age.
27. The TWG is currently reviewing the application material in Subsection 113, *Professional Competence and Due Care*, to identify if there is a need to further develop the application material in the Code for this FP and/or pursue other means of providing guidance to PAs in this area. As part of its review, the TWG is considering the relevant International Education Standards issued by the International Accounting Education Standards Board (IAESB) to ensure there is alignment of the language between the two Standards.

Leadership Role in Promoting Ethical Behavior

28. Ethics has played an important role in maintaining public confidence in the profession. The TWG is continuing its consideration of whether PAs might have a broader role in society as ethical leaders and champions of the importance of ethics, especially at a time when uncertainties arise during the course of technological change within an organization.
29. In considering the role of PAs as ethical leaders, the TWG is of the view that acting in the public interest inherently involves acting ethically. This view is the basis for proposing to the R&M TF the inclusion of new language in Subsection 115, *Professional Behavior*, which specifically requires a PA to behave in a manner that is consistent with the profession’s responsibility to act in the public interest. See proposed text amendments to Subsection 115 in **Agenda Item 2A**.
30. Additionally of note is that Section 200⁷ of the Code contains application material about the expectation on PAs in business to encourage and promote ethics-based cultures in their organizations, taking into account their position and seniority within those organizations. The TWG supports the Role & Mindset TF’s proposal to include a new sub-section on organizational culture in section 120. The TWG also believes an organizational culture in which ethical values are promoted internally is also supported when an ethical culture is encouraged by the organization at third parties with which it does business. This view is the basis for proposing to the R&M TF text for inclusion in the proposed new Organizational Culture sub-section of section 120 (See **Agenda Item 2A**).
31. The TWG will continue to deliberate whether, and if so what, would be appropriate to include as additional application material in Part 1 or elsewhere in the Code beyond the proposals already made related to ethical leadership expectations and/or responsibilities of PAs.

Next Steps

32. The TWG will continue its outreach and research to solicit views on key issues and to share knowledge with stakeholders in different jurisdictions. At a global level, the TWG will be presenting

⁷ Part 2, *Professional Accountants in Business*, Section 200, *Applying the Conceptual Framework – Professional Accountants in Business*, paragraph 200.5 A3.

its analysis to the IFAC SMP committee at its June meeting. The TWG has also arranged for this paper to be circulated to the IFAC PAIB committee for input.

33. At its next in-person meeting in July 2019, the TWG will continue its systematic walk-through of the remainder of Code (Parts 2, 3 and 4A and 4B) to identify any potential gaps in dealing with the ethics issues observed during its information gathering. As part of this analysis, the TWG will continue to consider relevant comments to the IESBA's [2019-2023 Strategy and Work Plan](#)⁸ consultation paper.
34. At the September 2019 IESBA meeting, the TWG intends to brief the Board on its preliminary recommendations for the next phases of the IESBA's technology initiative. The TWG will present its final report for Phase 1 at the December 2019 Board meeting.

Actions Requested

35. IESBA members are asked to:
 - (a) Note and provide input on the matters covered in this paper; and
 - (b) Provide input and feedback during the walk through of applying the CF to ethics issues raised in the scenarios to be presented at the Board meeting.

⁸ The [IESBA Strategy and Work Plan 2019-2023](#) was released in April 2019.

List of Stakeholders and Outreach Events Conducted to Date

Stakeholders/Events	MB	PAIBs	Firms	NSS	Reg	Academics	Vendor	Others	Region	Date
Association of Chartered Certified Accountants (ACCA)	•								Europe	Jan 2019
Chartered Institute of Management Accountants (CIMA)		•							Global	Jan 2019
Inflo (audit and accounting software vendor)							•		Europe	Jan 2019
Institute of Business Ethics (IBE)								•	Europe	Jan 2019
Institute of Chartered Accountants in England and Wales (ICAEW)	•								Europe	Jan 2019
Chartered Professional Accountants of Canada (CPA Canada)	•								North America	Jan 2019
University of Waterloo Centre for Accounting Ethics– 4 th Ethics Symposium	•		•			•			North America	Apr 2019
IESBA National Standard Settlers (NSS) 2019 Meeting				•					Global	May 2019
Accountancy Europe (AE)	•								Europe	May 2019
European Commission (EC)					•				Europe	May 2019

Technology
 IESBA Meeting (June 2019)

Stakeholders/Events	MB	PAIBs	Firms	NSS	Reg	Academics	Vendor	Others	Region	Date
Organization for Economic Co-operation and Development (OECD)								•	Global	May 2019
Luncheon with Paris-based Firms			•						Europe	May 2019
Cercle d’Ethique des Affaires (CEA)								•	Europe	May 2019
CPA Canada – Foresight Meeting	•		•		•	•			North America	Jun 2019