

**Meeting:** IESBA  
**Meeting Location:** New York, USA  
**Meeting Date:** March 11-13, 2019

## Agenda Item

# 4

### Technology

#### Objectives of Agenda Item

1. To receive a presentation from Mr. Anand Rao, principal at PwC; global leader for artificial intelligence and innovation lead for the PwC US analytics practice.
2. To receive an update from the Technology Working Group on its recent outreach activities and key emerging themes observed to date.

#### Working Group

3. Members:
  - Patricia Mulvaney, Chair, IESBA Member
  - Brian Friedrich, IESBA Member
  - Hironori Fukukawa, IESBA Member
  - Robert Juenemann, IESBA Member
  - Myriam Madden, IESBA Member

#### Activities since Last IESBA Discussion

4. The Working Group met in person once immediately following the December IESBA meeting and three times since via teleconference to progress its work.
5. In January 2019, Ms. Mulvaney, Mr. Fukukawa and Ms. Madden conducted a series of outreach meetings in London with the following organizations:
  - Institute of Chartered Accountants in England and Wales (ICAEW);
  - Association of Chartered Certified Accountants (ACCA);
  - Chartered Institute of Management Accountants (CIMA);
  - Institute of Business Ethics (IBE); and
  - Inflo (audit and accounting software vendor).
6. Also in January 2019, Mr. Friedrich discussed and shared views on the topic of ethics and technology during meetings of the CPA Canada Public Trust Committee and CPA Canada Foresight: Reimagining the Profession.

7. The Working Group Chair will provide an update to the IESBA CAG at the upcoming March 2019 CAG meeting. The Working Group Chair will brief the Board on the input received from the CAG during the Board meeting.
8. The Working Group continues to conduct “desk research” in the areas of AI and data/data analytics, including the review of publically available reports, articles, podcasts, webinars and other relevant material. The Working Group is currently piloting the use of an online knowledge sharing and communication portal to capture and catalogue its key activities. The Working Group will explore the feasibility of making the portal accessible to the Board for its reference and for knowledge sharing by Board members who are not members of the Working Group.

#### **Presentation by Mr. Rao**

9. Mr. Anand Rao, global leader of AI at PwC, will be presenting on the topic of “Artificial Intelligence: Perspectives on Ethical Challenges and Opportunities for Professional Accountants” (draft working title)

#### **Matters for Consideration**

1. IESBA members are asked to share any comments, questions or reactions to the presentation.

#### **Themes Emerging from Information Gathering Activities to Date**

10. The Working Group has noted five broad themes emerging from its discussions with external organizations and materials reviewed to date.
  - Theme A – Ethical principles applicable to the development and use of AI are not fundamentally different than those used more generally
  - Theme B – Professional Accountants (PAs) will need to bring a “growth mindset” to their professional activities in order to keep pace with and properly address the implications of technology
  - Theme C – Bias is the most frequently cited risk regarding AI
  - Theme D – “Fairness” and “transparency” are expected and necessary elements in order for AI to be trusted
  - Theme E – Responsibility to advise on both risks and benefits of technologies sold

Note: the reference to AI in these themes is intended to include the related aspects of data and data analytics, namely, that data feeds the algorithms upon which AI is built and “learns”, and AI then produces analysis of that data at a scale and speed that exceeds human capability.

#### *Theme A – Ethical principles applicable to AI*

11. Stakeholders did not identify any noticeable gaps in the fundamental principles (FPs) or other provisions in the Code in relation to how PAs should handle technology-related ethics issues. Instead, they consistently suggested it would be helpful if IESBA would produce guidance material, such as case studies, on how PAs can identify, evaluate and address technology-related risks and ethical issues. They noted that the approach to demonstrating ethical behavior and complying with the FPs does not change when dealing with technology-related issues. This suggests to the Working Group that the Code’s FPs themselves, and the conceptual framework (CF) approach to addressing threats

to compliance with them, may be sufficient. Rather, additional guidance on the types and magnitude of the threats that arise when the PA uses technology such as AI, for example, would likely enhance the proper and effective application of the CF.

12. 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. See Theme D below for further considerations related to fairness and transparency.

*Theme B – Professional accountants need a “growth mindset”*

13. The “mindset” that PAs should have in a digital age has been raised in several instances in our information gathering activities. One stakeholder suggested it is important that PAs at large have a mindset that adapts to new technology. Another stakeholder believed that PAs should change from a compliance mindset to an advisory mindset. In this regard, it is noted that a recent ACCA report [“Emotional Quotient in a Digital Age”](#) has found that a growth mindset is a key enabler for the development of emotional intelligence. Emotional intelligence (or sometimes known as “emotional quotient”) may be referred as to one’s ability to identify and manage one’s own emotions as well as the emotions of others. The notion of a “growth mindset” is also associated with the work of Dr. Carol Dweck, who uses this term as a contrast to a “fixed mindset”.
14. There are various definitions of growth mindset; yet each of them includes similar concepts, such as a belief that abilities and intelligence 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 FP of professional competence and due care in a digital age. The Working Group has also heard stakeholders cite the continuing – if not increasing – importance of exercising professional judgment in the midst of dynamic changes in business resulting from various forms of digital transformation.
15. The Working Group recognizes that the Role and Mindset Task Force is considering both the concepts of “mindset” and “professional judgment”, as well as the linkage between role, mindset and behavioral characteristics expected of PAs and the FPs. Hence the Working Group believes it would be a timely opportunity to explore its observations in these areas with the Task Force as both groups progress their work after the March 2019 IESBA meeting.

*Theme C – Bias embedded in AI can be a significant risk*

16. In an ideal world, AI and other intelligent systems would be totally objective and free from biases. However, this is not the case in reality and bias is one of the most common risks identified with the use of AI. Bias in AI (“machine bias”) may be caused by bias in the datasets that are consumed by AI. It may also be caused by bias in the algorithms written for the AI application, which might reflect biases of the human AI developers and coders.
17. The Working Group also heard from stakeholders that PAs must take responsibility for the decisions for which they are accountable and should therefore take steps to ensure they have sufficient

knowledge of the technologies used to provide the information they are relying on without needing to be data scientists themselves.

18. The current description of objectivity in Section 110 of the Code includes the concept of “undue influence of others”. It is the Working Group’s understanding that the Role and Mindset Task Force is proposing to revise this description by expanding the concept of “undue influence of others” to include, amongst other things, undue influence of sources such as technology in order to highlight the potential impact of outputs from technologies such as artificial intelligence. The Task Force has also proposed an example of potential reliance on technology affecting objectivity through the application of AI. The Working Group notes that Section 220 of the Code<sup>1</sup> contains some material addressing reliance on the work of others (although the focus in this Section is more on individuals).
19. Additionally, it is the Working Group’s understanding that the Role and Mindset Task Force has developed proposed application material on bias which highlights that being aware of one’s bias, whether conscious and unconscious, will reduce the risk and impact of bias and therefore contribute towards effective application of the CF. The Task Force’s proposed text includes a list of examples of unconscious bias. The Working Group believes it would be worthwhile to discuss the input it has received to date on machine bias and its potential impact on professional judgment in further detail with the Role and Mindset Task Force as both groups progress their work after the March 2019 IESBA meeting.

#### *Theme D – Addressing fairness and transparency*

20. As noted in the Working Group’s Terms of Reference, the term “digital ethics” is used quite broadly in relation to technology advancements. While the specific focus of Phase I of IESBA’s technology initiative centers on the implications of technology advances on the PA’s ethical behaviors and responsibility to comply with the FPs, the Working Group has observed that the ethical frameworks used for the development, implementation and use of AI consistently include considerations of fairness and transparency, as well as accountability. It is likely these considerations are included to address public (customer, consumer or regulatory) expectations that data inputs to and outputs from AI have been obtained and generated responsibly and in a trustworthy manner. It may be worthwhile for the Working Group to consider how and at what level (other than from an overall societal perspective) the concepts of fairness and transparency interact with the Code. In so doing the Working Group could explore if, and if so how, the Code can be positioned to play a role in responsibly mitigating risks attendant to AI technologies and the data that are consumed in them, and thereby contribute towards creating trust in such technologies.
21. The Working Group also heard from stakeholders about whether PAs might have a broader role in society as ethical leaders and champions in their organizations given the importance of ethics in maintaining public confidence in the profession and how the Code might contribute towards such a role. It is noted that Section 200<sup>2</sup> already contains application material about the expectation on PAs to encourage and promote ethics-based cultures in their organizations taking into account their position and seniority within those organizations. The Working Group will continue to reflect on the role of PAs as ethical leaders in society and work in collaboration with the Role and Mindset Task

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<sup>1</sup> Section 220, *Preparation and Presentation of Information*

<sup>2</sup> Part 2, Professional Accountants in Business, Section 200, *Applying the Conceptual Framework – Professional Accountants in Business*, paragraph 200.5 A3

Force to further consider whether ethical leadership is behavior that should be expected of the profession as part of its responsibility to act in the public interest.

*Theme E – Responsibility to Advise on Both Risks and Benefits of Technologies Sold*

22. The Working Group has heard from some stakeholders that when a new technology is promoted to customers, customers should be advised of not only how it would benefit them but also the risks and costs that need to be considered when a new technology is implemented.
23. With big firms and organizations investing heavily in new technology applications for clients, customers and other third parties, a question arises as to whether potential buyers have a sufficient understanding of how the technology works, the risks that need to be managed and the resources (human and financial) to be expended for the technology to deliver the benefits intended. The Working Group would like the Board's input on whether, from a public interest perspective, it should consider if a PA has any ethical responsibility to their clients when implementing new technologies.

**Matters for Consideration**

2. IESBA members are asked to share any comments, questions or reactions to the themes described.

**Next Steps**

24. The Working Group found the outreach meetings in London to be highly informative as well as an efficient and effective way to gather multiple stakeholder views in a condensed timeframe. Recognizing that the input received had a largely UK focus, the Working Group is actively seeking to set up similar types of in person meetings in other jurisdictions, including Europe, North America (Canada and US), South America, Asia Pacific (such as Australia, Singapore and Japan) and Africa.
25. Other presentation and information gathering activities the Working Group is seeking to schedule in Q2, 2019 include:
  - (a) Interview with the Institute of Management Accountants' (IMA's) Strategic Finance and Management Accounting Quarterly regarding the IESBA's current work on role and mindset and technology. The IMA is the worldwide association of accountants and financial professionals in business and has a global reach of 140 countries with more than 300 professional and student chapters.
  - (b) Working Group Chair and staff meeting with IFAC's PAIB Committee members and staff in late March 2019.
  - (c) Canada outreach in April 2019, including IESBA representation at the upcoming [University of Waterloo 2019 Ethics Symposium](#) on "The Impact of Technology on Ethics, Professionalism and Judgment in Accounting".
  - (d) Discussion at the upcoming IESBA-National Standard Setters meeting in May 2019 to gather input from its participants.
  - (e) European outreach in May 2019, including potential meetings with Accountancy Europe, the OECD and the Cercle d'Ethique des Affaires.
  - (f) Updates or other awareness material for outreach and stakeholder presentations by the Restructured Code Rollout Working Group and other IESBA members.

- (g) Coordination meeting with newly formed IAASB Technology Working Group (which replaces the IAASB's Data Analytics Working Group).
- 26. In advance of the June 2019 IESBA meeting, the Working Group aims to publish some form of non-authoritative material to update stakeholders regarding its objectives, timeline, observations to date and any issues it is considering as part of Phase 1 of the initiative.
- 27. At the June 2019 IESBA meeting, the Working Group will discuss with the Board its preliminary thinking on the robustness and relevance of the FPs and independence standards in dealing with technology-related ethics issues.
- 28. At the September 2019 IESBA meeting, the Working Group expects to be in the position to brief the Board on its preliminary recommendations as a result of work performed as part of Phase 1 of this initiative.

**Matters for Consideration**

- 3. IESBA members are asked to provide input on opportunities, in their jurisdictions or otherwise, to promote and discuss the work of the Working Group.

**Material Presented**

Pre-session Reading Material AICPA and CPA Canada, ["A CPA's Introduction to AI: From Algorithms to Deep Learning, What You Need to Know"](#)  
www.techcrunch.com, ["5 unexpected sources of bias in artificial intelligence"](#) by Kristian Hammond

**Action Requested**

- 29. IESBA members are asked to:
  - (a) Familiarize themselves with the pre-session reading material; and
  - (b) Share any comments, questions or reactions at the meeting.