



# Ethical Leadership in an Era of Complexity and Digital Change

**EXPLORATORY PAPER:** Laying the groundwork

February 2021

## ABOUT CPA CANADA

Chartered Professional Accountants of Canada (CPA Canada) works collaboratively with the provincial, territorial and Bermudian CPA bodies, as it represents the Canadian accounting profession, both nationally and internationally. This collaboration allows the Canadian profession to champion best practices that benefit business and society, as well as prepare its members for an ever-evolving operating environment featuring unprecedented change. Representing more than 220,000 members, CPA Canada is one of the largest national accounting bodies worldwide. [cpacanada.ca](http://cpacanada.ca)

## ABOUT IFAC

IFAC (the International Federation of Accountants) is the global organization for the accountancy profession dedicated to serving the public interest by strengthening the profession and contributing to the development of strong international economies. Comprised of 180 members and associates in more than 130 countries and jurisdictions, IFAC represents more than 3 million accountants in public practice, education, government service, industry and commerce.

Over four decades, IFAC has represented the global profession and supported the development, adoption, and implementation of international standards that underpin the contributions of today's global accountancy profession. IFAC has maintained a long-term approach to building and strengthening a global accountancy profession that supports transparent, accountable, and sustainable organizations, financial markets, and economies. [ifac.org](http://ifac.org)

## ABOUT ICAS

ICAS is the global professional body for Chartered Accountants. We educate, examine and lead, enabling excellence whilst always working for the wider public good. All 23,000 ICAS members have earned our world-class CA designation of Chartered Accountant, the qualification that's shaped an international business community spanning industries and continents, full of local heroes and corporate leaders. And we continually foster the bonds between our members, so CAs at all stages of their careers can learn from shared experience and connect their ambitions to success. For further information please visit [icas.com](http://icas.com)

## ABOUT IESBA

The IESBA is an independent standard-setting board that develops, in the public interest, high-quality ethics standards and other pronouncements for professional accountants worldwide. This includes the *International Code of Ethics for Professional Accountants (including International Independence Standards)*, which establishes ethics requirements for professional accountants.

The board also supports adoption and implementation, promotes good ethical practices globally, and fosters international debate on ethics issues faced by accountants. [ethicsboard.org](http://ethicsboard.org)

## BACKGROUND AND ACKNOWLEDGEMENTS

In their roles as ethical leaders and trusted advisors, professional accountants (PAs) rely on professional skills,<sup>1</sup> values, ethics and attitude<sup>2</sup> to serve their organizations and clients. Chartered Professional Accountants of Canada (CPA Canada) and the Institute of Chartered Accountants of Scotland (ICAS) are collaborating with the International Federation of Accountants (IFAC) and the International Ethics Standards Board for Accountants (IESBA) to research and report on how complexity in the professional environment, digital disruption, and mis/disinformation impact the importance of professional skills and ethical leadership. This exploratory paper laid the groundwork for an international, virtual roundtable event to further investigate this area.

This paper was developed by CPA Canada members Brian Friedrich (IESBA member and chair of IESBA's Technology Working Group) and Laura Friedrich (IESBA technical advisor) under the direction of Gord Beal, vice-president, Research, Guidance and Support, at CPA Canada and with valuable insights provided by James Barbour, director, policy leadership at ICAS and IESBA technical advisor; Christopher Arnold, head of SME/SMP and research at IFAC; and Ken Siong, senior technical director at IESBA.

The team is grateful for the important guidance and feedback provided by peer reviewers Diane Jules, deputy director at IESBA and Tom McMorro, Ethics Board member at ICAS.

A [summary](#) of the roundtable event and an [on-demand recording](#) are available on the IFAC Knowledge Gateway and on the International Ethics Standards Board for Accountants (IESBA) technology initiative's [focus page](#). The paper was also informed by diverse stakeholder views gathered through the IESBA's broader [technology initiative](#).

A series of thought leadership papers on the event's outputs, as well as additional research activities, will follow. The post-event series more fully investigates the key themes presented in this exploratory work, and leverages delegate discussions and recommendations from the event to offer practical guidance for professional accountants, professional accountancy organizations, educators and employers, as our profession evolves to address changing stakeholder needs while continuing to meet our public interest responsibilities.

Feedback and comments are enthusiastically welcomed – please send to [foresight@cpacanada.ca](mailto:foresight@cpacanada.ca).



## Organizations face complex problems

Organizations are facing greater levels of complexity, as society places more expectations on organizations to “step up” and make a positive impact in regard to broad challenges such as sustainability, social justice and climate change. These challenges inextricably integrate ethical and strategic elements, particularly as they become more visible and take on more urgency. The significant interdependencies between organizations and the sociopolitical systems they operate within exacerbate challenges in decision-making, while at the same time highlighting the need to address the issues raised. Organizations (or professions) choosing not to take a stand on social and economic issues risk reputational and trust repercussions.

**Complexity is not new, but it is amplified by technological disruption, increased interdependencies, and heightened societal expectations.**

Organizations have long relied on professional accountants (PAs) to bring professional skills such as critical thinking and sound professional judgment to business decisions, whether in the role of management, those charged with governance, or external advisor. But in today’s world, these skills are more urgently needed than ever before to ensure that ethical facets of decisions are identified and properly considered. PAs will need to continue to earn and maintain social licence as trusted advisors and ethical leaders.

**Questions for reflection:** *How is complexity in the professional environment impacting the role of PAs as ethical leaders and trusted advisors? Are PAs being called on to help organizations pursue initiatives in sustainability, climate responsibility, social justice etc.?*



## “Complex” and “complicated” are not the same, and the distinction matters

In his book *It's not Complicated*, Prof. Rick Nason of Dalhousie University explains that “the world of business is usually complex rather than complicated.” He recognizes that this may sound like mere semantics, but “the difference between ‘complicated thinking’ and ‘complexity thinking’ is profound.”<sup>3</sup> Also, although this distinction is common in fields such as the natural sciences, medicine and engineering, it is not yet the case in business.

Complicated problems differ from complex ones in important ways:

Complicated	Complex
Might have many moving parts, but interactions are linear and able to be modelled	Interactions are dynamic or “emergent” and often hidden
Outcomes are reasonably predictable	Outcomes cannot be accurately predicted
Systems can be de-constructed	Elements are interdependent, and can’t be “untangled”
Results are reproduceable	Applying the same “solution” will generally yield different results

Although complicated problems are challenging to solve, once solutions are found, they generally stay solved. Complex problems, on the other hand, are not solvable by applying static algorithms, rules and processes. For example, sending a satellite into orbit is complicated; launching a new product into a new market is complex.

Complicated thinking is the default managerial approach, but treating a complex problem as though it were complicated leads to costly mistakes and potentially disastrous unintended consequences. As an example of what can go wrong if the effects of complexity are not anticipated, Professors Sargut and McGrath explain that the 2008 financial crisis “can be traced to numerous distinct, but interconnected events: the relaxation of banking regulations, the invention of instruments that allowed lenders to

**The distinction is one of type, not of degree. “Complex” does not mean “more complicated.”**



shift risk off their balance sheets, monetary policies that kept interest rates low, the evaporation of reasonable credit standards and conventional down-payment requirements, ignorance on the part of borrowers, and so on.”<sup>4</sup> Nason points out that the financial meltdown occurred “despite the best efforts of politicians, economists, and regulators using the sophisticated analytical tools of some of the most astute financial analysts and policy wonks”.<sup>5</sup>

Dealing with complicated and complex problems might involve some of the same tools and actions, but the approach and mindset required to be successful is very different. For example, when dealing with a complicated problem, you might hire an expert(s) to provide a solution. For a complex problem, while getting additional insight and perspective from experts can be greatly beneficial, even the experts can’t provide a foolproof solution. Finding the way forward might still require iteration and adaptation.

**Questions for reflection:** *How can the profession support PAs in understanding and effectively acting on the distinction between complicated and complex problems?*

Technology brings complexity and ethical challenges, but also provides tools to manage these situations if we ask the right questions.



## Technology is a double-edged sword

The information technology revolution is a key driver of complexity faced by PAs. Professors Sargut and McGrath note that “systems that used to be separate are now interconnected and interdependent, which means that they are, by definition, more complex.”<sup>6</sup> The exponential pace of change of technological innovations also adds pressure to a PA’s professional environment.

Disruptive technologies are becoming more prevalent in organizations seeking to increase efficiency and differentiate their offerings. AI, blockchain and the Internet of Things, for instance, offer significant opportunities; and when such opportunities are pursued, ethical challenges are never far behind. Technologies

have a tendency to amplify both the good and the bad within systems; advancements offer the opportunity to rethink existing approaches, thereby also mitigating the risk of “hard-wiring” pre-existing flaws into new processes.

Disruptive technologies raise a broad range of ethical challenges, including:

- transparency (e.g., trade-offs with confidentiality)
- explainability (e.g., neural networks with deep learning)
- accountability (e.g., for decisions made by autonomous systems)
- human rights protection and values alignment (e.g., equity and fairness, inclusivity, collaboration)
- accuracy, reliability and effectiveness (e.g., justifying resource allocations)
- privacy and autonomy with respect to personal data (e.g., data ownership issues)
- safety and security (e.g., weaponized AI, cyberattacks)

These challenges are typically reflected in a variety of frameworks being developed around the world to oversee the responsible use of technology (such as those concerning ethical or trusted AI). These overlap with economic and social issues and tie in with the public interest.

Evaluating challenges and opportunities requires that PAs have – and are perceived to have – sufficient technical skills to understand the issues and discuss them knowledgeably with other decision-makers.

**Questions for reflection:** *To what extent are PAs involved in deciding what technologies to implement and how? To what extent should PAs be responsible for promoting ethics within technology development, implementation and use in their organizations? Does this answer change depending on whether the technology in question is not directly related to financial reporting/corporate reporting?*



## Identifying and mitigating bias and mis-/disinformation are essential for effective decision-making

Cuban-French author Anaïs Nin said, “We see things not as they are, but as we are.” As PAs, we are committed to being objective and acting with integrity, but our ability to do so is challenged by unconscious biases such as groupthink and confirmation bias. Biases at an individual level can cloud our judgment and threaten our ability to apply fundamental ethical principles consistent with the profession’s commitment to the public interest. Care must be taken within teams to identify and mitigate the negative impacts of bias in our interpretation and evaluation of information for decision-making. The International Ethics Standards Board for Accountants (IESBA) recently highlighted the importance of PAs being aware of the risk of bias in decision-making in [changes to the IESBA Code](#) that will take effect from December 31, 2021.

**Humans are biased,  
therefore so are  
machines. The  
digital age  
is not helping.**



As an extension of human bias, technology, such as an AI system, can similarly exhibit bias based on its initial programming and/or the data on which it trains. Bias in systems poses significant threats to the fairness, appropriateness and effectiveness of decision-making, especially where systems lack explainability and transparency. Opaque systems make human oversight simultaneously more necessary and more difficult.

Bias has always been a factor that needs consideration when evaluating information, but in the digital age, bias is fuelling division. The uncertainty inherent in complex situations can magnify bias and lead to more ingrained positions and less tolerance for other viewpoints. This can make it difficult to reach consensus as to how to best serve the public interest, particularly when opinions are polarized.

Much of the information we receive comes to us from online sources. This means that the information each of us sees is determined, in large part, by algorithms that are designed to feed us what we want to see. Technology enables disinformation to be generated and distributed at alarmingly swift rates, as “deepfakes” are becoming more widespread, easier to produce, and more believable. Determining which information sources are trustworthy is becoming more challenging, at the same time as institutional trust appears to be in decline.

Distinguishing fact from opinion or falsehoods requires us to be continually vigilant, especially because much of what we “know” is heavily reliant on evidence provided by others, an acceptance that is based on trust. Maintaining an inquiring mind and applying critical thinking, professional skepticism and professional judgment are essential when dealing with all forms of information. Following on from this is the importance of effective communication and interpersonal skills to relay explanations and outcomes.

**Questions for reflection:** *How can PAs better manage and mitigate the impact of bias in their own decisions and influence their teams to make less biased decisions? How does the profession ensure that the information that PAs produce or provide is perceived to be trustworthy?*



## Mindset matters

IESBA's *Role and Mindset* project reinforced the importance of the profession's public interest responsibility and highlighted the role, mindset and behavioural characteristics expected of PAs. Behavioural characteristics emphasized in the Code's [Role and Mindset revisions](#), coming into effect in December 2021, include having an inquiring mind regardless of role, being aware of one's bias in the exercise of professional judgment, and having the strength of character to act appropriately, even when doing so is challenging. These coincide with elements of what are classified as professional values, ethics and attitudes in the recently revised International Education Standards maintained by IFAC, which are effective from January 1, 2021.

The mindset elements and behavioural characteristics highlighted in the *Role and Mindset* revisions are important elements needed to manage complexity more effectively. They support the need to be adaptable and open to change when managing uncertainty and to embrace a growth mindset. They also reflect the skills and characteristics least imitable by machines. The importance of human skills such as emotional intelligence, empathy etc. cannot be overstated. Indeed, it will be the combination (or effective utilisation) of the skills of the human and machine that should provide optimal outcomes for the profession, business and society.

**Questions for reflection:** *To what extent has the profession promoted this mindset in members (including having an inquiring mind/professional skepticism, professional judgment and strength of character)? How can we measure the profession's success in this area going forward?*

**The mindset needed to be effective in the current environment embodies the skills and characteristics that will keep PAs relevant.**



## A competence paradigm shift is needed

PAs have a key role to play as ethical leaders and trusted advisers both within and external to their organizations. To stay relevant, however, we need to shift our thinking - as well as internal and external perceptions - to a new paradigm. Rather than PAs being primarily seen as experts in technical competence areas who also bring strong enabling skills, we need to be seen as strategic thinkers, robust problem solvers, ethical leaders and skilled communicators, who bring



deep expertise in a broad range of accounting and business areas. Our focus needs to be on the skills that a machine cannot do more effectively than a human, now or in the foreseeable future.

Technical knowledge in our areas of professional service should still be recognized as necessary but not sufficient on their own, whereas professional skills, values, ethics and attitudes such as adaptive and critical thinking, professional judgment and skepticism, and strength of character, need to be consistently kept in focus.

Recruiting, education and training programs will need to be adapted to reflect this paradigm shift. Historically, the education and training of professional accountants has been primarily focused on developing mastery within core areas of technical expertise such as financial reporting, management accounting, taxation, assurance and finance, as well as core concepts in strategy and governance. As a result, recruiting efforts are concentrated on attracting candidates with interests and aptitudes in these domains. Professional skills, values, ethics and attitudes are included in the training, but these are often seen as being ancillary to technical competence, as opposed to representing the very fabric of functioning as a professional. A key reason for this incongruity is that, despite the importance of these enabling competencies, they are more difficult to reliably assess. Overcoming this challenge will be paramount to both nurturing recently-qualified PAs to be market-ready, and upskilling those professionals who are already more advanced in their careers.

***Questions for reflection:** How does the profession promote the importance of enabling competencies as a primary source of relevance and value as many PAs focus their continuing professional development on technical skills? How can the enabling competencies of PAs be effectively messaged to the broader public and underpin public trust?*

**Professional skills,  
values, ethics and  
attitudes need to  
take centre stage.**

## Continuing the journey

The accountancy profession is on a journey. This exploratory paper and event flow from the work of several ongoing initiatives including CPA Canada's [Foresight](#) project, ICAS's [thought leadership](#) work, IFAC's initiative on [Preparing Future-Ready Professionals](#) and IESBA's [Technology Initiative](#).

Resources of interest include:

### CPA Canada

- [Foresight: Reimagining the Profession makes urgent case for change](#)
- [The Way Forward Report](#)
- [Technology resources for CPAs](#)
- [A competency map for changing times](#)

### ICAS

- [The Impact of Technology on the Accountancy Profession Risks and Opportunities September 2020](#)
- [Major ICAS/FRC research explores audit skills of the future](#)
- [Auditor skills in a changing business world](#)
- [Insights from audit committee chairs](#)

### IFAC

- [Re-imagining the Future Accountant—Our Call to Action](#)
- [Accountancy Skills Evolution: Impact of COVID-19 & the Path Forward](#)
- [What Defines the Accountant of Tomorrow?](#)
- [Practice Transformation Action Plan](#)
- [Understanding Value Creation](#)
- [Accountancy Careers and Roles – A View from the Market](#)
- [A Vision for the CFO & Finance Function](#)

### IESBA

- [IESBA Fact Sheet – The Role and Mindset of the Professional Accountant](#)
- [Exploring the IESBA Code Installment 11 - The Role and Mindset Expected of Accountants - A Focus on Bias](#)
- [Technology Working Group Phase 1 Final Report](#)

### INTERNATIONAL EDUCATION STANDARDS

- [International Education Standard 3: Professional Skills](#)
- [International Education Standard 4: Professional Values, Ethics and Attitudes](#)

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## References

- 1 See International Education Standard (IES) 3: Professional Skills
- 2 See International Education Standard (IES) 4: Professional values, ethics and attitudes
- 3 Rick Nason, *It's not complicated: The art and science of complexity in business*, (Toronto: University of Toronto Press, 2017).
- 4 Gökçe Sargut & Rita G McGrath, "Learning to live with complexity" (September 2011) Harvard Bus Rev, <online: <https://hbr.org/2011/09/learning-to-live-with-complexity>>.
- 5 Supra note 3.
- 6 Supra note 4.



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While this paper has been developed with contributions from the IESBA's Technology Working Group, it has not been discussed or approved by the IESBA. The views expressed in the paper are those of the authors and contributors and do not necessarily reflect the IESBA's views.

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**CPA**

CHARTERED  
PROFESSIONAL  
ACCOUNTANTS  
CANADA

277 WELLINGTON STREET WEST  
TORONTO, ON CANADA M5V 3H2  
T. 416 977.3222 F. 416 977.8585  
CPACANADA.CA