Technology

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Agenda Item J.1
Technology: IAASB Focus

**Current and Future Workplan activities**

Explore how the IAASB most effectively can respond to technology via new or revised International Standards or non-authoritative guidance.

**Investigate disruptive technology trends**

Explore technology’s effect on audit and assurance – both in the current environment and in the future – in order to be prepared for technology disruption and be able to respond appropriately to support audit and assurance quality.
Technology: Actions from Digital Advisory Group

Technology in Auditing Standards
Identify opportunities for technology related standard setting activity including areas that may not be fully addressed through existing standards

Accessibility and Consumption of Auditing Standards
Investigate options to make auditing standards more digital and capable of integration into audit technologies

Encouraging the Use of Technology
Explore approaches to more clearly articulate the IAASB’s position about the value of technology in the audit

Addressing Barriers to Adoption of Technology – Data access
Examine opportunities to address data standardization requirements or opportunities with relevant stakeholders
Thought Experiments

• Designed to enable a better understanding of the impact of different technologies on achieving the audit objective and on auditing standards
• Use of scenarios to determine where gaps may exist in the standards or where standards may be helping or hindering the adoption of technology
• Scenarios covering entity-deployed technology and auditor-deployed technology – algorithms, machine learning, open banking and anomaly detection
• Participants with different backgrounds and experience to provide broad spectrum of perspectives
Matters for IAASB CAG Consideration

1. The Representatives are asked for their views on the Technology initiative activities presented today
Quantum computing for enhanced processing power

Digital twins for assessing asset performance

Data anonymisation and encryption technologies

Descriptive Analytics for Risk and Error Detection

NLP and Computer Vision for Digitising Documents

AI-Powered Advanced Analytics for Risk Detection and Risk Response

Process Mining and Computer Vision for Observing Controls Compliance

Cloud and Edge computing for flexible data storage

Digital assets (creation, trading and ownership)

Data anonymisation and encryption technologies

Maturing

Robotics Automation for Executing Repetitive Tasks

IoT Networks for Asset Monitoring and Data Generation

Smart contracts for automating transactions

Blockchain based business models and processes

Impact on/Usage within Audit and Assurance

Significant

Moderate

Low

Auditor

Entity

Both

Embryonic

Emerging

Growth

Immersive technologies (AR/VR/Metaverse) for enhanced user experience

Quantum computing for enhanced processing power

Digital twins for assessing asset performance

Behavioural Analytics and Simulations for Internal controls monitoring

Smart contracts for automating transactions

IoT Networks for Asset Monitoring and Data Generation

Significant impact on audit and assurance due to embryonic technologies and processes.

Moderate impact on audit and assurance due to growing technologies and processes.

Low impact on audit and assurance due to emerging technologies and processes.
Trends from research and outreach activities

- Consistent access to appropriate data (including for use in training AI) continues to be a barrier to greater and more widespread use of technology.

- Technology adoption lags innovation – people-related factors are a significant contributor including required skills/expertise, confidence, capacity and mindset shift.

- Artificial Intelligence and Machine Learning technologies are consistently identified as the most revolutionary and are increasingly used:
  - To support risk identification and anomaly detection.
  - To identify key terms in unstructured documents (e.g., leases, contracts).
  - To perform predictive analytics to support forward looking procedures (e.g., going concern).

- Diverse views exist on the expected impact of Blockchain and related technologies – however Digital Assets are becoming more prevalent.

- Remote working continues to influence technology innovations.
Matters for IAASB CAG Consideration

2. The Representatives are asked for their views on the technology landscape highlighted. Of particular interest is which technologies are likely to have the greatest impact on audit and assurance.
Technology adoption in audit and assurance

Person factors
- Training and skills – technology topics in audit curricula, timely tool training, availability of specialized skills
- Characteristics - Growth mindset, agility, critical thinking
- Audit firm culture that promotes technology adoption
- Confidence in audit quality value of technology
- Engagement budget and time pressures eased to support technology adoption

Task factors
- Technology and tools to complement auditor judgement (e.g. Contract analytics)
- Automation solutions to replace time intensive, repetitive tasks
- Availability of appropriate exogenous data for benchmarking and deeper insight
- Judgement framework for systematic treatment of outliers (to address information overload and algorithm aversion)

Environment factors
- Regional/Global investment in and development of technologies
- Client expectation of use of technology, support for data access and transformation journey
- Audit firm innovation investment to achieve/maintain competitive advantage
- Availability of necessary talent to develop and deploy emerging technologies
- Positive perceptions of stakeholders (inc. regulators) to audit quality benefits of technology

Source: Digital Transformation & Innovation in Auditing: Insights from a Review of Academic Research | IFAC
Forum of Firms – Polling results

To what extent are the following technologies currently used in your audits?

To what extent are the following technologies being used by audited entities?
Forum of Firms – Polling results

Where in the audit is technology most benefiting audit quality?

- Substantive testing (inc. sampling)
- Risk assessment
- Client collaboration/project management
- Journal entry testing
- Portfolio risk management
- Planning
- Going concern/Fraud
- Other

What do you think are the main barriers to adoption of technology in the audit?

- Cost of adoption (time/investment)
- Reluctance to change/Mindset
- Skills/Training
- Access to data
- Client readiness
- Perceived regulatory risk
- Lack of authoritative guidance

How might the barriers identified be addressed?

- Education (including education for regulators and standard setters)
- Audit firm/network collaboration and cross sharing
- Case studies and examples of technology in standards
- Market driven change (client and/or regulatory)
3. The Representatives are asked for their views on the barriers to adoption of technology in audit and assurance and how these might be overcome (including what actions may be taken by the IAASB)
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