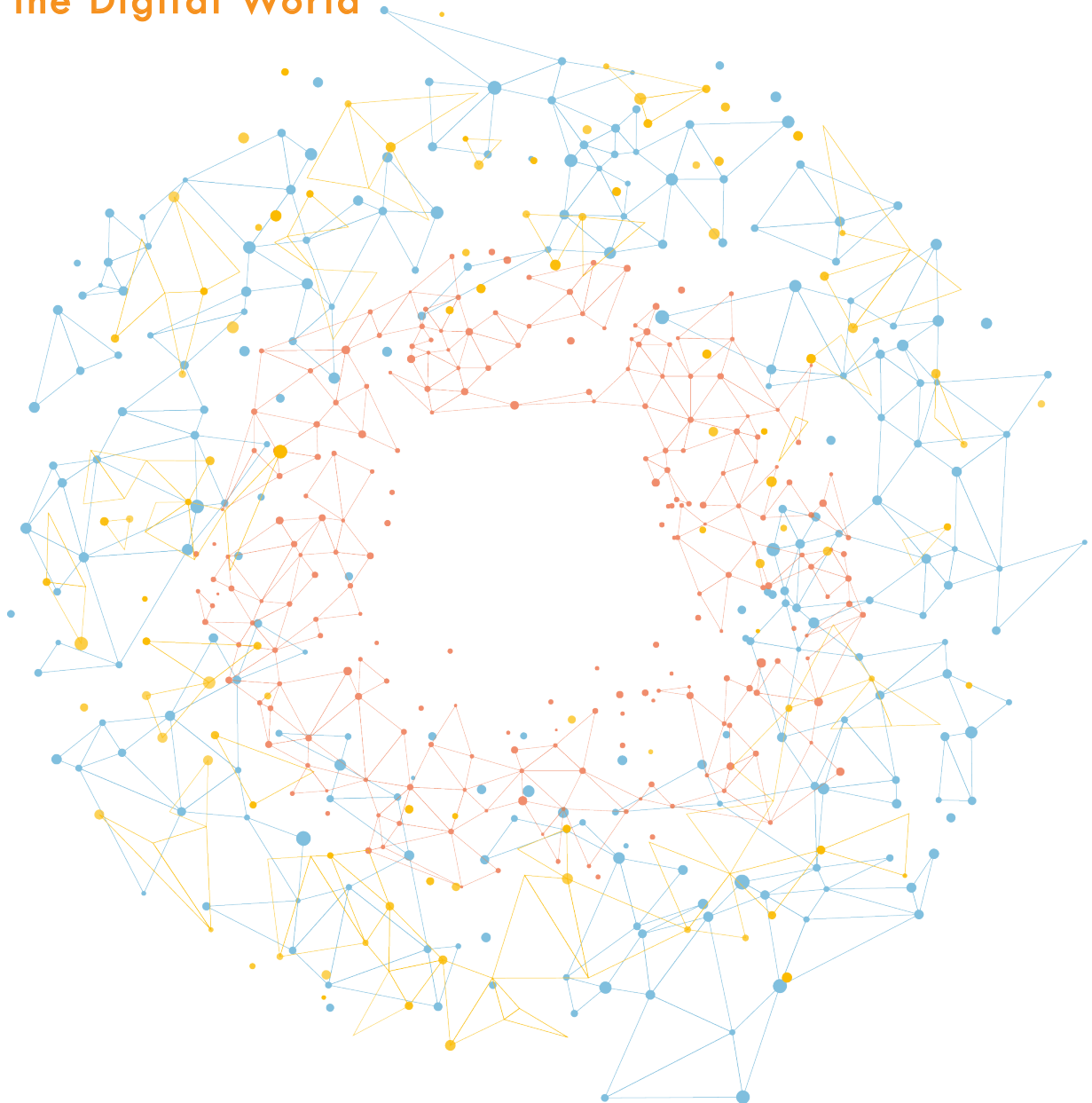




MALAYSIAN INSTITUTE
OF ACCOUNTANTS

MIA DIGITAL TECHNOLOGY BLUEPRINT

Preparing the Malaysian Accountancy Profession
for the Digital World



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Technology - A Strategic Agenda

The fourth industrial revolution (IR 4.0) brings together various new technologies which may impact organisations in a big way. These technological trends under IR 4.0 include cybersecurity, big data, cloud-computing and artificial intelligence (AI), to mention a few.

The Malaysian Institute of Accountants (MIA) realises that the accountancy profession in Malaysia needs to appropriately prepare for this emerging era of the fourth industrial revolution (IR 4.0). The Malaysian accountancy profession has to move in tandem with the global call by the International Federation of Accountants (IFAC), the global leader of the accountancy profession, for the profession to respond appropriately to technology. Rachel Grimes, the IFAC President, said that “technology will go on helping to burnish (enhance) the profession’s credentials as a trusted adviser”. She called for the profession to continue to adopt and implement emerging technologies or otherwise be left on the sidelines¹.

Given the impact of IR 4.0 on businesses and IFAC’s call to all accountants worldwide, MIA has developed the MIA Digital Technology Blueprint which aims to guide accountants in developing the action plans that are appropriate for their environment. As a result of research and consultation encompassing members in four main sectors (commerce and industry, public practice, public sector and academia), the Blueprint establishes FIVE principles to be considered in developing a digital strategy. It is imperative that accountants play a big role in digital transformation. MIA, as a developmental and regulatory body, will continue to provide support through training and education as well as guidelines where necessary.

The Blueprint sets out the following:

- Technology - a strategic agenda;
- Global landscape of technology;
- Impact of technology on the accountancy profession;
- Technology adoption by the accountancy profession in Malaysia;
- Aiming higher; and
- Moving forward with five principles.

“MIA will not bring to you the solution because it is your prerogative to decide. Instead, we will bring to you the world of digital ecosystems through awareness and training programmes”

Dr. Nurmazilah Dato’ Mahzan
Chief Executive Officer, MIA
“Managing Digital Innovation: Way Forward for
Accountancy Profession” session, MIA Conference 2017

¹ Grimes R., 2017, *The Changing Face of the Accountancy Profession*

Global Landscape of Technology

Technological advances and the unprecedented pace of digitalisation are revolutionising the business environment. Professor Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, has published a book entitled *The Fourth Industrial Revolution* in which he describes the fourth revolution is fundamentally different from the previous three, which were characterised mainly by advances in technology. New technologies combining the physical, digital and biological words will impact all disciplines, economies and industries. These technologies have great potential to continue to connect billions more people to the web, drastically improve the efficiency of business and organisations². The nine inter-related pillars of IR 4.0 are shown below:

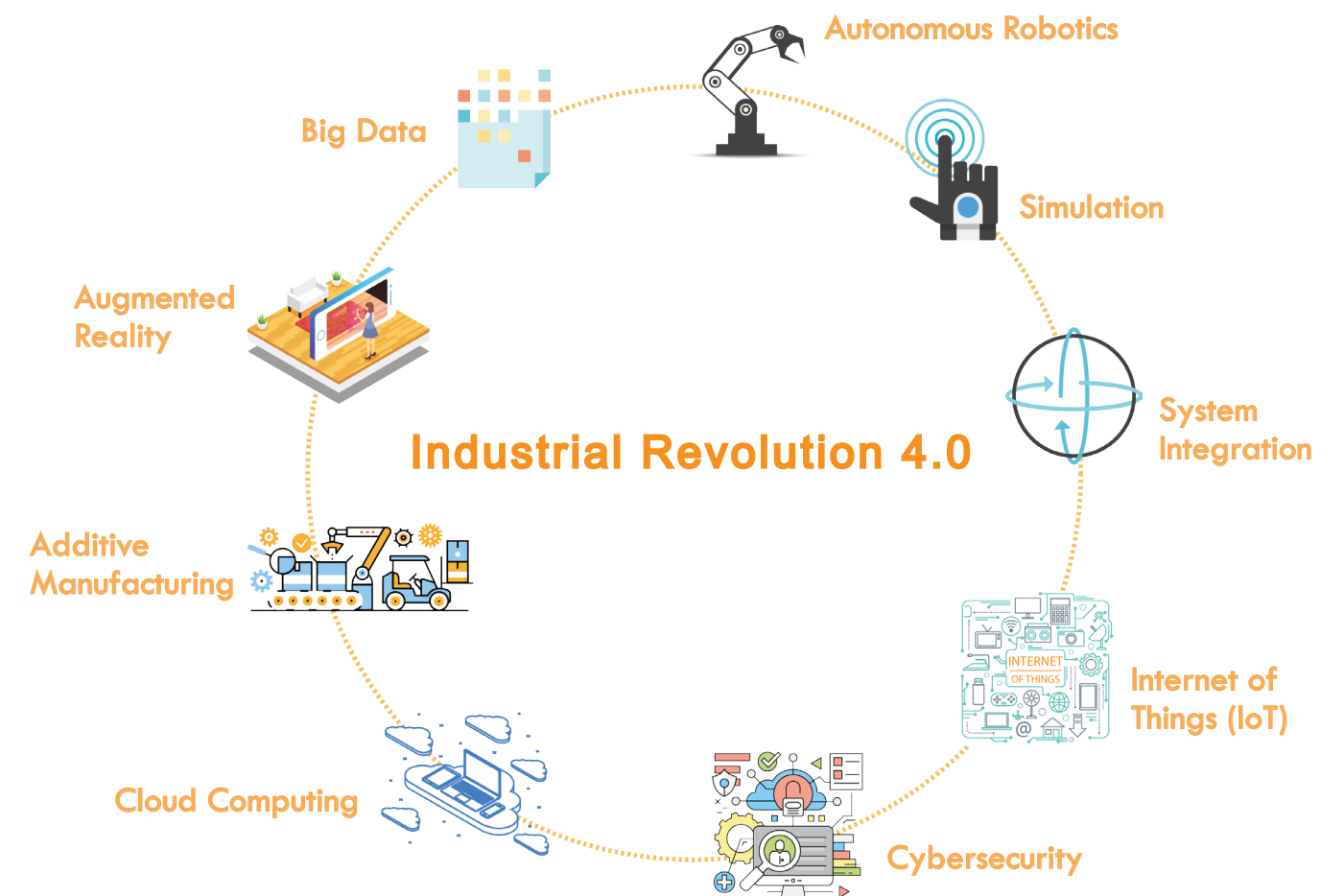


Diagram 1: Nine Inter-related Pillars of Industrial Revolution 4.0

² Marr B., 2016, *Why Everyone Must Get Ready for The 4th Industrial Revolution*, Forbes

Digital technology has proliferated across other industries. It is transforming industries and business models, changing the skills that employers need and shortening the shelf-life of employees' existing skill sets in the process. For example, technological disruptions such as robotics and machine learning — rather than completely replacing existing occupations and job categories — are likely to substitute specific tasks previously carried out as part of these jobs, freeing up time to focus on new tasks and leading the rapid change in core skill sets in these occupations. Even those jobs that are less directly affected by technological change and have a largely stable employment outlook — say, marketing or supply chain professionals targeting a new demographic in an emerging market — may require very different skill sets just a few years from now as the ecosystems within which they operate change³.

A report by the World Economic Forum (WEF Report 2016)⁴ highlighted the impact that digital technology has on business models as shown below.

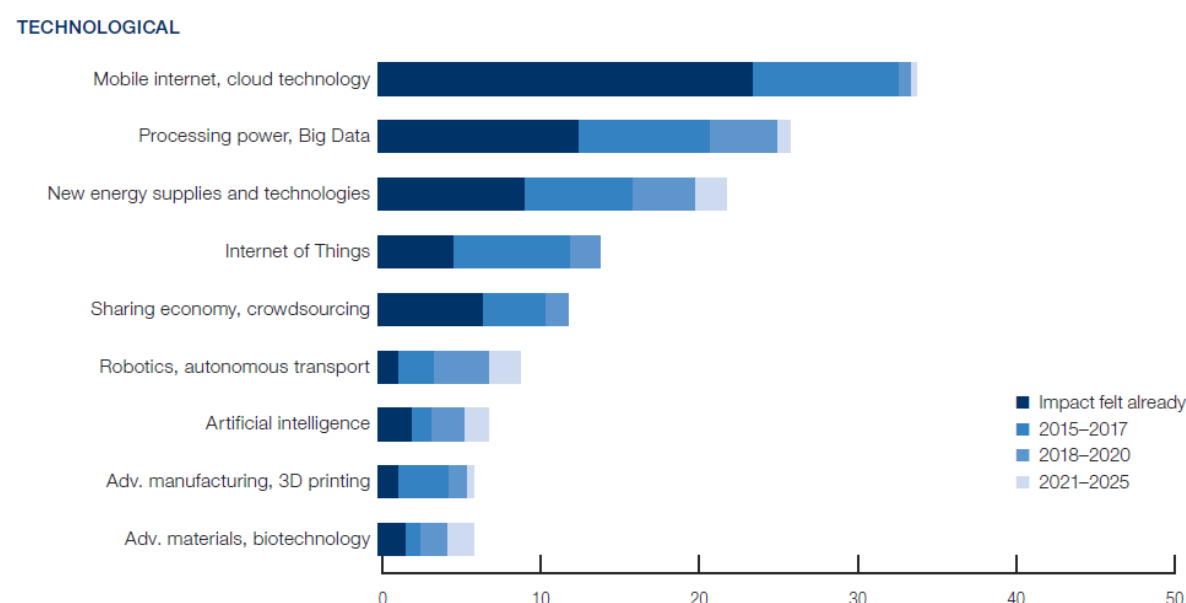


Chart 1: Impact of digital technologies on business models

Source: WEF Report 2016

The same report also found that more than a third (35%) of the desired core skill sets of most occupations will comprise skills that are not yet considered crucial to the job today due to IR 4.0.

In the 20th Annual CEO Survey by PricewaterhouseCoopers (PwC), 75% of business leaders expect advances in technology to significantly impact or perhaps even totally reshape their business⁵. In the 21st Annual CEO survey by PwC, Asia-Pacific chief executives cited availability of key skills (52%), speed of technological change (51%), terrorism (48%), cyber threats (44%), and over-regulation (42%) as their greatest worries⁶.

³ World Economic Forum, 2016, *The Future of Jobs Report*, www3.weforum.org

⁴ Ibid

⁵ PwC, 2017, *20th Annual CEO Survey*, www.pwc.com

⁶ PwC, 2018, *21st Annual CEO Survey*, www.pwc.com

“Expanding Horizons: Be Future Relevant” session, MIA Conference 2017

“While digital disruption may be front and centre now, it is only one of several megatrends which is making their presence felt...”

David Christopherson
Group CE & Founding Partner
Black Sun

“more disruption should be expected, across industries and all levels of society, and advised the profession to balance disruption with business as usual.”

Late Nazrin Hassan
Group Chief Executive Officer,
Cradle Fund Sdn. Bhd

“perceive digital disruption and tech as an opportunity to add sustainable value and to be more agile and appealing to succeeding generations to attract and retain talent..”

Siva Ramanathan
Chief Strategy Officer,
Malaysia Digital Economy
Corporation Sdn Bhd

“Managing Digital Innovation: Way Forward for Accountancy Profession” session, MIA Conference 2017

“tech is helping humans, for human betterment.”

Toh Beng Siew
Chief Financial Officer,
IBM Malaysia

“... these technologies are going to come; the machine and the AI. But it's not about the technology; it's about me and relationship with my client”

Anthony Staltari
Xero's Partner Consulting
Director For Asia

“machines would benefit humans by “freeing up time” and enabling people to be more creative and productive.”

Marc Palker
Principal,
MPP Associates, Inc



Impact of Technology on the Accountancy Profession

Given the developments outlined, a question arises on how IR 4.0 might affect the accountancy profession. The accounting profession will face three major changes — evolving smart and digital technology, continued globalisation of reporting/disclosure standards, and new forms of regulation⁷. With respect to evolving smart and digital technology, it is envisaged that accountants will use increasingly these technologies to enhance traditional ways of working. These technologies might even replace the traditional approach. Past developments such as the emergence of computers, Enterprise Resource Planning (ERP) systems and cloud computing have merely changed the accounting professional's work instead of making them irrelevant.

In his book titled *The Future of the Professions: How Technology Will Transform the Work of Human Experts*, Daniel Susskind, author and Oxford lecturer, broadly sees two different futures for the accounting and other professions, both of which rest upon technology. The first future is where professionals will use increasingly sophisticated technologies to enhance their traditional ways of working. While the second future is where technology will displace the work of traditional professionals⁸.

Based on this general observation, a detailed analysis was then performed on the accountancy profession in Malaysia based on the membership of MIA, by category of employment, to identify how these different sectors are impacted by technology. Overall, MIA membership is categorised into four sectors, namely, commerce and industry, public practice, public sector and academia. As of 30 June 2017, there are 33,294 registered members⁹ with MIA represented by sectors as follows:

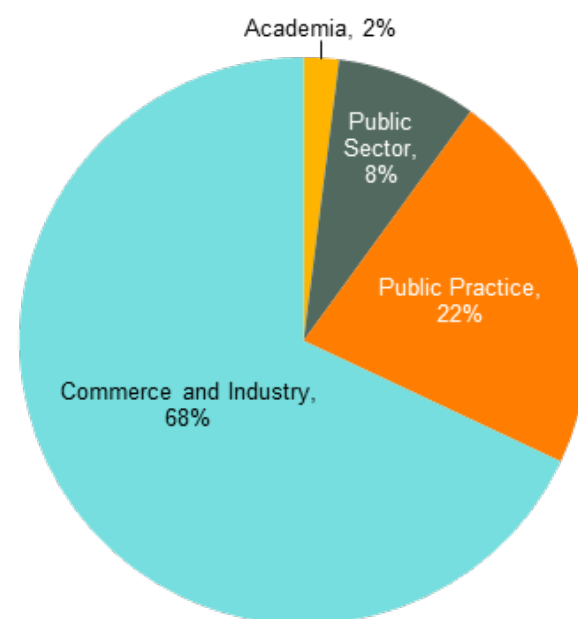


Chart 2: MIA members by employment
Source: MIA Integrated Report 2017

7 Islam M.A., 2017, *Future of Accounting Profession: Three Major Changes and Implications for Teaching and Research*
8 Harbison A., 2017, *The end of the accounting profession as we know it?*
9 MIA, 2017, *Integrated Report 2017*

Members in commerce and industry

Members in commerce and industry generally comprise those who are performing the role of a Chief Financial Officer (CFO) or working in a finance function of listed companies as well as small and medium entities (SMEs). The rapid pace of digital and technology development changes the traditional CFO role and finance function. These are evidenced as follows:

- A global survey of 1,500 finance executives by Oxford Economics and SAP (Oxford and SAP Survey)¹⁰ found the following:
 - 88% of respondents reported that the CFOs in their organisations are becoming more involved in strategic decision-making outside of finance.
 - One of the three areas identified as increasingly critical for CFOs is automation to drive efficiency and nearly 73% of survey respondents agreed that automation is improving the finance function's efficiency within their organisation.
 - 68% of finance leaders in the survey named cybercrime as a top business risk, and this statistic jumped to 76% for the banking industry, a highly targeted market. What this data suggest is that finance teams may need to put more resources into strategy and planning around cybersecurity.
- A survey by Financial Executives Research Foundation (FERF), in collaboration with Grant Thornton LLP found that the CFO is most often identified as the position within the organisation responsible for cybersecurity as well as reporting to the board about cybersecurity¹¹.
- As CFOs and their finance teams spend less time on manual operational tasks, it gives them more time for value-added tasks that require human judgement such as being central to helping the business capitalise on new opportunities. This is illustrated on page 12.

10 Brown T., 2017, *New Global Survey: CFOs Feel Growing Impact of Digital Economy*
11 Grant Thornton and FERG, 2015, *The CFO's Role in Cybersecurity*

Being able to analyse various aspects of route profitability including plane profitability, round trip profitability, passenger and class of service profitability and also analysing operational considerations such as route capacity, plane location and fuel demands moved Finance from being an operational processing team to one which enabled decisions on future aircraft leasing plans and which routes to fly. Deciding which individual routes in future were likely to be unprofitable and could be cancelled could now take account of the impact on the total network - sometimes an apparently non-profitable local route would feed passengers to a profitable long-haul. Aircraft leasing decisions and configuration are expensive multi-year decisions and Finance stepping into these decision making processes with forward looking analytics around passenger numbers transformed the organisations planning ability. Digital technologies, and particularly, cloud based planning and forecasting together with financial and non-financial modelling made this transformation of Finance's role possible.

Illustration 1

Source: *Business is changing more rapidly than ever*, PwC, the Association of Chartered Certified Accountants (ACCA) and Jens Madrian - CFO, Reactive Technologie

“We need business skills, analytical skills, and to be able to lead, while cultivating a mindset that will allow us to learn, unlearn and relearn,”

Chari TVT
Board and Board Audit
Committee Member,
Dialog Axiata Plc

“Importantly, CFOs need to understand and manage data science and technology better, in order to lead and strategise more effectively.”

Andrew Harding
Chief Executive,
Management Accounting
of the Association of
International Certified
Professional Accountant

“CFOs must be able to add value beyond just the traditional areas of Finance.”

Syed Ahmad Taufik Albar
Group Chief
Financial Officer,
RHB Banking Group

“However, the expectation that is changing is that CFOs are moving from being pure navigators to becoming co-pilots who are still expected to navigate,”

Charles Tilley
Chairman,
IFAC Professional
Accountants in Business
Committee

“The Future of Finance” and “Mapping Talent Development for Digital Competency Environment” sessions,
MIA Conference 2017

As the roles and expectations of CFOs and their finance teams are changing, there is a need to shift their skill set which are highlighted as follows:

- According to IFAC, if the accounting profession is to maintain its relevance at the centre of business and the public sector, professional accountants need the skills to assess and implement technology-driven initiatives so that they enable cognitive business and further transform finance and accounting functions¹².
- Ernst & Young (EY) highlighted that there are four forces disrupting finance leadership of which two of them relates to digital and data as shown below¹³.

There are **four forces** disrupting the CFO role.

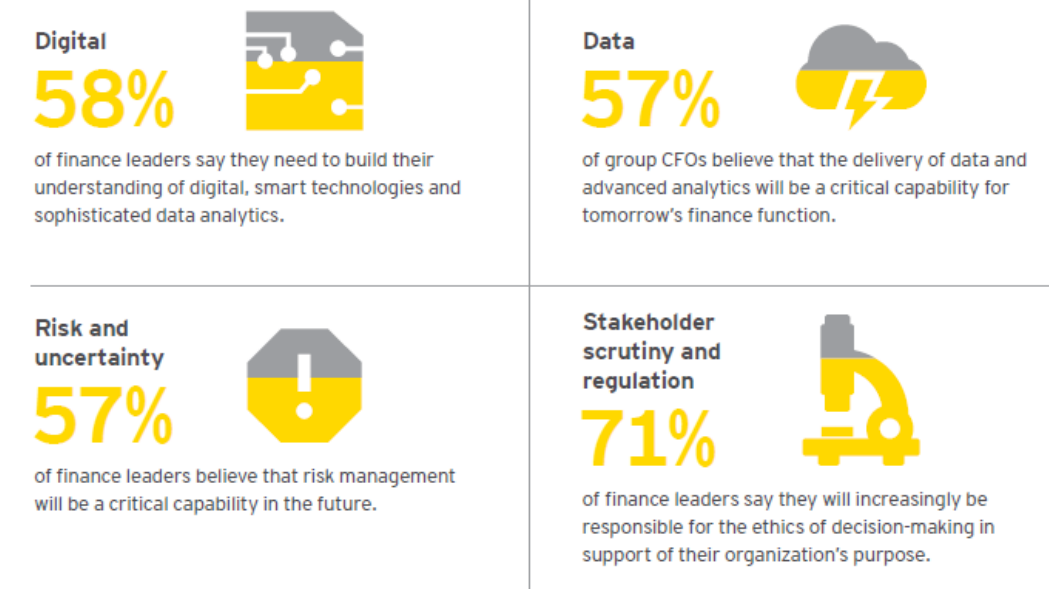


Diagram 2: Four forces disrupting the CFO role

Source: EY, 2016, *Do you define your CFO role? Or does it define you? The disruption of the CFOs DNA*

12 IFAC, 2017, *Developing A Future-Ready Profession*

13 EY, 2016, *Do you define your CFO role? Or does it define you? The disruption of the CFOs DNA*

Members in public practice

Members in public practice provide various services to their clients which includes accounting, auditing and assurance, tax consultancy as well as advisory.

Large firms

According to a recent report, the accounting profession spends approximately \$3 to \$5 billion a year on technology and it is now part of the new baseline of operational costs for the major firms¹⁴. Among others, they use technologies such as data analytics, AI and cognitive technology in performing audits.

Small and medium practitioners (SMPs)

Digital technology is not only affecting the large firms, but even more the SMPs which are as follows:

- In his article, Paul Thompson, Director – European Federation of Accountants and Auditors for SMEs said that a “significant proportion of the core work of a typical accountant and the main SMP fee revenue sources will be impacted by automation. For example, software and subscription services can now automatically collect and organise data on everything from payroll and inventory to audits and contract language, and even perform analysis on tedious tasks like bank reconciliation”¹⁵.
- Further, if this trend continues to accelerate and deepen, then it is vital that the profession accelerates its move into tasks and activities that are less susceptible to automation. One area that can be explored is advisory. Advisory involves managing others, applying expertise, and stakeholder interactions, activities that are much less susceptible to automation than data collection and processing. The crucial ingredients to advisory, that for the time being seem impervious to automation, are establishing trust and providing personalised expertise¹⁶.

“To keep abreast of digital, tax practitioners need to revamp their way of doing business, with the help of technology...”

Dr. Veerinderjeet Singh
Group Executive Chairman, Axcelsia Inc
“Tax Opportunities and Challenges in the Digital Economy” session,
MIA Conference 2017

14 Harris, S.B., 2017, *Technology and the Audit of Today and Tomorrow*
15 Thompson P., 2017, *Digital Technologies’ Implications for SMPs*
16 Ibid

- In 2014, Giancarlo Attolini, the then Chair of the IFAC Small and Medium Practices Committee asked five distinguished practitioners from the Committee and IFAC Board on what technologies have and will most impact them¹⁷. When asked about what emerging technologies will most impact their work in the next decade, some of the responses were:
 - Given the fast-paced development of technology in financial markets, the development of computer-assisted audit techniques (CAATs) for carrying out computer and system auditing will have significant implications on the work of auditors.
 - Cloud computing will allow SMPs to perform accounting and auditing procedures irrespective of location.
 - The emerging ERP software will enable access to complete databases for audit procedures. This will help modify the SMPs’ focus towards consistent analysis instead of narrow mechanical procedures.
 - Exchanging information between auditors and clients will be mainly via the cloud. This will allow SMPs to spend more time advising clients and helping them to develop strategy. Attracting new clients via digital marketing will become more streamlined.

Technologies affecting the profession

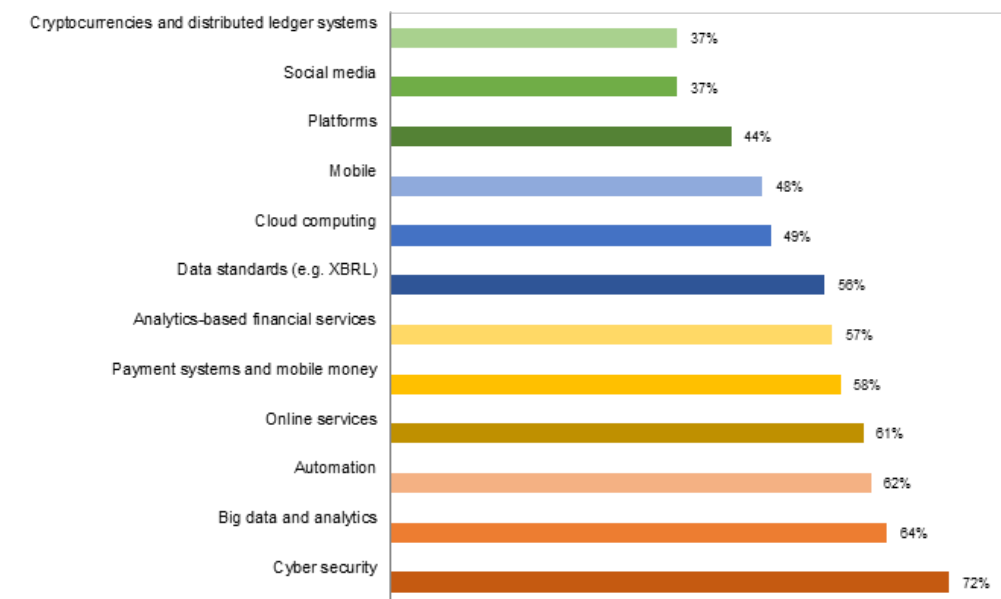


Chart 3: Technologies affecting the profession

Source: MIA Technology Adoption by the Accountancy Profession in Malaysia Survey
See Appendix for more details on the survey.

17 Giancarlo A. and Thompson P., 2014, *The Evolution of an Accounting Practice: The Impact of Technology*

Members in public sector

Current transition to accrual accounting by certain public sector entities in Malaysia

In Malaysia, the members in public sector work in various public sector entities including the federal and states governments, local authorities as well as federal statutory bodies. Certain public sector entities such as the federal and state governments are currently preparing to move to an accrual-based accounting system. Accrual-based financial information provides a vast amount of information on government resources and its future obligations. The finance function in the government has an indispensable role to play in planning future government programmes and services and assessing the sustainability of government policy, especially in light of demographic trends. It is acknowledged that by strengthening the planning and forecasting capability, the finance function stands to increase its relevance in the decision-making process¹⁸. As the finance function moves to accrual-based accounting, one can view that it will evolve to be similar to a finance function in the private sector.

Other public sector entities in Malaysia

Other public sector entities such as certain local authorities and all federal statutory bodies in Malaysia have been on accrual-based accounting for many years. The impact of digital technology on CFOs and finance functions in these organisations can be analysed from a global perspective.

Similar to those in commerce and industry, CFOs and finance functions in public sector are moving to a more strategic role which is evidenced in a survey on CFOs in the public sector by EY in the United Kingdom (UK) as follows:

- 70% of respondents say that they are spending more time on providing analysis and insight to support senior leaders and decision makers than they were five years ago.

- 90% of respondents think that the CFO should play a greater role in technology in their organisations as shown below.

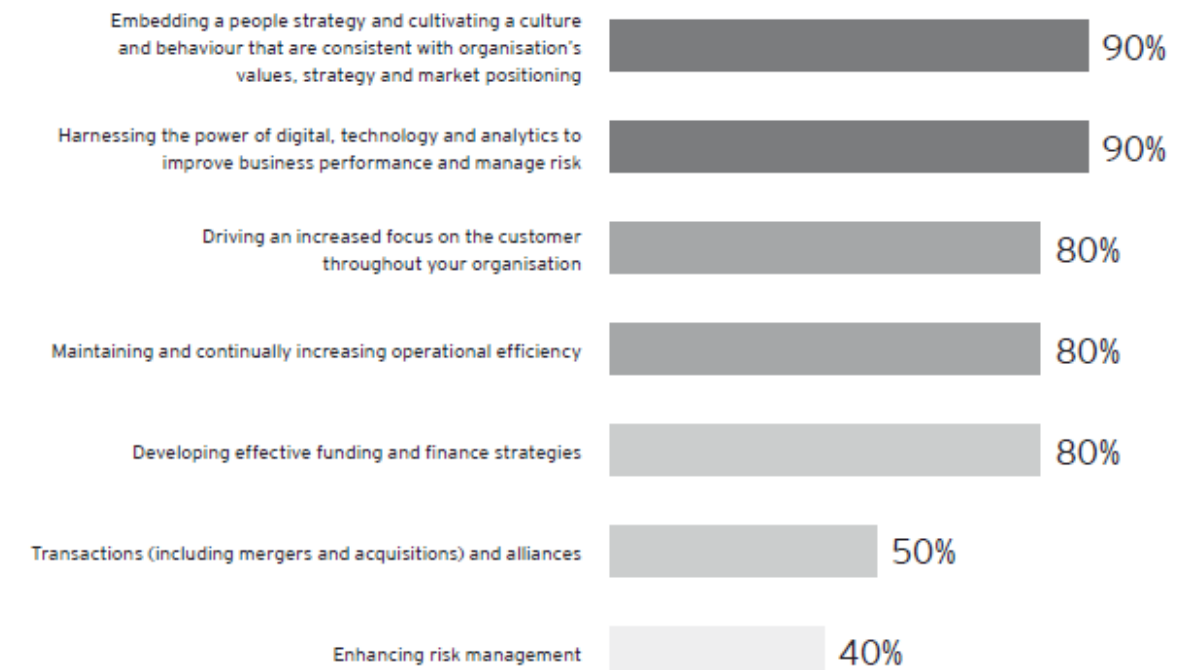


Chart 4: Factors driving growth in the coming years
Source: EY CFO Public Sector Survey 2016

- When asked about critical skills and experience needed by finance leaders in the next five years, 74% of respondents think that future finance leaders should build an understanding of digital, smart technologies and sophisticated data analytics¹⁹.

Members in academia

Members in academia play a vital role in producing future accountants as well as an active role in research and innovation to address current issues impacting the profession and to enhance existing practices in the profession.

Producing future accountants

The Report on the Strengthening of the Accountancy Profession in Malaysia (CSAP Report) identified that among the soft skills that key employers want to see in professional accountants is technology savviness²⁰ as shown below.

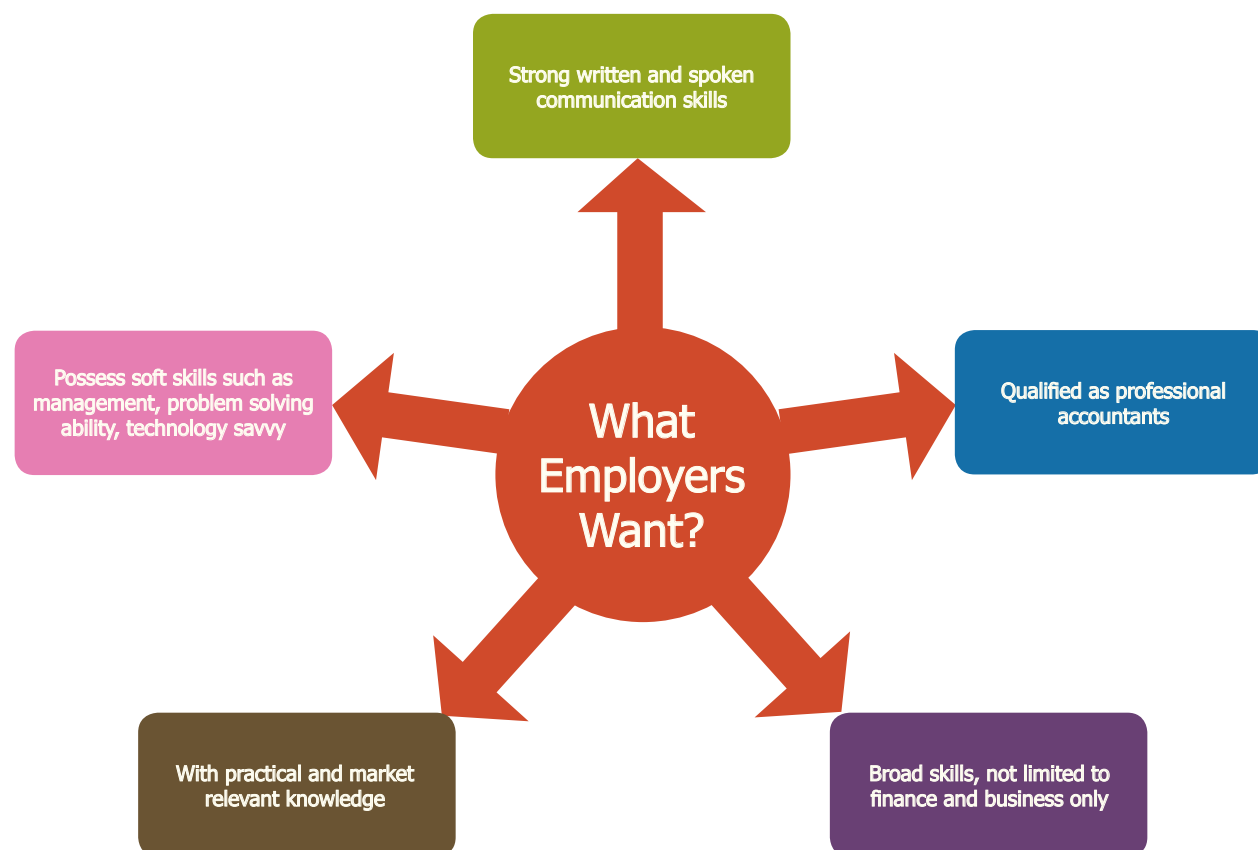


Diagram 3: What key employers want to see in professional accountants?
Source: CSAP Report 2014

²⁰ The Committee to Strengthen the Accountancy Profession, 2014, *Report on the Strengthening of the Accountancy Profession in Malaysia*

The International Accounting Education Standards Board (IAESB) acknowledged digital technology and the impact on professional accountants in its strategy. It has included a project in its work plan on information and communications technology with the objective of identifying how changes in technology across the financial reporting supply chain are impacting the information and communications technology (ICT) skills needed by professional accountants to perform their roles. If the project translates into a final standard, members in academia will then be required to ensure the standard is being complied with²¹.

Active role in research and innovation

Digital technology has enabled and will continue to facilitate academia in undertaking an end-to-end process of research which includes literature review – Google Scholar and Elsevier; storing and sharing data and codes – Databank and Slideshare, connecting to others platforms – Academia and LinkedIn and research publication – Figshare and Googlecharts.

“Universities engagement with industry and the community will help reshape the image of institutes of higher learning, not as ivory towers removed from the reality of life...”

Prof Dr. Noor Azizi Ismail
Deputy Director General of Higher Education,
Ministry of Education, Malaysia

“The roles least likely to be automated are knowledge-based management positions, which usually sit outside of shared services.”

Siti Norliza Mohd Sahar
Director, Talent & Digital Entrepreneurship,
MDEC

“Mapping Talent Development for Digital Competency Environment” session,
MIA Conference 2017

²¹ IAESB, 2017, *2017-2021 IAESB Strategy and 2017-2018 Work Plan*



Technology Adoption by the Accountancy Profession in Malaysia

Having analysed the impact of technology on the four sectors, it is critical to understand the status of technology adoption by the accountancy profession in Malaysia. MIA carried out a survey from July to September 2017 and the findings were analysed under the following areas in relation to technology:



See Appendix for detailed findings of the survey.

Existing application of technology

The survey reveals that 97% and 92% of respondents occasionally or frequently used Microsoft applications and accounting software respectively. More than 60% of respondents either occasionally or frequently used cloud applications. However, the adoption rate of other technologies such as data analytics, fintech and AI is below 25%. This finding provides an indication of the areas that can be focused on in future awareness sessions and trainings.

Importance and awareness of technology

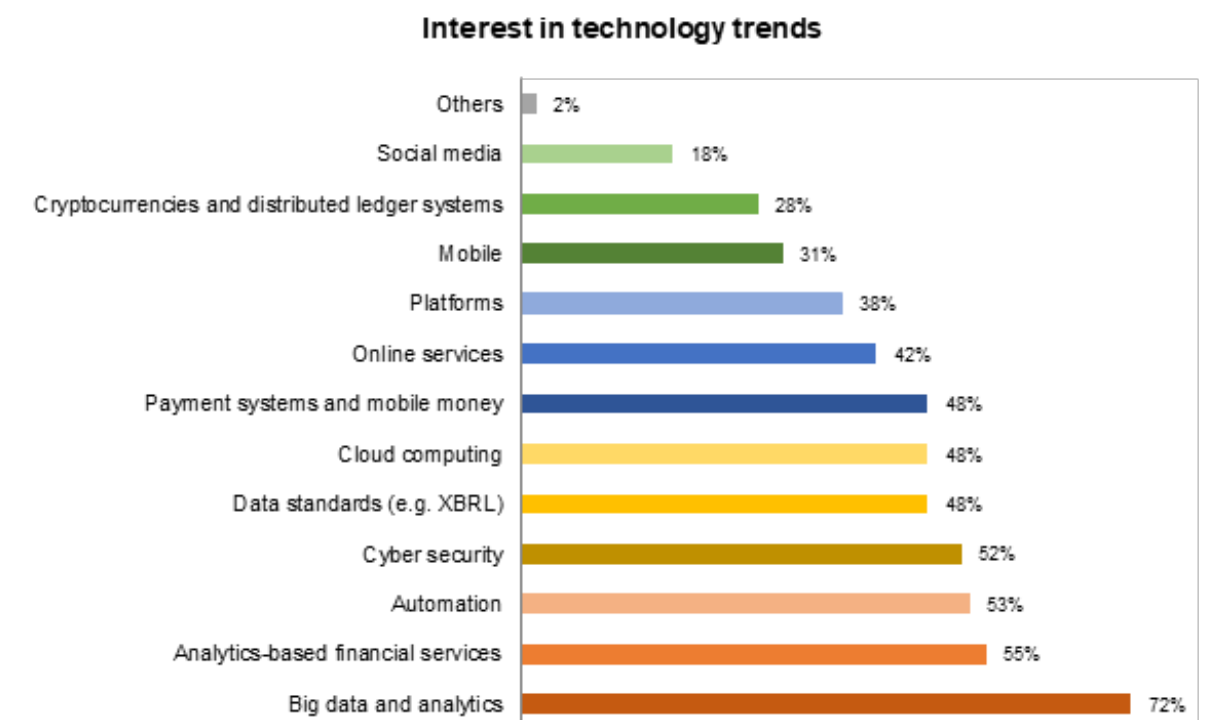
The survey found that more than 97% of members who responded feel that the application of existing and emerging technologies is either important or very important for the accountancy profession. This is consistent with the finding that 94% of respondents are interested and very interested to know more about technology. Respondents also indicated that technologies such as big data and analytics, analytics-based financial services, automation and cyber-security are at the top of their list for awareness.

Impact of technology

The survey revealed that top three technological trends affecting the profession are cyber-security, big data analytics and automation which is in line with the observation made earlier in this Blueprint. In addition, the WEF Report 2016 shows that more than 26% of respondents of its survey rated big data as the top trend impacting business models between 2015 and 2017. However, the findings above show that its adoption rate by the accountancy profession in Malaysia is low. Accordingly, data analytics should be the area that accountants need to focus on.

Drivers and barriers of technology adoption

The survey respondents acknowledged that business benefits and business demands are the top two drivers of technology adoption, while high business costs, lack of talent to utilise technology effectively and the lack of understanding of the benefits of adopting technology constitute the top three barriers. This indicates that many organisations still view the cost of technology as an expense that must be closely managed, versus an investment that delivers competitive advantage and true return on investment.

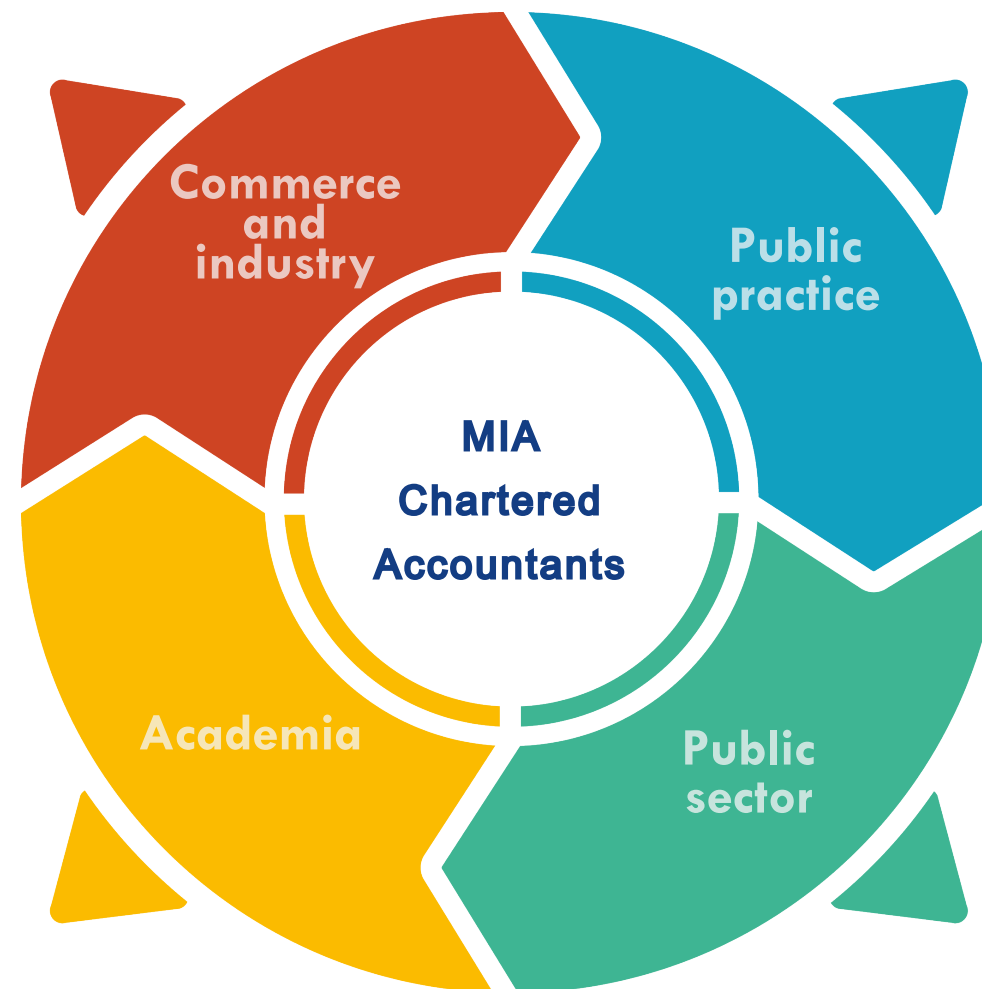


Source: MIA Technology Adoption by the Accountancy Profession in Malaysia Survey
See Appendix for more details on the survey.

Aiming Higher

Based on our understanding of the global landscape of technology, impact of technology on the accountancy profession and technology adoption by the accountancy profession in Malaysia, this Blueprint sets out where MIA aspires its members to be five years from now.

- Transition to a more strategic role as a business advisor
- Encourage adoption of digital technology in the finance function



Retain, reimagine and innovate practices and services

Leverage on digital technology to achieve an efficient and effective public financial management

Equip accounting talent pipeline with the necessary skills and knowledge to understand and leverage on the global digital economy ecosystem

Moving Forward with Five Principles

This Blueprint outlines 5 driving principles that guide the accountancy profession in Malaysia to respond appropriately to digital technology. The accountancy profession should then identify the action plans based on the principles. As a statutory body, MIA shall play a central role in supporting the ecosystem in the implementation of the principles. The principles are:

	ACCOUNTANTS	MIA
PRINCIPLE 1 Assess digital technology trends	Be aware of digital technology trends and assess how they affect their role.	Provide awareness of digital technology trends and assessment on how they affect members.
PRINCIPLE 2 Identify capabilities	Identify capabilities, build differentiated skills and innovate in responding to the change.	Provide training and relevant certification for members to enhance capabilities.
PRINCIPLE 3 Harness digital technology	Capitalise on the use of appropriate digital technology.	Promote digital technology adoption and explore collaboration with relevant stakeholders.
PRINCIPLE 4 Funding	Determine funding needs and identify financing options.	Engage with policymakers on incentives and grants.
PRINCIPLE 5 Governance	Adhere to good governance practices through adoption of industry and regulatory requirements.	Develop and advocate good governance in digital technology usage and adoption.

The Blueprint sets forth the direction for the profession in Malaysia in responding to digital technology over the next five years. To remain relevant, the profession must be cognisant of the changing needs of the business environment and leverage on digital technology to its advantage.

Preparing the Malaysian accountancy profession for the digital world is not a short-term process. The Blueprint will serve as a reference tool for MIA in developing its annual action plan to reshape the profession. The Institute's action plan requires collaborative efforts across multiple stakeholders and organisations to support implementation.

By thinking ahead, the profession can take a more proactive rather than reactive stance to prepare for the digital world. Digital technology engenders opportunities for those professionals that are prepared to embrace them and adapt to changes.

APPENDIX

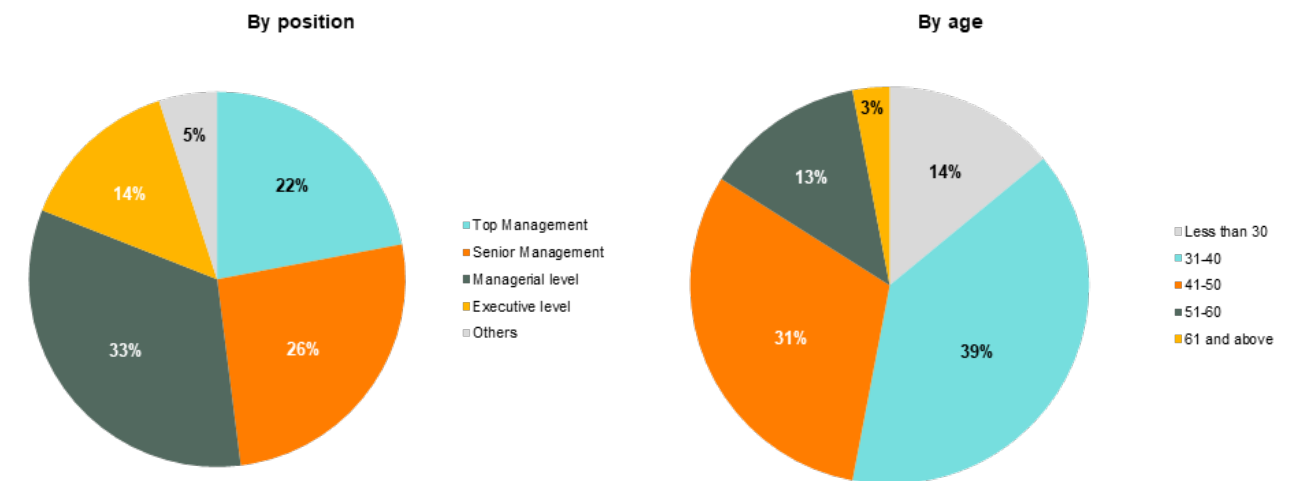
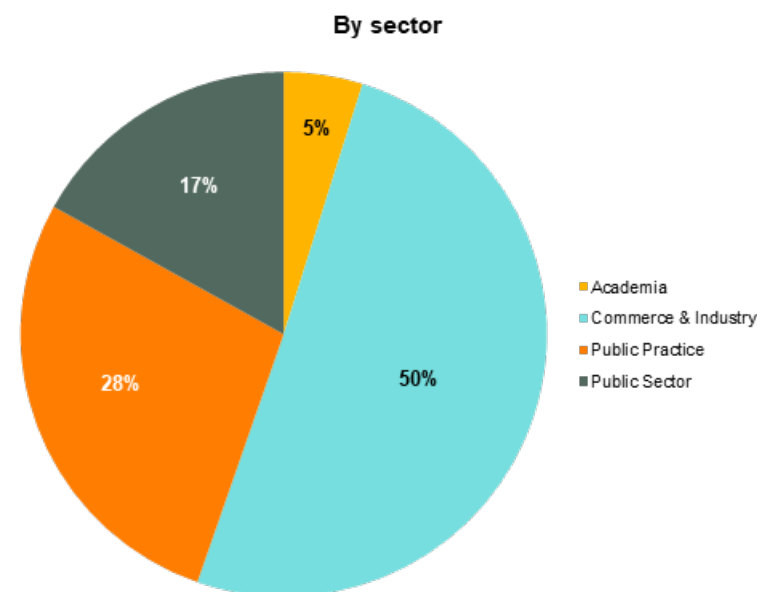
Technology Adoption by the Accountancy Profession in Malaysia Survey

The survey was conducted between July and September 2017 with over 1,052 respondents across the four sectors of the MIA membership to gain feedback on their adoption of technology on the following:

- How much members know about technology;
- The technology trends affecting members;
- Drivers and barriers in adopting technology;
- How members are applying technology in their organisation; and
- Support and training that members expect from MIA.

Profiles of Respondents

Out of 1,052 completed responses, the majority of respondents are members from commerce and industry and public practice. Almost half of the survey respondents are at top management and senior management levels while a-third of the respondents are at managerial level. This is in line with the age profile where 70% of respondents are between 31 and 50 years old.



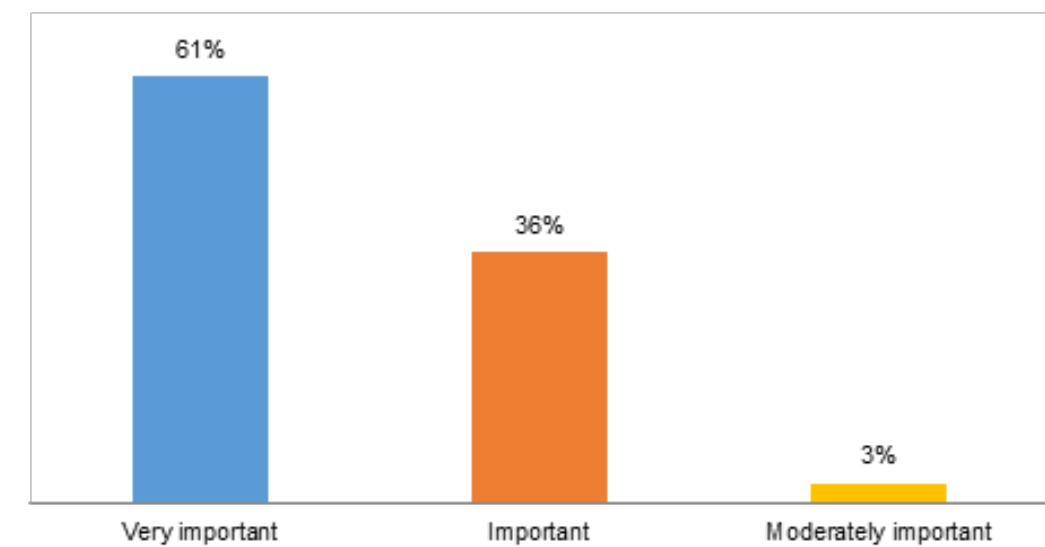
Responses

Question:

How important do you feel the application of existing and emerging technologies are for the accountancy profession?

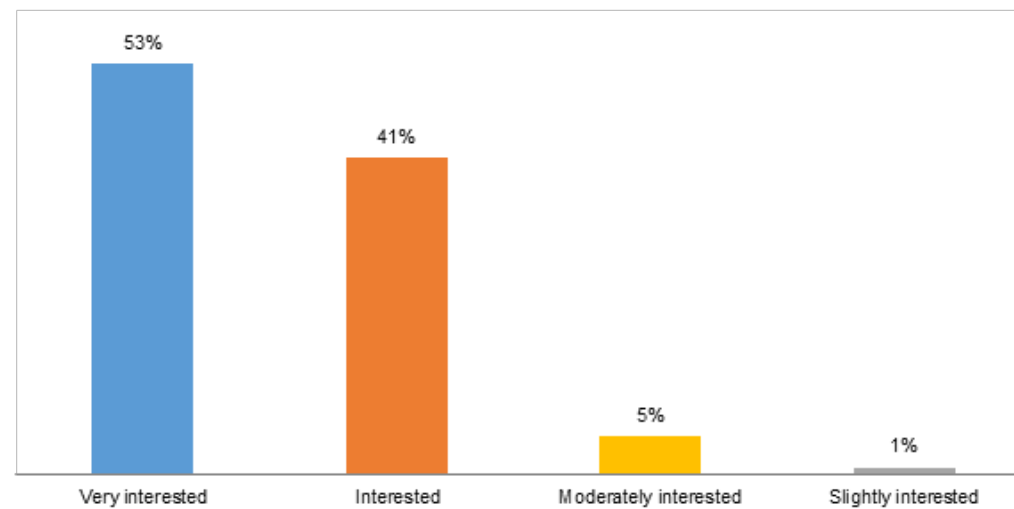
Summary of Responses:

Importance of technology

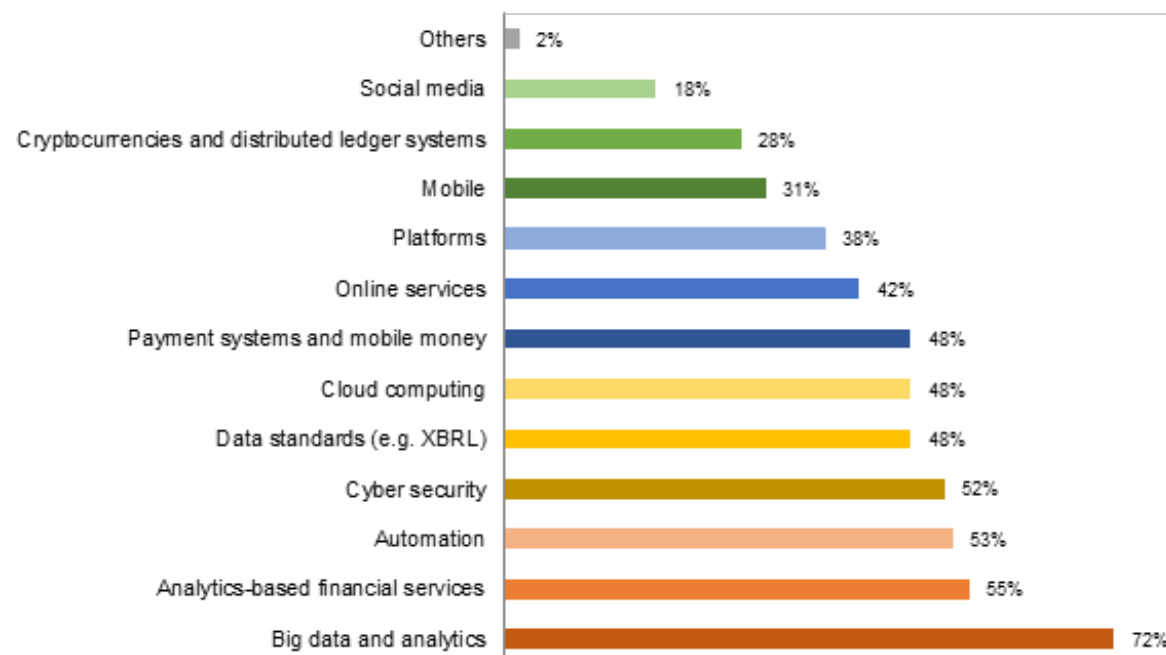


Question:

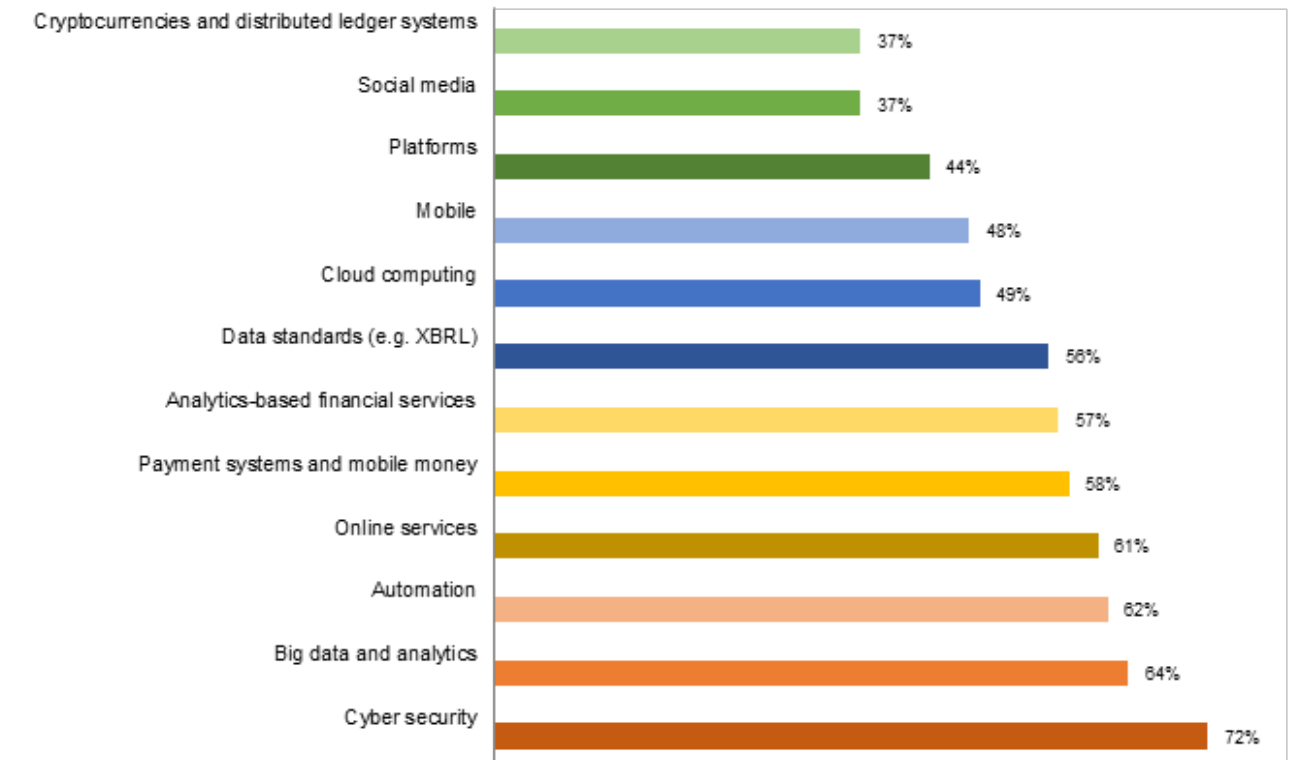
Are you interested to know more about the existing and emerging technology affecting the accountancy profession?

Summary of Responses:**Interest to know more about technologies affecting the profession****Question:**

Which of the following technology will you be more interested to know about?

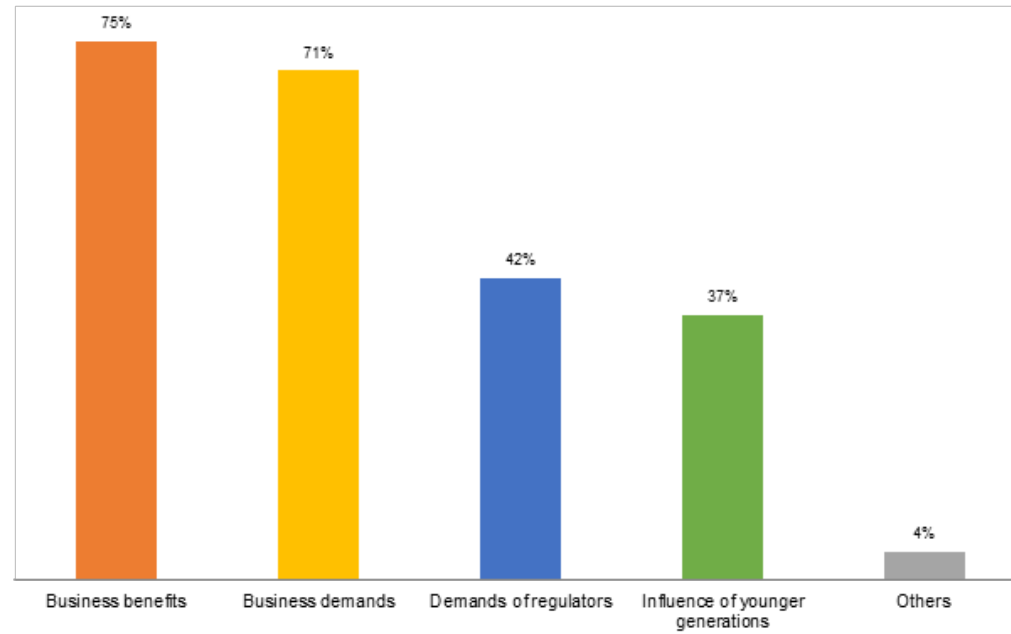
Summary of Responses:**Interest in technology trends****Question:**

In your view, which are the technology trends that affect your sector?

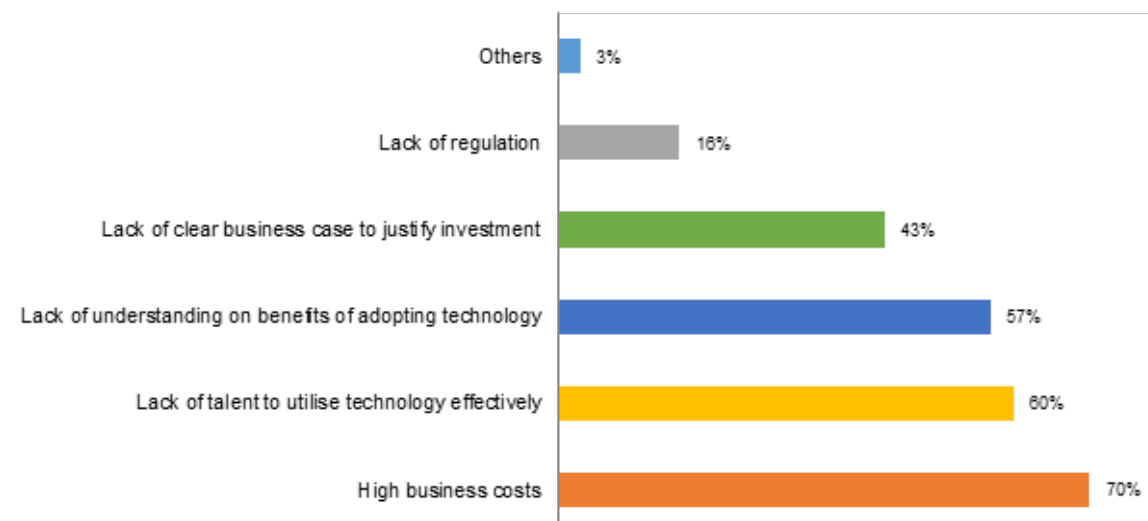
Summary of Responses:**Technologies affecting the profession**

Question:

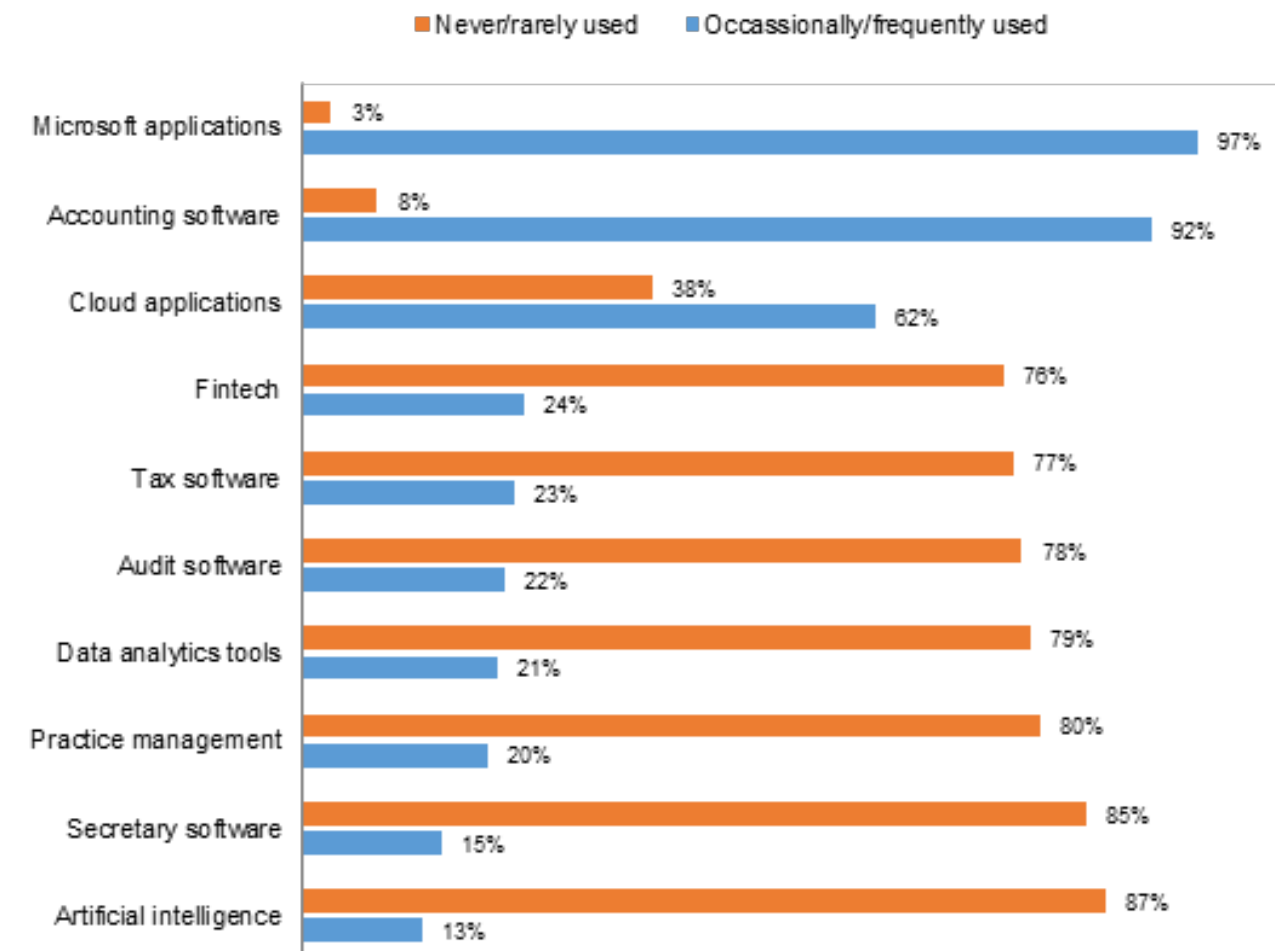
In your view what are the drivers for adoption of technology in your sector?

Summary of Responses:**Drivers of technology adoption****Question:**

In your view, what are the barriers of adopting technology in your sector?

Summary of Responses:**Barriers to technology adoption****Question:**

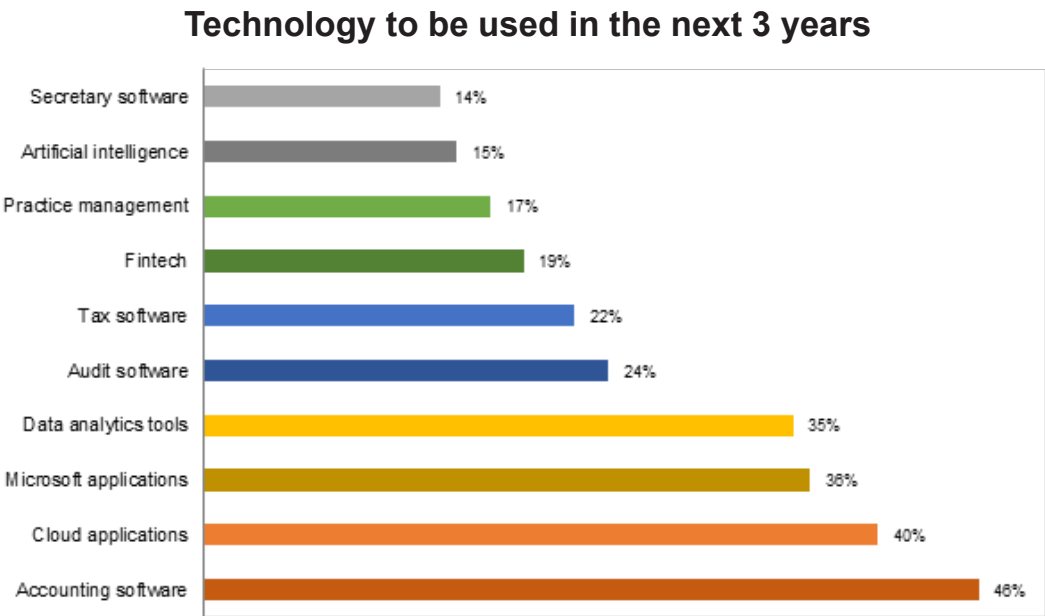
Which of the following technology do you currently use in your organisation?

Summary of Responses:**Current use of technology**

Question:

Does your organisation intend to deploy one or more of the following technology within the next 3 years in your sector?

Summary of Responses:

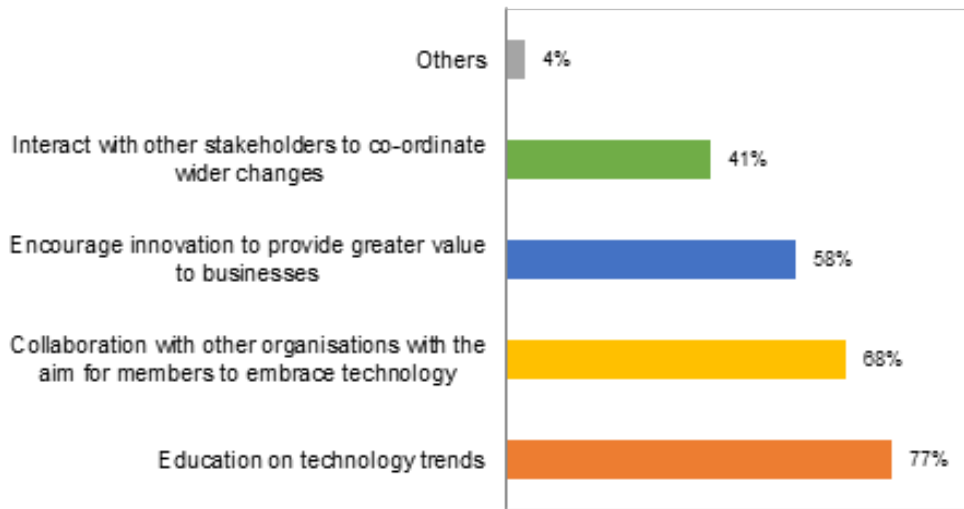


Question:

What actions can MIA take to help you navigate digital transformation?

Summary of Responses:

How MIA can help with your digital transformation



ACKNOWLEDGEMENTS

Individuals

Ong Ai Lin	Technical support and member of the MIA Digital Economy Task Force
Clarence Chan	Technical support and member of the MIA Digital Economy Task Force

Advisor

Dr Nurmazilah Dato’ Mahzan	Chief Executive Officer, MIA
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