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Accountants and
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ACCOUNTANCY FUTURES ACADEMY

Digital Darwinism: thriving in the face of technology change

FIVE MINUTES ON...

Digital Darwinism: thriving in the face of technology change



There are no questions that the role of IT is pervasive across the economy; it is a central issue that dominates short, medium and long-term strategic discussions across all businesses. The best businesses have their technology radars consistently switched on, scouring and weighing new and up and coming technologies that can achieve competitive value. The very notion of human nature is to improve processes and efficiency gains, and technology has in history proven it can. But can it still deliver in the future?

Why do technological advances matter? Firstly, they play a fundamental role in the creation of wealth, improve the quality of life, have an impact on economic growth, and can even transform societies. Secondly, guaranteed revenue streams are diminishing and so companies

need to continuously innovate and experimenting, and nothing is risk-free. Finally, technology is evolving really quickly and consumer and business strategies need to keep up.

This report presents the top ten technology trends that have the potential to impact the accountancy profession in the decade ahead. Some of the technology that have been identified are not new and are present today but their use is expected to have a critical impact on business, the accountancy profession and the global environment in which the accountants will operate in the future. Others are on the cusp of adoption.











Faye Chua

Head of futures research, ACCA

About the report

This report presents the top 10 technology trends that will have the potential to significantly reshape the business and accountancy landscape. It draws on extensive consultation with experts in the fields of accountancy and technology, academics, members of ACCA's Accountancy Futures Academy and the wider membership of ACCA and the Institute of Management Accountants (IMA).

Top 10 technologies

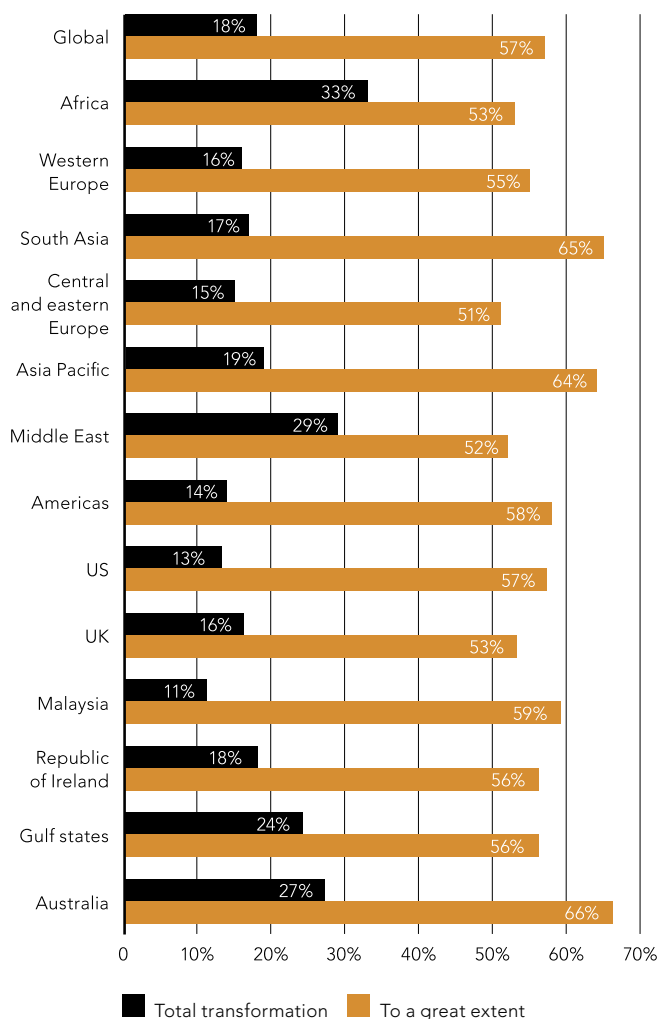
Rank	Technologies	Description
1	Mobile 	Anywhere, anytime access to broadband connectivity from a range of devices, wireless networks, operating systems, and applications
2	Big data 	The massive quantity and variety of structured and unstructured data from internet-connected systems, devices and physical objects
3	Artificial intelligence and robotics 	The broad range of machines and computer systems that demonstrate limited characteristics of intelligence
4	Cybersecurity 	Protection from new forms of cyber risk, attack, crime and terrorism caused by increased reliance on personal and professional digital devices and data
5	Educational 	Trends and tools that are changing and enhancing educational achievements, developments, techniques and possibilities
6	Cloud 	Internet-based technology resources – such as software applications, computing power and data storage – provided remotely as a service
7	Payment systems 	New, evolving and emerging internet-enabled software applications, currencies, payment platforms, devices and services
8	Virtual and augmented reality 	Technologies that use computer modelling to simulate, overlay and supplement reality and enable people to interact
9	Digital service delivery 	New technologies used to provide online, interactive, self-service, business processes, software and services
10	Social 	Technologies that support social interaction and are enabled by communications technology, such as the internet

Source: ACCA and IMA members' survey

Accountants and the finance function are part of the connected world. This is changing the ways in which they communicate and collaborate with those in the businesses they work with and for, and shaping new working patterns. It is providing accountants with the opportunity to automate and de-skill time-consuming and repetitive work and thereby focus on higher-value work, and by doing so consolidate their role as strategic business partners.

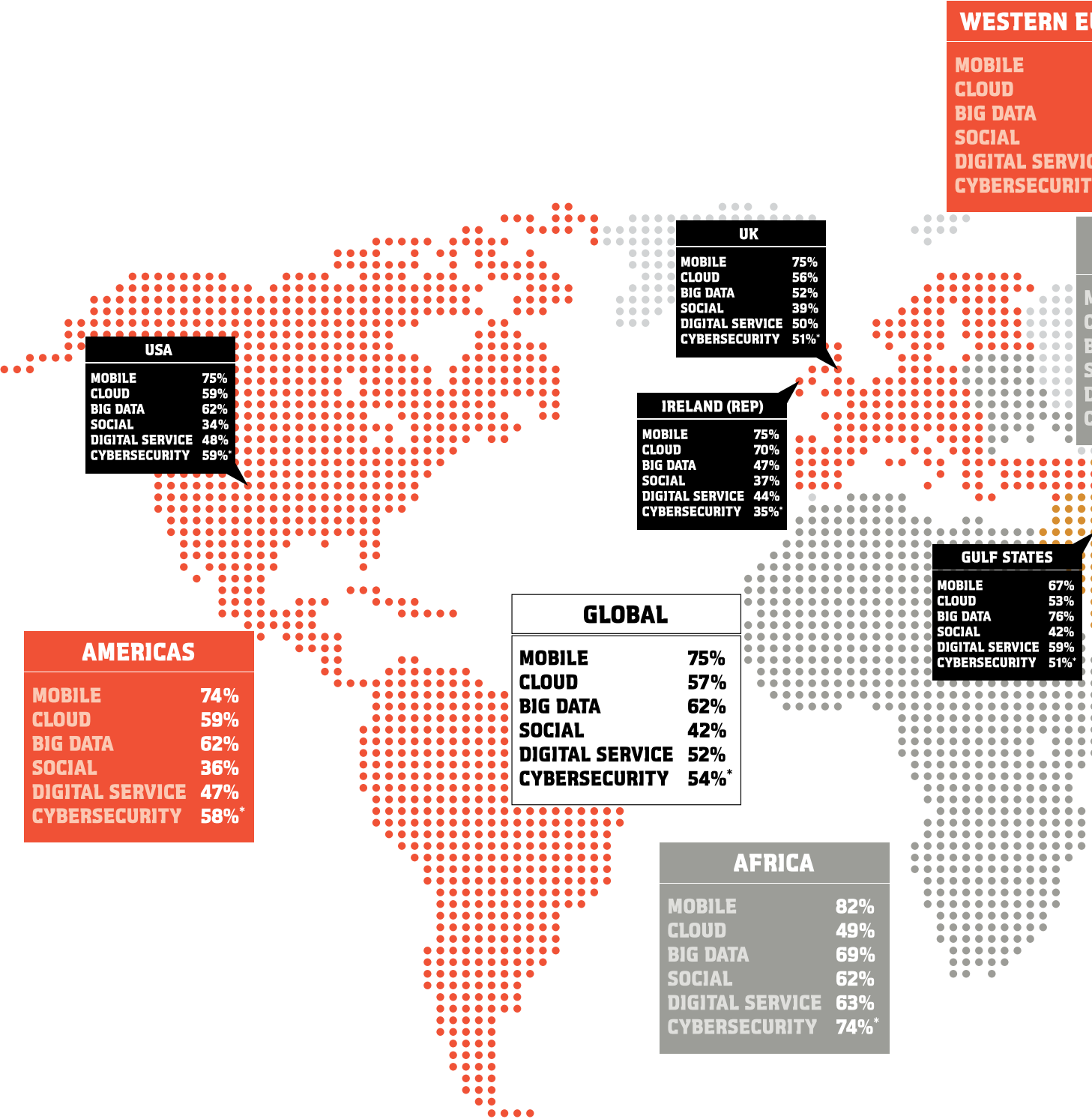
It is impossible to predict the future with any degree of certainty. Nonetheless, by keeping informed about technologies as they evolve, considering new technologies as they emerge, and then assessing their implications for finance professionals and those they serve and support, accountants can be prepared to minimise the burdens and maximise the benefits. In this way the profession can exploit technology in the future as effectively as in the past.

Extent of developments in technology will transform the way accountants and the finance function do business over the next ten years (world regions)



For the full report: www.accaglobal.com/futures

Summary: Impact of the six technologies on business in the years ahead



* Percentage of respondents concerned with risk associated with cybercrime

EUROPE

73%
58%
51%
38%
CE 48%
Y 46%*

CENTRAL AND EASTERN EUROPE

MOBILE 67%
CLOUD 45%
BIG DATA 63%
SOCIAL 27%
DIGITAL SERVICE 39%
CYBERSECURITY 27%*

SOUTH ASIA

MOBILE 67%
CLOUD 37%
BIG DATA 77%
SOCIAL 35%
DIGITAL SERVICE 48%
CYBERSECURITY 65%*

ASIA PACIFIC

MOBILE 84%
CLOUD 66%
BIG DATA 76%
SOCIAL 63%
DIGITAL SERVICE 71%
CYBERSECURITY 56%*

MIDDLE EAST

MOBILE 63%
CLOUD 51%
BIG DATA 74%
SOCIAL 35%
DIGITAL SERVICE 54%
CYBERSECURITY 44%*

MALAYSIA

MOBILE 87%
CLOUD 49%
BIG DATA 63%
SOCIAL 49%
DIGITAL SERVICE 65%

AUSTRALIA

MOBILE 95%
CLOUD 90%
BIG DATA 91%
SOCIAL 87%
DIGITAL SERVICE 88%

'COMPANIES HAVE TO CONSTANTLY THINK HOW THEY CAN EXPLOIT TECHNOLOGY OTHERWISE THEY WILL SOON FIND THEMSELVES IRRELEVANT.'

VANDANA SAXENA PORIA OBE,
CEO, GET THROUGH GUIDES

'ACCOUNTANTS ALREADY KNOW HOW TO USE TRADITIONAL ANALYTICS AND BI TOOLS TO EXPLORE KNOWN, UNKNOWN. NOW THEY NEED TO GET INVOLVED IN ANALYSING BIG DATA SO THAT THEY CAN NAVIGATE THE UNKNOWN UNKNOWN.'

ROBIN GILTHORPE, CEO,
TERRACOTTA

'IN 5-10 YEARS, AI WILL BE CONSIDERED THE NORMAL WAY TO CARRY OUT TASKS AND DECISION-MAKING AND THE TREND CAN ONLY ACCELERATE.'

ANDREW ANDERSON, CEO,
CELATON

'THE FINANCE PROFESSION WILL REMAIN ABSOLUTELY PIVOTAL AS ADVISERS.'

DAVID SMART, CROSS SELL
MANAGER, SAGE PAGE

Digital Darwinism – the shifting business landscape

The world has entered what some regard as an era of 'digital Darwinism' where technology is evolving too fast for many individuals and organisations to adapt to the changes. As the rate of change accelerates, people, businesses and entire countries are struggling to stay aware of the latest technological developments, let alone understand them well enough to exploit them – and the rapid rate of change is unlikely to slow down.

Top priorities for the next decade are to apply extraction tools for mining business intelligence, data modelling and analysis, and knowledge management: all are vital for exploiting big data. Also needed are new skills for change and project management, new approaches to funding and product development and leveraging technology to attract, develop and manage talent.

AN ERA OF OPPORTUNITY

Accountants have always exploited emerging technologies to help them to complete their tasks more accurately, quickly or simply: from the incised clay tablets of the Sumerian scribes, through the adding machines of the 19th century, to the calculators and computers of the 20th century. All these technological developments were simple by comparison with the myriad technologies that are now rapidly reshaping the worlds of business and accountancy.

Skills needed for next decade

Rank	Skill
1	Knowledge of data extraction tools in the mining of business intelligence
2	Use of tools that support data modelling and analysis
3	Knowledge management skills
4	Project management skills
5	Change management skills
6	Knowledge of new approaches to funding and product development
7	Ability to use technology to attract, develop and manage talent
8	Knowledge of emerging payment platforms
9	Better working knowledge of connectivity and IT security
10	Knowledge on how applications integrate
11	Understanding of and ability to utilise client portals
12	Ability to convey core skills and competencies through media channels

Source: ACCA and IMA members' survey

As valued advisers to the organisations with and for whom they work, accountants must maintain awareness of a broad range of technologies and trends. Finance professionals need to consider the challenges and opportunities created by new and emerging technologies, then use their analytical and problem-solving skills to assess their potential influence, in order to provide the insights needed to guide and set vision and direction, as well as tactical and strategic business decisions. This will ensure that businesses reap the true benefits.

ACTION PLAN FOR THE PROFESSION

The direction of travel is clear; the details less so. The profession must anticipate the changing needs of business. It must supplement its technical expertise with a broad understanding of the application of existing and emerging technologies and the new skills that they demand. Accountants and finance professionals must be open to the changes created by big data, cloud, mobile and social platforms, and face up to the demands of cybercrime, digital service delivery and artificial intelligence.

Key response strategies are:

- Explore new ways of establishing costs
- Prepare for changing working patterns
- Keep watching brief on many emerging technologies
- Assess risks and address security
- Plan timing for adoption and implementation
- Develop change management skills
- Enhance data analysis and interpretation skills
- Recruit digital natives
- Establish a broader and more strategic remit for finance
- Understand technology market conditions/planning/risks
- Explore potential of process automation
- Introduce better controls and education to enforce governance
- Use technology to add value
- Anticipate new regulation
- Learn enough to know which questions to ask to gain insights
- Adapt to meet changing business needs
- Apply human brakes and overrides
- Manage expectations of internal and external customers.

By thinking ahead, the profession can take a more proactive than reactive response to digital technologies. By embracing the new normal, the profession can actively reshape it, rather than simply being reshaped by it.

ACCA wishes to thank the following global experts for their contribution

Capgemini – Simon Short MSc MBA, FBCS, vice president and CTO (UK) and head of the digital services business unit



Celaton – Andrew Anderson, CEO



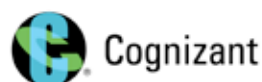
CIL – Marie McCrea, partner

Cognizant – Ted Shelton, vice president consulting, Customer Solutions Practice



EON Reality – Mats W. Johansson, co-founder, president, and CEO

Fathom Applications – Daniel Walls, director and co-founder



Fast Future – Rohit Talwar, global futurist and CEO

Florida Atlantic University – Robert Pinsker, assistant professor of accounting



Get Through Guides – Vandana Saxena Poria OBE, CEO

InterSkan – Pang Chiang, founder and managing director



Intuit – Chris Davey, Group product manager, Global Accountant Offerings



Lesley Meall – freelance journalist and editor

m-hance – Helen Samworth, product manager

The Millenium Project – Dr José Luis Cordeiro, director



Nyenrode Business Universiteit – Professor dr Désirée Van Gorp, associate dean of degree programs



Proxima Group Ltd – Richard Jones, chairman

Sage Pay – David Smart, cross sell manager



Seidenberg School of CSIS at Pace University – Dr Darren Hayes, CIS program chair

Terracotta – Robin Gilthorpe, CEO



Thomson Reuters – Andrew Flanagan, managing director, Digita

Trusteer – Dana Tamir, director of enterprise security

University of Salamanca – Juan Manuel Corchado, full professor with chair



Zscaler, Inc – Kapil Raina, director product marketing

About ACCA

ACCA (the Association of Chartered Certified Accountants) is the global body for professional accountants. We aim to offer business-relevant, first-choice qualifications to people of application, ability and ambition around the world who seek a rewarding career in accountancy, finance and management.

Founded in 1904, ACCA has consistently held unique core values: opportunity, diversity, innovation, integrity and accountability. We believe that accountants bring value to economies in all stages of development. We aim to develop capacity in the profession and encourage the adoption of global standards. Our values are aligned to the needs of employers in all sectors and we ensure that, through our qualifications, we prepare accountants for business. We seek to open up the profession to people of all backgrounds and remove artificial barriers, innovating our qualifications and their delivery to meet the diverse needs of trainee professionals and their employers.

We support our 162,000 members and 428,000 students in 173 countries, helping them to develop successful careers in accounting and business, with the skills needed by employers. We work through a network of 89 offices and centres and more than 8,500 Approved Employers worldwide, who provide high standards of employee learning and development.

About IMA®

IMA® (Institute of Management Accountants), the association for accountants and financial professionals in business, is one of the largest and most respected associations focused exclusively on advancing the management accounting profession. Globally, IMA supports the profession through research, the CMA® (Certified Management Accountant) program, continuing education, networking, and advocacy of the highest ethical business practices. IMA has a global network of more than 65,000 members in 120 countries and 200 local chapter communities. IMA provides localised services through its offices in Montvale, N.J., USA; Zurich, Switzerland; Dubai, UAE; and Beijing, China.

The Accountancy Futures Academy

The Accountancy Futures Academy contributes to ACCA's research and insights work with powerful visions of the future. It provides a platform to look forward, to tune into the emerging trends and discussions in the global business and policy spheres and the latest reforms facing the world of finance.

By looking to the future it helps the profession stay at the cutting edge. The Academy's work fosters fresh thinking and innovative discussions, identifies the barriers to and facilitators of tomorrow's successes, and identifies the potential strategies that will enable business and finance to navigate the choppy waters that lie ahead.

www.accaglobal.com/ri