SAICA
THE SOUTH AFRICAN INSTITUTE OF CHARTERED ACCOUNTANTS
develop.influence.lead.

IFR
INSTITUTE FOR FUTURES RESEARCH
UNIVERSITEIT·STELLENBOSCH·UNIVERSITY

REPORT

SAICA

Current and future relevance of the profession

November 2018

Three versions of this report are available:

- A short document sharing the main insights
- The full report without suggestions for further reading
- The full report with suggestions for further reading

THE RESEARCH TEAM

Doris Viljoen

Zanne Horrell

CONTACT FOR FURTHER INFORMATION

Doris Viljoen

Senior Futurist

Institute for Futures Research

Stellenbosch University

doris@ifr.sun.ac.za

TABLE OF CONTENTS

INTRODUCTION 6

SECTION 1 CA'S: WHO ARE WE? WHERE ARE WE? HOW DO WE MAKE THINGS HAPPEN? 10

1.1 Who are we? 10

1.2 Where are we? 12

1.3 How do we make things happen? (Skills, competencies and mindsets) 15

SECTION 2: SUSTAINABILITY, ETHICS AND VALUES – THE HEART OF THE PROFESSION 20

2.1 Ethics and sustainability 21

2.2 The sustainable development goals (SDGs) 25

SECTION 3: THE WORLD WE LIVE IN – SOCIAL PROGRESS, ECONOMIC DEVELOPMENT AND ENVIRONMENTAL RESPONSIBILITY 27

TREND: The global rise of education technologies 29

RISK: Inadequate and/or sub-standard education and skills development 30

TREND: The changing shape of health and wellbeing on a global scale 31

TREND: Belonging and identity – where to from here? 32

RISKS: Growing income and wealth disparity and profound social instability 33

TREND: The right to dignity 34

TREND: Diversity in the workplace 35

TREND / RISK: Privacy in the age of transparency and the data wars 36

TREND: New economic models 37

TREND: Calls for a universal basic income 38

TREND: The shifting shape of tax 39

RISK: Significant escalation in organised crime and illicit trade 40

RISK: The demise of South Africa's competitiveness 41

TREND: Investor and societal expectations 42

RISK: Limited resources 43

TREND: The circular economy 44

RISK: Failure to mitigate climate change 45
RISK: Biodiversity loss and ecosystem collapse 46
RISK: The end of water as we know it 47
RISK: The shift to renewable energy sources – too little too late? 48
TREND: The rise of the conscious consumer 49
TREND: The ratings society 50
SECTION 4: TECHNOLOGY – AN ENABLER OR A THREAT? 52
4.1 Technology as an enabler 52
4.2 Technology as a threat 54
SECTION 5: THE ROLE OF THE PROFESSION – MEASURE, REPORT, INTERPRET AND ASSURE 57
5.1 The rules of the game 57
5.2 The yardsticks and the storyboards 59
5.3 The business of audit and the audit of business 61
5.4 Interpretation through integrated thinking 65
CONCLUDING REMARKS 68
LIST OF SOURCES 69

LIST OF FIGURES

Figure 1: Report sections linked to SAICA topics 7
Figure 2: How the sections of the report 'hang together' 9
Figure 3: South African population pyramids, 2017 and 2037 11
Figure 4: Top skills required by 21st century leaders 15
Figure 5: The minimum number of years it takes to qualify as a CA in South Africa (SAICA, 2018) 18
Figure 6: Reasons for an increased focus on ethics and moral rationality in organisations (adapted from Paine, 2003) 21
Figure 7: Overlapping contextual environments, trends and uncertainties (adapted from Turner) ... 27
Figure 8: Vulnerability of selected existing jobs to automation (Source: Compiled from www.willrobotstakemyjob.com) 54
Figure 9: The future shape of the finance function (CGMA, 2018) 64
Figure 10: The knowledge hierarchy (Spies, 2017) 66
Figure 11: Summary of issues covered in this report 68

INTRODUCTION

SAICA commissioned the IFR to compile a report based on a scan of recent and relevant public domain information, covering topics believed to be impacting the current and future relevance of the profession.

The audience

The intended audience for this report is the members of SAICA.

According to the August 2018 membership statistics, this is a large and varied audience. Roughly 36 000 of the over 44 000 members live and work in South Africa (Membership Statistics, 2018) while the rest are abroad. Based on the constituency breakdown, it has been derived that most CA's find themselves in some finance-related role outside of public practice (39%). These roles include all levels and skills, from accountants to financial directors to internal auditors. The second largest grouping relates to those who are in public practice (30%), with business management, 'other', retirees, government and education making up the rest of the numbers.

One of the distinctive features of the CA profession is that it acts as a springboard into the world of commerce. With this in mind we have made the following assumptions about SAICA's members:

- The industries with whom these members are familiar with, either directly or via audit engagements, covers the full spectrum of modern day commerce.
- The members include a wide variety of specialists (such as tax specialists, forensic, technology and reporting specialists) as well as generalists.
- CA's range widely in terms of both age and seniority.

The aim of this environmental scanning report

Environmental scanning, or scanning, usually forms part of a greater foresight process within an organisation and is aimed at contributing to the development of strategy.

Within the foresight process, scanning asks the questions ***What is happening?*** and ***What can we see on the horizon?*** By asking these questions, organisations gain a better understanding of the emerging changes in the world around them.

Scanning also sets the scene for the rest of the foresight process. Once a broad understanding has been reached about what is happening, organisations should interpret these changes within their context and ask 'So what do these changes mean?' moreover, 'What types of futures could these changes lead to?' Insights gained during this process make it possible for organisations to define

which possible future they want to pursue, to develop a strategy and to take the appropriate actions towards that preferred future.

Joseph Voros, renowned for his work in Strategic Foresight, has been quoted to describe the role of scanning as follows: "In essence, the job of strategic scanning is to interrupt our daily thinking, break us out of routine views of the world and how it may be changing, and, frankly, to smack up against some of the blind spots which we all possess (Conway, 2015)".

The aim of this report is therefore to provide a broad perspective to the members of SAICA concerning a set of topics that are of current and future relevance to the profession (and going beyond the narrow focus of technology or the risk of automation found in most reports on the topic). Given the width and breadth in focus of SAICA's members, the trends in some of these topics might be more familiar to some than to others. However, we hope that we not only demonstrate the overall inter-connectedness of these topics, but that we also touch on some 'blind spots' which we trust will, in itself, provide a valuable contribution towards strategic thinking across the profession.

Structure of the report

The report is structured into 5 sections. In each section, relevant topics are discussed, potential implications for the relevance of the profession are identified and articles for further reading are listed. Figure 1 illustrates how the 5 sections of this report relate to previously identified SAICA topics of interest.

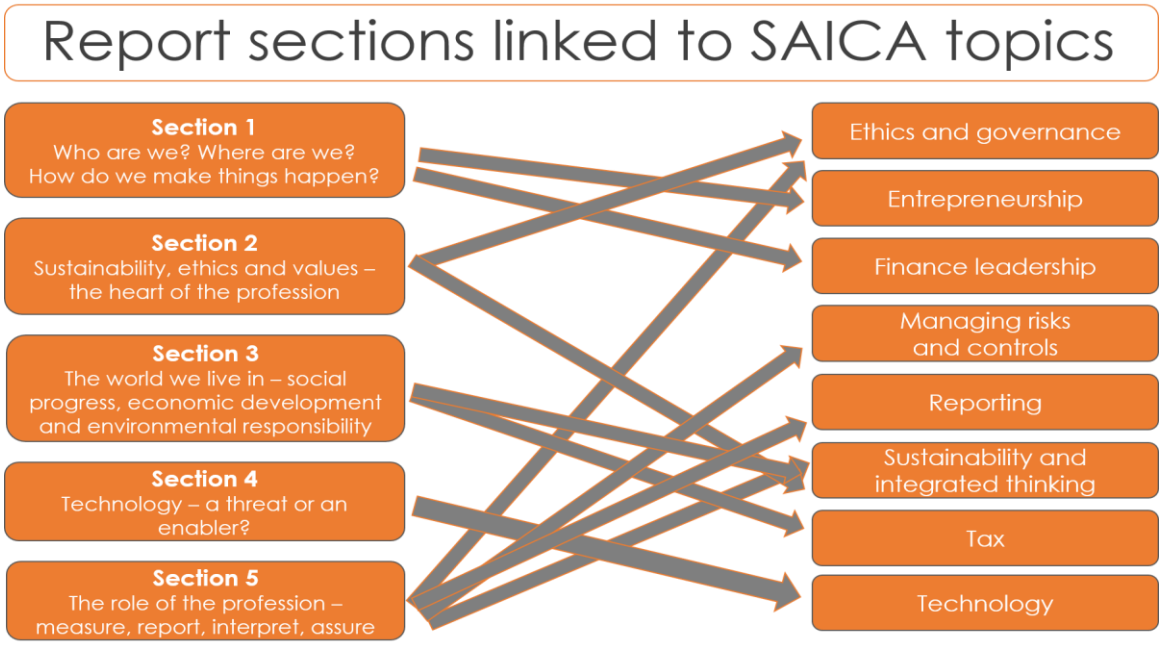


Figure 1: Report sections linked to SAICA topics

The 5 sections of this report, although distinct in their descriptors are all highly interconnected.

- **Section 1** positions the audience of this scan, in society and geographically, and frames their core competencies and mind-set.
- **Section 2** speaks to the heart of the profession, its values, which acts as the basis that drives the interactions of its members with the world around them.
- **Section 3** unpacks the world that CA's find themselves in across multiple contextual environments. These are the environments that exert an influence on SAICA members in their personal as well as professional capacity. These environments are influenced by macro-trends and include key certainties and uncertainties that are crucial inputs to an individual and organisation's view of possible futures.
- **Section 4** acknowledges that, at the advent of the Fourth Industrial Revolution, the contextual environments of Section 3 exist within a reciprocal relationship with Technology. Always a double-edged sword, Technology could hold the key to unlocking unimagined beneficial possibilities, or, if mismanaged, could pose a severe threat to our entire existence.
- Having positioned the various contexts in which the CA operates, **Section 5** emphasises the role of the profession in relation to these contexts, including the mechanisms and frameworks that underpin this role.

Figure 2 illustrates the interconnectedness of the 5 sections of the report. The heart of the profession (sustainability, ethics and values) is in the centre. It is surrounded by the contextual environment (social progress, economic development and environmental responsibility). Technology (as either an enabler or a threat) lies between the role of the profession and the contextual environment. Around the periphery is the 'identity' of the professionals (in terms of who they are, where they operate and how they make things happen).

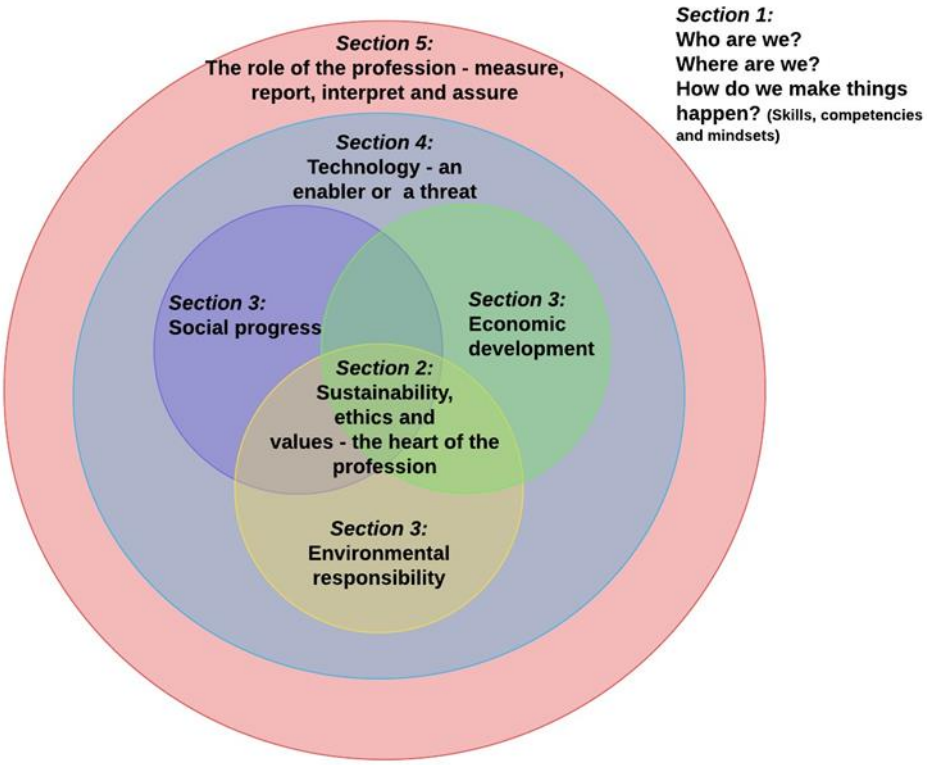


Figure 2: How the sections of the report 'hang together'

SECTION 1 CA'S: WHO ARE WE? WHERE ARE WE? HOW DO WE MAKE THINGS HAPPEN?

There are many leaders, not just one. Leadership is distributed. It resides not solely in the individual at the top, but in every person at every level who, in one way or another, acts as a leader to a group of followers - wherever in the organization that person is, whether shop steward, team head, or CEO.

Daniel Goleman, Richard Boyatzis and Annie McKee (2002, pp. xiii-xiv).

1.1 Who are we?

Chartered Accountants are leaders in finance and commerce, entrepreneurs, good corporate citizens and the stewards of ethical business practices. It is no coincidence that 'Lead' forms part of the SAICA value proposition. SAICA is run by CA's, and CA's are meant to lead. How these leaders carry themselves is partially a function of their demographics.

Demographic and other shifts

There is no doubt that the World Wars and post-war years have had an impact on the leadership style of, what has become known as the 'Veterans', the 'Baby Boomers' and Generation X, respectively. Similarly, as the generational make-up of the working age population shift over the next 20 years and the Millennials and Generation Z step forward, one can expect the nature of leadership to shift accordingly. This notion is strongly supported by two recent studies published and commissioned by Deloitte and Australian executive recruiter, Six Degrees, respectively. Also, those whom these new leaders will have to inspire and motivate are likely to span across at least four generations. As local health care and nutrition improve, the international trend of population ageing is expected to make its way to South Africa. As a result, substantial portions of the so-called Generation X population may choose to or may be forced to work until deep in their 70s, sharing the

sunset of their working lives with not only Millennials and Generation Z, but also with Generation Alpha (Gen α). Described by *Business Insider* as the "most transformative age group ever"(2015), Gen α is the first generation for whom technology is no longer a tool but an integrated part of their lives. Not only were they born into a world of touch screens and social media, but they have also been exposed to digital technologies at a younger age than ever before.

Characterised by a preference for a more collaborative leadership style, these new generations are expected to dismiss or disrupt old hierarchical structures and employment paradigms. Freed from geographical constraints, these knowledge workers are projected to be highly mobile, and many will participate in the gig economy. No longer inhibited by 20th-century definitions of the concepts of 'work' and 'career', these youngsters are furthermore likely to engage in a lifetime of learning which could take them on a journey of multiple careers and employment statuses.

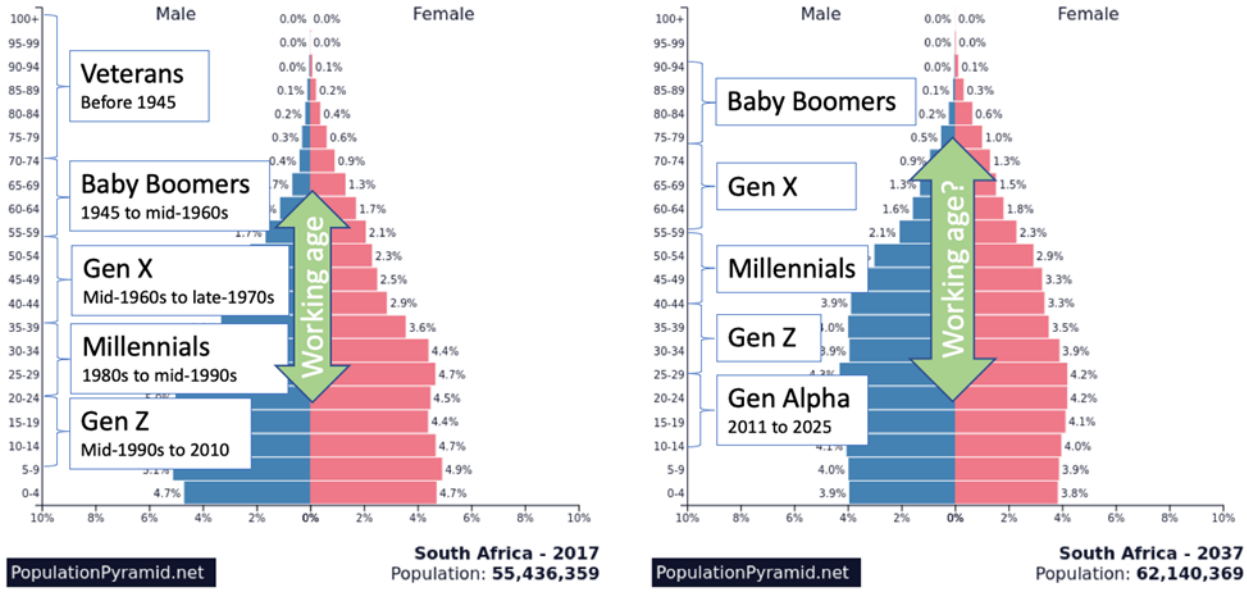


Figure 3: South African population pyramids, 2017 and 2037

Further reading

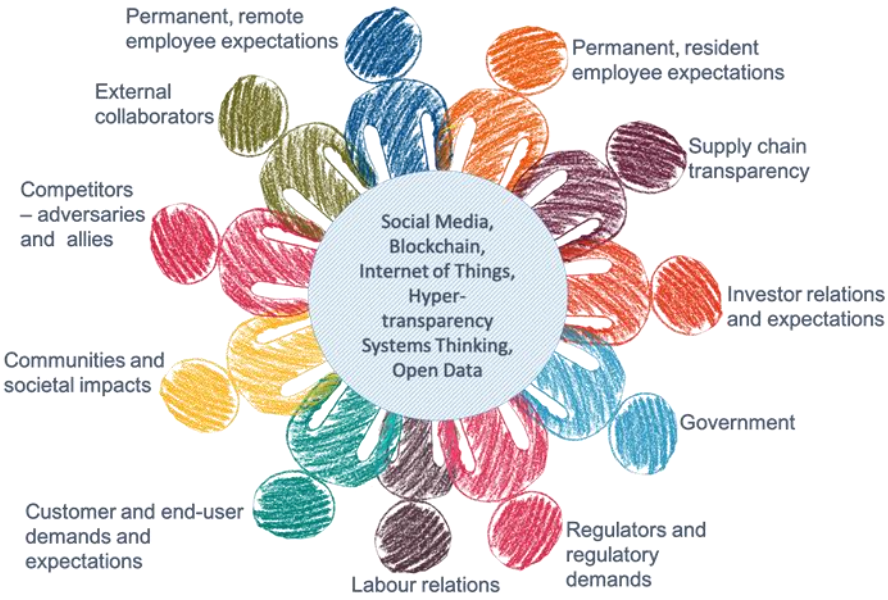
Name of resource	Themes and keywords
McCrindle: Gen Z and Gen Alpha Infographic (Infographic – n.d.)	Generation Z; Generation Alpha
Deloitte: Mind the gaps - The 2015 Deloitte Millennial survey (Executive summary) (Report - 2015)	Millennials, Leadership, Purpose, Impact.

1.2 Where are we?

In 1855 Reverend Henry Melvill said, "Ye live not for yourselves; ye cannot live for yourselves; a thousand fibres connect you with your fellow-men, and along those fibres, as along sympathetic threads, run your actions as causes, and return to you as effects" (p. 454).

More than 150 years later we find ourselves **more connected than ever** – we are citizens of the world bound by an ever-increasing connectedness, tied together by the digital tentacles and fibres of the internet, social media and the cloud.

The impact of this growing connectedness is also bringing about a shift in the relationship between organisations and their stakeholders. The extent to which these relationships can be understood and nurtured, wherever these parties may find themselves, is changing profoundly.



Visibility across the length and breadth of the supply chain is expanding the reach of ethical business practices. When the news broke in 2012 that there are children in the Congo digging in unsafe mines for minerals, such as cobalt, used in cell-phone batteries, there was an outcry by human rights activists (Pulsen, 2012). By 2017, as the demand for cobalt sky-rocketed for use in electric vehicles, industry players, no longer able to claim ignorance, adopted the Responsible Cobalt Initiative (NetworkNewsWire, 2018).

A growing number of employees and collaborators are no longer tied to traditional geographical confines. Whether they are working from home or find themselves in a different time zone, old paradigms of what it means to 'go to work' are shifting rapidly. Customers in this new industrial age

of virtual and augmented reality are oftentimes almost indiscriminate about the geographical ties of the services they consume or the products they order.

Thanks to social media, people are able to channel their emotions into consumer activism like never before. Recent South African examples involving Outsurance and Spur bear testimony to the potential impact of consumer activism through social media. The resultant damage to the organisations' stakeholder relationships was leaving brand reputation managers in a frenzy (Jere & Niekerk, 2017).

Technology-enabled hyper-connectivity inevitably plays out against a backdrop of rising geopolitical migration and mobility, climate change migration and increased protectionism. It is therefore imperative that a scanning exercise like this one should not just limit itself to local or regional trends but also include those trends that are playing themselves out on the global stage. In a recent survey, Western Union found that 57% of Millennials see themselves as belonging to a global community rather than to a nation or a state (Business Wire, 2017).

In as much as the profession is affected by the global world, CAs(SA) have a predominantly local presence. As South African citizens, the members of SAICA cannot shy away from the daily challenges faced by communities, the country or Africa, nor should they forego the opportunities this present the profession to be an agent of positive change. As beacons of morality, CAs cannot stand cold to the waves of crime and corruption that have been battering the South African shores, and which have left a nation fraught with social issues in their wake. When considering sustainability, ethics and values, it is with this context in mind.

Implications for the relevance of the profession

The extent of globalisation and the growing interconnectedness, especially with stakeholders, hold many implications for the profession. This report highlights two of the implications. Firstly the potential impact of globalisation on the local profession and secondly, the effect of interconnectedness on the profession's role as intermediary between an organisation and its stakeholders.

Globalisation is here to stay and, as mentioned repeatedly, geographical constraints are dwindling. With growing alignment between the international rules, codes, standards etc. and those applicable to the South African profession, what would stop global-minded Millennials and Gen Zs, to look broader than our local environment when they decide to be schooled in the ways of the CA? As the effectiveness of online learning and remote work improves, what prohibit eager and bright young minds to seek their professional solace elsewhere?

Historically, accountants and auditors have played the role of a middleman between organisations and their stakeholders by assuring especially investors, governments and regulators with audited

annual financial statements. Up to the very near past, that has always been considered a job done very well by the CAs(SA). In an **interconnected world** as described above, however, is there still a role to play for those who make their living by reporting on what they have cross-checked for validation, accuracy and completeness? In a hyper-transparent world is information not validated in real-time? Will Blockchain-enabled environments 'lose' things or will completeness be a given? Will AI excel at cross-checking for accuracy?

Even more disturbing is the realisation that regulated periodic reporting on the bottom line, even the triple bottom line, will no longer be enough to satisfy the growing information needs of stakeholders. (See Section 5 for further elaboration on this matter).

Further reading

Name of resource	Themes and keywords
Forbes: How Blockchain Will Transform The Supply Chain And Logistics Industry (Article – Mar 2018)	Blockchain, Supply chain, Sustainability, Transparency.
GreenBiz: A look into the new world of hyper-transparency (Article – Sep 2016)	Supply chain, Hyper-transparency, Governance, Big Data.
Business Wire: Millennials Stand for Globalism and Want to Shape the Future (Report – Nov 2017)	Millennials, Global citizenry, Social Media, Technology, Borders, Diversity.
Yes Magazine: Climate Change and Its Staggering Refugee Crisis (Book excerpt – Oct 2018)	Climate Change, Migration, Global Warming, Refugees
China Daily: Experts say climate change is fueling conflicts, forced migration in Africa (Article – Oct 2018)	Climate Change, Migration, Africa, Geopolitical conflict
The Conversation: Migration: new map of Europe reveals real frontiers for refugees (Article – Oct 2018)	Migration, Europe, Refugees.

1.3 How do we make things happen? (Skills, competencies and mindsets)

This section seeks to explore the demands on CAs as leaders and entrepreneurs as we move deeper into the 21st century. Although some characteristics of leadership are enduring, such a vision-building, integrity and passion, there are also new attributes and demands of leaders that are emerging.

New skills, competencies and traits

A publication commissioned by Six Degree, aptly titled *The Future of Leadership* (Evolve Research and Consulting, 2017), the Millennial survey by Deloitte (2015) and an array of other relevant sources, produced a consistent and overriding message: **the future of successful leadership looks very different from that of the 20th century** The image below shows the top skills required of leaders in the 21st century. (The font size of a skill corresponds with its relative importance.)

Figure 4: Top skills required by 21st century leaders

Millennials do not see the charismatic bosses of the industrial age who headed global organisations with inflated job titles and performance bonuses, as leaders worth emulating. It seems as though Millennials are preferring tech-savvy leaders with an authentic people-orientation who are co-creating organisations with a purpose through innovation and creativity. Whether they will be able

to fill such lofty shoes themselves over the next 20 years remains to be seen, but it is likely that Gen Z and Gen α might be expecting similar traits (and more) from those who will be leading them.

The Deloitte survey (2015) measured what they refer to as the 'reality gap', which in the case of 'Leadership' was at 15%. This gap is calculated as the difference between the 39% of respondents who feel that 'Leadership' is valued by business and that the market is prepared to pay for it, compared to the only 24% who believe that Higher Education equipped them accordingly.

Leadership skills like emotional intelligence, strategic and critical thinking and creativity do not develop overnight and recognising these gaps might not be enough. It can be argued that those who are changing the systems to support these new requirements are the true champions of foresight. Two examples are worth mentioning:

- The United States through their *Every Student Succeeds Act* (ESSA) legislation (Grant, et al., 2017) aims to include Social and Emotional Learning (SEL) as part of their improvement strategies for learners.
- Australian recently piloted an "Australian first program", specifically intended to build emotional intelligence and leadership skills into the curriculum (The Educator, 2018).

In light of the rapid advancement in the fields of artificial intelligence (AI), machine learning, big data, neural networks and robots, the concept of 'people and technology' is taking on entirely new dimension. The extent to which these technologies will replace human knowledge workers, or not, is revisited in Section 4. What should be noted here, however, is the advancements currently being made in the field of affective technologies or Emotion AI, which aims to teach systems, devices or robots emotional intelligence. Humans, especially those that are projected to work closely alongside AI, will, more than ever, need to be at the top of their emotional intelligence game across all its dimensions, from being acutely self-aware to being emphatic and highly self-regulated. A person will not be hired for being more like a robot; s/he will be hired because of their uniquely human attributes.

New attitudes and mindsets

As new generations rise through the ranks, it is not only new skills and competencies that are required but new attitudes and mindsets. The progress of previous generations through their careers have traditionally been relatively linear, segmented into distinct phases of education, exploration and experience gathering, being promoted to a level at which they can settle down and maintaining this level until retirement. In a world primed for tide after tide of disruption, it will be those leaders who realise that linearity is futile and who adopt a mindset of true lifelong learning that will develop the mental agility to be able to navigate their way through the storms.

Eggers, Hagel and Sanderson, writing for the Harvard Business Review, have been quoted as follows, "The lessons learned in school can become outdated long before student loans are paid off" (2012). It is, therefore, those who adopt a learning mindset which leads to a lifelong process of learning, unlearning and relearning, who will remain relevant in the years to come.

Another mindset which is becoming indispensable is that of being entrepreneurial. Having an entrepreneurial mindset is more layered than merely defining those 'those who start their own business'. Whether in a corporate setting or one's private capacity, Carolis (2014) credits all those whose step outside of their boundaries to try something new and innovative, with an entrepreneurial mindset. In a world where business models, products and services reach redundancy as fast as yesterday's newspaper, it is those organisations with leaders that can embed such an entrepreneurial mindset into their culture and structures that stand a chance of survival. In a study on corporate longevity Anthony, Viguerie, Schwartz and Landeghem (2018) have found that by 2027 the average time a company can expect to be listed on the S&P 500 will drop to just 12 years. As recently as 2016, companies could have expected tenure of 24 years. Leaders of entrepreneurial organisations who foster an environment where experimentation is encouraged, collaboration is celebrated, and failure is embraced as another stepping stone towards the sustainability of the organisation are no longer a luxury but a necessity.

It can also be said that the last vestiges of power leadership are about to crumble as hordes of purpose-seeking millennials make their way past relics like the archaic definition of success that can still be found on the pages of the Merriam-Webster online dictionary *(Success is the attainment of wealth, favour, or eminence)*.

In its stead, we see the rise of servant leadership, or as the US Chairman of PwC, Tim Ryan calls it "[the] age of humble CEOs and humble leaders" (Morgan, 2018). The admired leaders of the future will no longer be those who are in it for the fame and the glory. Servant leaders will lead with a new attitude says Farnen, one that is focussed away from themselves and for the benefit of others. They will seek collaboration and feedback, they will mentor, and they will have foresight.

Implications for the relevance of the profession

The CA (SA) profession carries a legacy of being a respected and exclusive designation. It is often coveted for its prestige and seen as a catalyst into the world of commerce. To obtain this qualification requires more than academic rigour and discipline; it also demands other substantial investments such as a financial commitment and time, all in the hope that these sacrifices pay off in the long run.

In the current dispensation, those who wish to call themselves CAs(SA), start their journey when they choose their school subjects for Grade 10. From that moment, it takes a minimum of between eight and ten years to qualify. These timelines assume that all students pass all their exams successfully and within the allotted timeframes; many take much longer. The image below as illustration of the minimum timelines and milestones.

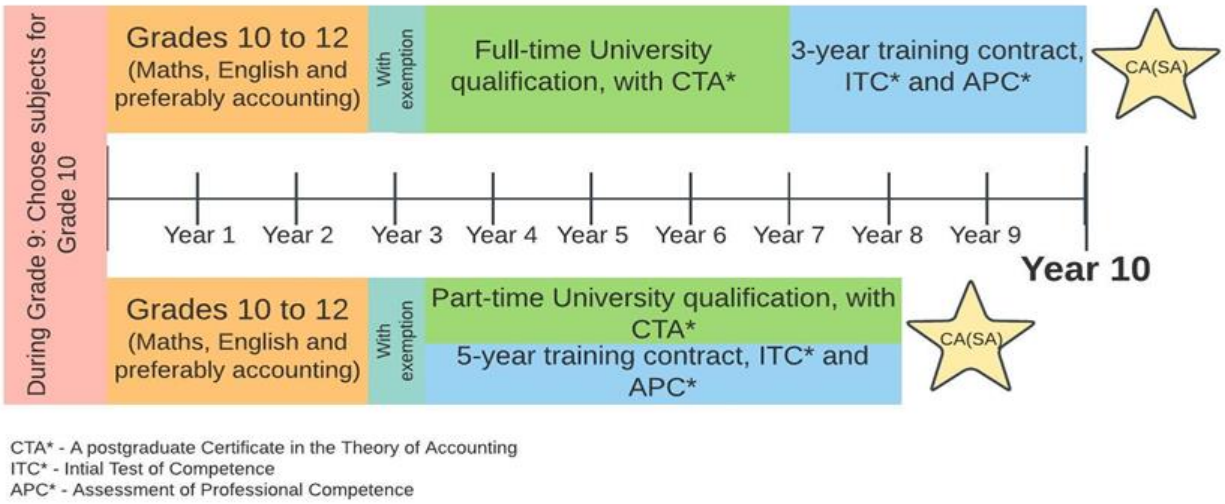


Figure 5: The minimum number of years it takes to qualify as a CA in South Africa (SAICA, 2018)

We live in a world, as described above, where technical skills will almost become subservient to leadership and people skills, where careers no longer span decades and where lifelong learning will become the standard. Is there still space in such a world for a professional qualification that is anchored by its technical proficiency and takes ten years to obtain? Will Gen Z and Gen α still aspire to invest in a career where the notion of creativity is frowned upon, and the spirit of entrepreneurship is only admired from afar? Will organisations, battered by a constant barrage of change and disruption still seek salvage in the safety of CFOs with a CA qualification, or will they look elsewhere to find incumbents with a penchant for change, innovation and sustained renewal? As the definitions and the motivations behind success change, which attributes and attitudes that are associated with the profession will attract the next generation?

It could be argued that by implementing compulsory continued professional development (CPD) in 2006, SAICA has been ahead of the lifelong-learning curve. Recent announcements by the SAICA Board regarding amendments to the current CPD policy "in the interest of promoting lifelong learning within the profession" (Bam & Lamola, 2018) bodes well for the profession's response to this trend and confirms its relevance. How successful this revised policy will be in shifting the mindsets of its current members and how it will shape the mindsets of its future members, remains to be seen.

Further reading

Name of resource	Themes and keywords
Six Degrees: The Future of Leadership – The crisis in corporate Australia and what to do about it. (Report - 2017)	Leadership; Millennials, Collaboration, Integrity, Authenticity, Creativity.
Phaidon International: Managing Millennials and the Future of Leadership (Article – Mar 2018)	Millennials, Leadership, Diversity, Flexibility
Accountancy Ireland: Spotlight – The path to leadership. (Article – Jun 2018)	Authenticity, Values, Trust, Respect, Mentoring.
GreenBiz: What does it really take to lead in these uncertain times? (Article – Jun 2018)	Purpose, Leadership, Emotional Intelligence, Complexity
Harvard Business Review: Emotional Intelligence Has 12 Elements. Which Do You Need to Work On? (Article – Feb 2017)	Emotional Intelligence, Influence
World Economic Forum: Why artificial intelligence is learning emotional intelligence. (Article – Sep 2018)	Affective computing, Emotional Intelligence, Artificial Intelligence, decision-making
Forbes: Learn, Unlearn And Relearn: How To Stay Current And Get Ahead (Article – Feb 2014)	Learning mindset, Agility, Unlearning, Relearning, Futures thinking.
World Economic Forum: 3 key steps to making sure your skills stay relevant (Article – May 2017)	Skills, Culture of learning.
CGMA: Changing competencies and mindsets (Report – June 2018)	Competency framework, Leadership skills, Empathy, learning mindset.
THE AGE OF METAPRENEURSHIP (Book - 2017)	Entrepreneurship, culture, mindsets, sharing economy.
Corporate Entrepreneurship and Innovation: How to make this work (Dr. Gorkan Ahmetoglu) (Video – Mar 2018)	Corporate entrepreneurship, innovation.
Corporate Entrepreneurship by Michael Morris (Video – Dec 2016)	Corporate entrepreneurship, disruption.
Hearpreneur: 9 Entrepreneurs Share Their Thoughts on the Future of Entrepreneurship (Article – Jul 2018)	Entrepreneurship, Women, Future, Millennials, Agility.

SECTION 2: SUSTAINABILITY, ETHICS AND VALUES – THE HEART OF THE PROFESSION

"From the smallest of transformational memes (Waddock 2018) to the largest of multinational corporations as change agents (Bowie 2018), the authors ... examine the interconnectedness of the individual, groups, and the larger ecosystems. They encourage us to consider economic, management, political, and societal theories to inform our business ethics scholarship and "close the gap" from 'the right thing to do' to 'doing the right thing'.

Gerde & Michaelson, (2018).

Clients and society describe chartered accountants as 'having a strong sense of ethics'. This viewpoint is underscored by the thousands of professionals who subscribe to and abide by the Code of Professional Conduct of SAICA which is moulded on the more international Code of Ethics for Professional Accountants.

As the profession looks to the future as leaders, entrepreneurs, citizens and stewards, part of SAICA's mission includes the preservation and maintenance of these values and codes and to "monitor, consider and address emerging ethical issues".

Unfortunately, the profession has recently became shrouded in controversy. Since the alleged unethical conduct by a few of its members at Steinhoff, Eskom and most alarmingly, KPMG, has come under scrutiny (Niselow, 2018). SAICA has been fighting fires recently. As one of the big four audit firms in South Africa, KPMGs involvement with Gupta-owned companies, VBS Bank and its work to produce the SARS 'Rogue Unit Report', has shaken the public trust to the core. Internationally, the 2017 governance scandal at CPA Australia, the recent UK fraud arrest of suspended CA, Chris Marsh ex-CFO of Patisserie Valerie and the collapse of Carillion have all brought the profession into disrepute.

Not only is the profession in the process of clawing back its credibility and public trust, it will also have to stay ahead of the curve as the trends in ethics and sustainability adds further complexity to the mix. This section first explores trends and drivers in the evolution of business ethics and its symbioses with sustainability and concludes with a brief glimpse of the implications of the Sustainable Development Goals for the profession.

2.1 Ethics and sustainability

Although Aristotle (384-322 BCE) is known for expressing his views on trade, exchanges and ethics, business ethics as a discipline only emerged in commerce and academia during the latter half of the 20th century. It could be argued that the discipline has evolved beyond its philosophical underpinnings as businesses and their leaders are confronted with ethical dilemmas at an ever-increasing pace. Far from being stagnant, the discipline is expected to continue its evolution. This section explores how that evolution might look.

In her book, *Value Shift*, acclaimed Harvard professor, Lynn Paine discusses the different reasons that executives gave for paying attention to moral rationality and ethics in their organisations (2003). She lists the four main reasons, namely risk reduction, organisational integration, market reputation and community reputation respectively.

Looking at the image below, it could be argued, as one moves from left to right, that those who pursue ethics and morality in their organisation as a risk reduction measure subscribe to the mantra of 'the right thing to do'. To the far right are those who focus more on society and the environment, labelled 'community reputation' by Paine, and aiming to be 'doing the right thing.'

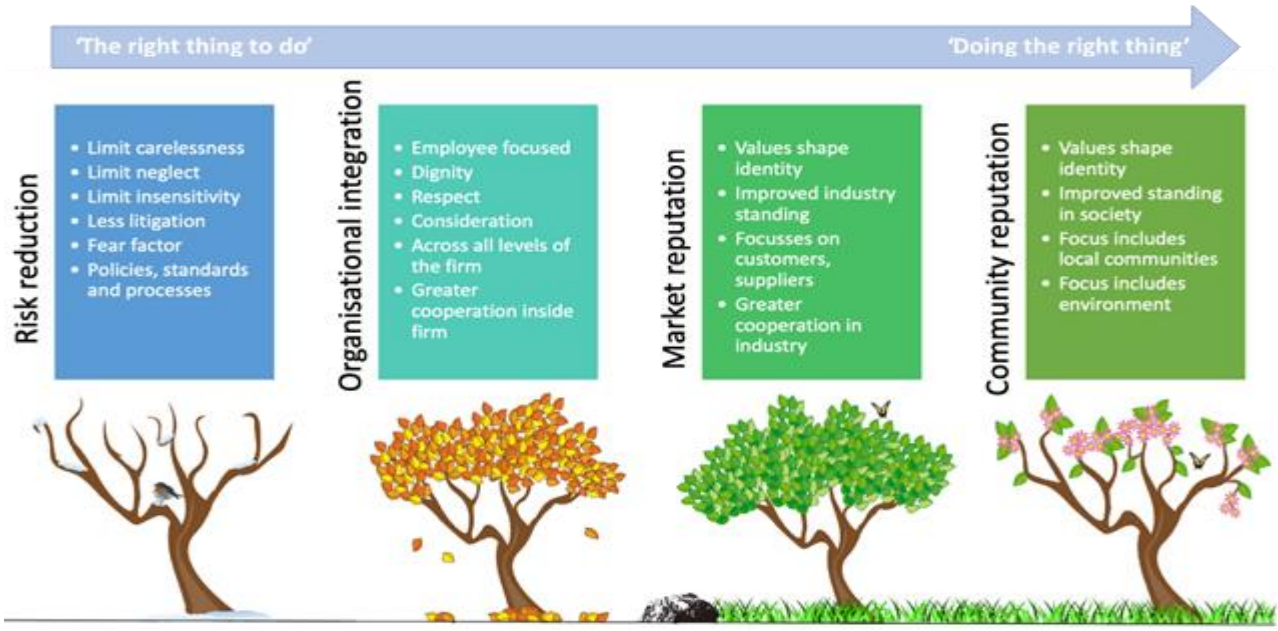


Figure 6: Reasons for an increased focus on ethics and moral rationality in organisations (adapted from Paine, 2003)

Risk reduction as an incentive for doing things right is well entrenched in modern commerce. It is, after all, the cornerstone on which most governance, risk and compliance departments have been

built and the breeding ground for most policies, procedures, rules and regulations. Moving towards the right in Figure 6, we find that **organisational integration** as a motivator is commonly noticeable in employee benefits, wellness programs, employee assistance programs and incentive schemes. Seen as the domain of the Human Resources (HR) department, companies generously deploy a growing list of initiatives to demonstrate their ethical commitment to their employees' well-being and the improvement of employee engagement.

In general, managed with an iron fist by the Public Relations (PR) department, **market reputation** as a driving force has recently received renewed attention. In a world of technology-enabled hyper-transparency, it is becoming increasingly difficult to hide any improper practices or security failures, as Facebook undoubtedly realised, courtesy of its two recent data breaches. The damage to an organisation and those at its helm can be devastating. It is no surprise that *Forbes* magazine (Erskine, 2018) has recently reported on 'The age of online reputation management'. Companies and executives are directing more and more resources and attention towards the pursuit of integrity and transparency as mechanisms to manage their market reputation.

Community reputation as an incentive is also no novel concept, and if Paine's 2003 book was written in 2018, she probably would have called this category 'Sustainability'. In its most recent *State of the Sustainability Profession 2018* report, Davies (2018) from GreenBiz revealed that for those who have resources dedicated (either full-time or part-time) to sustainability, these resources predominantly find themselves in either the Corporate Social Responsibility (CSR) department or working for Environment, Health and Safety. Encouragingly, the report also reveals that, in 2017, 85 percent of the S&P 500 index published sustainability or corporate responsibility reports.

In South Africa, thanks to the ground-breaking work done by Professor Mervyn King, all companies listed on the Johannesburg Stock Exchange (JSE) are required to produce an annual integrated report. By implication, those who have to produce an integrated report would have needed to apply themselves to issues of sustainability long before the report hit the press release circuit. Unfortunately, according to Struwig and Van Rensburg (2016), companies are overwhelmed by a surplus of standards and indicators in this field, ranging from mandatory for specific industries to voluntary, and as a result, the quality of integrated reporting is still lacking. They also ascribe their findings to an overemphasis on the triple bottom line model to the detriment of true integrated thinking and reporting.

Alison Taylor, Managing Director of global non-profit Business for Social Responsibility (BSR), by contrast, bemoans this overall fragmented approach to business ethics in a recent BSR report (2017), *The Future of Business Ethics*. Not only does she tie the pursuit of ethics to the notion of corporate purpose but she also points out that there is a groundswell of opinion leaders who support and

understand what needs to be done. She refers to an EY Beacon Institute report, which states that "73% of executives agree that having a well-integrated purpose helps their company navigate today's turbulent environment" (2017, p. 13). Taylor states that, despite the presence of intent and awareness, the lack of cohesion between the different parties that are each responsible for a slice of a company's ethics create a barrier between intent and execution. She also blames a 'business case' mentality when it comes to dealing with ethical dilemmas for the general lack of progress in this sphere.

Furthermore, says Taylor, it is only when ethics and purpose, which are both constructs of organisational culture, become an integral part of strategic intent that an organisation can truly transform. Taylor concludes that the future of organisational ethics is at the confluence of strategy and statements of purpose and whether they will be congruent with the behaviours of those in the organisation at all levels. Once an ethical and strategic tone is set, the roles of the departments as described above will be to ensure that a culture of integrity permeates throughout the organisation.

Fortunately, Taylor's view is not a voice calling in the darkness. Larry Fink, CEO of the world's largest asset manager, BlackRock Investment, in his recent annual open letter to CEOs, warns them that "[s]ociety is demanding that companies, both public and private, serve a social purpose. To prosper over time, every company must not only deliver financial performance but also show how it makes a positive contribution to society" (2018). In the wake of the murder of journalist, Jamal Khashoggi, allegedly at the request of Saudi Arabian leaders, and in light of the uncertainty around how businesses that have relationships with Saudi Arabia should respond, an opinion piece in *The New York Times* is asking whether companies should be thinking of appointing chief ethics officers (Swisher, 2018).

Implications for the relevance of the profession

The consequences of the confluence of sustainability and ethics are of paramount importance for the future relevance of the profession. As businesses all over the world are subjected to more and more volatility, uncertainty, complexity and ambiguity (VUCA), they are crying out to those who can help them steer the course. In addition to debating the merits of appointing chief ethics offers, *The New York Times* (2018) also weighed in on where to find these elusive individuals. They were at a loss.

Chartered accountants already have the foundation that is needed to become the stronghold of integrity in society beyond just the narrow confines of their mandate. SAICA's Code of Professional Conduct starts with the claim that "[a] distinguishing mark of the accountancy profession is its acceptance of the responsibility to act in the public interest" (SAICA, 2018). Will the profession be able to live up to that promise? They are indeed by no means the sole custodians of businesses ethics and integrity and in light of the recent cracks in the public trust, ripe for disruption.

Further reading

Name of resource	Themes and keywords
The Accountant-online: Fraud And Corruption – The Cancer That Needs To Be Exorcised (Article – Sep 2018)	Fraud, Corruption, Ethics
W. Michael Hoffman Center for Business Ethics (Website)	Business ethics
CGMA: The future of ethics (Videos – Jul 2012)	Ethical culture, Accounting for ethics, Dilemmas, Pressures, Business issues.
American Management Association: The Ethical Enterprise - Doing the right things in the right ways, today and tomorrow (Report - 2006)	Business ethics, Corporate Culture, Environmental Responsibilities.
CGMA: Purpose Beyond Profit: The Value of Value - Board-level Insights (Report – Feb 2018)	Purpose, Performance management, Strategy, Innovation, Sustainability.
WBCSD[1]: Sustainability and enterprise risk management: The first step towards integration. (Report – Jan 2017)	Sustainability, Risk Management, Social and environmental risks.
WBCSD: Why are leading companies engaging with corporate sustainability? (Podcast – n.d.)	Sustainability, Global challenges.
BSR: Redefining Sustainable Business: Management for a Rapidly Changing World (Report – Jan 2018)	Sustainability framework, Strategy, Sustainable business goals, Futures Thinking and Strategic Foresight.
EY Global: How can purpose reveal a path through disruption? (Article – Apr 2018)	Purpose, Inclusive growth, Disruption
Deloitte Insights: Citizenship and social impact: Society holds the mirror (Article – Mar 2018)	Global Human Capital Trends, Talent, Social impact, Citizenship.
BSR: Culture, Behavior, and Corporate Integrity 2.0 (Article – Mar 2018)	Integrity, Ethics, Culture, Purpose, Value.

[1] World Business Council for Sustainable Development

2.2 The sustainable development goals (SDGs)

As businesses embrace purpose, ethics and sustainability as the new norm, the practical application and measurement of their pure intent may seem elusive. However, when it comes to sustainability, there is one North Star that should not be ignored, the United Nations' Sustainable Development Goals (SDGs).

On the surface, these 17 goals, voluntarily adopted in 2015 by 193 countries, including South Africa, come across as reasonably grand, the macro stuff with which governments and policymakers concern themselves. Unless you are a global multinational, making a dent in poverty, hunger, climate action or peace and justice, it does not seem feasible. In its obscurity, however, lies the opportunity.

In February 2017, *Economia*, the members' publication for chartered accountants in England and Wales published an article by Peter Wilson with the title *How the accountancy profession is shaping global development goals.* The title might be slightly boastful, but Wilson's point of departure is that the core skills set of the accounting profession perfectly positions it to help businesses translate the Global Goals into meaningful targets and actions that are relevant to their unique context. From measurement, assurance, through to reporting, professional accountants should grasp the opportunity to extend their reach and dare to shape these goals, as Wilson implied.

The SDGs are fair game, however, and by April 2018 the CGMA[2] in conjunction with the AICPA[3] released a 32-page report detailing why management accounts should be the ones to add business value in the SDG space. Two weeks earlier it was the chartered accountants of Scotland (ICAS) who teamed up with the International Integrated Reporting Council (IIRC) and Green Economy Coalition to publish a paper that ties the SDGs with the Integrated Reporting framework.

Not yet a captive market, the World Benchmarking Alliance (WBA) announced at the UN General Assembly in September 2018 that it will make free benchmarks available for use by companies to rank themselves on their progress towards the SDGs (Field, 2018). The WBA's intent with these benchmarks is to "play a role in helping to leverage and harmonize the incoming wave of SDG-related monitoring initiatives that are currently being developed". Lastly, the immense work by the WBCSD cannot be ignored. Published in October 2018, the WBCSD's report, *Reporting matters*, sheds some light on the status of some recent SDG reports, integrated reports and GRI[4] reports (WBCSD, 2018). The WBCSD report acknowledges that the current fragmentation in sustainability reporting has resulted in a lack of comparability between companies but compliments those involved in the evolution in sustainability reporting over the past six years. By applying their evaluation framework,

[2] Chartered Global Management Accountants
[3] Association of International Certified Professional Accountants.
[4] Global Reporting Initiative

they not only position themselves as an industry leader in this field but also provide tangible and practical advice for companies who are still in the SDG-dark.

Implications for the relevance of the profession

All indications are that if the goodwill of countries and organisations survive, the SDGs will play an ever-increasing role in business strategy, stakeholder management and organisational reporting for the foreseeable future. How ready are the members of SAICA to advise their clients or the companies that they work for in this space? Will they be seen as the experts in this field, measuring, reporting and translating the SDGs into strategy and purpose? Alternatively, will their relevance dwindle as others who have more substantially come to grips with the SDGs, take over the corporate reporting reins?

Further reading

Name of resource	Themes and keywords
Economia: How the accountancy profession is shaping global development goals. (Article – Feb 2017)	Business management and strategy, Sustainability, Information technology, Natural capital, Social responsibility, SDGs.
CGMA: The role of the accountant in implementing the Sustainable Development Goals. (Report – Apr 2018)	Sustainability, Accounting, Ethics, SDGs.
ICAS: New approach for aligning doing business to the Sustainable Development Goals. (Report – Apr 2018)	SDGs, Value creation, Corporate Risk, Six Capitals, Integrated Reporting.
Forbes: New Benchmark Will Rank Companies On Their SDG Success. (Article – Sep 2018)	Sustainability, SDGs, Reporting
WBCSD: Reporting matters 2018 (Report – Oct 2018)	Sustainability, Integrated Reporting, SDGs, Climate Change, Human Rights.
Economia: Firms not engaged with SDGs, says PwC (Article – Jan 2018)	Business management and strategy, Sustainability
GreenBiz: How Unilever integrates the SDGs into corporate strategy. (Article – Oct 2018)	Leadership, SDGs
The Daily Star: SDGs: Three years on, where do we stand? (Article – Sept 2018)	SDGs, Governance

SECTION 3: THE WORLD WE LIVE IN – SOCIAL PROGRESS, ECONOMIC DEVELOPMENT AND ENVIRONMENTAL RESPONSIBILITY

"I see a world in the future in which we understand that all life is related to us and we treat that life with great humility and respect. I see us as well as social creatures, and when I began to look back and say, 'what is the fundamental bottom line for us as social creatures?'… I couldn't believe it because it seemed so hippy dippy, but it was love. Love is the force that makes us fully human."

David Suzuki (The 11th Hour, 2007)

The model that inspired the graphic depiction of the three contextual environments of this section of the report has been borrowed from the world of sustainability (Turner)

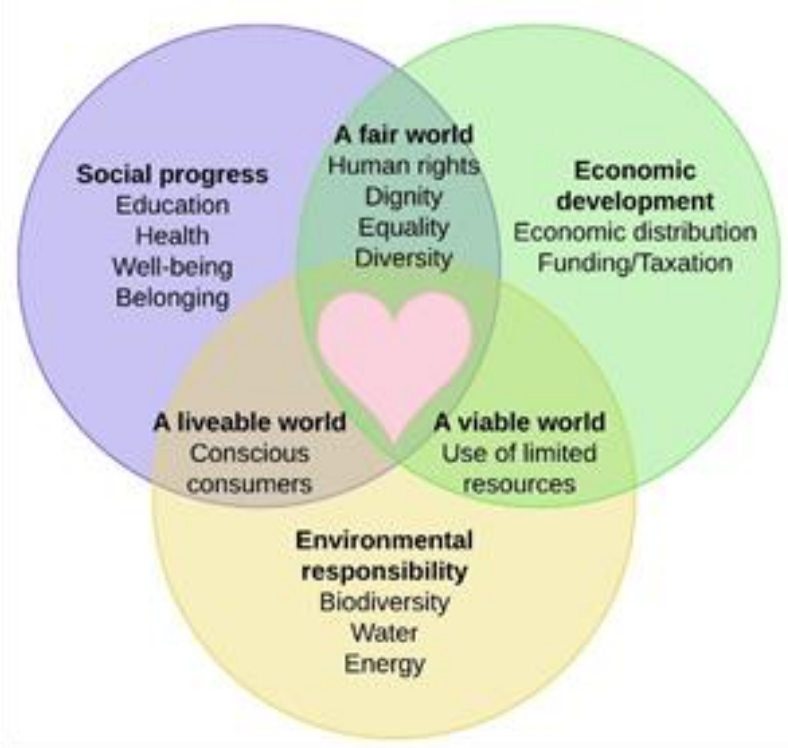


Figure 7: Overlapping contextual environments, trends and uncertainties (adapted from Turner)

Within each of these environments, there is an evolving set of domain-specific facets or topics. However, it is also in the spaces where any two of these domains cross each other at which a second layer of complexity or topics surface. For example, in the space where Environmental responsibility and Social progress meet, described as a world where we can 'live with ourselves', the rise of conscious consumers demands attention.

It is also no coincidence that there is a strong overlap between these topics and the content of the SDGs discussed in Section 2. The focus of this section will be on those topics with the most relevance to the profession as well as the trends and risks that relate to them.

A number of emerging risks and trends that could significantly influence the profession, were identified. Each risk / trend were investigated and an overview of what to look out for, the potential implications for the profession and sources of information for further reading were compiled.

Note:

The risks and trends that are highlighted below were identified from the following sources:

- World Economic Forum [WEF], (2018). *The Global Risks Report 2018* (13th ed.). Retrieved from https://www.weforum.org/reports/the-global-risks-report-2018
- The Institute of Risk Management South Africa [IRMSA] (2018). *IRMSA Risk Report: South Africa Risks 2018* (4th ed.). Retrieved from https://www.irmsa.org.za/page/2018_Risk_Report

TREND: The global rise of education technologies

CONTEXT: Social progress

TOPIC: The rise of EdTech (Global)

What to look out for

Education is regarded as one of the industries that is ready for disruption. With educational models dating back to the dawn of the industrial era, the diffusion of technology is setting this industry up for a make-over.

Top emerging trends in the EdTech space:

- Anywhere, anytime
- Adaptive testing and self-directed learning
- AI in the classroom
- Special needs education to use affective computing
- Building a portfolio of micro-credits
- Virtual Reality

Warning: As much as EdTech creates opportunities, it can add to marginalisation and the expansion of the digital divide.

Implications for the relevance of the profession: Emerging questions

Can SAICA capitalise on the opportunities that these new technologies present to expand the pool from which their candidates emerge?

How can these technologies be used to shorten the formal education period?

Can it be deployed to foster lifelong learning and ensure that the skills being taught are relevant and appropriate to the learner and the expectations of him or her?

Further reading

From J&K to Bihar, this app lets students attend Anytime Anywhere School on their phones (Oct 2018)

New frontiers in technology for assessment in low-income contexts (Aug 2017)

A.I. Is the New T.A. in the Classroom (Jan 2017)

Helping computers perceive human emotions (Jul 2018)

Guest column: What parents should know about schools (Sep 2018)

How Can Virtual Reality Bring Equity to Education? (Oct 2018)

Anthropologist Mimi Ito: Good Intentions Don't Always Mean Equitable Outcomes in Edtech (Oct 2018)

RISK: Inadequate and/or sub-standard education and skills development

CONTEXT: Social progress

TOPIC: Inadequate and/or sub-standard education and skills development in South Africa

What to look out for

This risk can be seen as a meta-risk. If not addressed timeously it can only serve to exacerbate a number of other South African challenges – unemployment, inequality and a perpetual skills shortage.

Factors that will influence how this risk plays out include:

- The rise of private education institutions
- Public-private partnerships
- Nationalisation of education
- National Education budget and its efficacy

Question: What will be the catalyst that changes the shape and efficacy of the South African Education system?

Implications for the relevance of the profession

The quality of the profession is dependent on the quality of the candidates that rise through its ranks. There is no evidence that, in the short to medium term, the South African Government will be able to tackle this issue alone.

To what extent will the members of SAICA be prepared to invest in public-private initiatives to boost the accessibility of quality education and to feed the profession's pipeline?

Further reading

Education more important than ease of doing business if we want to create jobs (Oct 2018)

Stadio to build Cape multiversity (Jun 2018)

Public-private partnerships can get rid of faulty school infrastructure (Jul 2018)

Private schools must go, says Cosas (Mar 2018)

TREND: The changing shape of health and wellbeing on a global scale

CONTEXT: Social progress

TOPIC: The changing shape of health and wellbeing on a global scale

What to look out for

Environmental, social and economic factors are sending the world into an epidemiological transition from diseases of poverty to a rise in non-communicable diseases (NCDs) with implications for national governments, healthcare systems and society.

What to look out for:

- The rising cost of managing NCDs
- Mental health meltdown
- Numbers of people overweight or undernourished
- The impact of urbanisation putting pressure on the healthcare system

Implications for the relevance of the profession

Human capital is becoming the most valued resource for most organisations.

However, as the rate of cancers, obesity and mental health problems escalate, how will organisations that subscribe to the principles of sustainability respond?

Further reading

The top 10 causes of death (May 2018)

Non-communicable Disease Could Cost Global Economy $47 Trillion by 2030 (Mar 2017)

Silent Suffering: Mental Health as a Global Health Priority (Apr 2017)

The places where too many are fat and too many are thin (Oct 2018)

The Effects of Urbanization on Humans Physical Health (Apr 2018)

TREND: Belonging and identity – where to from here?

CONTEXT: Social progress

TOPIC: Belonging and identity – where to from here?

What to look out for

The world is suffering from a number of identity crises.

These macro-trends can have far-reaching social and economic implications and need to be monitored:

- Opinions are divided - Globalisation is tethering between grinding to a halt and becoming an unstoppable force.
- Populist protectionism is facing off against liberal democracies
- Will the notion of a nation-state survive?
- Blockchain for National Identity Management

Implications for the relevance of the profession

Geopolitical shifts have a profound impact on trade, the free flow of information, on economies, the social stability of a region and regulations, all aspects that the profession needs to consider whether in- or outside public practice. Exposure to geopolitical instability is a risk that needs to be monitored and managed.

The adoption of technology such as blockchain has systemic implications – from IT systems, process flows and the management of growing cybersecurity risks – what can the profession bring to the table?

Further reading

Is globalisation grinding to a halt? (Oct 2018)

Economic globalisation and a shared future for mankind (Oct 2018)

Globalisation, rise of populism threatening democracy – local author (Sep 2018)

The demise of the nation state (Apr 2018)

How Blockchain is used by Governments as a form of National Identity (Feb 2018)

RISKS: Growing income and wealth disparity and profound social instability

CONTEXT: A fair world (Socio-economic)

TOPIC: Growing income and wealth disparity and profound social instability

What to look out for

Some sources say inequality between countries is slowly declining, but within-country inequality is on the increase.

- What are the implications of inequality?
- The link to social and health problems
- The impact on economic growth
- The growing digital divide
- South Africa's staggering levels of inequality
- Economic systems that perpetuate inequality

Implications for the relevance of the profession

The economic systems that are being supported by finance professionals are under scrutiny. The way in which income, capital or wealth are measured plays a role in how it is being distributed. The world requires fresh and innovative ideas, for the benefit of all – to sustain economic growth without leaving anyone behind.

Are CAs up to the challenge to contribute to this transformation or will they stay on the side-lines?

Further reading

The social and health impacts of inequality and our current economic system (Feb 2017)

Inequality hurts economic growth, finds OECD research (Dec 2014)

UN warns of the growing digital divide, with 52% without internet connectivity (Sep 2017)

"Inequality has increased in South Africa since apartheid" – World Bank (Apr 2018)

Capitalism in the age of AI (Mar 2018)

TREND: The right to dignity

CONTEXT: A fair world

TOPIC: The right to dignity

What to look out for

Marginalised communities and nations are gaining a voice, asking to be treated with dignity and respect instead of with disdain and pity.

What are the signs?

- Talk of the dignity revolution
- Fostering a dignity-mindset to solve the big social problems
- The 'Global Dignity' youth movement is growing
- The rise against 'undignified' foreign charity
- Is the land debate in South Africa not actually about dignity?

Implications for the relevance of the profession

True stakeholder engagement includes engaging with those who are affected by businesses but are too marginalised and fragile to speak up against injustices should they occur.

Will the profession rise to its ethical promise and develop a more profound sensitivity for the dignity of others?

In the case of the South African land debate – is the profession contributing to the discussion in a constructive way?

Can South Africa harness the intellectual capital that resides in SAICA's members to solve some of the country's most pressing problems?

Further reading

How to define dignity and its place in human rights – a philosopher's view (Aug 2017)

The Dignity Mind-Set for Scaling Social Change (Dec 2017)

Global Dignity fights for compassion with new website and powerful video (Mar 2018)

For Dignity and Development, East Africa Curbs Used Clothes Imports (Oct 2017)

Will the land ever be returned, and dignity restored? (Sep 2018)

TREND: Diversity in the workplace

CONTEXT: A fair world

TOPIC: Diversity in the workplace

What to look out for

Despite evidence that diversity benefits organisational performance and the quality of its decision-making, frustrations with a lack of progress persist.

Emerging issues:

- Silicon Valley under fire for lack of progress
- Diversity fatigue sets in
- The business case stays strong for inclusivity and diversity
- The narrow demographic definitions of diversity make way for cognitive diversity
- It is good for compliance
- The future of BEE

Implications for the relevance of the profession

SAICA's members who are still 45% white and male cannot ignore the benefits and the urgency of diversity, especially in the South African context.

To stay relevant, the profession will have to transform substantially.

Diversity is also an ethical matter – how does lack of diversity correspond to a holistic ethical code?

Further reading

Is this what rage looks like for Sheryl Sandberg? (Oct 2018)

Big Tech, Little Diversity: Blacks Comprise 3% of Silicon Valley Talent (Jun 2018)

As diversity progress in Silicon Valley stalls, advocates call for a new approach (Jun 2018)

Delivering through diversity (Jan 2018)

The path to a shared future is built on diversity and inclusion (Jan 2018)

How to Turn Diversity Into a Business Imperative (Apr 2018)

Everything you think you know about promoting diversity is wrong. Here's how to do it (Oct 2018)

How to Leverage Workplace Diversity to Increase Regulatory Compliance (Jun 2018)

Black Economic Empowerment 3.0 (Feb 2018)

TREND / RISK: Privacy in the age of transparency and the data wars

CONTEXT: A fair world (Socio-economic)

TOPIC: Privacy in the age of transparency and the data wars

What to look out for

Data has become the new currency. Who wants it? What is it worth? Is there still room for privacy?

Data and privacy trends to watch:

- Trading data for coffee (and it's not Discovery)
- Knowledge is power – Understand data-technologies to protect privacy
- There is no privacy if you are online
- Data security breaches are real
- Compliance in the age of hyper transparency

Implications for the relevance of the profession

From risk management to reputation management, data has the power to expose or transform.

Unless the profession can articulate and mitigate these risks successfully and foster a data culture, there will be others standing in the wings to take over this mantle.

Further reading

Café Swaps Espresso for Personal Info (Oct 2018)

AI and the Future of Privacy (Sep 2018)

In digital world, we trade privacy for convenience (Apr 2010)

The 10 Largest Data Security Breaches Of 2018 (So Far) (Jul 2018)

Living in the "age of hyper transparency" (Jun 2018)

Why data culture matters (Sep 2018)

TREND: New economic models

CONTEXT: Economic development

TOPIC: New economic models

What to look out for

20th-century economic models are being disrupted by social pressure and emerging technologies.

What can we expect?

- The end of supply and demand?
- Transport-as-a-service
- New models of distribution might fight of inequality
- The sharing economy – blurring property rights, good or bad?

Implications for the relevance of the profession

The new economic models are ambitious and visionary. Very few have been translated into new behaviours and values.

Who will ensure that the intent and the execution of these models are in alignment?

Could this be an opportunity for the profession?

Further reading

Bill Gates Says We Need New Economic Models That Take Tech Into Account (Aug 2018)

Disruptive Technologies And New Economic Models (Jan 2018)

Meet the doughnut: the new economic model that could help end inequality (Apr 2017)

What exactly is the sharing economy? (Dec 2017)

Debating the Sharing Economy (Oct 2014)

TREND: Calls for a universal basic income

CONTEXT: Economic development

TOPIC: Calls for a universal basic income

What to look out for

If 'the robots are coming' and automation and AI displaces thousands, is a Universal Basic Income the answer to the earnings void?

The jury is still out and not for lack of trying.

- Support for UBI
- What other benefits will UBI bring? Growing communities?
- The other side of the UBI coin – failure to launch
- The South African perspective

Implications for the relevance of the profession

The motivation behind UBI is at the confluence of automation fears, inequality and dignity.

The challenge is to make the economic models to support it viable.

Should the most brilliant financial minds in the country not play a role in solving one of humanity's most complex problems?

Further reading

Who Really Stands to Win from Universal Basic Income? (July 2018)

Money for nothing: the truth about universal basic income (May 2018)

Universal Basic Income – The Answer to Automation?

Here's the true cost of the proposed 'universal basic income' that could lessen inequality (Aug 2018)

U.N. Secretary General Urges Nations to Consider Universal Basic Income (Sep 2018)

Universal Basic Income Will Likely Increase Social Cohesion (Oct 2018)

Universal Basic Income Has Been Tried Before. It Didn't Work. (Oct 2018)

Universal Basic Income: A progressive solution to the global crisis of capital (Sep 2018)

TREND: The shifting shape of tax

CONTEXT: Economic development

TOPIC: The shifting shape of tax

What to look out for

As the world is converging and becoming more and more digital, the complexities involved to steer a multi-national organisation through the field of taxation, abound.

What should one watch out for?

- New rules for a digital era.
- Artificial intelligence shifting the possibilities

Implications for the relevance of the profession

Like death, taxes are inevitable; however, the efficacy of tax systems are getting eroded by growing complexity.

Admittedly not everyone in the profession claim to be taxation experts, but can those who are, apply the principles of ethics and sustainability to the long-term benefit of local and global tax systems?

Further reading

Fair Taxation of the Digital Economy (Mar 2018)

Tax governance in the world of Industry 4.0 (Aug 2018)

AI and the future of the tax function (Oct 2018)

RISK: Significant escalation in organised crime and illicit trade

CONTEXT: Economic development

TOPIC: Significant escalation in organised crime and illicit trade

What to look out for

Organised crime and illicit trade are growing. Being run like businesses they are hard to identify and even harder to stop.

How can we stem the tide of corruption and crime, locally and internationally?

- Social media and illicit trade
- Human trafficking and illegal migration
- Wildlife at risk
- Cybersecurity – vulnerabilities in the cloud.
- South Africa's crime rates
- Kidnappings on the increase

Implications for the relevance of the profession

If the South Africa state capture hearings are anything to go by, this is a risk that no CA can ignore. Collusion is the most challenging form of fraud and corruption to mitigate against, and only extreme vigilance and professional scepticism stand a chance against it.

For the profession to remain relevant, it needs to be at the forefront of protecting the public against these villains and not be caught on the back foot again.

Further reading

Study finds rising illicit cigarette trade on social media (Oct 2018)

The harrowing, step-by-step story of a migrant's journey to Europe (Oct 2018)

SPECIAL REPORT: Wildlife trafficking: a global scourge (Sep 2018)

Cybersecurity Research Shows Risks Continue to Rise (Sep 2018)

The major crime trend currently on the rise in South Africa: study (Mar 2018)

'Kidnapping danger growing' (May 2018)

RISK: The demise of South Africa's competitiveness

CONTEXT: Economic development

TOPIC: The demise of South Africa's competitiveness

What to look out for

South Africa dropped to position 67 on the WEF's Global Competitiveness Index.

Why is this important and what does it mean?

- South Africa's steady decline
- Africa's not yet rising.
- The flipside of the coin – the human capital stars

Implications for the relevance of the profession

From number one for seven years running to 30th position in three years, South Africa's strength of auditing and reporting standards have taken a beating.

To remain relevant, the profession will need to address this – with a long view in mind.

Further reading

The Global Competitiveness Report 2017-2018.

SA slides further down WEF's global competitiveness index (Oct 2018)

SA's Global Competitiveness – What's going on? (Oct 2018)

Africa's economies are still too far off fulfilling the "Africa rising" narrative (Oct 2019)

25 countries where people learn fast, think on their feet, and accomplish a lot at work, ranked (Oct 2018)

TREND: Investor and societal expectations

CONTEXT: Economic development

TOPIC: Investor and societal expectations

What to look out for

Expectations of investors and society of businesses are shifting beyond the triple-bottom-line to purpose.

Organisations have to re-evaluate who they are and what they stand for.

How could this play out?

- The case of BlackRock
- Sustainable investments
- Small businesses and their purpose
- Chasing the pot at the end of the rainbow? Defining your purpose and building towards it.
- The rise of social entrepreneurship
- Hope for South Africa?

Implications for the relevance of the profession

As the demands by stakeholders increase, especially with regards the true transparency and integrity of organisations with noble intent, will the profession be up to the task of meeting those demands and provide levels of assurance on matters that have been outside of its scope up to now?

Further reading

Larry Fink's Annual Letter To CEOs - A Sense Of Purpose (Jan 2018)

Killing BlackRock's Fossil Fuel Investments With Kindness (Sep 2018)

BlackRock won't cut ties with Saudis if it turns out the kingdom ordered Khashoggi's slaying: CEO Larry Fink (Oct 2018)

Sustainable investing is attracting strong support (Oct 2018)

Purpose And People - Small Businesses Re-write The Rules For A New Economy (Oct 2018)

How You Can Execute Self-Discipline As You Work On Your Purpose, Project, Or Business (Oct 2018)

How to build a purpose-led business (Oct 2018)

How Entrepreneurs Can Make a Real Change? (Oct 2018)

Young social entrepreneur says staying grounded is key to any business' success (Oct 2018)

Youth in SA townships could unlock job creation, summit hears (Oct 2018)

RISK: Limited resources

CONTEXT: A viable world (Economic / Environmental)

TOPIC: Limited resources

What to look out for

We have reached our planetary boundaries – what are the signs of the times and how will we respond?

- 'Earth overshoot day' is counting the toll on our planet
- Where are our planetary boundaries?
- Tackling food loss and waste
- No more braais
- New economic models, says the Club of Rome

Implications for the relevance of the profession

Do financial statements truly reflect the cost of business? Questions are being asked how will we quantify the cost to the environment and society if business practices are using supposedly free resources (like clean air), or inadvertently destroying other (like aquafers).

How will the profession respond to this movement to stay relevant?

Further reading

Earth Overshoot Day (n.d.)

The nine planetary boundaries (2015)

Feeding 10 billion people by 2050 within planetary limits may be achievable (Oct 2018)

Meat Consumption Needs to Drop by 90 Percent, Climate Scientists Say (Oct 2018)

A smarter scenario (Oct 2018)

Gloomy 1970s predictions about Earth's fate still hold true (Oct 2018)

TREND: The circular economy

CONTEXT: A viable world (Economic / Environmental

TOPIC: The circular economy

What to look out for

Of all the potential new economic models under consideration, the one that speaks to our environmental priorities directly is the circular economy.

We need to move away from a 'take-make-waste' world to one of reuse, recycle or repurpose.

- The answer to true sustainability is a circular economy – which is more than just less waste.
- Food waste and 3D printing – closing the loops
- The benefits of technological progress
- Be prepared
- The Dutch example

Implications for the relevance of the profession

Sustainability reporting should be a tool that encourages and promotes the circular economy. Not only does the public need to know what happens at the end of the chain – landfill or refill, but for organisations who embrace the concept, it can be a powerful tool to gain trust and respect in society and communities.

Who will share this message? The PR companies or the trusted auditors and accountants?

Further reading

The World We Are Living In Requires A New Economic Model (May 2016)

Make the most of your compost by transforming it into 3D printing filament (Oct 2018)

Finnish companies showcase circular economy technologies in Japan (Oct 2018)

Three Ways Organizations Can Prepare for the Circular Economy (Oct 2018)

Turning the circular economy into reality (Oct 2018)

Circular Economy | Dutch Plastic Road (Oct 2018)

RISK: Failure to mitigate climate change

RISK

CONTEXT: Environmental responsibility

TOPIC: Failure to mitigate climate change

What to look out for

All indications according to the latest climate change report, is that we are less than one degree centigrade from disaster.

What now?

- Can we reduce our global material consumption by 20%?
- We need more greenery
- Our health is at risk
- Financial implications of exposure to climate risk

Implications for the relevance of the profession

Risk management is of paramount importance in the management of and assurance for organisations.

Have companies honestly come to grips with the potential impacts climate change and has it been factored into long-term strategic planning.

Who should be asking these questions around the boardroom table?

Further reading

The Dire Warnings of the United Nations' Latest Climate-Change Report (Oct 2018)

IPCC: Climate scientists consider 'life changing' report (October 2018)

The Hope at the Heart of the Apocalyptic Climate Change Report (Oct 2018)

Climate change: Five cheap ways to remove CO2 from the atmosphere (Oct 2018)

How climate change will affect your health (Oct 2018)

How can we mainstream major climate risks into financial reporting? (Oct 2018)

RISK: Biodiversity loss and ecosystem collapse

CONTEXT: Environmental responsibility

TOPIC: Biodiversity loss and ecosystem collapse

What to look out for

Mother Nature is under attack – insects, animals, birds and whole habitats are at risk of being lost forever.

What are we facing?

- Extinction is outpacing evolution
- Goodbye hyperdiverse tropical ecosystems
- All things great and small
- Can technology save us?
- The cost to society

Implications for the relevance of the profession

The soul of humanity is at risk if we wipe away thousands of our fellow Earth-species.

Integrity also means consistency and the members of the profession need to ask themselves whether the sustainability that they and their businesses are pursuing is congruent with their conduct in their personal lives.

When last did they use a plastic straw or bag or just not bothered to recycle?

Further reading

What Is Biodiversity Loss and Why Is It a Problem? (Jun 2018)

We're Killing Off Animal Species So Fast Extinction Is Outpacing Evolution (Oct 2018)

Time is running out in the tropics: Researchers warn of global biodiversity collapse (Jul 2018)

Why scientists are so worried by the huge, sudden loss of insects (Oct 2018)

Can Technology Save Life On Earth? (Sep 2018)

Extinction is a natural process, but it's happening at 1,000 times the normal speed (Jul 2018)

RISK: The end of water as we know it

CONTEXT: Environmental responsibility

TOPIC: The end of water as we know it

What to look out for

The growing global demand for water is taking the water scarcity debate to a whole new level.

- It's a geopolitical issue
- It's a social and human issue
- The Afghan war of water
- Is progress in desalination the answer?

Implications for the relevance of the profession

Another risk to be monitored, evaluated and mitigated, water remains essential for survival on this planet.

Can collective action and investment safe us from Day Zero?

What influence do these environmental and social challenges have on the investment decisions of those members of the profession with the wallets in their hands?

Further reading

3 trends that could make water security a big test for politicians across nations (12 October 2018)

When Water Scarcity Leads To Violent Crime (Oct 2018)

Is Water Scarcity a Bigger Threat Than the Taliban in Afghanistan? (Oct 2018)

The Ultimate Solution For Global Water Scarcity (Oct 2018)

RISK: The shift to renewable energy sources – too little too late?

CONTEXT: Environmental responsibility

TOPIC: The shift to renewable energy sources – too little too late?

What to look out for

There are few arguments left that a global shift towards renewable energy is paramount for the survival of our planet. Progress and innovation in this field abound, but it seems that we might just have left it too late…

- Power to Blockchain, peer-to-peer energy exchanges and carbon emission management.
- Ikea jumps on the solar bandwagon
- The switch to renewables is fighting against politics, but we cannot give up.
- South Africa – the good the bad and the ugly

Implications for the relevance of the profession

As with water, energy investments decisions should also be taken with sustainability in mind.

Furthermore, how will the emergence of distributed electricity be reflected financially, what are the taxation implications?

The profession has a duty to address these uncertainties.

Further reading

Power Ledger to provide Peer-To-Peer Renewable Energy Trading at Yolk's Evermore Development at White Gum Valley (Jul 2018)

IBM delivers blockchain carbon management (Mar 2017)

Ikea starts selling solar panels and home battery packs (Aug 2017)

Renewable Energy Is Ready to Overtake Fossil Fuels. Will We Let It? (Oct 2018)

Mark Your Calendars: 2035 Will Be Renewable Energy Tipping Point (Oct 2018)

OPINION: The unexpected job market being created by renewable energy (Oct 2018)

Why South Africa can't make a massive shift to renewables – yet (Oct 2018)

TREND: The rise of the conscious consumer

CONTEXT: A livable world (Environment / Social)

TOPIC: The rise of the conscious consumer

What to look out for

In the developed world, many see conscious consumerism as a neo-liberal fad or a marketing ploy.

Is there substance to the movement and how will it play out in developing countries where for many survival is the only priority?

- Authenticity and communication are key.
- Gen Z is leading the charge and Millennials are not prepared to pay more
- In India, it's about karma
- From Lagos to Cape Town, Africa's fashionistas are showing the way

Implications for the relevance of the profession

The conscious consumer also includes the customers of the profession.

The relevance and cost of the services of the profession will be scrutinised relentlessly in the years to come and as long as the needs of the business community and society are met at a price that is reasonable the profession has a hope of survival. If not, alternatives are waiting in the wings, ready to disrupt and eager to supplant.

Further reading

The Rise Of Responsible Consumerism (Dec 2017)

Consumers Ready to Reward Brands That Take Stands (Jun 2018)

Brands Take Note: Gen Z Is Putting Its Money Where Its Values Are (May 2018)

Premium prices pose a barrier to the rise of 'conscious consumerism' among European shoppers (Oct 2018)

Conscious, sustainable living is not a compromise anymore (Oct 2018)

Here's how new initiative Designer's Consociate is promoting conscious consumerism (Oct 2018)

Securing a future for fashion - in conversation with Jackie Burger (Mar 2018)

TREND: The ratings society

CONTEXT: A livable world (Environmental / Social)

TOPIC: The ratings society

What to look out for

Ever since E-bay added ratings to their site, online validation has exploded. From Uber to Glassdoor, there is a reputation rating for everything.

Now that AI is starting to do the ratings what are the implications and can it be pushed too far?

- Building up social credit in the digital era
- The Future of Big Brother – China takes social ranking to the next level
- Is integrity ratings next?

Implications for the relevance of the profession

The profession's value is substantially embedded in the credibility it gives its members. Using the CA(SA) designation is akin to wearing a badge of integrity.

What if there are better ways of judging a person's integrity? One that is real-time and validated and that reflects not only the visible actions of an individual but also the hidden ones? Will there still be a need to spend almost seven years in training for a moniker that is only validated up to a point?

Further reading

Reputation and the rise of the 'rating' society (Oct 2015)

The tyranny of algorithms is part of our lives: soon they could rate everything we do (Mar 2018)

Social Credit Systems: The Death of a Free Society (Sep 2018)

Will We Accept Social Ranking Systems? (Dec 2017)

Sigma Ratings: World's first 'integrity rating' agency launched. (Jun 2018)

CONCLUDING REMARK ON TRENDS AND RISKS IDENTIFIED

This assessment of trends and risks are valid for a point in time; they are current now. However, these trends, risks and signals are forever evolving. It is up to each member of the profession to stay abreast of those factors that will influence, not only the profession but the environments in which they operate. Scanning for impacts should be broad and unrestricted. We live in an interconnected world, and just the naïve can afford to claim that these factors 'have no impact on me whatsoever'.

SECTION 4: TECHNOLOGY – AN ENABLER OR A THREAT?

"Any sufficiently advanced technology is indistinguishable from magic" (Clarke, 1973).	"The difference between technology and slavery is that slaves are fully aware that they are not free" (Taleb, 2010)

Technology, says Martin Butler, is like a knife. Either you use it in the kitchen to prepare food, or it is a murder weapon. It is up to us to decide whether we use it to slice bread or arteries.

4.1 Technology as an enabler

PwC calls them the "essential eight technologies", and there is no doubt that they will transform the finance function:

- artificial intelligence (AI)
- augmented reality
- blockchain
- drones
- the Internet of things
- robotics
- virtual reality
- 3-D printing.

In combination or on their own these technologies are poised to transform the finance profession specifically and business in general. While robotics through robotic process automation, AI and blockchain are likely to have the most significant impact in the short to medium term (Confidence in the future: Emerging technology for the finance function, 2018), the real long-term benefits of all of these technologies are still to be discovered.

If, however, the speculation holds, these technologies and those yet unimagined have the potential to positively transform the world in which the CA's of tomorrow will operate in. For a profession in the pursuit of integrity and truth, it is the possibilities that these technologies present to take transparency to new levels; to monitor, analyse and interpret structured and unstructured data; and to have perennial traceability, that excites and encourage.

Implications for the relevance of the profession

As mentioned in Section 1, it is the leaders who, amongst others, are technology savvy and who can work with people and technologies who will thrive in the 21st century. The WEF believes that despite the threat of automation eradicating many jobs functions, it is more likely that humans will be working side by side with robots or AI devices (Tse, Esposito, & Goh, 2017). Managing those relationships will be key, also for the CA profession. The members of the profession have to stay abreast of technological advances and to deploy them, with the necessary due diligence, where appropriate and relevant. Technology has the power to help the profession to propel to levels of professional rigour that have just not existed up to now. It is up to SAICA members whether they make use of this opportunity to keep the profession relevant.

Further reading

Name of resource	Themes and keywords
PwC: Robotic process automation: A primer for internal audit professionals (Report – Oct 2017)	Robotic Process Automation, Internal Audit
PwC: Confidence in the future - Human and machine collaboration in the audit. (Report - 2017)	AI, Assurance, Automation, Virtual reality, Natural Language processing
Accenture: A holistic approach to insurance automation. (Report - 2018)	Robotics, Process, Assurance, Automation spectrum
The CPA Journal: How Robotic Process Automation Is Transforming Accounting and Auditing. (Article – Jun 2018)	Automation, Artificial Intelligence (AI), Machine Learning, Robotics
McKinsey: The next acronym you need to know about: RPA (robotic process automation) (Article - Dec 2016)	Robotics, Automation
Futurism: The World's First Practical Quantum Computer May Be Just Five Years Away (Article – Sep 2018)	Quantum computing, Analytics, Big Data
PwC: Tomorrow's world – a revolution begins. (Report - 2017)	Big Data, Analytics
PwC: What blockchain means for finance (Website)	Blockchain, Processes, Transparency
Technology Review: The World Bank is a verified blockchain booster (Article – Sep 2018)	Blockchain, Poverty

4.2 Technology as a threat

As much as it is an enabler, technology holds a number of threats to the profession and society that should not be dispelled. The most-publicised of these threats is arguably the vulnerability of certain types of employment to automation. Figure 8 illustrates this vulnerability of a few existing jobs. Particularly noticeable is the 98% possibility of the current tasks of audit clerks to be automated; in the near future these tasks will probably need drastic reimagining.

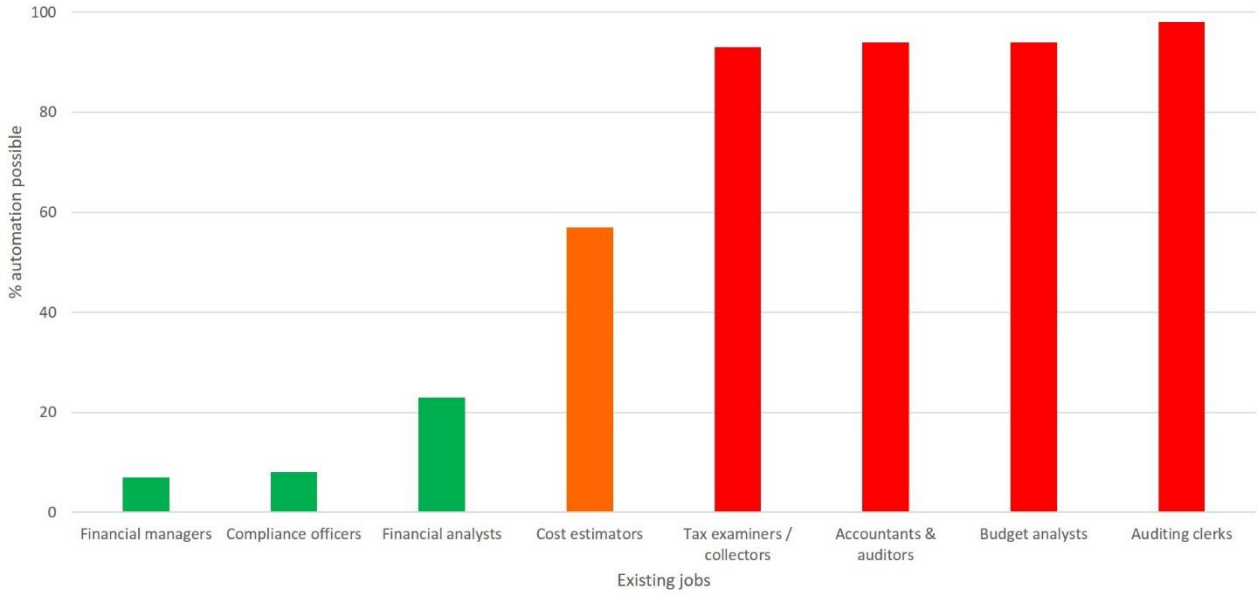


Figure 8: Vulnerability of selected existing jobs to automation (Source: Compiled from www.willrobotstakemyjob.com)

As mentioned above, extensive reports from the World Economic Forum (WEF), the OECD and PwC on the subject however emphasise that the focus should be less on when and where automation has an impact, but rather on the skills that the workforce of the future will need to acquire to counter the risk embedded in this threat (See Section 1).

A further threat to society which technology presents is embedded in the algorithms that fuel the world of artificial intelligence. Already there have been reports of how the algorithms perpetuate the unconscious biases of society in areas such a credit scoring, hiring practices and in the criminal justice system. If those in the profession wish to stay true to their core by conducting business in a sustainable and ethical manner, they will need to ensure that the algorithms in their environments remain free from any of these biases.

As the ramifications from the data breaches at Facebook still ripple through social media, it becomes glaringly apparent that data, which is the fuel that feeds the algorithms and AI, should be treated with high levels of circumspection. Deloitte (Eggers, Hamill, & Ali, 2013) has called data the "new currency" and since the recent implementation of the EU's General Data Protection Regulations there is no longer any doubt that, like with other things of value, the risk and controls that govern its protection, will need to be applied consistently and with rigour, and it will need to be evaluated and tested. With over 75 billion connected Internet of Things (IoT) devices predicted for the year 2025 (Columbus, 2017), increased vigilance in the field of data seems inevitable.

Implications for the relevance of the profession

The profession needs to ensure that it deploys technology in a responsible and ethical manner. As it embraces AI and machine learning, the members need to maintain their revered professional scepticism to ensure that algorithms are free of bias and that there are sufficient safeguards against malicious intent. This sensitivity should extend to any professional services advising or guiding businesses. It is also their duty to their ultimate clients, the public, to evaluate and mitigate risks and privacy issues that might arise from the surge in open data practices. Members should actively participate in the processes and procedures that have to fend off cybercriminals, playing an essential educational as well as an advisory role in this space.

Further reading

Name of resource	Themes and keywords
PwC: How will automation impact jobs? (Website and reports – Feb 2018)	Automation, Financial services jobs, Education and retraining
WEF: Here's how vulnerable to automation your job is (Article – Aug 2018)	Automation, Training gap, Skills
Will robots take my job? https://willrobotstakemyjob.com/	Automation, digitisation, robots
Raconteur: The ethics of AI: how to hold machines accountable (Article – May 2018)	AI, Ethics
Data Society: Governing Artificial Intelligence - Upholding Human Rights & Dignity (Report – Oct 2018)	Big Data, AI, Dignity, Human Rights
CGMA: Changing technology and finance (Report – Jun 2018)	Future of finance, Strategy and innovation, Technology and analytics

Name of resource	Themes and keywords
McKinsey: Notes from the AI frontier: Modeling the impact of AI on the world economy. (Article – Sep 2018)	AI, World Economy
PwC: The centrality of cybersecurity. (Blog – Jan 2018)	Cybersecurity
Technology Review: Cybersecurity: The Age of the Megabreach. (Article Jan 2016)	Cybersecurity, Managing risk and control
ISACA: Will Quantum Computing Break the Internet? (Blog – Sep 2018)	Quantum computing, Cybersecurity, Risk and control
McKinsey: A new posture for cybersecurity in a networked world (Article – March 2018)	Cybersecurity, cyber-protection, complexity
McKinsey: Unprotected (Article – N.d)	Cyber-vulnerability, Internet of Things, Cybersecurity

SECTION 5: THE ROLE OF THE PROFESSION – MEASURE, REPORT, INTERPRET AND ASSURE

> *The* Information Age offers much to mankind, and I would like to think that we will rise to the challenges it presents. But it is vital to remember that information — in the sense of raw data — is not knowledge, that knowledge is not wisdom, and that wisdom is not foresight. But information is the first essential step to all of these.
>
> Arthur C Clarke (2003)

Having considered the various contexts in which the profession operate, this scan will conclude with the role of the profession with a view on the factors that can influence that definition going forward.

5.1 The rules of the game

The profession currently operates within a specific set of standards, regulations, codes and legislation. Part of the current relevance of the profession is the expertise of its members to understand the requirements of these artefacts and to apply them appropriately to the situation at hand.

These artefacts are by no means static and are influenced by the changes in the world around them. Increased globalisation means that, at the moment, some of these artefacts are converging across geographical boundaries. However geopolitical upheaval and protectionism might not only swing the pendulum away from convergence, but it could also result in a transformation of legislation and regulations. Similarly, if there are changes to economic structures, accounting and auditing standards could be impacted. In addition to those rules that apply to business at large, there are also the industry-specific laws and regulations that need to be considered. The current evolution of, for example, the energy sector has implications for the applicable legislation, regulations and reporting standards.

There is also the grey world of guidelines and recommendations which the profession cannot ignore. From the adoption of integrated reporting and the SDGs to the more recent proposals by the Taskforce for Climate-Related Financial Disclosures (TCFD), the world of economics and those concerned with society and the environment are continually looking for more information.

The issue of Blockchain is controversial. As a distributed ledger, the technology holds immense power for promoting transparency, but how does it mesh with the recently promulgated General Data Protection Regulation ((GDPR). The GDPR permits that data can be erased or made private, whereas the point of putting data in blockchain is to ensure that it cannot be amended. Although they have

started to open the conversation, the UK government, for example, is at least three to five years away from any regulations in the blockchain space, despite the recent Bank of England proof of concept to use it in payment synchronisation (Clarke L. , 2018)

The other fields that are rife with potential pitfalls is that of Artificial Intelligence (AI) and machine learning. From the algorithms that run hedge fund trading desks to those sifting through job applications, there are currently no definitive industry regulations aimed at protecting the public. Seen as a self-regulating industry, it is therefore small consolation when companies acknowledge the biases of their AI tools and discontinue the use thereof, as Amazon recently did when they retired an AI recruitment tool that apparently disliked women (Dastin, 2018).

There are issues that should be addressed sooner rather than later:

- Who will make the rules when humans and robots start to work side-by-side?
- Should HR and IT departments merge?
- Who will be held accountable for the outcomes of collaborative efforts between humans and robots?

The future of rules, regulations, legislation and standards are as complex and as diverse as the DNA of the humans who need to write them.

Implications for the relevance of the profession

The profession strives towards having members who know the rules of the games they engage with. However, not only are the rules changing, the nature of the games are also changing. To stay relevant, the profession has a choice:

- It waits for new rules and regulations to come across its path, and it embraces them as a given; or
- Based on its bulky treasure chest of knowledge in the realm of rules, regulations, standards and (above all) ethics, the profession can be part of the conversation that shapes the next rules and regulations.

Further reading

Name of resource	Themes and keywords
Medium – The Startup: Should Bitcoin be regulated? (Article – Mar 2018)	Bitcoin, Blockchain, Regulations, Identity Management
Espeo Blockchain: How blockchain regulation should look (Article – Jun 2018)	Blockchain, Regulations

Name of resource	Themes and keywords
Computer World UK: How do we legislate for AI in algorithmic trading? (Article – Feb 2018)	AI, Trading, Legislation
Chartered Accountants ANZ: The Regulator of 2030: Regulating our digital future (Report – Jun 2017)	Automation, Innovation, E-commerce, Digital Disruption
The Conversation: Beyond Asimov: how to plan for ethical robots (Article – Jun 2016)	Robotics, Ethic
Digital Journal: Q&A: How will AI reshape society? (Article – Sep 2018)	AI, Regulations, Privacy, Ethics

5.2 The yardsticks and the storyboards

Well-known management guru, Peter Drucker allegedly said that 'if you can't measure it, you can't improve it.' Accountants' toolboxes are filled to the brim with mechanisms which they use to measure financial performance. Earnings per share, liquidity, cash flows, turnover and return on equity is like a second language for those schooled in the ways of accounting and finance.

When it comes to reporting, there are a plethora of instruments that tell the financial story of an organisation, most commonly annual audited financial statements, management reports and quarterly reports. In recent years financial reporting has been supplemented with sustainability reporting, triple-bottom-line reporting or integrated reporting as mentioned in Section 2 although auditors currently don't have to provide an opinion on them.

As integrated reporting becomes more widely used and understood, investors are relying more and more on this set of information, not always realising that it has not been signed off by the auditors. *Business Day* recently reported that the IAASB is in the process of putting together guidelines to assist companies in reporting on non-financial measures, and there is talk that eventually, on the back of investor pressure, auditing for these non-financial measures will probably become mandatory (Buthelezi, 2018).

As much as the prospect of extending their reach might excite or terrify SAICA's members, this remains a very sanitised view of the realm of measuring and reporting. As pointed out in Section 3 there are macro trends, such as the search for new economic models and the rise of the circular and sharing economies, that could either present an opportunity to the profession to add even further value to their clients and society.

Fortunately, there are already international members of the profession who in partnership with related industry experts are working on the future of reporting with precisely these macro objectives in mind. Established in 2013, this partnership calls itself *Reporting 3.0*. It operates as a collaborative platform that uses alliances, events and research to develop and disseminate content in the reporting space. To quote their website "The Mission of the Reporting 3.0 Platform is to help catalyze the trigger-function of reporting to spur the emergence of a regenerative and inclusive global economy. To achieve this transformation, Reporting 3.0 curates a collaborative, pre-competitive, neutral space where stakeholders from across the reporting spectrum gather to co-create the design needs and pilot new best practices for future-fit reporting" (About Reporting 3.0, n.d.).

Implications for the relevance of the profession

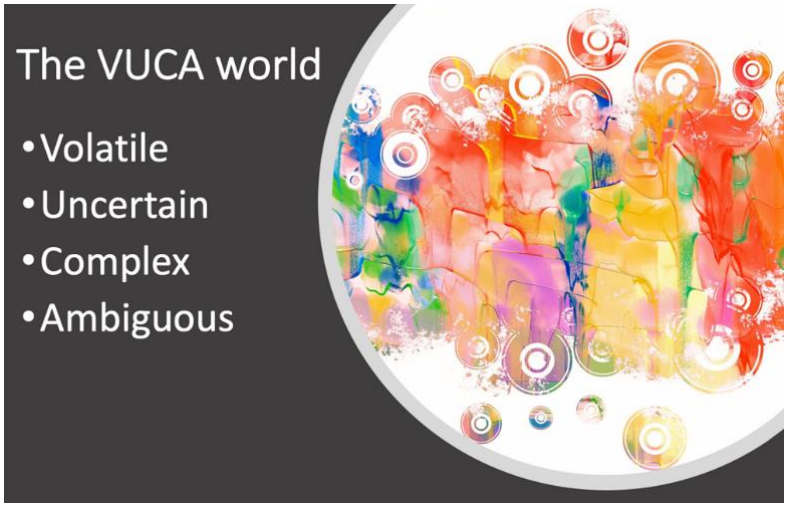
As demonstrated there are already those who have taken up this challenge. Not all of them are CAs, and very few are from South Africa. To remain relevant in such an essential aspect of its mandate, the local profession needs to find a seat at this table.

Further reading

Name of resource	**Themes and keywords**
IRBA: Assurance on Integrated Reports (Website)	Integrated Reports, Sustainability Reports
Triple Pundit: What to Anticipate in ESG Reporting for 2019 (Article – Oct 2018)	Corporate Responsibility. ESG Reporting
S&P Global: S&P Global Ratings' Proposal For Environmental, Social, And Governance (ESG) Evaluations (Report – Sep 2018)	ESG Reporting
GRI: Harnessing the power of sustainability reporting in Africa: on the road to sustainable development (Article – Sep 2018)	Sustainability reporting, Sustainable development.
Chartered Accountants ANZ: The Future of Financial Reporting: A Question of Influence (Article – Oct 2016)	Reporting

5.3 The business of audit and the audit of business

Also known as financial and risk management, corporate governance and controls and assurance, these are the things that the public have come to expect from professional accountants and auditors. Whether in- or outside of public practice, all the members of SAICA have one thing in common, the world in which they meet these expectations can be summarised by the popular acronym, VUCA.



Not only are the businesses that they have to audit or manage becoming more and more complex, the external environment is even more so. Uncertainty and volatility is rife, from the financial markets to the weather, and ambiguity lurks around every corner as the world is shifting towards an age where it is becoming harder to sense where humans end and technology begins.

The real test for the survival of the audit and accounting profession into the future will be how these professionals deal with such a world. Thus far, this paper has dealt with a number of these uncertainties and complexities, from the macro-environment to the changing composition of the workforce. This section speaks specifically to the mechanistic aspects of the role of auditors and accountants, respectively and therefore does not contain paragraphs dealing with the implications of these comments for the future relevance of the profession. By implications all of these points are relevant.

The business of audit

Susan S. Coffey, the Executive Vice President - Public Practice for the American Institute of CPAs, summarises the factors that will play a role in audit processes of the future into the following four categories:

(i) Technology

Much has been said about technology (See Section 4). The impact that technology can have on the audit process is cause for celebration. The appropriate technologies will be able to enhance not only the quality but also the timeframes of the audit process.

It is entirely foreseeable that assurance will no longer be a periodic process but a continued one, powered by data analytics and artificial intelligence. Robotic process automation will have internal audit mechanisms built in, and drones will do remote asset verification.

(ii) Methodology

More data-driven than ever before, auditors will no longer have to limit themselves to the financial information in the financial systems but can cross-correlate between internal and external data, financial and operational. Sampling should be a thing of the past, as blockchain tracks all the transactions all the time.

(iii) Standards

This aspect has also been covered extensively earlier in this section. However, it is worth mentioning that new standards could be a catalyst for innovation and renewal in the audit profession if they are developed with the future in mind.

(iv) New skills

In addition to the soft skills covered in Section 1, it is worth emphasising how vital technology skills will be for the auditors of the future. Data science and analytics, the ability to evaluate algorithms, program RPA's and drones, cybersecurity expertise will be necessary areas of specialisations for various members of the profession.

Further reading

Name of resource	Themes and keywords
Journal of Accounting and Finance: Integrated Reporting & the Future of Auditing. (Paper – Vol. 16 (1) 2016)	Integrated reporting, Assurance, Purpose, Sustainability, Analytics, Forensics.
ICAEW: The Future of Audit – A manifesto for change (Website)	Audit, Assurance, Corporate Reporting, Blockchain
Thomson Reuters: 4 Keys to the Future of Audit (Report – 2018)	Quality, Innovation, Talent, Relevance

Name of resource	Themes and keywords
4 Keys to the Future of Audit (Video – Jul 2018)	
Journal of Information Systems and Technology Management: The Future of Audit (Paper – Vol 11(1) Jan/Apr 2014, pp. 21-32)	Future of Audit
Grant Thornton & ACCA: The Future of Audit (Report – Mar 2016)	Assurance, Digital technologies, Stakeholders, Big Data.
PwC: The Future of Audit (Videos – n.d.)	Assurance, Professional Scepticism, Reporting.
Journal of Accounting: How audit methodologies will change in the future (Article – Jun 2017)	Assurance, Auditing

Financial and risk management, and corporate governance

Commentators agree that the roles of those responsible for the finances and risk management are about to become more extensive. No longer isolated as 'services', both financial and risk management will become part of the broader operations and strategy in the organisation.

The CGMA, in their recent paper, *The changing shape of the finance function,* describe finance professionals as 'partners in the creation and preservation of value' with a unique end-to-end view of the organisation (2018).

They also comment that instead of the traditional pyramid-shaped hierarchy that most current finance functions operate under, the finance function of the future will be closer to that of a hexagon. It is primarily those who are in the position of leading the team, who will need to be able to cope with the VUCA world. They are the ones that will be requiring mental agility and people skills. The thinning of the structure towards the bottom is as a result of the increased automation of the routine functions (CGMA, 2018).

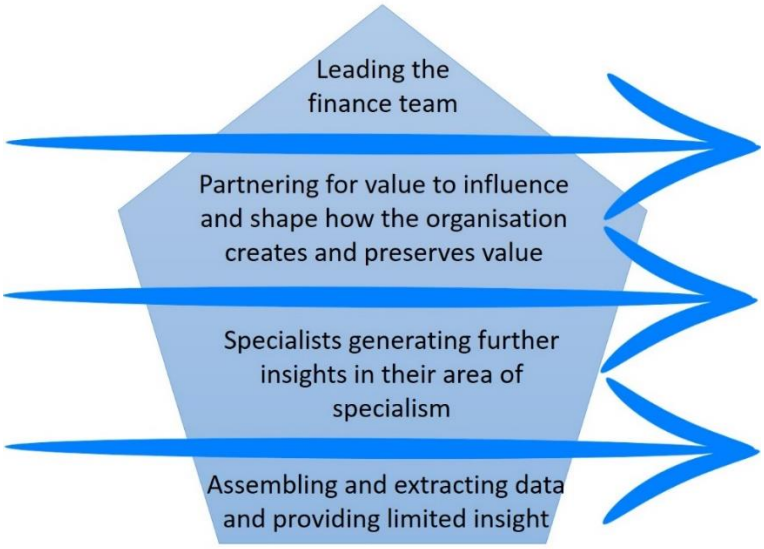


Figure 9: The future shape of the finance function (CGMA, 2018)

The most critical shift, however, is not the new shape but the transformation from information producers to genuine partners contributing to the development and the deployment of solutions (CGMA, 2018). As for the risk management function, it is the opinion of both PwC and Deloitte in their respective articles, that those responsible for risk management should also be elevated, with the primary purpose of contributing to strategy. The failure to mitigate against known risks is no less important than the inability to capitalise on an opportunity to disrupt and innovate. It could be argued that the manner in which the role of the risk manager of the future is described in the prevailing literature, makes it sound much closer to that of a foresight practitioner than a policeman.

Another viewpoint on the role of the finance professional which speaks acutely to the points made in Section 2 are the statements made by Jan Herringer, a partner at BDO in the USA at a recent Accounts Club of America meeting. Quoted by Lee, Herringer speaks specifically of the Chartered Accountants being the 'conscience' of the accounting profession and even of the economy for the creation of value and sustainability (2018). She concludes, "Champion the ability for integrated reporting, for diversity, inclusion, to challenge the status quo….We need to understand what's beyond today, beyond the fiscal quarter … This is the long-term thinking I'm talking about, the kind of long-term thinking we need."

This opinion of Herringer as it pertains to CAs, concurs strongly with the most pervasive views on the future role of directors in the interest of corporate governance. In the light of some recent examples of the erosion of stakeholders trust in organisations, Craft suggests that it is up to those in governance roles to take up the mantle of restoring that trust (2017).

Further reading

Name of resource	Themes and keywords
CGMA: The changing role and mandate of finance (Report – Jun 2018)	Future of finance, People and leadership skills, Technology and analytics
PwC: Why today's CEOs need risk managers who can see around corners. (Blog – Sep 2018)	Risk management, Foresight.
PwC: Taking the Wide-Angle View: The Changing Role of the Risk Professional. (Blog – May 2018)	Risk professional, Regulations, Cybersecurity, Innovation.
Deloitte: Resetting the front line of defence (Article – Sep 2018)	Innovation, Enterprise Risk Management, Emerging technologies, Blockchain, Internet of Things (IoT), Risk management, Cyber risk.
The British Academy: The future of corporate governance: how can business make corporate governance fit for purpose? (Article – Jul 2018)	Corporate Governance
Deloitte: Framing the future of corporate governance (Website)	Corporate Governance, Risk, Culture, Frameworks
WEF: The future of corporate governance (Article – Nov 2013)	Corporate Governance, Corporate Citizenship and Compensation
Medium: The future of corporate governance and the role of directors (Article – Jul 2018)	Directors, AI, Blockchain, Decentralised Autonomous Organisations.

5.4 Interpretation through integrated thinking

Fundamentally, the conventional thinker prefers to accept the world as it is. The integrative thinker welcomes the challenge of shaping the world for the better

Martin (2009)

Many would acknowledge that for a long time interpretations by members of the profession have been subservient to the rest of their roles. In the cases where interpretation was called for it usually would have been limited to a view on the numbers in the financial statements.

This paper has repeatedly illustrated how the role of the profession is starting to expand. In the evolution of the finance professional, interpretation coupled with true wisdom is the ultimate goal. In the hierarchy of knowledge, wisdom is defined as 'contextualised insight and understanding; the ability to ask the right questions and to make the right choices.' (Spies, 2017).

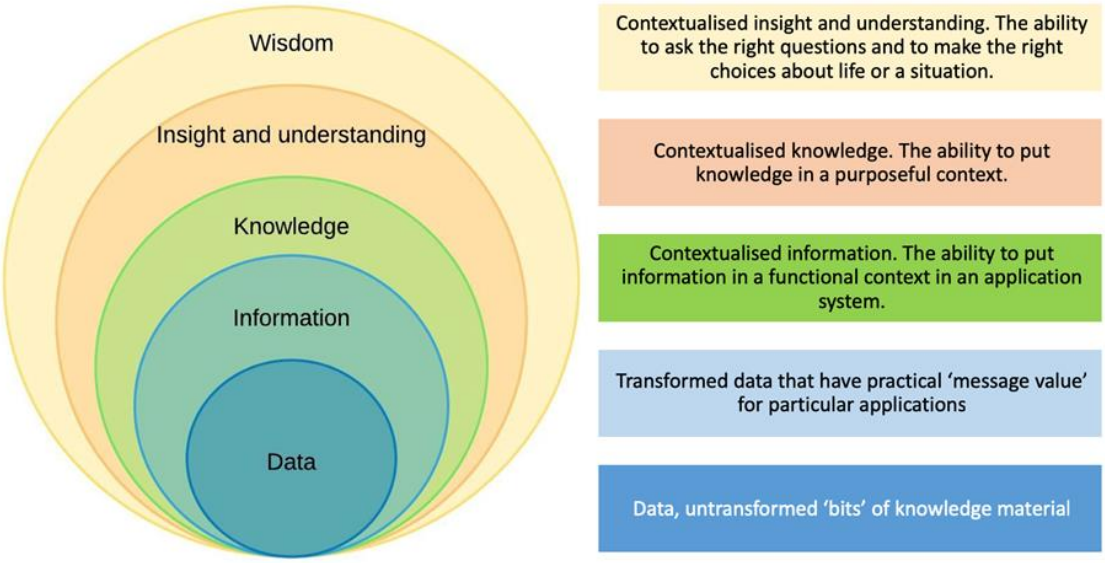


Figure 10: The knowledge hierarchy (Spies, 2017)

To gain the level of contextual insight and understanding referred to, the members of the profession must rid themselves of any residual narrow and linear perspectives and embrace integrated thinking. Mervyn King and Leigh Roberts described integrated thinking as "… seeing the connections of the resources and relationships, how they connect to the different functions, departments and operations in the company and getting the company as a whole working together in achieving the strategic objectives" (2013, p. 55). Once aware of these connections and relationships, one cannot return to ignorance. It is the finance professional that sees the organisational system holistically within the context of the bigger external systems that will be able to ask the most poignant questions and be able to provide insights towards value creation. The audience for these insights can range across the full spectrum of the organisation's stakeholders. Interpretations and insights that are contextualised for its specific audience could be seen as imparting wisdom. Data might be Big in the 21st century, but the wisdom that translates it into value is priceless.

Further reading

Name of resource	Themes and keywords
The Accountant-Online: Integrate: Doing Business In The 21st Century, Iirc Welcomes Major Milestones (Article – Dec 2013)	Integrated thinking
CIMA Global: Integrated thinking (Report – Aug 2017)	Integrated thinking
SAICA: Integrated Thinking (Report - 2015)	Six capitals, Integrated thinking, Integrated reporting
Acuity: Rethinking the future of audit (Article – Feb 2018)	Advisors, Interpreting information, Asking questions.

CONCLUDING REMARKS

The profession, in its existing format, is at risk. But, the personal qualities of CA's are, and will remain, in demand. The world needs professionals that they can trust; people with bright minds, disciplined approaches, a systems view of the world coupled with a significant dose of professional scepticism that are able to act as integrators in a very complex world.

Figure 11 is a visual summary of the topics covered in this report.

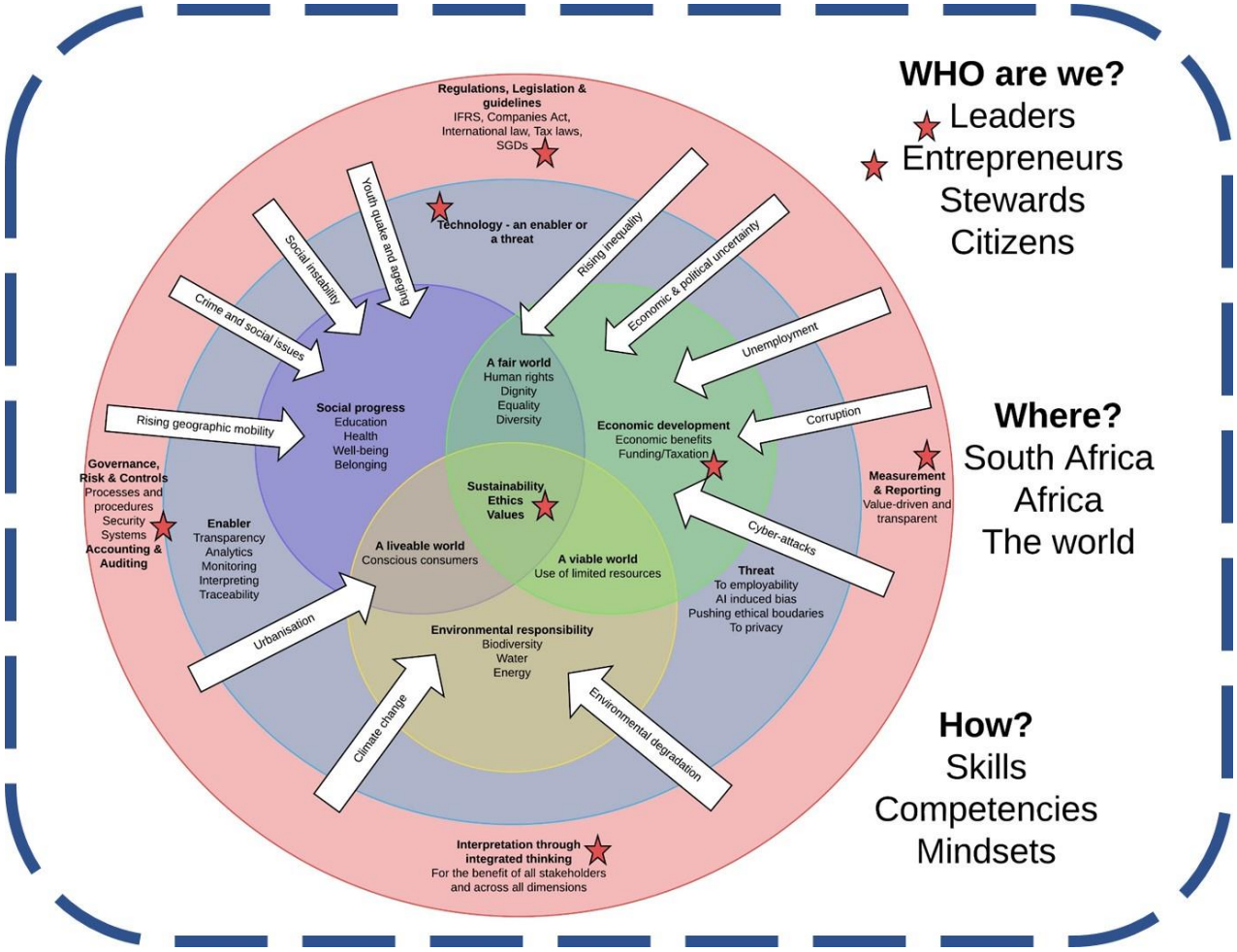


Figure 11: Summary of issues covered in this report

The extent to which these observations will be relevant to the future of the profession is an inexact science. There are multiple possible futures for SAICA and its members, and it is up to them to use the foresight gained as a result of interacting with this report to determine which the preferred future for them is and what the things are that need to be done in order to attain that preferred future.

According to Valery-Radot (as cited in Eckert & Stacey, 1998), Louis Pasteur famously said in 1854, the same year that the first CAs in Scotland started using the designation, "fortune only favours the prepared of mind". Let's hope that fortune favours the CAs(SA) who chose to prepare their minds.

LIST OF SOURCES

Anthony, S. D., Viguerie, S. P., Schwartz, E. I., & Landeghem, J. V. (2018, February). *2018 Corporate Longevity Forecast: Creative Destruction is Accelerating*. Retrieved from https://www.innosight.com/insight/creative-destruction/

Bam, L., & Lamola, F. (2018, October 22). *SAICA Board Digest October 2018*. SAICA.

Business Wire. (2017, November 15). *Millennials Stand for Globalism and Want to Shape the* Future. Retrieved from https://www.businesswire.com/news/home/20171115005572/en/Millennials-Stand-Globalism-Shape-Future

Buthelezi, L. (2018, October 23). *Regulatory bodies mull auditing all parts of integrated reports.* Retrieved from https://www.businesslive.co.za/bd/national/2018-10-23-regulatory-bodies-mull-auditing-all-parts-of-integrated-reports/

Carolis, D. (2014, January 9). *We Are All Entrepreneurs: It's A Mindset, Not A Business Model.* Retrieved from https://www.forbes.com/sites/forbeswomanfiles/2014/01/09/we-are-all-entrepreneurs-its-a-mindset-not-a-business-model/#378dd6aad84f

CGMA. (2018a, June 1). *The changing role and mandate of finance*. Retrieved from https://www.cgma.org/resources/reports/changing-role-and-mandate-of-finance.html

CGMA. (2018b, June 3). *The changing shape of the finance function*. Retrieved from https://www.cgma.org/resources/reports/changing-shape-of-the-finance-function.html

Clarke, A. C. (1973). *Profiles of the Future: an inquiry into the limits of the possible* (Revised Edition ed.). New York: Harper & Row.

Clarke, A. C. (2003, December 5). *Quotable Arthur C. Clarke*. Retrieved from http://clarkeinstitute.org/arthur-c-clarke/quotable-arthur-c-clarke/

Clarke, L. (2018, July 17). *How is the UK approaching financial blockchain regulation?* Retrieved from https://www.computerworlduk.com/security/how-is-uk-approaching-financial-blockchain-regulation-3680781/

Coffey, S. (2018, October 25). *The future of audit Looking ahead in a time of rapid change.* Retrieved from https://www.accountingtoday.com/opinion/the-future-of-audit-looking-ahead-in-a-time-of-rapid-change

Columbus, L. (2017, December 10). *2017 Roundup of Internet of Things Forecasts*. Retrieved from https://www.forbes.com/sites/louiscolumbus/2017/12/10/2017-roundup-of-internet-of-things-forecasts/#2bfa465d1480

Conners, L., Conners, N., DiCaprio, L. (Writers), Conners, L., & Conners, N. (Directors). (2007). *The 11th Hour* [Motion Picture].

Conway, M. (2015). *Foresight: an introduction - A Thinking Futures Reference Guide.* Melbourne: Thinking Futures.

Craft, E. (2017, February 15). *UK: The Future Direction Of Corporate Governance – "Something Must Be Done"*. Retrieved from http://www.mondaq.com/uk/x/568882/Corporate+Governance/The+Future+Direction+Of+Corporate+Governance+Something+Must+Be+Done

Dastin, J. (2018, October 10). *Amazon scraps secret AI recruiting tool that showed bias against women.* Retrieved from https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G

Davies, J. (2018, September 24). *The State of the Sustainability Profession, 2018*. Retrieved from https://www.greenbiz.com/article/state-sustainability-profession-2018

Deloitte. (2015). *Mind the gaps: The 2015 Deloitte Millennial survey (Executive summary)*. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-wef-2015-millennial-survey-executivesummary.pdf

DeRosa, D. (2015, February 6). *Selecting Future Leaders: 4 Essential Characteristics To Look For.* Retrieved from https://www.onpointconsultingllc.com/blog/selecting-future-leaders-4-essential-characteristics-to-look-for

Desjardins, J. (2018, July 2). *10 skills you'll need to survive the rise of automation.* Retrieved from https://www.weforum.org/agenda/2018/07/the-skills-needed-to-survive-the-robot-invasion-of-the-workplace

Eggers, W. D., Hagel, J., & Sanderson, O. (2012, September 21). *Mind the (Skills) Gap.* Retrieved from https://hbr.org/2012/09/mind-the-skills-gap

Eggers, W., Hamill, R., & Ali, A. (2013, July 24). *Data as the new currency*. Retrieved from https://www2.deloitte.com/insights/us/en/deloitte-review/issue-13/data-as-the-new-currency.html

Erskine, R. (2018, June 30). *Study: 97% Of Business Owners Say Online Reputation Management Is Important - Here's How To Keep Up*. Retrieved from https://www.forbes.com/sites/ryanerskine/2018/07/30/study-97-of-business-owners-say-online-reputation-management-is-important-heres-how-to-keep-up/#6bcdd24a6c02

Evolve Research and Consulting. (2017). *The Future of Leadership*. Melbourne: Six Degrees. Retrieved from https://www.sixdegreesexecutive.com.au/future-leadership-research-report

EY Beacon Institute. (2017). *How can purpose reveal a path through disruption?* Retrieved from https://www.ey.com/Publication/vwLUAssets/ey-how-can-purpose-reveal-a-path-through-uncertainty/$File/ey-how-can-purpose-reveal-a-path-through-uncertainty.pdf

Farnen, K. (n.d.). *Four Elements of Servant Leadership*. Retrieved from https://work.chron.com/four-elements-servant-leadership-4919.html

Field, A. (2018, September 29). *New benchmark will rank companies on their SDG success.* Retrieved from https://www.forbes.com/sites/annefield/2018/09/29/new-benchmark-will-rank-companies-on-their-sdg-success/#1571f05d1b6e

Fink, L. (2018, January). *Larry Fink's Annual Letter to CEOs - A Sense of Purpose*. Retrieved October 25, 2018, from https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter

Gerde, V., & Michaelson, C. (2018). Special Issue: Global Perspectives on Business Ethics from the 40th Anniversary Conference of the Hoffman Center for Business Ethics at Bentley University, 2016. *Journal of Business Ethics*, 1-4.

Goldsmith, M. (2014, October 7). *Five Qualities of the Leader of the Future: Coaching For Leaders.* Retrieved from https://youtu.be/8Xsu4eOk9Dg

Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal Leadership: Realizing the Power of Emotional Intelligence*. Boston, Mass.: Harvard Business School Press.

Grant, S., Hamilton, L. S., Wrabel, S. L., Gomez, C. J., Whitaker, A. A., Leschitz, J. T., Unlu, F., Chavez-Herrerias, E. R., Baker, G., Barrett, M. Harris, M. and Ramos, A. (2017). *Social and Emotional Learning Interventions Under the Every Student Succeeds Act - Evidence Review*. Santa Monica, California: RAND Corporation, RR-2133-WF, 2017. Retrieved from https://www.rand.org/pubs/research_reports/RR2133.html

Jere, M., & Niekerk, R. v. (2017, August 20). *South African social media is giving consumers power to discipline corporations.* Retrieved from https://theconversation.com/south-african-social-media-is-giving-consumers-power-to-discipline-corporations-81707

Kieran, G. (2016, December 2). *20th Century vs 21st Century Leadership*. Retrieved from https://www.linkedin.com/pulse/20th-century-vs-21st-leadership-glen-kieran/

King, M., & Roberts, L. (2013). *Integrate: Doing Business in the 21st Century*. Cape Town: Juta.

Lee, D. (2018, October 25). *Should CPAs be the conscience of the economy?* Retrieved from https://www.accountingtoday.com/news/can-cpas-be-the-conscience-for-companies

Lindzon, J. (2017, May 18). *Five Skills You'll Need To Lead The Company Of The Future.* Retrieved from https://www.fastcompany.com/40420957/five-skills-youll-need-to-lead-the-company-of-the-future

Martin, R. L. (2009). *Opposable Mind: Winning through Integrative Thinking*. Harvard Business Press.

Melvill, H. (1855). Partaking in other men's sins. In H. Melvill, *The Golden Lectures*. London.

Morgan, J. (2018, June 11). *US Chairman Of PwC On The Future Of Leadership, The Evolution Of PwC, How To Be A Purpose Led, Values Driven Organization, And Much More.* Retrieved from https://thefutureorganization.com/us-chairman-pwc-future-leadership-evolution-pwc-purpose-led-values-driven-organization-much/

NetworkNewsWire. (2018, October 10). *Exponential Increase in EVs Drives New Cobalt Supply Chains.* Retrieved from https://www.prnewswire.com/news-releases/exponential-increase-in-evs-drives-new-cobalt-supply-chains-840346933.html

Niselow, T. (2018, June 23). *Explosive Khaya Sithole affidavit casts shadow over SAICA*. Retrieved from https://mg.co.za/article/2018-06-23-explosive-khaya-sithole-affidavit-casts-shadow-over-saica

Orcutt, M. (2018, September 20). *New York's damning report on crypto exchanges will be good for the industry.* Retrieved from https://www.technologyreview.com/s/612147/new-yorks-damning-report-on-crypto-exchanges-will-be-good-for-the-industry/

Paine, L. (2003). *Value shift : Why companies must merge social and financial imperatives to achieve superior performance*. New York: McGraw-Hill.

Pulsen, F. P. (2012, December 7). *Children of the Congo who risk their lives to supply our mobile phones.* Retrieved from https://www.theguardian.com/sustainable-business/blog/congo-child-labour-mobile-minerals

PwC (n.d.). *Confidence in the future: Emerging technology for the finance function.* Retrieved October 15, 2018, from https://www.pwc.com/us/en/services/audit-assurance/library/finance-function-emerging-technology.html

Reporting 3.0. (n.d.). *About Reporting 3.0.* Retrieved October 26, 2018, from https://reporting3.org/

Rossenfeld, C. (2017, May 31). Essential Qualities of Future Leaders. Retrieved from https://www.globest.com/sites/carrierossenfeld/2017/05/31/essential-qualities-of-future-leaders/?slreturn=20180923115127

SAICA (2018a, September 11). *Membership Statistics*. Retrieved October 13, 2018, from https://www.saica.co.za/Members/AboutMembers/MembershipStatistics/tabid/502/language/en-US/Default.aspx

SAICA. (2018b, July 9). *How to become a CA(SA)*. Retrieved October 24, 2018, from https://www.saica.co.za/Training/BecomingaCA/tabid/157/language/en-US/Default.aspx

SAICA. (2018c, May 9). Code Of Professional Conduct Of The South African Institute Of Chartered Accountants. (2017/2018 Edition). SAICA. Retrieved October 25, 2018, from https://www.saica.co.za/Technical/Ethics/CodeofProfessionalConduct/tabid/2975/language/en-US/Default.aspx

SAICA. (n.d.). Technical Ethics Mission. Retrieved October 25, 2018, from https://www.saica.co.za/Technical/Ethics/Mission/tabid/2960/language/en-US/Default.aspx

Schwantes, M. (2017, August 10). *7 Must-Have Traits You Want in Your Future Leaders.* Retrieved from https://www.inc.com/marcel-schwantes/how-can-you-identify-your-future-leaders-they-will.html

SDG Business Hub. (2018). *The SDG Tracker*. Retrieved October 26, 2018 from https://sdghub.com/project/the-sdg-tracker/

Spies, P. (2017). *The Hierarchy of Knowledge.* PGDip in Future Studies, Principles of Future Studies, March 28, 2017 [PowerPoint slides].

Sterbenz, C. (2015, December 5). *Here's who comes after Generation Z — and they'll be the most transformative age group ever.* Retrieved from https://www.businessinsider.com/generation-alpha-2014-7-2?IR=T

Struwig, M., & Rensburg, H. J. (2016, May 4). *Sustainability reporting: why South African companies need to up their game.* Retrieved from https://theconversation.com/sustainability-reporting-why-south-african-companies-need-to-up-their-game-58307

Success. (2018). In *Merriam-Webster's online dictionary*. Retrieved October 24, 2018 from https://www.merriam-webster.com/dictionary/success

Swisher, K. (2018, October 21). *Who will teach Silicon Valley to be ethical?* Retrieved from https://www.nytimes.com/2018/10/21/opinion/who-will-teach-silicon-valley-to-be-ethical.html

Taleb, N. N. (2010). *The Bed of Procrustes: Philosophical and Practical Aphorisms*. Random House Publishing Group.

Taylor, A. (2017, October 3). *The Future of Business Ethics*. Retrieved from https://www.bsr.org/en/our-insights/report-view/the-future-of-business-ethics-organizational-culture

The Educator. (2018, October 9). *Australian first program gives students crucial life skills.* Retrieved from https://www.theeducatoronline.com/au/news/australian-first-program-gives-students-crucial-life-skills/255819

Tse, T., Esposito, M., & Goh, D. (2017, November 13). Robots might not take your job, but you're going to have to work alongside them. Retrieved from: https://www.weforum.org/agenda/2017/11/a-robot-might-not-take-your-job-but-youre-going-to-have-to-work-alongside-them

Turner, R. (n.d.). *Big Ideas, Learning Outcomes, Skills, and References Relevant to a Sustainability Course or Curriculum.* Retrieved from http://faculty.washington.edu/rturner1/Sustainability/Big_Ideas13.htm

WBCSD. (2018, October 23). *Reporting Matters 2018.* Retrieved from https://www.wbcsd.org/Programs/Redefining-Value/External-Disclosure/Reporting-matters/Resources/Reporting-matters-2018