Remember the future?

How the Pandemic is Accelerating the Future of Audit

Owning the Future and the Opportunities it Offers Us

Aftermath of the Pandemic – Lessons from the Past

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Submissions can be made by email attachment to info@ThinkTWENTY20.com. Articles should be in Microsoft Word in 12 pt Calibri Font. They should be 2000 to 3000 words and be well researched as evidenced by the inclusion of references, which should be numbered and included at the end of the article. Bibliographies are also encouraged. Academic papers with extensive mathematical analyses will not be accepted.

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This issue addresses questions that are on the minds of everyone these days. What will the post-pandemic world look like? Will the changes now taking place last into the future? Jim Carroll asks us whether we remember the future. In his article he points out that the changes taking place are transformative and moving at blistering speed.

In Gundi Jeffrey’s article the firms seem to bear this out. Major changes include working from home or other locations outside the office, increased mobility of the workforce, greater reliance on technology. There appears to be something of a consensus that the pandemic is accelerating changes that were already happening.

Technology is a major element in all this change, both that which was already occurring and that which is coming out of the pandemic. The advent of remote audits is based on the adroit use of technology. As are online meetings through Zoom or other technologies. The use of AI and analytical skills was already on the table, but again the pandemic is accelerating their usage.

And this raises the issue of the need for new skills, upskilling and adaptability of the workforce. Issues that have been in the forefront for some time, but now highlighted by the pandemic.


In this issue, we introduce an important new feature that will enhance the value of the magazine to its readers. That is the inclusion of columns written by our enormously talented bloggers. We are proud of them and the impressive range of skills and experience they offer.

We’re sure that most readers will find much of interest and value in these pages.

Gdt.
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Remember the future?
By Jim Carroll, CPA

That question was something you often thought about before the axis of our world shifted. Suddenly, with Covid-19 and the global pandemic, you stopped thinking about it because it seemed so far away, so esoteric and so out of reach given the need for fast-paced adaptation and survival strategies.

But guess what! The future is still out there, and it is dramatically different from what it was before. Simply put, it’s faster. It’s coming at you with even greater speed and intensity; it’s far more disruptive and transformative; and will come at you sooner than you think. You’d do well to plan for this reality.

As a futurist (and also a CPA), I make my living advising some of the largest organizations in the world on the trends and scenarios that will affect them, and what they need to do to align with this disruptive future. This is usually done through my rather odd “job.” For close to 25 years, I’ve had the privilege of being the opening keynote speaker for conferences, events and Fortune 1000 leadership meetings worldwide. Case in point: just prior to the global lockdown, I was on a stage in Marrakech, Morocco, at an event for the World Bank/International Finance Corporation.

Here’s What I Know About the Impact of Covid-19
The pandemic has compressed a massive number of long-term trends into an incredibly short period of time. In doing so, it taught organizations and leaders something new about the concept of speed. In a nutshell, organizations have learned how to think, act, innovate, collaborate and disrupt at a speed faster than they might have ever considered.

Retail? People spoke for years about the need for robust, reliable e-commerce strategies and sophisticated last-mile delivery capabilities. Then, they had to come up with those capabilities, often in a matter of just weeks, simply in order to survive.

Healthcare? Executives long spoke of the need for telemedicine and virtual healthcare strategies, and then they simply had to move to those platforms as the lockdown took hold.
Manufacturing? Companies spoke of the importance of such esoteric concepts as 3D printing, and then had to make the investments to quickly manufacture face masks, personal protective equipment, nasal swabs and other urgently needed medical devices.

Every single industry suddenly found itself confronted with a need to act on previously identified trends at a speed at which they had never operated before.

**What Is the Impact of this Massive Acceleration?**
Companies have learned a lot about the future and the fact that it isn’t as complicated to get there as they once thought it would be. In doing so, the old barriers that were in the way B.C. (before Covid) were absolutely obliterated.

Decision making paralysis? Gone.

Committees and groupthink? Gone.

Slow moving teams and organizational paralysis? Gone.

Clunky, bureaucratic structures that got in the way of change? Gone.

Studying issues to death? Gone.

Management by focus group? Gone.

Interminable meetings that droned on without an agenda? Gone.

Organizations have learned how to think, act, innovate, collaborate and disrupt at a speed faster than they might have ever considered.

For many years, global CEOs had been asking me to speak of the need for agility, the ability to operate at speed. In response, I wrote books with titles such as *The Future Belongs to Those Who Are Fast* and *Think Big, Start Small, Scale Fast*. I think people get the concept now.

**How Has the Future Already Changed?**
To a degree, for many industries, it hasn’t changed a lot except that the timing of particular trends has shifted to a huge degree. They’re coming at us a lot more quickly!

We’re still going to have autonomous vehicles, but the timing of their arrival has probably shifted so that they will be here sooner. One reason for this is that the fast-moving events in the world of retail have led to an acceleration of research into some of the building blocks of
autonomy, such as self-flying delivery drones and self-driving neighborhood delivery microtrucks. Those will be here sooner than you think, and lead to other new forms of autonomous technology.

Healthcare? We had been talking about remote patient monitoring via iPhone and other connected medical devices, remote video visits and the acceleration of medical science R&D. All of those trends were put into an acceleration machine with Covid-19, and came out the other side like a rocket.

Energy? We are still seeing a transition away from an oil-based economy but the wreckage of the energy sector at the start of the downturn has accelerated the investment in renewable technology, microgrids and more.

**Give Me an Industry and I’ll Give You Speed – Our World in 2030**

With all of this, the result is that business models aren't going back to where they were before. They've been twisted. They've been changed. They've been redefined. They've been smashed and are still being redefined in real time.

So where are we headed? Just before Covid-19, I wrote a long post, “20 Trends for 2030,” to provide my global clients with an overview of where we are headed in 20 different industries. It’s still all entirely valid today, but it will happen a whole lot sooner than we expect! This is how I imagine our world in 2030.

**Your car has become a shopping cart with credit card payment technology built in.**

*Transportation*: We’ve gone from driving cars and trucks based on carbon, gas and the internal combustion engine to vehicles based on big batteries and computers. They mostly drive themselves, or do so in cooperative packs, talking to each other on a continuous basis with respect to traffic flow and other important matters. Cars have become, essentially, anticipatory data-sensing computers on wheels.

*Healthcare*: Rather than having a system of “sick-care” that fixed people after things went wrong, we’ve transitioned a good part of the system to real “healthcare,” anticipating what people are likely to become sick with. Based on that knowledge, we’ve realigned the architecture of the healthcare system to deal with healthcare issues on a proactive, rather than reactive, basis. How? Genomics, mobile devices, embedded in-body health sensors and real-time analytical predictive healthcare dashboards led us to a world in which we could predict the emergence of particular healthcare issues and risks on a real-time basis. This resulted in a fundamental realignment of resources to manage any particular issue; “disease management” became a world of “disease action planning.”
Insurance: We used to get insurance coverage based on our historical behavior or past actions. Now, insurance policies are written and adjusted in real time based on real-time data and activities. Rather than looking back to assess and underwrite insurance risk, we increasingly do so by looking forward, based on what we know right now. P&C, life and all other aspects of insurance have been dramatically affected by the arrival of continuous real-time risk monitoring technology!

Agriculture: Rather than farming when the sun is up, we’ve moved to a world of continuous 24-hour farming, aided by robotics, autonomous self-driving technology and virtualized farming platforms, which really mirror the concepts found in the videogame Farmville. The entire process goes by the name “real time spatial intelligence farming.” A continuous flood of new technologies has come into the industry, supported by the arrival of the tech-generation that has taken over the family and industrial farm: things such as weed zapping laserbots, virtual tractors, drone seeding copters and more.

Retail: While we used to go to stores to buy the things we needed, we now find that the majority of what we buy comes to us via a wide variety of automated, intelligent, last-mile delivery technologies – delivery bots, automated drones and more. Many homes now have drone pads on their driveways and robotic storage lockers that safeguard products after delivery. When you actually do go out to buy things, your car takes care of much of the process; it has become a shopping cart with credit card payment technology built in.

Cities and towns: Massive urbanization has taken hold, with 70% of the earth’s population now concentrated into about 40 megacities. This has driven the arrival of all kinds of fascinating new trends and industries that are based on people living in close proximity. A good example is vertical farming, or in-city farming. It’s everywhere and involves 100-story skyscrapers that are used to grow food. Water is recycled, plants grow 24 hours a day under lights and self-contained resource reuse drives down the cost of food production.

Construction: We used to send people and materials to a site for assembly into a building. Now, we generally assemble the building offsite with robotic technology and 3D-printing technologies, and then send it to the site for a fast final assembly. Essentially, we’ve gone from building homes on site to building them in factories. AI and robots drive this manufacturing process; brick laying robotic masons are everywhere, as is the ability to 3D print in concrete.

Education: We’ve gone from the concept of “foundational degree knowledge” to “just-in-time knowledge.” Most people in the workforce have now mastered the skill of getting the right knowledge at the right time for the right purpose. The concept of “the career” has disappeared as most people transition from project to project at an absolutely furious pace. There is a continuous arrival of new careers, the rapid obsolescence of old careers and the fleeting arrival of short-term “micro-careers.” We used to train for a career that would take us
through most of our life. Now, by constantly reinventing ourselves, we live a life that takes us through multiple careers.

**Energy and utilities**: We’ve moved from a world of centralized energy production based on big facilities generating energy from carbon and nuclear power to a massively distributed architecture based on the input of millions of small, local, renewable energy resources. We’ve gone from essentially dumb, one-way grids to highly intelligent two-way smart grids that feature accelerated load balancing; they support millions of production and input sources. And the architecture of the grid itself has changed. For example, most cars and trucks have now become a part of the energy grid through vehicle-to-grid battery connectivity, storing energy during off peak hours and feeding it back into the grid later on. Most utilities have also found themselves operating in the highway and road-building industry, as electrified roads and charging infrastructure appeared everywhere to support a world that involves a majority of electric-battery vehicles.

**Food**: We used to eat the same food that everyone else ate. Now, we eat food that is grown specifically for our particular DNA, and matched to our particular metabolic profile, based on real-time insight from monitoring technology built into our smart phones and clothing. A world of continuous body and health monitoring has appeared, driven by the idea that the glycemic index of an apple for one person is entirely different from that for someone else. We’ve gone from food manufactured for mass consumption to food that is personalized based on the ideas of mass customization! Many consumers have a one-to-one relationship with distant and local production companies and the agricultural community based on hyperconnected plants and animals. 3D-printed food is found within most homes, leading to a renaissance and explosion in new menu concepts and taste sensations. The explosion of vertical farming in agriculture has also led to the mass addition of in-home food production technology.

The pandemic has compressed a massive number of long-term trends into an incredibly short period of time.

**Manufacturing**: We’ve transitioned from a world of mass production, with millions of products that are all the same, to one of mass customization, based on 3D printing, advanced materials, agility-based manufacturing methodologies and iterative, regenerative product design concepts. End-of-runway manufacturing and the end of the concept of inventory has taken hold as additive manufacturing concepts now permit the production of a lot of products closer to the consumer. This has resulted in a massive reduction in the cost of shipping and transportation. The concept of “inventory on hand” has come to an end and supply chain ideas have been turned on their head.
Clothing and fashion: The arrival of smart, connected, intelligent clothing led to marriage of fashion, healthcare and wellness. New, “smart” fibers and textiles now link into the data grid around you, adjusting their warmth and cooling cycles based on real-time information analysis. New textile science has also led to clothing that evolves its form and function based on local conditions: clothing that cools with built-in refrigerant technology and coats that warm you through smart carbon-fiber heating tech. Not only that, but you discovered that other healthcare related technologies – glasses, contacts, hearing aids – were increasingly integrated into your overall “clothing infrastructure” as they became “smart” and “connected.”

Highways and infrastructure: They’ve become smart, intelligent, connected. Your self-driving car doesn’t just drive itself, but talks to other vehicles around it, to sensors embedded in the road, and to light poles and other road-tech that helps to guide it on its voyage. Amazon and other disruptors now provide for pay-per-access to the best route based on real time embedded road-sensor technology. Not just that, but the very roads themselves charge the batteries of the cars that drive on them, although you have to pay a premium to do so.

Financial services: We used to take out mortgages and loans to acquire the things we wanted, but now we simply get the things we want, but for a short time only, and then move on to the next thing. We generally just share what we need rather than purchasing it for the long term. The result is that most banks have become just short-term lending institutions.

Technology: We used to have computers, which were physically separate devices that we carried around or plopped on our desk. Now, intelligence is embedded everywhere: in our clothing, eyeglasses, cars, homes and factories. It’s all just there. We don’t even think about it much anymore, except when some hacker re-programs our 3D food printer and serves us up anchovy-flavored jello as a joke. When it comes to bandwidth, yottabit capacities have arrived – look it up!

Every golf ball has a Webcam and can share your ace in an instant with a bird’s eye view of its path.

Material science and chemical industries: We used to have 19 million known chemical substances, but now we have some five billion. We witnessed the birth of countless new industries and opportunities through the rapid acceleration of pure science. Mines are mined automatically with virtual robotics, and materials are engineered from constituent materials closer to their final destination. Africa was reborn as the birthplace of the modern economy, as the raw materials used for electric vehicles and other industries led to a massive resource boom.

Legal and professional services: The world of law and other professions is now driven by the acceleration of legal risk and hyper-complexity. This came about as the result of the rapid emergence of new risk, an era of “hyperconnected, shared risk,” more complex – and faster –
corporate partnership risk and other factors that came about as the result of a faster-moving economy. IP or intellectual property issues went through the roof in terms of complexity as AI came to drive the discovery of new ideas, new knowledge and new products – who owns the output of a computer generated mind-idea?

Sports, fitness and recreation: A simple wooden baseball bat now exists only in a museum. The baseball bat of 2030 is wirelessly connected to a web cam that automatically records a player’s swing style and speed. Kids live in a widely interactive world in which they are aware of all sports results and actions instantly through an online connection. Skis and boards are hi-tech snow devices, providing coaching direction and real time route planning. Sports coaches have immediate access to their teams for coaching purposes. Golf? Every golf ball has a Webcam and can share your ace in an instant with a bird’s eye view of its path – for those lucky enough to have a hole in one.

Entertainment and media: The explosion of deep-fake technology in the early part of the decade made redundant the concept of CGI technology in film and media. Instead, stock-footage of ready-to-fake video exists online. Actors have mostly become irrelevant. Instead, avatars are ready off the shelf to be turned into the next great performance. We began to see the arrival of virtualized entertainment business models, with technology leading to highly customized, just-for-one entertainment productions based on the rapid assembly of this deepfake inventory. The ability to create your own personal version of a movie with your own unique storyline became a part of the new world of entertainment.

The unknown industry: Last but not least, we saw the emergence of a new industry that we simply could not conceive of, and which did not exist on January 1, 2020. That’s because some companies appeared that made entirely innovative products or services, based on ideas and concepts that weren’t yet around, with methodologies that had yet to be invented, using material never seen before. We were in awe of the concepts that appeared with the birth of this massive new, multi-trillion dollar industry.

Are You Ready For This Future?
If you think about these trends, you come to a stunning realization: you are either part of this new future that has been based on this new collaborative agility built on speed or you’re not a part of it. And that has pretty profound implications.
So what you need to do is once again revisit the future trends that are going to reshape your world. My mantra pre-Covid remains. Think big, start small, scale fast!

Jim Carroll is recognized as one of the world’s leading futurists and innovation experts, with a massive global blue-chip client list. For more than 25 years, Jim has shared his insights with global clients from virtually every industry sector: the World Bank, Volvo, NASA, the PGA of America, the Walt Disney Organization, the World Government Summit in Dubai, the Swiss Innovation Forum, the Wall Street Journal, National Australia Bank, WorldSkills, Microsoft, Johnson & Johnson, DuPont, The GAP, the US Air Force Research Laboratory, Godiva, SAP, Pfizer, Mercedes Benz, etc. Carroll has written numerous books, including Think Big, Start Small, Scale Fast; Surviving the Information Age, The Future Belongs To Those Who Are Fast, Ready, Set, Done and What I Learned From Frogs in Texas: Saving Your Skin with Forward Thinking Innovation. You can learn more at virtual.jimcarroll.com
How the Pandemic is Accelerating the Future of Audit

By Naveen Kalia, CPA

The coronavirus pandemic has forced businesses to operate remotely and embrace digital technologies — whether they were ready to or not. While the audit process was already evolving with the emergence of new technology and growing investor expectations, COVID-19 has significantly accelerated the evolution toward a “virtual” audit.

This isn’t simply a matter of conducting an audit over video chat, or taking a traditional process and moving it online. You can share computer screens, but you still need clear documented evidence; otherwise an audit is not an audit, it’s a conversation.

Instead, it’s about digital transformation, which revamps the auditing process into something entirely new — a reimagined audit experience. Prior to COVID-19, the winds were already changing. Accountants had already been experimenting with new technologies and working with big data to perform higher quality and more efficient and focused audits. KPMG in Canada became an early adopter, and has been embedding digital innovation into its audits through such things as data and analytics (D&A), advanced technology-enabled risk assessment tools and rules-based anomaly detection for more than a decade. More recently, we added in true artificial intelligence (AI) to some of our audits.

But the pandemic has sped up the process of change considerably. Uncertainty, combined with the rapid economic shift to digital ways of operating, has encouraged innovation and thinking
outside the box. Suddenly, businesses are reimagining their business operations to engage clients, suppliers and regulators. With the closing of workplaces and the need for physical distancing, auditors are leveraging existing and new technology to conduct audits remotely, from remote data extraction and analysis to inventory counts using drone technologies. And these new ways of operating need to be done in a way that adheres to established standards and delivers assurance to stakeholders.

**Auditing Through the Pandemic**

Digital transformation might be a necessity during these unusual times, when physical distancing and remote work have become the norm. But the future of audit isn’t just about remote audits; it’s about transforming underlying processes using technology to achieve three objectives: a higher quality audit, a more efficient audit and better business insights for our clients through the traditional audit process.

It’s about digital transformation, which revamps the auditing process into something entirely new.

COVID-19 abruptly forced change, in a matter of days. Federal and provincial securities regulators allowed for some flexibility with deadlines at the start of the pandemic but, for ongoing quarterly and annual reporting, firms needed to accelerate their digital practices.

The standards haven’t changed, yet the pandemic has resulted in new risks. There have been significant changes to internal controls as a result of remote work arrangements, according to the Canadian Public Accountability Board (CPAB). This makes business more vulnerable to fraud and cybersecurity attacks, often while facing resource constraints and staff reductions — making it even more difficult to design effective controls.

Prior to the pandemic, many larger firms were well underway in the process of digitizing their documents; smaller firms were just getting started or only part way through. But the pandemic forced everyone to move to a new way of conducting audits. And cloud-based data-extraction systems were immediately put to the test.

Extracting and downloading all of our clients’ financial reporting data (including supporting documentation) allowed auditors to look at an audit differently. In the past, if an auditor was using a statistical sample approach on a batch of invoices, there was typically an assumed error rate. The remote access to all our clients’ data has, however, allowed us to apply new enhanced D&A routines that have the ability to test every single transaction, so that any error is a hard error. If the numbers don’t add up, there’s an issue.

The pandemic forced change out of necessity; there was no time for debate. The traditional barriers for auditor access to data – client resistance and client readiness were quickly overcome and the audit technology was put to the test. And it worked. It’s shown us the way of
the future: clients can see real-time insights as the industry moves toward the goal of continuous auditing. The pandemic has brought us closer to that goal and is expediting the investment in technology to help us get there.

On-site visits will resume in the future, but many of these changes will be permanent. The experience has given the markets and regulators confidence that audit quality has accelerated. This has shown us the way of the future — it is possible and it’s better. But it has also highlighted what else is required; the past few months are just the start of the journey.

Three Ways Technology Is Transforming Audits
Auditing has traditionally been a process based on statistical sampling techniques. For example, if you were auditing 1,000 invoices, you might run a statistical sample giving you 40 items you might test. But we can now use advanced D&A, rules-based automation and artificial intelligence to move from statistical sampling to actually reviewing 100% of a client’s transactions in real time. Whether that is looking at all 1,000 invoices at a small manufacturing company or all 140,000 derivative and securities portfolios at large financial institutions, the outcome is clear: we have a much higher quality audit through the use of technology.
Allowing the machine technology to perform routine, rule-based tasks also results in a much more efficient audit, and allows the auditing professionals to get razor-focused on outliers and anomalies.

Over the past two years, KPMG has also been working on risk assessment tools that layer machine-based learning — which is a subset of artificial intelligence — on top of rules-based algorithms. Once the system ingests massive data sets, it can flag additional anomalies or risky transactions based on parameters that it “learns” on its own. This technology can also provide insights into a company’s processes, possibly in real time, and flag outliers that might not be caught otherwise.

That’s the power of AI — it picks up patterns that people may miss or haven’t seen before.

The future of audit will involve real-time auditing, in which clients record transactions on a blockchain and the auditor is alerted if there are any unusual interactions — for on-the-spot auditing.

Overcoming Resistance and Lack of Readiness
While the future of audit shows promise, there are still challenges ahead. The tools are only as good as the quality of the data. Clean data in the right format is essential to apply D&A, rules-based algorithms and AI.

During this pandemic, clients who were further along in their digital transformation greatly benefited from having good, clean, formatted data resulting in little to no disruption in their audits. For example, using cloud-based remote data-extraction capabilities and data-sharing platforms, clients have been able to securely share data in a digital format. This has helped
them transition to the world of virtual work and provided greater resilience during a time of uncertainty and upheaval.

The unprecedented Covid 19 has been an eye-opener for our clients, underscoring the urgent need to accelerate their digital capabilities.

Many of Canada’s businesses, however, especially in the small business and mid-market space, were at the beginning or only partway through their digital journey when COVID-19 came along. This unprecedented event has been an eye-opener for those clients, underscoring the urgent need to accelerate their digital capabilities. If they had been wrestling with the need and cost of digital transformation at the start of the year, the pandemic lockdowns and shelter-in-place orders clearly demonstrated the need for investment, driving many into action.

Businesses that hadn’t already digitized their source documents had to get it done — and done quickly — to accommodate remote working and the eventual remote audits.

Very rapidly, businesses embraced data extraction, analytics and AI tools to make the auditing process work virtually. This acceleration toward automation has turned out to be a silver lining as organizations became more resilient and better positioned to address the new business reality.

Cloud, AI and Machine Learning

As businesses transform the way they collect and process data, the accounting industry must remain a step ahead. That means continuing to invest in cognitive, machine learning and artificial intelligence capabilities to provide organizations with data-driven business insights as well as evolving reporting and regulatory requirements. This could require the use of both off-the-shelf and custom technologies. KPMG in Canada has teamed with tech giants and start-ups on our digital auditing solutions, picking the best of what’s out there and creating a bespoke technology driven audit.

In 2017, KPMG, with the launch of its smart audit platform KPMG Clara, became the first of the Big Four to take its audit workflow to the cloud. Based on technology from Microsoft, KPMG Clara houses advanced, predictive analytics within a single, cloud-based source and seamlessly adopts the latest cognitive and AI solutions.

At the same time, KPMG in Canada is working with other leading companies including MindBridge AI, an Ottawa-based company, which uses AI to review and analyze 100% of a client’s transactions.

Clients have access to KPMG Clara throughout their audit, providing a 24/7 window into the status of an audit. As more businesses shift to virtual work, KPMG Clara’s integration with
Microsoft Teams will provide a platform for audit professionals to centrally manage and securely share audit files, track audit-related activities and communicate using chat, voice and video meetings. This is resulting in more targeted and meaningful conversations about specific findings, risks and insights, particularly in relation to risks and anomalies.

While investments in technology are critical, there is no one-size-fits-all solution. Recognizing that every client’s system is a bit different, KPMG has taken a different approach: upskilling auditors to harness these technologies and home in on solutions that are bespoke for each client.

Narrowing the Skills Gap
The reality is that these new technologies and expectations are evolving rapidly, requiring auditors to constantly upgrade their skills and approach. KPMG is upskilling auditors to meet these demands through a program called Digital University. The emergence of cutting-edge tools and innovation transforming audit has accountants thirsty for the knowledge to keep pace and thrive in the future of audit.

KPMG created the Digital University two years ago to get ahead of this emerging skills gap, working with Simon Fraser University’s Beedie School of Business. Digital University, which is the only one of its kind in Canada, is a graduate program to prepare auditors for an era of machine learning and artificial intelligence. Participants are either certified public accountants (CPAs) or candidates who are in the process of applying for the CPA designation.

As part of the program, participants learn cognitive analytics, leveraging data to unlock hidden insights, identify patterns and predict outcomes. The auditor of the future will have different
skill sets than in the past, driving the ability to enhance the quality of audits and even transform the way data is used.

Participants earn a graduate certificate in accounting with digital analytics and can go on to obtain a master of science in accounting with cognitive analytics.

While technology will play a greater role in audits, it isn’t meant to replace auditors. In fact, the ability of technology to quickly and effectively process reams of data will enable auditors to utilize their new data analytics skills to drive critical insights and strategic business recommendations.

Digital University also involves working on real-world problems that help solve client issues. For example, one client was spending 40 to 60 hours every quarter reconciling forms that translated revenues into Canadian dollars. Using a skill acquired through the program, a student was able to code a custom-made solution for the client so that same process now takes about 30 minutes — at the push of a button.

While investments in technology are critical, there is no one-size-fits-all solution.

Technology Driving Change Across the Entire Financial Reporting Ecosystem
With increased use of technology, the entire financial reporting ecosystem needs to mature, to catch up with what we’re able to do and with what investors are expecting.

While there is clear value in the current audit report, the world is changing rapidly and, within that context, there is growing interest in the role audit will play as a fundamental part of the wider financial reporting ecosystem. Investors and society at large are looking for a new model of the corporate audit, one that drives greater transparency and expands beyond financial statements to provide assurance on non-GAAP (generally accepted accounting principles), non-financial information, including key performance indicators (KPIs), environmental, social and corporate governance (ESG) and cybersecurity.

Momentum is building for a common, core set of social and environmental metrics and recommended disclosures. For example, institutional investors are increasingly expecting companies to follow best practices and industry-specific guidelines set out by such organizations as the Sustainability Accounting Standards Board (SASB) and report under the Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD) recommendations.

Pressures are emerging for securities and financial regulators to require mandatory adoption of these initially voluntary disclosure frameworks. To do this effectively, the entire financial reporting ecosystem needs to mature: auditors need upskilling; companies need to embrace
live connections to data; and regulators need to strengthen and evolve standards to match new technological capabilities such as AI.

**Looking Ahead**
Machines, no matter how well they’re programmed, can’t replace people. It’s relationships, and the trust built with clients, that helped to accelerate this digital transition during the pandemic.

Clients have accelerated their digital capabilities and increased the speed of the transition from paper-based record-keeping to cloud-based enterprise resource planning (ERP) platforms and collaboration tools. In fact, KPMG's recent [Global CEO Outlook](https://www2.deloitte.com/content/dam/Deloitte/cz/en/insights/focus/ceo-outlook/new-normal/2021洞察-分析.pdf) found that 84% of Canadian CEOs are now prioritizing their technology investments to meet growth and transformation objectives, and the vast majority (92%) say COVID-19 has accelerated the digitization of their operations.

The core of any digital solution, however, must include fundamental principles related to security and privacy to enable the use of all these capabilities, and this needs to continue to be a key focus for Canadian businesses — now more than ever.

Technology will broaden the audit function to garner more insight into data, allowing auditors to play a more active role. For example, they could actively identify fraud in real time, rather than via a point-in-time audit using year-old data. But it does require a new set of skills, in an industry facing skills shortages. It also requires buy-in from leadership, especially when sharing data.

COVID-19 has paved a clear path for the real-time, virtual audit. The industry went from theoretical to tried, tested and true in a short period of time, accelerated by pressure from a global pandemic. On-site visits will resume as the pandemic comes under control. But the evolution of audit processes will be here to stay.

After embracing digitization and artificial intelligence for high-quality, highly efficient audits, there’s no going back. The future of audit is within reach and closer than ever.
Owning the Future and the Opportunities it Offers Us
By Gundi Jeffrey, Managing Editor

Gundi Jeffrey is an award-winning business journalist specializing in writing about the accounting profession for various publications in Canada, the US and the UK.

Since the beginning of the year, Covid 19 has taken the world hostage, killing millions, devastating the economy and changing irrevocably how we live, work and interact. Since the onset of the pandemic became very obvious last March, we have had to adapt to social distancing, living and working mostly at home, constantly washing our hands, wearing masks, buying online and relying more than ever on technology to get us through the day. And all of these changes came in an instant. We will never return to what we once knew as “normal.”

But, once the Coronavirus abates, what will our new world hold in store for us? What will our workplace be like? What new technology developments can we look forward to? What will the accounting and financial landscape look like? And how can we best adapt? Many questions, fewer answers.

ThinkTWENTY20 spoke to three accounting firms to get their take on what we can expect in the coming months, how they see the business world adapting to the inevitable changes, what challenges and opportunities they envision for their clients and their own firms, and how they hope to best move forward in a world that will surely be transformed in as yet incalculable ways.

Offering the perspectives of different-sized firms in different locations across Canada are Massimo Marinelli, EY Canada’s Assurance Leader, Micheal Burch, FCPA, FCA, CFP, Managing Partner of Ottawa-based Welch LLP, and Laurence W. Zeifman, CPA, CA, a partner with Toronto-based Zeifmans.

ThinkTWENTY20: Overall, once we get to a safer place in terms of Covid 19, what do you expect our new reality will look like?

EY’s Marinelli: All sectors have been impacted by COVID-19 in one way or another. Organizations that saw the biggest losses at the outset of the pandemic were those directly affected by mobility
and physical distancing restrictions and consumers’ hesitation to spend on non-discretionary goods — industries such as bricks and mortar retail, entertainment, foodservice, travel and energy. We’re now, however, starting to see an uptick in footfall and mobility as restrictions ease, leading to a return in consumer spending. As companies look to position themselves effectively for recovery, they will have to consider new customer expectations and preferences while meeting necessary public health and safety measures.

Meanwhile, sectors that have seen the most growth are those that are providing essential goods and services. Grocery stores and healthcare are obvious ones. But also, the automotive sector as people look to avoid public transit or ridesharing, home improvement companies as people look to build out spaces for long-term work-from-home solutions, and home entertainment such as video games or streaming.

EY’s Future Consumer Index suggests that businesses that provide cashless and contactless delivery services are also set to experience rapid growth. It found that 41% of Canadians who were slow to adopt online grocery shopping pre-pandemic are now depending on the service. Going forward, providing a seamless omnichannel experience for consumers will be vital for organizations to secure customer loyalty.

Welch’s Burch: Unfortunately, or fortunately, I don’t think our world will ever be the same. Obviously, one of the big differences will be the remote workforce. “Working from home” has proven to be successful and has provided certain benefits to our workforce. I also suspect that technology is only going to enhance this mode of operation. We are already seeing video conferencing tools that offer time gathering and posting to the work in process (WIP). This change is here to stay. Perhaps not a total move to remote working but certainly a big component of our strategies going forward. Depending on our client’s industries, I believe they will feel the same pressures.

Zeifman: From the beginning of the pandemic, at Zeifmans our number 1 priority has been to keep staff our staff healthy and safe, to not only support their families but also be able to support our clients through this trying time. So, firstly, I think that employers now, more than ever, have a bigger responsibility to provide their staff with safe and healthy workspace and I think this trend will continue.

At Zeifmans, our office quickly switched to a completely mobile workplace, which we developed the capability to do years ago. Though many of our staff have returned to the office — to ensure safety, they alternate days in which they are physically in the office — many of our teams have decided to remain offsite. Thus, I anticipate the traditional workplace is a thing of the past. I believe that we will continue to move away from the confines of a brick
and mortar office space and that mobile workforces will continue to grow and become the norm for many organizations.

ThinkTWENTY20: Will you and your clients have to adapt to new business models? If so, what will the most important changes or features be?

Marinelli: From an assurance perspective, we luckily were already a highly mobile workforce and had made significant investments in digital tools before the pandemic that have made it possible for teams to effectively conduct quarterly reviews and annual audits remotely. Our existing global digital audit platforms — EY Canvas, EY Helix and EY Atlas — enable collaboration, insights and risk management for our teams, and allow us to virtually engage with clients in a number of different ways. We were already seeing the value in adapting the way we interact with clients to make communication much more seamless and transparent — COVID-19 just further highlighted and validated the importance of embracing new ways of doing things.

But that’s not to say that there haven’t been any learning curves. One of the biggest impacts to audit professionals in the spring was the delay in tax deadlines by the federal government and, as a result, financial reporting. Preparers of financial statements, audit committees and auditors were suddenly faced with a new reporting cycle. Not only were timelines shifted, but we also had to quickly learn how to be better advisors to our clients to help them understand new government programs and how best to take advantage of what was available.

Burch: Certainly, we will need to adopt our business development model. Historically, we attend and hold numerous events each year. This strategy is a big part of our branding and contact development. We will also need to find new ways to ensure that we are staying connected with our clients and our staff in this remote world.

Providing a seamless omnichannel experience for consumers will be vital for organizations to secure customer loyalty.

ThinkTWENTY20: I have read that the Covid 19 pandemic has produced some positive changes and has given us new opportunities to become more useful to our clients. Where do those opportunities lie in the accounting world?

Marinelli: We can bring more value by delivering new insights and perspectives. As auditors, our responsibility has historically been to pull financials for reporting, but there’s a growing opportunity to help our clients think more long term. Many of them are alternating or shifting their revenue streams to respond to new customer expectations and are looking to us as leaders in understanding the dynamic changes and to provide insights across our services lines on areas such as adapting supply chains, building an online presence and assessing associated
risks to their workforces. Providing that outsider perspective on the social, economic and governance factors that may be affecting the business — whether at a local, national or global level — and advising on how to capitalize on growth opportunities, optimize cash or reduce taxes can help broaden their perspective and shed light on industry best practices.

**Burch:** The positive changes I have noticed are reflective of what takes place after all major disruptions. All individuals and entities take a much closer look at how they operate with a view to becoming more competitive and leaner. As part of this reflection, we are looking at new opportunities for our firm and recognizing the already rapid changes in our profession. We now see a framework as to how we can employ remote workers that do not need to be resident in the cities of the offices they support. In fact, we now have one of our partners operating out of a province in which we do not yet have an office. This reflection has also forced us to have a better understanding of the technologies that are available to us to assist our clients in a more focused way. All in all, this is providing more flexibility for our firms going forward.

**Zeifman:** Our message at Zeifmans, throughout, is staying connected and that we are in this together — with our clients and our staff. With that, in my opinion, the most positive thing that came out of the pandemic, is the power of digital connectivity, whether from using Zoom to conduct meetings to the massive growth of various social platforms. Our global connection to our clients and our affiliates across Canada and around the world now seems larger and stronger than ever.

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**We will continue to move away from the confines of a brick and mortar office space and mobile workforces will continue to grow.**

**ThinkTWENTY20:** And how will your traditional services be modified?

**Burch:** Before the pandemic, our traditional services, especially compliance, were becoming less of a focus for us. In fact, new technology has reduced the time required to meet this, less useful, part of our service offering. Because of this, you will see many firms broadening the services they are providing their clients by becoming far more advisory focused.

**Zeifman:** I do not think our traditional services have been drastically modified. If anything, our service to our clients has grown due to our commitment in ensuring that their businesses can survive a pandemic.

**ThinkTWENTY20:** What do you expect the workplace of the future to look like? I don’t suppose all of your workforce will return to their prior offices. Covid 19 has taught us some lessons on balancing a work force at home with one working in your offices. What do you envision will happen?
Marinelli: We’re taking a phased approach to welcoming our people back to the office. Each of our regional offices is open, with limited capacity, based on local recommendations and our ability to accommodate employees safely. But, overall, our approach is two-geared. It focuses on both transition and transformation simultaneously to manage risks as employees return to physical locations while reimagining the way our office will look and operate in a post-pandemic world.

The pandemic has really helped to shine a light on the resiliency of our people and their ability to adapt in uncertain times. It’s also made many of our people and clients recognize that work can be done just as efficiently and effectively remotely or online. While in-person meetings and office amenities are missed, we suspect that the use of a more distributed workforce will continue in the future as our people look to exercise more flexible working styles to accommodate work/life responsibilities.

Burch: As noted above, our new reality will include a much different in-office experience. This provides some level of concern related to how do we keep our staff engaged and loyal to our brand and to our firm. To a certain extent, this is also true of our clients. Can we retain our long-term relationships with staff and clients in a remote environment?

Zeifman: With working from home comes a difficult separation from personal life and work life. Personally, many days I have found myself working from the time I got up, till the time I go to bed. Mental health and wellbeing are extremely important and are part of the keys to success. So, I believe it is part of companies’ responsibility to help in the process of creating boundaries between work and homelife and to provide social support when needed. For example, with my team, we unwind together on Microsoft Teams on Friday afternoons and share in the wins and accomplishments of the week. I believe this helps us stay connected, and provides a positive sounding board, to help guide us all into a “stress-free” weekend.

The most positive thing that came out of the pandemic is the power of digital connectivity.

ThinkTWENTY20: How will you be safeguarding the health, safety and privacy of your workforce?

Marinelli: In alignment with regional public health and safety recommendations, we have put the appropriate measures in place. Each employee is required to complete a daily self-certification of good health in advance of coming to the office, available workspaces are limited to maintain physical distancing, signage throughout the office informs our people of directional and hygiene requirements and PPE (personal protective equipment) is provided to everyone.
**Burch:** We are paying close attention to the advice provided by our health officials and ensuring that our employees are safe and aware of the proper protocols when they are in the office. Pre-pandemic we were 200 people in the office. The highest mark since then has been 38 staff members.

**ThinkTWENTY20:** Do you see the need for new skills in your workforce?

**Marinelli:** Our assurance practice still has regular mandates and deadlines to meet for quarterly and annual reporting, so the composition of our workforce has remained almost unchanged. We’re proud to say that we had no COVID-19-related layoffs in FY20 and are still actively recruiting in the market and on campus for new hires to meet our growth ambitions.

But the pandemic did accelerate the need for many skills that we were trying to build before this all began. Plus, it has reinforced the importance of existing skill sets: skills such as data analysis, having a future-focused mindset, agility and adaptability and communication will all be vital to work effectively with distributed teams and deliver value to our clients.

**Burch:** Clearly, our workforce is going to have to be resilient and technology proficient.

With working from home comes a difficult separation from personal life and work life.

**ThinkTWENTY20:** Do you see having to develop new models for communicating with your workforce?

**Marinelli:** The need for proactive, regular and transparent communications or real-time touchpoints has been crucial to maintaining our strong workplace culture. I’d also balance the need to communicate with the need to listen — hear the challenges that our people face firsthand, or opportunities that present themselves to grow and respond with action.

**Burch:** We have already started holding our all staff Town Hall meetings via Zoom.

**ThinkTWENTY20:** So, will Zoom become the meeting model de rigeur? I understand that many people find Zoom meetings very stressful and tiring. Are there other options?

**Marinelli:** As we enter more progressive phases of the COVID-19 recovery, I suspect that meetings, whether internal or with clients, will be mixed between online and in-person. Where we saw, and will continue to see, the biggest impact on meetings is among larger groups, events or social activities. We have moved our events online to host various webcasts and virtual roundtables as a way to share new insights and stay close with our people and clients.
Burch: I am certain that all of these remote meeting tools will improve over time. We will continue to find new ways to acclimatize and make the best of this until a vaccine presents itself.

Many firms are broadening the services they are providing their clients by becoming far more advisory focused.

ThinkTWENTY20: Which emerging technologies do you expect to become mainstream, especially for accountants? What part of your services will be most affected by the new technologies?

Marinelli: We expect the digital audit to become mainstream. It has tremendous benefits for both our practice and clients. The digital audit has allowed us to execute assurance procedures earlier in the audit lifecycle, distributing a portion of workload out of the traditional busy months. This makes it possible to better plan and prepare both clients and processes in advance to ease the rush of busy season. This gives our people more time and flexibility to team with other areas of our business and manage their day-to-day tasks to deliver on value beyond the audit.

ThinkTWENTY20: What do you miss most about our life as we knew it before March?

Marinelli: There are many colleagues and clients I haven’t seen face-to-face since March. While working from home has its benefits, it’s hard to beat the value of physical interactions.

Burch: I, too, miss the personal interaction in a big way. We are in a relationship business for a reason. As was noted previously, as soon as it is safe, I look forward to getting out and reconnecting with our clients and our staff. We are built to interact not to walk away from approaching people – not to be wearing masks that hide our smiles.

ThinkTWENTY20: And what do you look forward to as we enter a new era of working, living – and simply surviving?

Marinelli: COVID-19 has certainly accelerated and reinforced many processes, preferences and behaviours that were already existing before the pandemic began. It’s shown that we can work with agility and adaptability to quickly shift gears and meet our clients’ evolving needs. And – maybe most importantly – it’s helped to demonstrate that we’re in this together. As we look ahead to the long-term impact of COVID-19, we’re examining how we may need to retool or adjust our offerings to better support our people and clients now, next and beyond. What’s not to look forward to?
The Aftermath of the Pandemic – Lessons from the Past

By Gerald Trites, FCPA, FCA

Marchionne di Coppo Stefani lived in Florence during the great plague of 1348. He wrote about it in his Cronaca Fiorentina.

The Black Death started in Florence in March, 1348, with the first wave continuing until September, a period of six months. There were successive waves until 1350. During that time, Florence’s population was reduced from around 120,000 inhabitants to around 50,000. In Europe overall, some 30 – 50% of the population died. There were other outbreaks over the next few centuries.

Much has been written about the immediate impact of the plague, of the black sores appearing in a morning and the infected person dead by nightfall. Of the bodies piling up and being carried off in carts and thrown into mass graves, layer upon layer.

Stefani wrote of this experience, as well as the effect of the plague on the economy, such as the fact that the Florentine guilds, craft shops and taverns closed down during the plague. Wax for lighting was scarce and became so expensive that few could afford it. The city government finally resorted to placing a ceiling on the price so people could buy some for light. Other prices needed to be controlled; for example, burial items such as perfumed spices and caskets (for those who didn’t get thrown into the mass graves). And there was control over the “news” too: the government forbade the ringing of bells during a funeral for fear that people might realize how many funerals were taking place.

But Stefani also wrote about the aftermath of the plague.

The plague’s considerable population reduction led to cheaper land prices, more food for the average surviving peasant and a relatively large increase in per capita income among the peasantry. Since the plague left vast areas of farmland untended, it was made available for pasture, which led to additional production of meat and dairy. The consumption of meat and dairy products went up, as did the export of beef and butter.¹

Jerry is a retired partner of KPMG, and a former Professor of Accounting and Information Systems at a Canadian university. He also served for 12 years as Director of XBRL Canada. He has published 12 books and numerous articles and papers and is presently Editor in Chief of ThinkTWENTY20.

The massive death and suffering caused people to look at the world with a new lens, to think differently about humanity’s place in the universe.
Because of the increased value of the peasants and their relative scarcity, historians credit the plague with precipitating the decline of the feudal system. Also, many historians credit the plague, particularly in Florence, with the birth of the Renaissance, because the massive death rate and suffering caused people to look at the world with a new lens, to think differently about humanity’s place in the universe and to produce a glorious wave of art, music, philosophy and literature.2

The 1918 Spanish Flu
The other major pandemic, one that perhaps bears a stronger resemblance to Covid 19, is that of the Spanish Flu outbreak of 1918. That year saw the end of the First World War, which was a major factor in the spread of the flu, because the troops on the move in very close conditions carried the flu with them, causing it to be spread rapidly.

The Spanish Flu infected around 500 million people, about one-third of the world’s population at the time.3 An estimate from a 1991 study states that the virus killed between 25 and 39 million people.4 It lasted for about two years. The second wave over the winter of 1918/1919 was the most deadly.

That the Spanish Flu bore many similarities to the present day Covid 19 is illustrated by the example of San Francisco.

The Spanish flu began to appear in San Francisco during the fall of 1918. The first documented case was in late September; by mid-October, the city had more than 2,000 cases. The city’s Board of Health enacted various measures to try to curb the disease, such as banning gatherings, closing schools and theaters and warning citizens to avoid crowds. Professionals that served customers (including barbers, hotel and rooming house employees, bank tellers, druggists, store clerks) were required to wear masks. On October 25, the city passed an ordinance requiring everyone in San Francisco to wear a mask while in public or when in a group of two or more people, except at mealtime.5

A strong public protest occurred about the masking rule, which spread to various other centers. A later study found that measures, such as banning mass gatherings and requiring the wearing of face masks, could cut the death rate up to 50%, depending on them being imposed early in the outbreak and not being lifted prematurely, but that was after the fact.6
Now as Then

Thomas Garrett, who did a significant study of the matter, observed that the people most affected by the 1918 pandemic were the less privileged members of society; the same has been observed of the Covid pandemic. This will have long-term repercussions for us. We already have had a situation where there was a wide gap of income and wealth between the people at the upper end of the spectrum and those at the middle and lower levels. The pandemic will exacerbate that gap and increase the prospect of social unrest.

Accordingly, to maintain social order and also for humanitarian reasons, social safety nets will have to be strengthened. For countries which already have safety nets, it will mean adding to them, probably through government action. In Canada, there has already been growing talk of implementing a basic minimum wage, and preliminary steps are being taken in that direction. In countries with less of a safety net, it may mean combined action of government and the private sector.

The long-term effects of the 1918 pandemic were not as extensive as they were for the plague. This may be in part because the ratio of deaths to the population during the plague was much higher than it was during the flu pandemic. Or because the effects of the pandemic were mixed in with the effects of World War I. Deaths were already running high because of the war and people lost track of how many were attributable to the war and how many to the pandemic. The deaths were indistinguishable at times.

According to Thomas Garrett, “Although the influenza pandemic occurred 90 years ago (sic) in a world that was much different than today, the limited economic data and more readily available mortality data from the time of the event can be used to make reasonable inferences about economic and social consequences of a modern-day pandemic. Despite technological advances in medicine and greater health coverage throughout the 20th century, deaths from a modern-day influenza pandemic are also likely to be related to race, income and place of residence.”

Accelerating Change

The world today is indeed very different from what it was in 1348 and 1918. In 2019, we already had a world undergoing rapid change. The modern world is heavily driven by technology and, in particular, technological change. Many current observers have said that Covid appears to be accelerating changes that were already under way. The previous pandemics lasted for two or more years, so we are at an early stage of Covid, and it may be too
early to predict the social and economic outcomes. Nevertheless, some of the changes appear to be quite evident.

For example, we hear the most about more employees working remotely. This will evolve and could take several forms, such as people continuing to work at home, companies establishing satellite offices to reduce commute times and congestion at their main offices, companies establishing regular home/office hours for their employees, etc.

The work model where we gather in a central place and work under supervision was a product of the industrial revolution and has been obsolete for some years, but we have only mildly reacted to that fact. Covid is forcing us to act a lot faster and more forcibly. Technology makes it possible.

Covid appears to be accelerating changes that were already under way.

Working at home could have significant implications in the longer term, especially if the pandemic lasts for a long time, which is very possible. It forces families to live closer together, which could fundamentally alter the dynamics of family life. Given the importance of the family unit in our social fabric, this could mean fundamental sociological changes.

There are other implications. KPMG recently did a survey which noted that “75% of businesses are changing recruitment strategies, to try to hire workers who might live far from the office. And with more than two-thirds of CEOs saying there are plans to downsize office space, it seems remote work is here to stay.”

Recruitment strategies were already undergoing change, because of the skills shortage and the need for upskilling. PwC has said that “a full 74% of CEOs taking part in our 23rd Annual Global CEO Survey said that a lack of availability of the right skills is a concern.”

We were already in a gig economy. Gartner recently referred to an increased use of contingent workers, basically an expansion of the gig economy with an emphasis on finding the necessary skills needed right away.

Gartner pointed out that working remotely would lead to increased use of employee data as opposed to, or in addition to, corporate data. In other words, employees working remotely may have a tendency to collect and use their own data for business purposes. This adds to the security issues around working at home and also adds to the issue of data quality, which is critical in a data driven world, and a world where an increased use of AI means greater reliance on large quantities of high-quality data.

Covid has also raised issues around supply chains. Some of these will go away when the pandemic is over. Others will not because of lingering concerns about a recurrence and a
realization of the extent to which supply chains were unstable and needed to be strengthened. That could mean fundamental changes in trade relationships. Companies will find themselves reducing reliance on trade relationships that turned out to be unreliable.

As pointed out in a study by Laker, “market volatility caused by COVID-19, alongside sweeping regulatory changes, has driven companies across various industries to urgently re-evaluate their complex global supply chains to gain control of new and significant supplier risks quickly.”

A resurgence of the virus during the winter will activate a number of crises.

**The Pending Crisis of Winter 2020-21**
Most of the leaders in the medical community have warned about the strong possibility of a resurgence of the virus during the coming winter.

As McKinsey & Co says, “winter will bring renewed crisis for many countries. Without a vaccine or effective prophylactic treatment, a rapid return to a rising spread of the virus is a genuine threat. In such a situation, government leaders may face an acutely painful ‘Sophie's choice’: mitigating the resurgent risk to lives versus the risk to the population’s health that could follow another sharp economic pullback.”

A resurgence of the virus during the winter will activate a number of crises – schools will close and reopen, as will universities. Workers who started to work at an office will be forced to return to working at home. Supply chain disruptions will be renewed and also aggravated by winter weather, as will disruptions to the health care system. A re-establishment of masking and social distancing rules will further test the social resolve of the populace and no doubt lead to further social discontent.

Governments will be running out of the capacity to fund people out of work and deal with other stresses on the economy, again contributing to social unrest.

At the level of individuals, “much of the population will experience uncertainty and personal financial stress. Public-, private-, and social-sector leaders will need to make difficult ‘through cycle’ decisions that balance economic and social sustainability, given that social cohesion is already under severe pressure from populism and other challenges that existed pre-coronavirus.”

True, a vaccine may be approved before or during the winter. Medical experts have also warned, however, that a vaccine will not necessarily end the crisis any time soon. And, if the second wave is the most deadly, as it was in the winter of 1918-1919, all of these outcomes will be intensified.
The End Game
This all sounds very gloomy. But where it all leads is open to debate at this time. The coronavirus pandemic will eventually pass into history. It will lead to lasting changes. But many of those changes were happening anyway.

As is often said, this too will pass.

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8. Ibid.
15. Ibid.
Eliminate Digital Piracy!
By Edward N. Hall, CPA

Edward N. Hall, CPA, CPA, CISA, is the Executive Manager of The Clix Group LLC in Portland, Or, and Orlando, Fl. He is responsible for the company's overall business activities, which include intensive participation in product development and marketing strategies, business planning and overall administration. You can reach Ed at enhall@payclix.com. This article is sponsored content.

A few years ago, I was preparing to submit a magazine ad that had been created by my long-time copywriter. To my surprise, I found a spelling error in the text and my copywriter was on vacation and not available to correct the mistake. The ad was in PDF format, and I wondered if a PDF could be edited. To my surprise, when I did a Google search (for “edit pdf”), I found literally thousands of free PDF editing tools that could suit my purpose. I fixed the ad and submitted it.

I then began to wonder how much editing could be done on a PDF since, like many others, I thought PDFs were secure containers that could be trusted for saving and sharing confidential documents. This led me to create a software program called TrueCopy, which exposed how vulnerable a PDF file is to malicious tampering and provided a way for PDF files to be registered and verified at any future time that they were indeed “true copies” of the original. Take a look at www.truecopy.cc for a video of how vulnerable a seemingly secure PDF file is.

TrueCopy then begged the question: could any digital file actually be relied upon to be secure? TrueCopy provided the theoretical foundation for a digital single file format (.SQZ) to monitor the current state of a digital file and to manage access by 3rd parties.

To our knowledge, there is no other program that can restrict access to a digital file after it is created, other than by requiring the entry of a password, using biometric authentication or inserting a physical device such as a USB dongle. And, certainly, no program exists that enables the author/owner of a file to be notified when access to their file is attempted by a 3rd party at a later date.

digitalSQZ is a web-based application with a single file format (.SQZ) that an author/owner of a digital file can use to control, among other things, who may access a particular file (or group of files), when they may access it, where they must be to access it and the physical device that must be used to open it.

How digitalSQZ Works
The author of a file in a format supported by digitalSQZ uploads the file (squeezes it) to create a .SQZ file. When SQZed files are created, they are compressed and encrypted using a proprietary process to secure the files from unauthorized access. They also include an embedded watermark to assert the author’s IP rights. Watermarks can be the default SQZ logo, a company’s own logo or a registration
number for associating a file with a particular author. The watermark also provides a defense mechanism against screenshots.

The author can set or modify the various access control parameters for the file at any time – now or in the future – and any attempt by a 3rd party to access the file will depend on the current parameter values.

By default, .SQZ files when opened and viewed by the proprietary reader cannot be saved or printed, and all other standard file options are disabled.

.SQZ files can be dragged and dropped into folders and sub-folders to organize and manage the file contents by topic or user.

When a .SQZ file is shared, the recipient receives an email invitation to register to use digitalSQZ (if they’re not already registered). Once they are registered, they can log-in to open the shared file(s) using the access parameters that were assigned by the author. If the file’s access parameters allow it, the recipient may share the file with other users. The author can change the access parameters for a file. So, a file that could be accessed today could have restricted access tomorrow.
Authors can generate a report to track who has accessed their file(s), where they were and when they accessed it.

For example, the legal department of a large company could give Edward “view only” access (no printing or saving allowed) to a confidential document with a serialized watermark for a brief period. Access using his personal email account was granted to him for only January 10, 2019 between the hours of 13:00 and 16:00 GMT, from a device with a MAC address 88:23:D4:F7:B7:89, and only while the device was at GPS location 28.6617053/-81.2458560 logged onto I.P. address 234.98.257.135. And he could only open the document to view it three times. Once the time expired, his permission to access the file would be automatically revoked.

By default, .when SQZ files are opened by the proprietary viewer, they cannot be saved or printed, and all other usual file options are disabled.

File types that can be SQZed:

- Raster images (JPG, PNG, GIF, etc.).
- Standard media file formats (AVI, MPn, OGG, etc.).
- MS Office files (DOC, XLS, CSV, PPT).
- PDFs.
- ZIP files.
- Actually, any other file format (but they can only be SQZed and not viewed).

When digitalSQZ squeezes a file, it is a “lossless” conversion so that the .SQZ file will play, be viewed or printed with the same quality as the original. Typically, a .SQZ file is smaller than the original.

**digitalSQZ Security**

digitalSQZ uses a proprietary data encryption methodology that incorporates blockchains to manage multiple versions of a file as it evolves during its lifespan. Each version can have a unique set of access control parameters so that access to the file can be controlled as the file evolves. Prior versions of a file can be retrieved at any time.

In a recent test, a .SQZ file was posted on several websites frequented by
hackers and a bounty was offered to the first person to send a screenshot of the original file. Eighteen self-proclaimed “expert hackers” accepted the challenge. None were successful.

Current Applications for digitalSQZ
digitalSQZ will protect, secure and distribute:
• Medical or customer records.
• Legal documents and contracts.
• Confidential government documents.
• SEC filings.
• Financial records and statements.
• Tax returns.
• Digital media files.
• Corporate business plans, patents, product formulas or trade secrets.

In fact, digitalSQZ will protect, secure and distribute any digital file that contains proprietary information or data that the owner does not want to have exposed to the general public.

For example, a CPA firm using SQZ can send its billings to its clients and, using the online payments capability of sister company PayClix, receive and process their payments. The clients can also send
SQZed financial statements and tax returns to their bank or other parties who need this confidential information.

**Future Applications for digitalSQZ**

digitalSQZ will include a proprietary “pay per view” feature that allows files to be shared with third parties who would pay for the privilege to view/listen/open the file. digitalSQZ can also, optionally, make royalty payments directly to an artist/owner. All payment transactions are managed by PayClix.

Because .SQZ files can’t be read or accessed by any other software, digitalSQZ has created our proprietary search engine with an extensive set of filters for finding and listing specific text references in .SQZ files. Searches can cover a single file, a folder containing many files or a user’s entire set of folders.

![](image)

_.SQZ files created from MS Office files can be edited in real time on a collaborative basis and all changes are tracked for future reference._

The end result is that, once you incorporate digitalSQZ into your document processing, you no longer need to worry about hackers stealing your valuable data, confidential information and other proprietary plans and strategies. Your secrets are safe with digitalSQZ.
Leadership in the Age of Artificial Intelligence

By Jonathan Andrews CPA

Artificial Intelligence (AI) is having a pervasive, almost insidious, global impact. Out of sight, it may be difficult to understand just how significant this new technology really is. Some may even view AI as a being limited to text-based chat support lines and phone systems that will tell you to be patient, they are still learning.

Any unenlightened impressions of AI are eliminated after reading The Future of Leadership in the Age of AI – Preparing your leadership for the AI-shaped future of work, by Marin Ivezic and Luka Ivezic. Being well-researched, thought-provoking and instructive, yet at the same time somewhat unsettling, the book was an interesting read. Ivezic and Ivezic’s book should be of great interest to those who have become increasingly interested, if not concerned, with the direction and significance that AI has begun to take.

Marin Ivezic is a partner at PricewaterhouseCoopers (PwC), specializing in risk and cybersecurity of emerging technologies. Part of his work exposes him to the transformative nature of AI – reducing workforces, cutting costs, increasing workforce skills, and creating additional jobs. Luka Ivezic is an independent consultant and author specializing in the geopolitical and socioeconomic impact of emerging technologies. Both are well-qualified to shed light on the leadership considerations of AI.

AI Is the 4th Industrial Revolution

At the outset of the book, we learn that AI represents the 4th Industrial Revolution. Looking back, steam, electricity and mass production, and computers all had their own transformative effects. But none, Ivezic and Ivezic believe, will have the same immense impact as AI, and that impact will be widespread and more immediate.

The authors point out that each new industrial revolution causes pain for existing workforces. In their view, the Fourth Industrial Revolution will be no different. The workforce will be forced to seek new skills, and leaders will have to understand how to best employ AI in their organizations.

In the second chapter of this publication, “AI’s Uses Today – Far More Than You Might Think,” the authors provide examples of current uses of AI in use today. These include:
Personal assistants and human-like bots — voice powered personal assistants.
Analysis and the structure of raw data — analyzing data and flagging for human intervention.
Predictive engines — personalized searches on shopping sites.
Autonomous operation — AI involvement in cars and planes.
Manufacturing and monitoring — smart factories.
Medical Diagnosis — a consensus of advice for a doctor from other doctors.

Divergent Views of AI
Ivezic and Ivezic admit that AI is still in its infancy but note that, similar to previous industrial revolutions, this new technology already divides the public into supporters and detractors. As was also the case in the past, a third group, the pragmatists believe that the real future of AI can be found somewhere in-between. The authors refer to these three views as:

• **Dystopian**: there will be dramatic unemployment and all power will reside in the hands of the super-rich, even to the point that AI ultimately becomes the ruling elite. While this view would be considered overly extreme, the authors concede there is still much to be taken seriously.
• **Utopian**: AI will free up humans to enjoy life, receive a Universal Basic Income and work on improving their own lives and the lives of others. The authors counter this with the observation that other technologies have promised similar benefits but, unfortunately, humans are simply not well-disposed to deal fairly with each other.
• **Organic**: Jobs lost to AI will be replaced by jobs created by AI. The authors opine that, while this is a tempting view to adopt, previous Industrial Revolutions involved drastic transitions and AI will likely be no different. People will have to change, seek out, and retrain themselves to carry out the new jobs.

Of the three views, the *Organic* view, as with previous Industrial Revolutions, is the most likely to occur. The only way AI will be truly beneficial, however, is for leaders to be appropriately prepared.

AI and Economies
In this section, the authors explore the impact that AI will have on economies. Much of the information on the economic impact of AI derives from a 2017 PwC report *Seizing the prize: What’s the real value for your business and how can you capitalize?* The report predicts that, by 2030, AI will contribute $15.7 trillion to the global economy. Less than half of this contribution will come from productivity gains, brought about by automating routine tasks and increased efficiency. The majority of the $15.7 trillion contributed will come from the new opportunity for employees to focus on more profitable tasks, develop new offerings, and grow new markets.

The benefits of AI will come from:
*Commoditization* — the transfer of work from specialized workers to machines.
*Competitive advantage* — the ability to predict consumer demands and create new markets.
*Commoditizing AI* — introducing products with AI capabilities built-in thereby obviating the need for companies to provide human intensive services such as product support.
What AI Doesn’t Have
The authors also draw attention to what AI lacks: creativity. AI still needs human creativity to come up with innovative solutions. Multiple neural networks can mimic creativity, but if humans created neural networks in the first place, it is a programmed creativity. Another downside is that AI cannot see things from a human perspective – it is already limited to the perspective that has been programmed into it.

Human creativity can identify gaps between new technologies and classify new technologies. AI still has to depend on humans for identifying gaps and spotting new opportunities. The true benefits of AI will come from humans and AI working together. The authors remind us of the potentially dramatic transition into the 4th Industrial Revolution. That very transition can be made less disruptive by the degree to which AI and humans can work together.

By the end of the fourth chapter, the authors have now set the scene for what is to follow. They have described the advent of AI as the 4th Industrial Revolution; they have provided examples of how AI is used today; they have referred to the three different reactions the public may have to incoming Industrial Revolutions, from the First to the Fourth; and have drawn on predictions by PwC of the impact of AI on world economies.

Preparing for AI
What can leaders and workforces do to prepare themselves to take full advantage of AI? What roles can they play? Ivezic and Ivezic provide answers to these questions and more in the remaining seven chapters.

First, the human side of the AI revolution: what should leaders do to prepare the workforce to change its skill sets? Although not referred to as such by the authors, it is here that ethical and responsible leadership becomes a priority. Automation of routine tasks will mean certain skills are no longer needed. This places leaders into a conundrum: do they create redundancies to retain members of the workforce or create new opportunities and train for new skills?

The authors warn us of the coming disruption - it will affect not just those with repetitive tasks – such as production line jobs – but all those who are paid to think; that means everyone, including leaders. From an AI perspective, the skill that will no longer be in demand is the ability to analyze static data. Instead, what will take its place will be the ability to interact with others. Leaders and management need to be able to motivate others, be innovative as change cycles become faster, facilitate changes to the work environment, and be prepared to assimilate different cultures as they expand into global markets.

In the Wrong Hands
Toward the end of the book, the authors take care to place the reader’s feet firmly back on the ground. The many transformational aspects of AI give way to the reminder that the acquisition, creation and distribution of information in the wrong hands can become a weapon.
Why is this?

For example, mass disinformation campaigns need immense amounts of information. Such information can be gathered by AI for use in automated content and a new bias introduced. Not only is text affected, AI can be used create forgeries out of visual content in images and videos.

In the “Risk Management” chapter, the authors depend on typical cybersecurity solutions in the form of tools, processes, education and awareness.

**In the Right Hands**
The focus of the chapter on risk management is on *cybersecurity* risk alone. Other risks, such as those in AI development and operations, are not referred to in this chapter, such as the role that AI played in the killing of a cyclist by a self-driving vehicle and the misdiagnosis of patients by medical systems. Perhaps Ivezic and Ivezic believe that the subject of AI risk would be best addressed in its own publication.

**In Conclusion**
*The Future of Leadership in the Age of AI* is highly informative and provides well-researched insights into AI. Although the last sentence of the last chapter implores the reader to act now to avoid being “left behind,” the guidance in this publication is persuasive enough for anyone to take the implications of AI seriously and act accordingly.
Momentum Building Toward Comprehensive Corporate Reporting

Alan Willis, FCPA, FCA, a former partner in one of the Big Four accounting firms, has since 1991 been an independent researcher, writer and advisor on corporate reporting and performance measurement beyond the scope of financial statements alone, and the implications of such reporting for corporate governance, internal control and assurance. He became an early pioneer in the concept, development and practice of sustainability reporting and later of integrated reporting.

My July 2020 blog spotted on the radar some fresh signs of hope for collaboration and convergence to reduce confusion and enhance relevance in corporate reporting – convergence among reporting frameworks, convergence of financial and sustainability reporting and collaboration by the requisite organizations to achieve such outcomes forthwith.

I did not, indeed dared not, expect the amazing news on Friday September 11, 2020 that “Five global organizations, whose frameworks, standards and platforms guide the majority of sustainability and integrated reporting, today announce a shared vision of what is needed for progress towards comprehensive corporate reporting – and the intent to work together to achieve it.”

Five leading organizations – CDP, CDSB, GRI, IIRC and SASB¹ (hereafter referred to as the “Five”) – published their “Statement of Intent to Work Together Towards Comprehensive Corporate Reporting,” summarizing their discussions and proposals for alignment of their existing frameworks and standards to complement those of financial reporting standards setters.

The approach they propose toward creating a comprehensive reporting system recognizes the differing information needs and materiality concepts of “providers of financial capital” (e.g., investors) and other, broader categories of stakeholders. The former are primarily concerned with decision-useful information relevant to enterprise value creation (both within and outside the financial statements), while the latter focus their attention on multiple objectives and related types of information about significant enterprise impacts on the economy, environment and people.

¹ CDP (formerly Carbon Disclosure Project), Climate Disclosure Standards Board, Global Reporting Initiative, International Integrated Reporting Council, Sustainability Accounting Standards Board
The “Five” envisage a stepping stone approach to harmonization, with two main building-blocks. The first building block would aim to enable disclosures relevant to enterprise value creation, deploying information from the existing frameworks and standards of both financial standards setters (IASB and FASB) and those of the five proponent organizations. This building block would produce the information communicated to investors and financial market regulators through a core annual integrated report (in a digitally accessible format).

The second building block would draw upon the same existing frameworks and standards but would go beyond the first building block, recognizing the information needed by a broader range of users and their objectives to enable “sustainability” reporting about impacts on the economy, environment and people, through various communication channels.

Further, the “Five’s” proposal envisages ongoing collaboration between the two building blocks to ensure that they draw upon a common set of requisite frameworks and standards, that there is consensus about sustainability reporting topics, and that companies need to collect information only once for whatever type of reporting is in question, be that for sustainability reporting or reporting on enterprise value creation.

The end result of all this collaborative effort is to create jointly a vision of how the five proponents’ frameworks and standards can be used in a complementary and additive way with those of financial standards setters to meet users’ respective information needs, and to provide guidance to the market on how these frameworks and standards can be applied to achieve this vision.

The “Five” argue, pointing to evidence, that we have reached a pivotal moment to initiate this collaboration and build on numerous recent signs of the growing appetite – indeed demand - among key actors for progress in this space. Consider, for example, demand for reporting on contributions to the UN Sustainable Development Goals, investor community demand for harmonization of ESG disclosures, demands for companies to serve the needs of stakeholders beyond just shareholders, the July 2020 announcement by GRI and SASB (reported in my previous blog) to collaborate “in promoting clarity and comparability in the sustainability reporting landscape” and, very significantly, the recognition by IOSCO earlier this year that financial market regulators have an important role to play in ensuring that investors have the information they need about company performance.

As if all the above were not exciting and promising enough, on the very same day, September 11, 2020, IFAC (the International Federation of Accountants) issued a release calling for “creation of an International Sustainability Standards Board alongside the International Accounting Standards Board.” This was accompanied by a schematic depiction, “The Way Forward,” of the objectives, structure and building blocks of the proposed new board. This
release and the “Way Forward” do not explicitly refer to the “Five’s” Statement of Intent highlighted above, but the “Way Forward” diagram does include a structural element saying that the new sustainability standards board “should adopt a ‘building blocks’ approach, working with and leveraging the expertise and disclosure requirements of leading initiatives, including CDP, CDSB, GRI, IIRC, and SASB.” Hardly a coincidence! After all, as the voice of the global accounting profession, IFAC has a key role to play in collaborative efforts and successful progress towards comprehensive corporate reporting.

Momentum is building! Future blogs will monitor and comment on these promising new declarations and proposals.
Monitoring Group Report: Strengthening the International Audit and Ethics Standard-Setting System
By Eric Turner, CPA

Eric Turner, CPA, has 25 years’ experience in standard setting and is Director of Auditing and Assurance Standards at the Chartered Professional Accountants of Canada. Eric and his staff support the operations of the Canadian Auditing and Assurance Standards Board, the independent setter of auditing, assurance and related services standards. In addition, Eric works with a leadership team at CPA Canada on initiatives to enhance audit quality and provide education, guidance and tools that support the provision of high quality auditing, assurance and related services by the accounting profession. Eric is also a member of the International Auditing and Assurance Standard Board.

In July 2020, the Monitoring Group issued a paper (https://www.iosco.org/about/monitoring_group/pdf/2020-07-MG-Paper-Strengthening-The-International-Audit-And-Ethics-Standard-Setting-System.pdf) containing reforms for strengthening the international audit and ethics standard-setting system.

Canada’s Auditing and Assurance Standards Board (AASB) adopts international auditing standards. The CPA profession also monitors and responds to developments in international ethics standards. What does this mean for the Canadian standard-setting process? This blog explores the reforms and their potential implications.

The Monitoring Group comprises international financial regulators such as the World Bank Group and the Financial Stability Board. The Monitoring Group’s mission is to promote high-quality international audit and assurance, ethical, and educational standards for accountants. Its paper is the culmination of a process that began in 2015 to respond to concerns raised about the independence of the standard-setting process. The concerns stemmed from perceptions that the International Auditing and Assurance Standards Board (IAASB) and the International Ethics Standards Board for Accountants (IESBA) were dominated by accountants and auditors and heavily influenced by the International Federation of Accountants (IFAC), which funds the operations of the boards and provides other resources. A public consultation began in 2017 and received 179 responses.

The reforms described in the paper focus on achieving an independent and inclusive, multi-stakeholder standard-setting structure. The structure is designed to reinforce the public interest and foster timely, high-quality standards that respond to an accelerating pace of change.
The Reforms in a Nutshell

Key reforms outlined in the paper will affect the IAASB, IESBA and the Public Interest Oversight Board (PIOB), which oversees the boards’ work, by requiring:

• multi-stakeholder representation on the IAASB, IESBA and the PIOB, and enhanced PIOB transparency;
• new nominations arrangements for IAASB and IESBA;
• a public interest framework, which acknowledges, amongst other elements, the importance of scalability, operability, usability and readability of the standards;
• the formation (or reformation as the case may be) of stakeholder advisory councils reflecting diverse stakeholders including national standards setters; and
• further clarity around the oversight responsibilities of the PIOB versus the boards’ responsibilities.

Reform Deep Dive

Scope of standard setting

The IAASB will continue to be responsible for setting audit, review, other assurance and related services, and quality control standards. The IESBA will continue to be responsible for setting international ethics standards for professional accountants, including auditor independence requirements.

The approach will balance priorities, including those of smaller and medium-sized enterprises, in a way that serves the public interest.

The two boards will also continue their coordination efforts to enable each to work more closely on key projects that impact their respective mandates.

A new legal structure

The standard-setting boards are to be housed in a separate legal entity outside of and independent from IFAC.

Board members and staff

Each board will be reduced from 18 to 16 members – a full-time, independent chair, one part-time vice-chair and 14 part-time members. Currently, only the chair is remunerated. Under the new system, all members will be remunerated.

The multi-stakeholder boards will be selected from diverse stakeholder groups including:

• investors and other users of the financial statements;
• accountants;
• regulatory members (including national standard setters);
• audit committee members;
• academics in the field of accounting or auditing; and
• audit practitioners.
Each board will have a maximum of five audit practitioners (down from nine), including those from large firms, small firms and public sector organizations.

The technical staff will be expanded and enhanced, with the capability to take forward the development of standards. This may lead to removing existing reliance on technical advisors to support individual board members and allow board members to adopt a more strategic focus in their deliberations.

The boards will have access to stakeholder advisory councils reflecting diverse stakeholders including national standard setters. As standard-related needs arise, the boards will have flexibility to appoint ad-hoc advisory groups.

**IFAC's role**
IFAC will maintain its role in promoting global adoption, convergence, education, implementation and compliance. This will ensure that professional accountancy organizations comply with their membership obligations, advocacy, non-authoritative guidance, sharing of best practices, surveying for implementation challenges, and building capacity of professional accountancy organizations.

**Reactions of the board chairs**
In a joint press release ([http://www.iaasb.org/news-events/2020-07/international-audit-and-ethics-standards-boards-embrace-conclusion-monitoring-group-review-and-0](http://www.iaasb.org/news-events/2020-07/international-audit-and-ethics-standards-boards-embrace-conclusion-monitoring-group-review-and-0)), the chairs of the IAASB and IESBA indicated they are broadly on board with the reforms. “The Monitoring Group’s conclusions highlight the importance of high-quality international standards, set by independent and technically expert bodies with effective oversight,” said IAASB Chairman Tom Seidenstein. “We support change that can advance our ability to deliver enhanced standards in the public interest.”

**Implications for Canada**
**Our influence**
The ability to influence is critical to Canada being assured that the audit and ethics standards the profession uses meet the needs of Canadian stakeholders and are globally accepted. Although having a seat on the IAASB and IESBA boards has never been guaranteed, Canada has a strong history of involvement that has benefited the quality of international standard setting and supported the adoption of international standards in Canada.

Not having a seat on these boards would reduce the ability for the Canadian voice to be heard. So it will be important to evaluate whether and how the AASB and the CPA profession can continue to maintain that influence.

Important in this evaluation will be considering how the opportunities to be at the international standard-setting table are affected by the changes to the number of members and composition.
of the boards. There appear to be some pluses and minuses that this evaluation will need to consider.

On the one hand, the reduction in the size of the boards means there may be increased competition for spots. On the other hand, the change in composition of the boards – specifically, less emphasis on practitioners – may open up opportunities for national standard setters such as Canada. And it is noteworthy that national standard setters are specifically identified as an important constituent not only in terms of the multi-stakeholder boards but also on the stakeholder advisory councils.

**Standard-setting model**
Another consideration is whether the international reforms should flow over into Canada’s approach to standard setting. There are currently a lot of similarities between the Canadian model and the international model. For example, CPA Canada is heavily involved in supporting the setting of Canadian auditing and ethics standards, and its oversight bodies, (AASOC and its accounting standards equivalent, the Accounting Standards Oversight Council, AcSOC) have similar mandates to the PIOB.

Our model applies not only to audit and ethics standards, but also to the setting of accounting and public sector accounting standards. The composition of its boards, the relationship between its standard-setting boards and CPA Canada, staffing and the oversight of the boards may all need to be considered in relation to the new international model.

**Responding to the public interest**
It will also be interesting to examine how the IAASB and IESBA implement the new public interest framework into their activities and whether such a framework, or some of its elements, has merit in a Canadian context. For example, perhaps the AASB and the Auditing and Assurance Standards Oversight Council (AASOC) will see improvements that can be made to how it develops public interest views on the AASB’s standard-setting activities.

**What’s next?**
The Monitoring Group wants to see a timely implementation of its recommendations. It plans to leverage the support of IFAC and the PIOB, along with input from the boards, in developing a transition plan within nine months (i.e., by April 2021). The Monitoring Group anticipates the reforms will result in an increase in cost associated with international audit-related standard setting due mainly to expanded technical staff and remuneration of the boards’ members. The estimation of funds for the revised structure will be developed as a component of transition. Implementation of the transition plan should be completed in three years. Therefore, transition to the new international system will be a measured rather than “big bang” approach. So there is time to carefully consider the implications for Canada.

The Monitoring Group will perform an effectiveness review of these recommended reforms within five years of their implementation.
In my view...
The Monitoring Group reforms have retained many of the critical elements of the international standard-setting process that have served the IAASB and IESBA well for many years. There are, however, some key changes with longer-term implications.

Canada cannot ignore the changes in the context of its role in international standard setting, and not just from the perspective of auditing and ethics standards.

In my view, it will be an important continuous improvement initiative to evaluate the Monitoring Group reforms in a Canadian context so that our standard setting continues to maintain its globally respected capability. I imagine the AASB and CPA Canada will be watching closely!
RPA – A New Tool for Accountants

By Eric Cohen, CPA

In one of my recent blogs on the thinktwenty20.com webpage, I referenced a dear bookkeeper with whom I worked many ages ago, who had considerable challenges interpreting a changing payroll report from an external provider. Her challenge with getting the appropriate journal entries into the accounting system was a catalyst to my wanting to develop XBRL GL. So, I would like to discuss how RPA is like that bookkeeper, the good news and the bad news.

A number of vendors have emerged in the RPA space. You will often hear of three names in particular for solution providers: Automation Anywhere, Blue Prism and UiPath. These “overnight successes” have been around since 2003, 2001 and 2005 respectively. (Again, support for my statement in my last entry that this nothing new, just receiving more attention.)

I am going to focus on UiPath for our RPA proxy. Your choice between these three or another depend on the users who will be involved, the back office or consulting support available, certain architectural issues, and other considerations.

Let’s look at the bookkeeper’s situation:
1. Get the summary report.
2. Look in some specific places for the Net, withholdings, garnishes and other adjustments.
3. Write the numbers onto the template I provided.
4. Calculate the gross-up amount.
5. Calculate the company matches and other additional entries.
6. Create the journal entries by putting the payroll template numbers into the journal entry template.
7. Post

Guess what RPA can do?
1. Recognize when a file (for example, an email with an Excel or image file attached or a link to a web report) is recognized by monitoring the email.
2. Perform optical character recognition on the image if necessary and look in specific places in the spreadsheet, image or web page for the relevant information.
3. Pull out that information and write it into the payroll template.
4. Take the resulting totals and additional calculations and write them into the journal entry template.
...and so on.

If, however, there are any changes to the input, calculations or outgoing system, RPA will fail miserably.

So, is RPA something a savvy business person can do? Or do you need to bring in a programmer?

**Help on Tap**
You can actually do this without calling on a programmer. I have previously mentioned using the products from UiPath as a proxy for our exploration of RPA. There is a whole suite of products under that name, but the primary tool for setting up automations is called Studio. It is a drag-and-drop environment where, having come up with the tasks you wish to automate and the steps to do so, you bring over from a library of activities one-by-one the automation task necessary to do the work.

When I say Studio, I am actually speaking of an environment which has some options. I began with Studio in its more complex form. I have been a “programmer” for a living in the past, although I do not claim to be good at it. It put food on the table. It also means that I understand basic programming concepts. Many accountants have not had to work with variables and if … then statements, and data types and conversions. Studio requires that knowledge … and you can’t always find a sixth grader when you need them.

But there’s another front end, called StudioX. StudioX is designed for the business user, focusing on using Excel, or Gmail, or Word, or the Web. It still requires more structured thought and basic understanding of the applications you need to work with, but it isolates much of the coding from the user.

While StudioX and its equivalents from other solutions providers may not meet all of an enterprise’s needs, it will be a useful tool for business people with a bit of tech savvy to begin to exploit RPA in their environments.

**But What About Python?**
Back in May, I wrote a blog on whether financial professionals should know how to code in Python. See [http://www.thinktwenty20.com/index.php/blog/478-should-financial-professionals-know-how-to-program-or-data-analytics-accountants-should-understand-them-](http://www.thinktwenty20.com/index.php/blog/478-should-financial-professionals-know-how-to-program-or-data-analytics-accountants-should-understand-them-)
and-have-toolsets-to-perform-them for a refresher. I mentioned the use of Jupyter Notebook as a means of storing and conveying the code and documentation and facilitating writing, testing and executing the code.

So what does Python have to do with RPA?

With RPA, I have tools to automate tasks. Python, too.

With RPA, I have the means to get information from Excel, PDFs and other external sources and work with the data automatically. Python, too.

The use of UiPath Studio for “smaller” purposes is free. The use of Python is essentially free. Python has tons of “libraries” that add additional functionality to work with just about anything. RPA tools are gaining more and more libraries, and often permit the invoking of code just-in-case.

So, what can RPA solutions do that Python can’t?

• Provide a limited/no-code environment in which to operate, particularly focused on screen scraping.
• Integrate with larger suites for collecting business requirements, moving to the field and managing
• Minimize programming errors with components tuned for purpose

What can Python do that RPA can’t?

• There are few limitations to Python; there’s even an RPA library for Python (imaginatively named RPA for Python or RPA-Python) which simplifies website automation, OCR, and interaction with people on the keyboard and mouse. But,
• Python is a general purpose tool, so you aren’t starting off with a user-friendly user interface to get the work done.

With UiPath being available for free for smaller uses, it is up to you whether to begin implementing automation within your organization with Python or with UiPath.
**Hey! What’s New?**
A random collection of news items with lasting interest that I hope you will find interesting.

*By Gundi Jeffrey, Managing Editor*

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**Reshaping the CFO Role**

In an article published the September 1, 2020, issue of *CFO*, Keith Button says surveys conducted before and during the pandemic show the coronavirus crisis may be reshaping the role of the CFO, with senior finance executives shifting their focus to crafting strategy and generating business value.

CFO Research (part of Argyle Advisory and Research Services) and Grant Thornton surveyed 631 CFOs and other senior finance executives in February, then followed up with a survey of 174 CFOs and senior finance executives in May, to gauge the effects of the COVID-19 upheaval. Besides the changing focus of CFOs, the surveys revealed widespread delays for innovation projects, a renewed appreciation for business strategy skills, cybersecurity expense increases, and love for advanced analytics and artificial intelligence.

The February and May surveys showed that the role of the CFO shifted when the pandemic hit. In both surveys, the executives were asked how much of CFOs’ time would be spent in these four roles: strategist (crafting corporate strategy); change agent (generating business value); producer (standardizing and automating transactional processes); and guardian (standardizing control and compliance processes).

In February, the survey respondents reported that CFOs’ time was divided relatively equally across the four roles. But, by May, that balance had shifted in response to the COVID-19 crisis: strategist and change agent roles were taking more of CFOs’ time compared with the producer and guardian roles.

Despite the apparent shift to more forward-looking tasks, the coronavirus forced a large majority of CFOs to put off or change their plans for innovation projects. Eight out of 10 surveyed finance executives had delayed or reshaped innovation projects in May. Sixty-two percent of the respondents reported that the COVID-19 crisis had delayed their transformational projects while 19% said the crisis had reshaped their projects and they were pursuing a different approach. The remaining 19% reported that the crisis had accelerated transformation projects.
Advanced analytics and artificial intelligence were favored categories of automation technology in both the February and May surveys. A majority of the executives in the May survey reported that their plans for implementing automation technologies had not been delayed by the pandemic. More executives slated advanced analytics for accelerated implementation (29%) than they did any other category of technology. Artificial intelligence was a close second at 23%.

The February survey had asked executives when they expected to implement a list of specified automation technologies. Most respondents (55%) had already implemented advanced analytics. Optical character recognition was the second-most-already-implemented automation technology, at 40%. Artificial intelligence had the highest percentage of planned implementations within 12 months (33%), followed by robotic process automation (30%).

In a December 2019 recession preparedness survey by Grant Thornton, 70% of respondents reported plans to increase their digital investments in innovation/technology, digital transformation, and/or cybersecurity, even amid growing signs of a slowdown. In the February CFO survey, about 70% of the senior finance executives reported they had either implemented key emerging technologies or they would be implementing them within two years.

Fitting with the finding of CFOs seeing themselves in more strategic roles during the pandemic, the finance executives surveyed held business strategy skills in high regard. They saw business strategy as an important skillset both before and after the onset of the pandemic. Operations management skills were nearly as valued as business strategy skills in the pandemic crisis environment. When finance executives were asked which important skill they had leveraged because of the coronavirus crisis, the most-cited answer was business strategy, chosen by 34% of the executives, followed by operations management (29%). Data analytics and innovation/entrepreneurship were tied as the third-most-cited top skills drawn on during the pandemic, at 10%.


**Deloitte Fires Gun on Big Four Audit Split**

Last July, the UK’s Financial Reporting Council (FRC) published its guidelines for the separation of the audit functions of the Big Four firms, promising the most robust changes to the sector for several decades. Earlier this year, Deloitte, KPMG, EY and PwC were told to submit their plans for separating their audit practices to the FRC by October 23, and they have until 2024 to implement the split.

According to an article in *accountingWeb*, published September 6, 2020, “there have been a number of high-profile cases highlighting that independence can be impaired where there is a significant level of advisory fees gained from audit clients.” Quoting Andrew Moss, a partner at DSG Chartered Accountants, the article says “shareholder confidence in the audit opinion has suffered as a result and a break up looks likely, which would allow the next tier of firms to compete on a more level playing field for listed audits.”
Deloitte is the first of the Big 4 to say that it will create an independent audit governance board (AGB), with responsibility for providing independent oversight of the UK audit practice, effective from 1 January, 2021. The firm said the AGB will have a focus on the policies and procedures for improving audit quality and on ensuring the FRC’s objectives of, and desired outcomes for, operational separation are met.

The board will also have oversight over “the policies and processes for ensuring that audit partner remuneration reflects their contribution to audit quality appropriately,” Deloitte said. The firm is also exploring the sale of its restructuring unit, with the executives running the arm said to be considering a management buyout, a move which would further re-model the consultancy sector as long-awaited regulatory changes begin to take shape.

“The proof of the pudding will be in the eating with regards to its effectiveness, especially in terms of transfer pricing of transactions between the audit and non-audit parts of the practice as well as how many partners and team members cross between parts of the firm,” said David Herbinet, global head of audit and senior partner at Mazars. “We do not believe this voluntary initiative rules out the merits of further legislation or fuller regulation on audit firm separation going forward.”

“There have been ethical standards in place for accountancy firms since before there was a legal requirement for audit; unfortunately, the attraction of significant consulting and advisory fees can sometimes mean that the auditors independence is put under pressure,” Moss added. “As such, any reform of the current ethical standards would have to be backed by the regulators’ having sufficient power in order to sanction firms who breach the standards otherwise the changes may have little effect.”

For the complete story, go to: https://www.accountingweb.co.uk/business/finance-strategy/deloitte-fires-gun-on-big-four-audit-split?utm_medium=email&utm_campaign=AWUKBUS170920&utm_content=AWUKBUS170920+CID_3ae25220391601127994255ee9ff5d7c&utm_source=internal_cm&utm_term=Read%20more.

Canadian Securities Regulators Publish Research on Investor Knowledge, Attitudes and Behaviour

According to the Canadian Securities Administrators (CSA) findings from a four-year research study that measured what investors know and think about fees and the performance of their investments and how they interact with advisers, there has been considerable improvement between 2016 and 2019 in 40% of the issues examined, particularly in knowledge about fees.

Two recent CSA reforms prompted this study. The Client Relationship Model (CRM2) required advisers to provide enhanced relationship disclosure information, pre-trade disclosure of adviser fees and other charges, expanded account statements, annual reports on investment
performance, and annual reports on charges and compensation. The Point of Sale (POS) rules required that investors be given plain language information, including an easy-to-understand Fund Facts document about a mutual fund prior to purchase. The amendments took effect in phases from 2014 through 2016, and the CSA announced plans to study the impact of these reforms in August 2016.

“This research provides us with valuable insight into the mind of the Canadian investor,” says Louis Morisset, chair of the CSA and president and CEO of the Autorité des marchés financiers. “We’re seeing that Canadians are gaining more confidence in navigating the marketplace. However, there is room for substantial improvement in the investing experience, especially in understanding the impact of fees on investment returns.”

The research included one baseline survey by Ipsos Public Affairs in 2016 of about 3,500 Canadian investors, followed by six successive waves of surveys, each with about 2,000 respondents, conducted by Innovative Research Group.

More investors in 2019 said they had a better understanding of the impact of fees on investment returns than in 2016 (51% in 2019 vs. 41 per cent in 2016). That growing self-confidence was borne out by the increase (from 43% to 51%) in the portion of respondents who are aware that they pay fees for the operation, management and/or administration of their investment account. Nevertheless, almost half of Canadian investors are not aware of such fees, and the same is true of indirect fees, such as payments made by investment funds to dealers.

Investors across Canada also reported being more confident in monitoring and assessing the performance of their investments. There was an increase in investor confidence in monitoring the change in value of their investments over time (86% very confident or somewhat confident in 2019, up from 80% in 2016) and in assessing whether their investments were on track to reach their financial goals (82%, up from 76%).

Although, overall, there was a decline in investors’ satisfaction with their advisers, four out of five Canadian investors still report being “satisfied” or “very satisfied” with their adviser in 2019.

In some areas, progress is fleeting or non-existent. After two years of increases, 2019 saw a decrease to 44% – almost to 2016 levels – in the portion of respondents who said their adviser discussed fees with them before buying an investment product in the previous 12 months.

There was no evidence that advisers are more frequently recommending lower-cost options. Other influences besides the CRM2 and POS reforms – such as investment firms’ advertising, news media coverage of retail investing, and growing interest in low-cost funds – may have contributed to the changes in investors’ knowledge, attitudes and behaviour found over the study period.
The insights gleaned from the research will help inform future CSA policy-making and educational efforts to improve the investing experience for Canadians.

The research reports can be found on participating CSA members’ websites.
The Ethical Dilemma

The Ethical Dilemma is a 4.5 hour online course, accessible anywhere, anytime. The content includes 48 case studies based on recent disciplinary hearings.

For further details, see: The Ethical Dilemma

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