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## Impact of Pandemic and Digital Transformation on Global Accounting Profession

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## Abstract

The COVID-19 pandemic made 2020 the most difficult and challenging year in ways that no one could have predicted, causing major disruptions with unprecedented changes affecting worldwide economies. Its impact has been multidimensional at the personal, organizational, and societal levels. Organizations in all sectors have been focusing on their immediate survival only. World economic output had the most significant drop in over 75 years and affected people's daily routines in almost every country. However, the same disruptive forces of the pandemic accelerated the digital transformation and innovation, causing business practices in the accounting profession to leapfrog decades ahead. This paper presents an overview of the adoption of disruptive technologies and their lasting impact on the accounting profession.

**Keywords:** pandemic impact, the accounting profession, disruptive technologies

## Introduction

The COVID-19 pandemic made 2020 the most difficult and challenging year in ways that no one could have predicted. It caused the most disruption in a century, with unprecedented changes affecting worldwide economies. Its impact has been multidimensional at the personal, organizational, and societal levels. It has disrupted people's lives psychologically, emotionally, physically, and professionally. Organizations in all sectors have been focusing on their immediate survival only. World economic output had the most significant drop in over 75 years and affected people's daily routines in almost every country. However, the same disruptive forces of the pandemic accelerated the digital transformation and innovation and caused business practices in accounting to leapfrog decades ahead. The pandemic caused many organizations to adopt the innovative changes that would normally have taken many decades before full implementation.

In the *Scientific American* article, Mark Weiser predicted a coming era of ubiquitous computing. He explained that "the most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it" (Weiser, 1991). The 2018 Rosenberg survey noted, "the CPA profession is on the cusp of arguably its greatest transformation. It will

dramatically transform how a CPA firm is managed and staffed" (Anonymous, 2018). How true these predictions ring today for the accounting and finance professions! The article published in *Accounting Today* in 2017 was based on thoughts of leaders in the accounting industry looking ten years into the future at the life of an auditor in 2027, but no one at the time considered the future trends seriously (Hood, 2017).

“On an average day before leaving the house Sandy (auditor) runs a set of diagnostics on her cloud to update software patches, check on uninterrupted flow of data from client and firm systems, and ensure that her AI assistant and customized analytical and reporting tools are uncompromised and operating at acceptable levels. On her way to work she learns that ransomware bots had attacked her social media overnight, and her insurance company’s bots had attacked and destroying them. She upgrades to a higher level of protection plan. Sandy meets with the client’s CFO and HR Director in their offices in the morning to discuss the client’s staffing needs and confirms with the CFO’s AI assistant that the client’s tax data and projections are ready for preparing the preliminary tax return and reviewed by the tax partner to suggest tax optimization strategies. In the afternoon, she reviews the analyses prepared by her AI assistant for a selected number of clients, confirms them, and forwards them to the clients with recommendations. Taking a break, she attends a virtual briefing on new security protocols on the user keys of her firm’s blockchain model. She schedules extra training for her less-tech-savvy clients.”

It is evident that the scenarios presented above are already here in 2021 or may speed up soon. 2020 will be remembered as the year that exacerbated many of the issues faced by the global economy for several years before. The innovative technologies adopted in 2020 by different businesses and industries out of necessity have proven that these technologies can do much more than what we imagined. This paper will look at the current and future trends in technology adoption by the industry as accountants and finance professionals evolve from information providers to business value enhancers.

### **Current and future trends in the industry**

CPAs have used analytics in financial reporting roles to help businesses understand and explain the financial results and use assumptions to model and forecast future financial performance. With advances in machine learning (ML) algorithms, Artificial Intelligence (AI) has enabled advances in business analytics. Predictive analytics uses data, algorithms, and machine-learning techniques to anticipate future outcomes. Prescriptive analytics takes it further by guiding predictions into actions. In the past few years, Robotic Process Automation (RPA) and AI have grown from technology blips over the accounting profession's horizon to useful tools making their work more efficient and effective (see, for example, Institute of Internal Auditors, 2017; Issa et al., 2016; Phillips, 2020; and Vasarhelyi et al., 2020).

Accountants today are using AI-enabled tools to extract insights from clients' financial information. AI is expected to mature into reviewing the full range of a client's contracts and financial transactions reducing and eventually replacing the need for sampling. For many accountants, automation and analytics are the first steps in their digital transformation towards an AI-enabled audit. AI will not only perform repetitive tasks but also provide greater insights, and improve efficiencies and quality to free up accountants to better use their skills, knowledge, and professional judgment. RPA will take over routine, repetitive tasks to free up human professionals to use their analytical skills and become value-enhancing business partners. Behavioral issues remain. As the digital transformation progresses, the questions raised are: What role will an auditor play in a world dominated by AI? How will the audit of the future change? What are the limitations of AI? What kind of change in mindset is required to meet the challenges of this evolution? What are the next steps on the digital journey beyond the current state of AI and assurance-related opportunities?

Building on the earlier automation changes, such as moving from hard copy to electronic working papers, Intelligent Process Automation (IPA) involving RPA, analytics, and AI is collectively driving the transformation of the audit process. Using RPA, ML, and AI-enabled audit tools, large volumes of data can be analyzed to find anomalies and identify insights, patterns, and relationships that are not clear to a human being. RPA and AI are being used in many accounting operations such

as accounts payable, accounts receivable, tax preparation, and many others. Some examples in the audit include:

- Audit planning: IPA can process supporting documents and complete the planning worksheet.
- Detail testing: IPA can test the entire population and notify the accountants of the significant items.
- Revenue Reconciliation and Analytical Procedures: In the revenue audit, RPA can assist accountants by logging into a client's secure file transfer protocol (FTP) site to retrieve related audit evidence, including the details of current and prior year sales and the trial balance. It can calculate the total sales, compare it to the total per the trial balance, and generate an alert if the difference from the previous year exceeds the materiality threshold. The bot can include the client's reporting procedures and internal controls for journal entries and can be programmed to flag erroneous or risky entries. When an anomaly crops up, the bot could alert the auditor that the transaction requires investigation.
- Risk analysis: AI systems can sort transactions by the level of risk and let accountants know what can be ignored. They can use professional skepticism to the significant exceptions. By removing the repetitive and routine tasks necessary for the audit, AI will facilitate real-time audits using RPA.
- Continuous audit: A bot controlled by the external auditor can be placed on a client's system to monitor all transactions as they get recorded. AI can provide accounting professionals more time to provide value-added service.

Intelligent Process Automation (IPA) expands Robotic Process Automation (RPA) with AI, cognitive and other technologies. IPA can perform complex tasks and has extra functionality than RPA. It can "feel," "think," and "act," as shown in Figure 1.

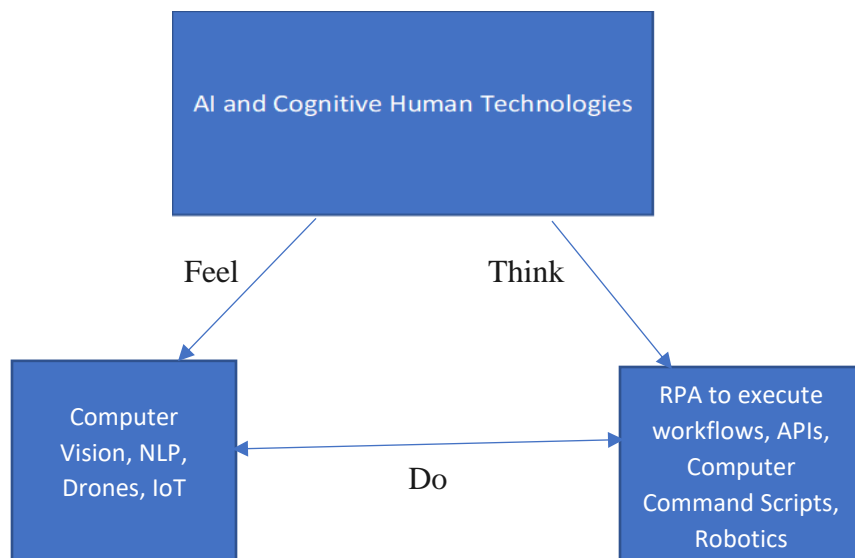


Figure 1. “Feel-think-do” Loop

Source: Brooks, 2020

Accountants can help their clients to adapt to the “new normal” business environment caused by the virus disruption by identifying the new disruptive technologies such as Blockchain, AI, and RPA to achieve long-term productivity gains while enhancing cybersecurity. They can help their clients with the implementation of strategic steps in the process:

- Adopt a digital transformation mindset for resource allocation
- Improve productivity through digitization of finance and accounting operations
- Identify gaps in existing technology infrastructure and human resources.
- Adopt more robust risk identification and assessment of strategic, market, and industry risks.

Figure 2 shows the inter-relationships and future trends of emerging technologies in the IPA spectrum.

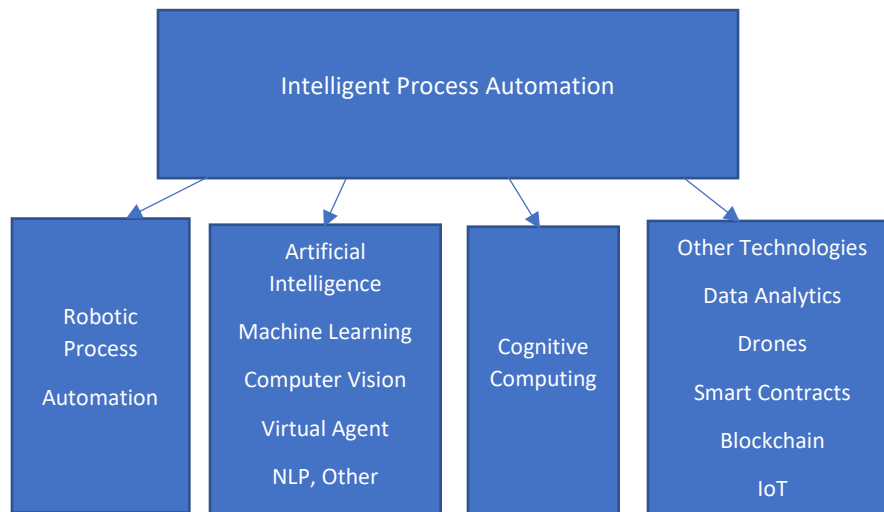


Figure 2. Intelligent Process Automation

Source: Brooks, 2020

Rethinking and restructuring products and processes can assist organizations in figuring out new and more efficient operating practices in view of constrained resources. The multidimensional health and economic challenges caused by the pandemic demonstrate the importance of developing innovation and human skills to help critical economic sectors recover quickly. Organizations will have to invest in digital transformation based on people-centric and data-driven approaches to improve productivity and efficiency. The next wave of transformation can help increase access to government services and unleash the public-private sectors' partnership untapped potential to improve efficiency. The post-pandemic world will look different from before, but no one can be certain to know the direction or extent. For now, some questions are being discussed: How different will be future workplace environments, hospitality industry, shopping, travel, housing, and many other facets of our life? Will firms invest in lifelong learning for reskilling and upskilling their employees? Many questions are being asked, but answers are uncertain.

## Conclusion

2020 has encouraged business professionals to think unconventionally and transform the challenges into opportunities. It has demonstrated the need to develop short-term solutions to the challenges while planning long-term sustainable answers. With AI-enabled tools, the accountants can spend less time gathering, correlating, formatting, and summarizing information and more time analyzing and evaluating the results or implications of the information and data. The accountant can add value by providing insights to the client. Future employment opportunities will focus on leveraging productivity and competitiveness, which will require high-skilled workers. Employers realize that investing in human capital and digital transformation is a priority to help accelerate economic progress, including developing innovative workflows and processes to maximize efficiency and productivity. Resilient organizations need to compete, adapt, and thrive in rapidly changing global business and interconnected environments. For academics, it is imperative to help the future workforce acquire digital skills and increasing their versatility. Future accounting graduates will need to have skills such as analytical thinking, active learning, complex problem solving, critical thinking, creativity, and ideation rather than merely generic academic degrees, and academia has an obligation and responsibility to adapt and reshape the curricula to prepare them.

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