PacificCPE

COURSE

60451A

Foundations for AI and Audit: Part 1

The accounting profession is changing fast, and staying ahead means understanding what's driving that change. This course introduces the Fourth Industrial Revolution and explores how emerging technologies—especially artificial intelligence—are reshaping the audit landscape. You'll build a working understanding of what AI actually is, why it matters to auditors, and how to begin thinking about risk in an environment where the rules are still being written. A strong starting point for any professional looking to future-proof their practice.

CREDIT HOURS 2 | FIELD OF STUDY BUSINESS | EXAM QUESTIONS 10

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LEARNING ASSIGNMENTS AND OBJECTIVES

Assignment

- Study the full course materials included here.
- Complete the review questions after each chapter.
- Answer 10 final exam questions.
- Final exam is scored immediately, 70% or better passes.
- Certificate of completion is available in your account.
- Failed exams can be retaken free of charge.

Course Objectives

- Identify the circumstances necessary in order for General Adoption of technology to occur.
- Recall the two sources of competitive advantage associated with the Fourth Industrial Revolution.
- Recognize common misconceptions regarding AI.

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Chapter 1: INTRODUCTION: STAYING AHEAD OF THE EMERGENT RISK

Chapter Objective

After completing this chapter, you should be able to:

- Identify the circumstances necessary in order for General Adoption of technology to occur.

The AI technological revolution is sweeping through the globe. Audit is no exception. The world of audit is about to change. With not just automation, but intelligent automation, the future of traditional, mostly manual, audit is being redesigned. IAA, or intelligent audit automation, is the next generation of audit services that encapsulates new audit business models, new audit professionals, new types of tools and techniques, new standards, and new ways of looking at knowledge creation. Welcome to the bold and new world of intelligent automation.

As your guide on this journey, my goal will be to first introduce to you the era of intelligent automation. It is important for you to recognize that intelligent automation is not just a phase or a temporary detour or even the next step in the evolution of the digital technology. It is an era of its own. Together we will walk through this amazing entrance that will lead us into a completely new age for humankind. The era of nonhuman intelligent workforce. Once past that point, we will then pick up some tools of the trade so we can develop a perspective about the nuts and bolts needed to function in these revolutionary times. These nuts and bolts – essentially our toolkits – will help us proceed to the next level of audit automation. The toolkits are general, so even if you are not an auditor trying to learn about how to automate audit, they will come in handy. Equipped with the toolkits, we will enter the realm of total audit automation.

As I walk you through this amazingly new and exciting world, I recognize that you are a businessperson who wants to learn about Intelligent Audit Automation. That is why my goal will not be to turn you into a data science expert or a machine learning guru, but instead to turn you into a visionary practitioner who can lead, guide, develop, and manage organizational transformations that can take a firm from today’s AIS (accounting information systems) – centric capabilities to a totally and comprehensively automated audit organization. My goal is to equip you with the

knowledge that will allow you to lead a legacy audit firm or audit department and turn it into one of the world's most advanced and automated firms. I do recognize that you may feel awkward or uncomfortable with the words "total automation of the audit organization" – mostly because that statement somehow comes with a billboard that says: "Humans not needed." That is not the case. If anything, as you will see in this course, there will be tremendous need for humans – but it will be in a little different capacity than we are used to. Do not worry, as we will address those issues also.

What IAA will do is not to eliminate human work, but instead eliminate human weaknesses that make human work prone to mistakes, errors, biases, and misconduct. It will create a more perfect human work product.

Like you, I am also concerned about the audit profession. If we take an inventory of where we stand, it is highly troubling. With rising criticism, scandals, audit failures, and growing anxiety among both practitioners and clients, the profession's future seems uncertain. When combined with slow-moving nepotistic knowledge creation, declining audit quality, and lack of innovation, we are confronted with the loss of the profession's credibility. No wonder regulators and governments are losing their patience. All these unfavorable conditions have placed the profession in disarray.

As we think about upgrading and improving the profession, we know that it will require a two-pronged approach that will include improving audit quality while reducing the cost of audit. IAA is the natural answer to accomplish that goal. Whether we want to eliminate the problems and challenges of audit, or we want to automate the audit process, our gateway to the future of audit is artificial intelligence (AI). This course is all you will need to develop a comprehensive understanding and strategy of audit automation with AI.

KILLER ROBOTS AND AUDIT

Pick up any general article on artificial intelligence and it likely begins with some anxiety-inducing sentence like "The mention of the words artificial intelligence brings to mind images of killer robots and autonomous drones flying over our heads" – and the next sentence is usually designed to reduce our anxiety and is something like "Don't worry, even though AI is here, there is nothing killer about it."

Unlike other authors who, at this point, will tell you to relax, and declare that all those sci-fi scenarios are the works of Hollywood's imagination, I will tell you the opposite. I will inform you that it is true that both killer robots and autonomous drones are now part of our world. In fact, even though many people will state that the technology is "not there yet," I will say the reverse. Looking at how rapidly the technology has developed in AI, nothing seems impossible or too far-fetched at this point. This applies

to killer robots, and it applies to the field of audit. We can hope that the human civilization will use AI responsibly and not for destructive purposes. One of those extremely responsible and valuable uses of AI is in audit.

Audit is the foundation over which the entire global economy rests. Breaches or cracks in the foundation can easily crash the global economy. Therefore, it is incumbent upon us to protect the global economy by improving the audit quality and doing so with the best technology available to us.

If you are a businessperson, a professional auditor, internal auditor, or member of a finance organization, you will naturally want to learn about artificial intelligence. When you start exploring, it is likely that you will not get your answers from the IT department, or from general books on IT technologies, or from the highly confusing articles on machine learning and AI. It feels like you need a PhD in mathematics to read even a simple article on machine learning. I teach executives like you, and I know the problems they encounter when trying to understand AI.

The overwhelming complexity, when combined with its novelty, makes the field unapproachable. And that is where many businesspeople lose interest or stop caring about the great opportunities that await those who dare to pursue. But in this course things will be different. I will guide you through the complexities of the AI field in a manner that any businessperson will be able to follow the most relevant and important areas of the field. I want to equip you with only those things that will impact your audit transformation and save you from details that are unnecessary for a businessperson to know. If you find that some parts of the artificial intelligence field interest you more than others, you can then pursue other avenues to learn more or get trained in those areas.

Despite its business orientation, this course is not a pie-in-the-sky, wishful, futuristic, motivational book about artificial intelligence. Those feel-good types of books fail to acknowledge on-the-ground constraints and realities of technology. They also don’t serve the needs of the practitioners who want applied knowledge and who want to learn things they can apply right away in their business. I wanted to give you a toolkit that you can deploy the next day in your business.

You are also not seeking a textbook or a book that feels like a furniture assembly manual. Those narrated manuals of the deployed capabilities dwell in the land of suffocating and hopeless pragmatism, and they often inhibit innovation.

This course presents a comprehensive and systematic approach to audit automation with artificial intelligence. In many cases I use existing, applied, and documented knowledge, but in other cases I give a bold but practical vision of the possible.

A pragmatic vision is always challenging. It lays out the path, it shows the destination, and it clarifies the roadmap. But to achieve the destination one must move, struggle, and strive. This course will be your guide to practical intelligent automation in audit. It is highly unlikely that any company in the world will today have all that is included in this course. But it is highly likely that companies around the world will be experimenting with parts of what is covered in the course.

Most new technologies and innovations are adopted without considering their own future evolutionary paths, much less how they will evolve and transform business. In such scenarios, companies adopt technology as if their business models are independent of technology, and as if technology is merely an enabler of their business models. In today's world this thinking can be detrimental. It constrains vision and the ability to grasp the full potential of technology. For example, almost every retailer in America adopted technology and rode the "digital" hype wave, but many major retailers (Macy's, Nordstrom, Sears, and others) could not compete with Amazon. For Amazon, technology was not an enabler; it was the primary business model. For others it was an enabler to their business strategy and model but not the core strategy itself.

One can argue that the reason the traditional retailers are struggling is because their business models are brick-and-mortar based. The response to that misunderstanding is that one should look at Walmart. Walmart can be considered as a company from the old brick-and-mortar times, but the firm always built itself around technology. Technology was not just an enabler to the strategy; it was at the core of the Walmart's business strategy – and Walmart is competing effectively. Thus, "brick-and-mortar" has nothing to do with being properly automated or digital; it is the strategic orientation and mindset that distinguish companies from being modern or outdated. That is another reason why bringing in the world's top consulting firms will not help you to become automated. As we will learn in this course, it will greatly depend upon your own leadership, people, strategy, and vision that will determine if you will thrive or barely survive in the new era. The winners build their entire companies around AI.

Similarly, when we think about audit, we need to pay attention to building the entire audit function and service around technology. In that regard, we need to part with the twentieth-century mindset that technology enables audit and adopt the modern outlook of building the audit function around artificial intelligence. This course shows how to do that.

BUILDING THE AUDIT FUNCTION AROUND AI

The world of audit is complex, broad, regulated, highly procedural, and standards-driven. Given that each audit situation can be unique, and that the business world is

always evolving, it is natural for auditors to consider technology as an enabler. Traditionally, the audit technology has focused on audit management automation and not on intelligent audit automation. When we change the goal from enablement to building a company around AI, we need to understand what it means for the audit service delivery mechanism and how that will change the business model of audit firms.

In general, we know that the modern business is a fast-changing system. As AI enters the business world and becomes more pervasive, it is bound to impact audit in multiple ways. Regardless of the industry, intelligent automation is not only automating processes; it is also enabling companies and government agencies to become more intelligent and innovative. For example, the pharmaceutical industry is not only automating its core business processes with artificial intelligence but also implementing AI to discover new molecules. This means that "automation + intelligence" becomes the new competitive advantage.

With intelligent automation as the new competitive advantage, the adoption of intelligent technologies becomes a natural survive and thrive mechanism and, hence, will lead to rapid adoption of the AI technologies across the board. As the example of the retail industry in the previous section shows, just because we are automating doesn't mean we are realizing full business value or establishing competitive advantage. Our business models and designs need to reflect the winning models and strategies. That comes by gaining a more thorough and holistic understanding of our environment.

Additionally, the accelerated introduction of the AI technologies in the business universe will have major ramifications for audit:

- It will introduce new types of emergent risks for which audit firms are not prepared.
- It will force audit firms to rethink their service delivery systems.
- It will require audit firms to stay a step ahead of the emergent risk versus always playing catchup.

Audit firms will have to become proactive innovators such that they can always stay ahead of the emergent risk.

STAYING AHEAD OF THE EMERGENT RISK

As we enter the AI era, let us establish some ground rules for the audit profession. One of these reminders is borrowed from the field of cybernetic systems. It is known as The First Law of Cybernetics and is derived from William Ross Ashby's Law of Requisite