

Accounting Evolved Taking Advantage of Artificial Intelligence (AI): Why Every CFO, and Accounting Leader Needs AI to Stay Relevant

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SalesChoice
Predict. Prioritize. Pace.

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1.0. Overview

In recent years, Artificial Intelligence (AI) has become more pervasive, integrating into our lives as the machine behind the chat bot revolution, smart-home networks, and assistant voice-based applications like Alexa or Siri which further blur man and machine. Over the next decade, AI will continue to evolve and automate more decision-making tasks for humans. AI is already bringing high efficiency improvements to financial service professionals, and will continue to accelerate over the next decade.

We have seen accounting evolution in compliance monitoring, organizational policies, and risk audits driven from AI methods. As we look ahead to the AI acceleration impact on the financial service sector, the financial service leader's role will continue to ensure that the interpretation of data processed by AI remains a vital risk accountability decision-making process.

Accountability must remain with financial leaders versus hidden in algorithms. So, for the next ten years or more, financial leaders must understand the cause and effects from AI, and ensure they have audit trails from the AI methods applied, or increasingly they will be at risk, if using black box AI methods.

In the market place, AI acceleration will demand skill and competency development for both CFO's and Accountants. While financial leaders have been using technology for many years to improve what they do so they can deliver more value to businesses, AI offers a new method to improve the quality of business and investment decisions.

This white paper explores four topics relevant to a financial leader’s fiscal responsibility to manage financial risk:

1. What is AI?
2. What are the Big AI Trends?
3. What AI use cases are relevant to CFOs and Accounting professionals?
4. What key questions are needed to manage AI risk?

2.0 What is AI?

Back in the 1950s, the original AI pioneers, Minsky and McCarthy, described artificial intelligence as, “any task performed by a program or a machine that, if a human carried out the same activity, we would say the human had to apply intelligence to accomplish the task.”¹

AI systems typically demonstrate some of the following behaviors associated with human intelligence: planning, learning, reasoning, problem solving, knowledge representation, perception, motion, manipulation, and to a lesser extent, social intelligence and creativity. Although advancements in creativity, using AI to

create art and music, have had major breakthroughs over the past five years.

In October 2018, Christie’s Auction House, auctioned the world’s first 100% AI-generated “*Portrait of Edmond Belamy*” which depicts a slightly blurry, chubby man in a dark frock-coat and white collar. His off-center position leaves enough white space to show the artist’s signature as “min max $Ex[\log(D(x))] + Ez[\log(1-D(G(z)))]$,” a mathematical algorithm. The auction house that has sold paintings by Picasso and Monet at record prices, offered the portrait for sale and the work was initially estimated to be sold between US\$7,000 and US\$10,000. It ended up selling for nearly US\$432,500.²

¹ Source: [https://en.wikipedia.org/wiki/John_McCarthy_\(computer_scientist\)](https://en.wikipedia.org/wiki/John_McCarthy_(computer_scientist))

² Source: <https://www.christies.com/features/A-collaboration-between-two-artists-one-human-one-a-machine-9332-1.aspx>



Source: <https://www.livescience.com/63929-ai-created-painting-sells.html>

Clearly, AI is going mainstream, not just in creative venues, but also in scientific ones. Scientists are researching how to ensure robots have emotional intelligence, for example through, kindness sensors and demonstrating respect for humans.

Hence, the evolution of man and machine is well underway. Making sense of these trends is a responsibility of financial leaders, and experimenting using AI to advance their organizations forward.

3.0 What are the Big AI Trends?

AI has accelerated in market pervasiveness three main factors: cloud

computing, open source, and the “maker” community (rise of Data Scientists, AI toolkits that enable more end user access to AI modelling, etc.). All of these things are increasing AI experimentation and application development.

Use of AI is rapidly growing in the enterprise, with digital transformation spending predicted to hit \$2 trillion by 2022.³ Previously, consumers held fear and doubt about AI infiltrating their lives, afraid robots would take over their jobs. However, recent research predicts that AI will not take jobs, but will actually create

³ Source: <https://www.marketwatch.com/press-release/artificial-intelligence-market-size-is->

[projected-to-be-around-us-191-billion-by-2024-2018-08-08](https://www.marketwatch.com/press-release/artificial-intelligence-market-size-is-projected-to-be-around-us-191-billion-by-2024-2018-08-08)

many new jobs and support human workers.⁴

Democratized AI is one of the five trends driving Gartner’s latest 2018 Hype Cycle for Emerging Technologies.⁵ Thirty-five technologies are grouped into major groups, which includes: digitalized ecosystems, do-it-yourself bio-hacking, transparently immersive experiences, ubiquitous infrastructure, and democratized AI, which simply means AI is now going mainstream. The Gartner Group AI classification contains technologies like AI platform as a service (PaaS), artificial general intelligence, autonomous driving (levels 4 and 5), autonomous mobile robots, conversational AI platform, deep neural nets, flying autonomous vehicles, smart robots, and virtual assistants. Deep neural nets and virtualized assistants are now reaching mainstream adoption in the next two to five years, and smart robots and AI PaaS are also maturing quickly. Fully self-driving cars and full auto-focus mobile robots are at least ten years out. In

summary, AI is revolutionary in many ways. It can tap into levels of insight that have not been possible in the past, and it can examine and make sense of data with limited human involvement. If the right data set is in place, AI can also ensure there is no bias or pre-conceived notions about solving a problem.

Let’s explore specific AI relevancy to CFOs and Accounting/Audit professionals. The Figure below provides a summary of key areas where finance professionals need to focus their priorities to be more effective.

Finance professionals’ priorities for making finance more effective



Source: PwC finance benchmark data

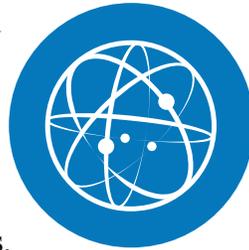
source pwc via @mikequindazzi

⁴ Source:
<https://singularityhub.com/2019/01/01/ai-will-create-millions-more-jobs-than-it-will-destroy-heres-how/#sm.00001huwk974qwem5z5d22wuwr9w>

⁵ Source:
<https://www.gartner.com/smarterwithgartner/5-trends-emerge-in-gartner-hype-cycle-for-emerging-technologies-2018/>

4.0 AI for CFOs and Accounting Professionals

Finance and accounting professionals have a great opportunity to benefit from AI technologies. For example, AI can allow them to avoid mind – numbing, monotonous tasks of number crunching that a machine is best to tackle with, and enable humans to focus on what they do: lead, collaborate, nurture and contribute to solve other challenges that are strategically more valuable, like visiting their most important customers, acquiring a new company, or securing capital for market expansion.



PWC released a 2018 global report⁶ advising that one of the most important skill development areas was for CFOs to learn about advanced analytics and AI, in particular, understanding the risk of data sets that held bias or impacted privacy legislation regulations. As the laws across jurisdictions continue to evolve, GDPR (European Economic Union regulations) has created the most stringent data privacy

positions. As a CFO or head of accounting, ensuring it is your job to identify meaningful correlations, or risks in financial transactions. AI can spot anomalies faster and more accurately than humans can. Humans can further validate root causals and help further validate discrepancies found by AI methods.

AI can be a valuable tool for financial leaders, helping them analyze corporate transactions and ensuring that all compliance requirements have been met, and determining when specific transactions should be excluded from further analysis. There are numerous accounting intelligence toolkits in the market that are designed to help CFOs close their financials; account for every line item, and ensure that everything is processed in the right code classification with 100 % accuracy. At a strategic level, AI can also be used for business planning, providing scenario analytics, and bringing complex data sources together to inform business leaders of viable options based on predictive factors. Optimizing business

⁶ Source: <https://www.pwc.com/gx/en/energy-utilities-mining/assets/pwc-changing-role-of-the-cfo.pdf>

plans along different time periods, with numerous operating lines, is complex. Additionally, business assumptions and resource allocation(s) need optimal threshold patterns. AI can help identify pathways for improving results, or even course correct results which look like higher risk scenarios, offering adjustments to see the future before it unfolds. AI can also identify plans and financial results in real-time, and further advise stakeholders on next steps to stay on track. It can respond to diverse markets, products, or service revenue impacts. All of this will help mitigate financial or regulatory risk. If well designed, AI can also remove the human bias and errors that go into operating plans by identifying “soft” budget allocations that do not drive the yield or that are simply “cushions,” and push budget allocations to other areas. It can offer higher yield and value return to other operating units or business initiatives.

Applications of Machine Learning – Value

Machine learning is the application of mathematical and statistical models and algorithms which mirror human cognitive strengths in terms of pattern recognition and specific learning. The most valuable

machine learning approach is that it can harness and process large data sets, learn from constantly changing patterns, remove data bias, and have small levels of error. AI models can continue to be refined to increase predictive accuracy levels. In accounting, nothing is more important than data-driven insights and combinations of financial and non-financial analysis to ensure financial record keeping is accurate, reliable and trusted. Having modernized AI tools that can crunch transactions for anomaly detection saves accounting leaders precious time to focus on strategy, enables advisory insights, and simplifies problem solving.

AI, if well designed, can also remove the human bias and errors that go into operating plans, by identifying “soft” budget allocations that don’t drive the yield or are simply “cushions” unjustified.

5.0 AI Enabled Use Cases

Outlined in the next section, we have highlighted five AI Enabled Use Cases, relevant to CFO’s and accounting professionals.

AI Enabled: Risk Assessment

AI can give finance teams the power to analyze large data sets from around the world, at the touch of a button. By leveraging these insights, teams could develop a better-informed risk assessment using predictive analytics which looks for patterns that are outliers or anomalies to flag risks.

Leading AI Company: PayPal In the financial sector, AI and machine learning approaches have been widely used to help detect fraudulent transactions and assess risks. PayPal uses AI methods to distinguish the good customers from the bad customers. PayPal's deep learning system is also able to filter out deceptive merchants and crack down on sales of illegal products. Additionally, the models are optimizing operations.

AI Enabled: Invoice Digitization and Intelligent Workflow: Accounts payable (AP) has traditionally involved tedious, manual tasks such as data entry and approvals.

Leading Company: Beanworks

Accounts payable automation software solutions such as Beanworks are shifting the focus of the AP department from

administrative to strategic. Automating data entry, approval workflows, invoice coding and vendor payments frees the AP department's time for higher value work. It also provides a holistic, real-time view of payables across the organization that finance leaders can leverage for decision-making, and a clear audit trail of AP activities. For these and other reasons, 74% of companies are planning to adopt AP automation in the next three years.

AI has the potential to enhance AP automation solutions in several ways. AI tools can help capture and enter the information in invoices into the system, as well as speed up how those invoices are coded. AI could also be leveraged for anomaly detection in receipts, invoices, and payments. On the workflow side, AI could help identify bottlenecks and patterns throughout the AP process, making it more efficient.

An AI intelligent system can also boost accounts payable processes by suggesting invoices in real-time that might match the paid amount and, based on established thresholds, automatically clear the short payments and process the invoice.

AI Enabled: Expense-Claim Auditing: Expense-claim auditing can be a time

consuming, mind-numbing routine. Accounting teams have to ensure that receipts are legitimate, that they match claimed amounts, and comply with company policy. Machine learning and AI technologies can rapidly audit 100% of expense claims, and flag any questionable claims to a manager for review or approval. The machine can even read receipts, regardless of language and ensure all compliance records are accurate. **Leading Analytics AI Company:** AppZen, San Jose, California.



AI Enabled: Accruals: AI also offers value in determining bonus accruals. Today, teams have a myriad of factors to consider when determining bonus accruals. CFO teams look at current headcount salaries and bonus plans, and try to forecast all KPIs in compensation plans. From there, teams try to calculate the most accurate accrual (likely adding a buffer, to be safe). However, often times, accuracy is not there, and employee satisfaction is impacted. By applying AI/Machine learning to bonus calculations, predictive analytics can generate unbiased accrual figures, leaving finance teams more time during closing

periods for other activities that require human review and judgment. **Leading Analytics or AI Company: Callidus, USA.**

An advanced AI platform for financial forecasting can get to predicted forecasting accuracy levels of over 95% on wins.

AI Enabled: Forecasting Accuracy: There is nothing more job threatening to a CFO in forecasting than an inaccurate revenue forecast to the company's operations. The CFO understands the risks of an inaccurate financial forecast and the price that one pays in CEO or board disappointments. For decades CFO's have relied on Chief Revenue or Sales Officers for revenue forecasts, and discounted it by 10-15% to create a safety buffer zone. With AI analyzing all the customer transactions and sales cycles in the pipeline (Funnel health), and correlating even seasonality and channel values, an advanced AI platform for financial forecasting can get to predicted forecasting accuracy levels of over 95% on wins. Any time dimension can even be applied to build investor confidence on ramp value of sales pipelines.

Leading AI Analytics Forecasting
Company: SalesChoice Inc, Canada.

6.0 What key questions are needed to manage AI risk?

1. Do you have an ethics and security policy as it relates to AI?
2. Do you have a strategy to advance AI efficiently and effectively in your organization?
3. Do you have modernized operational practices supporting the intelligent capture of all relevant data for your financial and accounting practices to manage risk?
4. Do you manage data as a strategic asset to your organization to ensure you are AI future enabled, as without quality and complete data, your company will not be able to take advantage of smart data intelligence?
5. Do you train your talent in advanced and modernized methods to learn what the right questions are to select, and deploy new toolkits, that leverage intelligent workflows or AI?

If you answered Yes to these High 5 questions, then your company is well on its way to being a world-class innovator, if not, then there is work to be done to modernize and ensure your organization is ready for AI enablement and position your organization for sustaining relevance. SalesChoice has over 500 best practice AI assessment questions and leadership training programs to advance your organization forward.

7.0 Conclusion

As AI and augmented intelligent/advanced technologies further penetrate CFO or Accounting professionals' mandates, new skills will be required in recruitment. Routine, transactional roles will become less relevant, while strategic thinkers with cross-functional knowledge and depth in data sciences, intelligent workflow automation and AI will increase in leadership positions.

The time is now for Financial Leaders to advance their leadership in advanced analytics and AI.



8.0. About the Authors

Dr. Cindy Gordon is CEO of SalesChoice Inc, an AI SaaS and Professional Services Company, specializing in using AI and winner of 2018 Digital Transformation Award for AI Disruption. Dr. Gordon is a Forbes Business School and Technology Advisor, Co-Founder of the AI Directory Hub and Board Director for CATA, Canada's largest Technology Association. She is also a former Venture Capitalist, a Partner with Accenture, a Senior Director and GM of Xerox and VP of Citicorp.

Catherine Dahl is CEO at Beanworks, an industry-leading accounts payable automation software company that is trailblazing modern accounting processes. A CPA, CMA with 25+ years of operational accounting and management experience, Catherine maintains a unique perspective into the accounting industry. She has been instrumental in securing the funding, partnerships and team members necessary to scale that company. Through her various board positions and volunteer efforts, Catherine is a highly engaged member of the entrepreneurship community.

More Information on SalesChoice:

SalesChoice Insight Engine™ is an Artificial Intelligence (AI) driven sales forecasting platform that predicts sales outcomes reliably at up to 95% accuracy. The company also provides AI strategy to implementation services, and a new educational offering to help customers increase their AI know-how to modernize their organizations.

Benefits

In an age where 40%-60% of sales professionals are wrong in predicting accurate sales forecasts, driving huge negative impacts on a company's financial performance, our software reduces your forecasts risks by predicting sales much more accurately.

Insight Engine™, SalesChoice's Artificial Intelligence (AI) forecasting solution for your CRM, tells sales leaders whether they are at risk of not meeting the numbers in any chosen time period while allowing them to run a What-If analysis to explore how the prediction changes with change in target quota. The software forecasts which opportunities are most likely to be won or lost with up to 95% accuracy, while guiding account executives on accurate close date estimates and on controllable and uncontrollable factors determining sales outcomes, to help them take corrective action and ensure more efficient forecasting.

Targeted Users

The solution is geared towards sales leaders and account executives in both mid-market B2B organizations and large B2B enterprises using Salesforce or NetSuite. SalesChoice has an open API and can work on other CRMs too.

More Resources:

<http://www.saleschoice.com/resources/>

Book a Demo:

<http://www.saleschoice.com/contact-us/>

See Our Product:

https://www.youtube.com/watch?v=jsbss1_eFMM

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