

## Foresight: The CPA Podcast

### Season 2 Episode 6: How CPAs can use AI to measure business performance

**David McGuffin:** Welcome to Foresight: The CPA Podcast. I'm David McGuffin. On this podcast, we have looked at the broad impact of AI on the accounting profession. Today, we're going to get a little more specific. We're zeroing in on the central role finance plays at the decision making table of any organization. And the question we're asking is, How can AI help CPAs make smart decisions about capital allocation? One area that is notoriously difficult to analyze is marketing. Making smart decisions about marketing expenditures can be challenging. And Dave Bunce thinks he knows why. Dave is the CEO of Morphio, a company that uses AI to analyze the effectiveness of marketing investments.

**Dave Bunce:** I think marketing is a particular challenge because there is a difficulty in causation and understanding the correlation between marketing investment today and decisions today, along with what the long term impact is to revenue and to financial results in the future. And so you have this disconnect of time lag where you don't necessarily see the impact of decisions in a timely way. So that's why, often, marketing budgets are really one of the first things to go when there's challenges in the finance allocation.

This is different from something like operations. For example, somewhat thing around optimization of inventory procurement or something like that. There's a tangible impact today of if I said, I need to save money, how about we cut back on our ERP system? Or how about we downgrade our infrastructure of IT? That has a real implication today, and it's also unwinding something that's difficult to unwind, right? Like ERP implementation, if Salesforce is costing you a ton of money every year, well, you're not going to go and rip that out just because you need to save a little bit of money.

Whereas marketing, you tell marketers, stop spending online, stop going to those trade shows, buy less TV ads, and it's an instantaneous savings and not an effect until the long term, in terms of revenue. AI helps solve that causation challenge. So AI is able to understand and predict and forecast what will happen if. And I always use that as kind of the thought starter question when you're thinking about a finance person, a CPA sitting around a table and talking about, you know, if we change the budget by this much, what does that do? The what if, that sensitivity analysis. So AI helps in that regard with marketing, because it allows you to connect the trends of decisions today with impact in the future, as well as dissecting results in the future with previous decisions.



And so that's why AI is really helpful to a CPA in making those decisions, because it can fill that gap and help link data from across a longer period of time more easily, and find the trends across a large volume of data, that is otherwise very difficult to find. One sort of case study that we saw was a particular brand stopped advertising on Facebook a couple of years ago when there were some social and political challenges with the platform. And so we had a brand that stopped advertising, and that month, they saw no dip in revenue. And so the conclusion was - we don't have to spend on Facebook because we generated the same return without Facebook. And that was a meaningful savings for that brand.

The challenge was three months later, we started to see a decline in revenue. And we started to see the results dip in a way that were atypical for the time of year and for their historical results. And when I say we, I mean our machine learning algorithm was able to pick up on these nuances of saying, your results are different than they were last year. And, not only that, but what's changed or what's different, is that three months ago, you had less eyeballs on your ads on Facebook. And so without the machine understanding that that decision had been made for various reasons, it was able to identify and link - Oh, we had less people looking at our ads three months ago, or clicking on our ads three months ago to there's a revenue drop today.

Now, there could be also a number of other variables in that, but to find that relationship and link it in an objective way is a pretty valuable case study or example of that. For CPAs, the reason why AI is valuable, is it puts them in the driver's seat of having access to information and insights they otherwise wouldn't have had. And that can apply across functions and across stakeholders. So every function in the business has the ability to provide better insights and data that CPAs can then use to make those capital allocations that are really the core of what a CPA's value proposition is. So, what they need to consider is - what information is going to come out of this that will allow us to make better decisions for finance allocation.

**David McGuffin:** That was Dave Bunce, the CEO of Morphio, making the case for CPAs using AI to make smarter decisions about capital allocation. Mario Malouin has been listening in with me. Mario is a Professor at Université du Québec en Outaouais and a member of the IESBA Technology Experts Group, Mario, thank you so much for joining us on the podcast.

**Mario Malouin:** My pleasure, David. Thanks for inviting me.

**David McGuffin:** So Dave Bunce says there, that AI puts CPAs in the driver's seat because it gives them insights that allow for better decision making. What do you think of that?

**Mario Malouin:** It does, in fact. The fundamental of AI is to accomplish a specific task. So if you break down the concept of a task, you have few components: data, judgment, prediction, and



action. So what is interesting in that case is, AI can leverage on a significant amount of data to predict and try to understand. When you combine that with a judgment of a professional, you just improve the quality of the task.

**David McGuffin:** So what does the CPA need to do then to ensure they remain in the driver's seat, not just a passenger?

**Mario Malouin:** Very good question. First, you start by understanding what is AI, and how to leverage and use AI. So I always say to companies who wants to start to deploy AI, you have to break down your business into basic business cycle. Break down your business in cycle. And every cycle has steps. And those steps are being done or executed by different function. And a function or a (job) has a number of task. You need to break it down to a specific task. And if you try to look at the AI from a very broad perspective without setting the exact specific task you're aiming at, it's very difficult. And that force you to think about few thing. Can I buy off the shelf an existing solution? Do I have to develop something from scratch? And if I have to develop, where are those data going to come from?

**David McGuffin:** I mean, a CPA is not equipped to look through the actual code of an algorithm to make sure it can be trusted. So what steps can a CPA take to feel confident in the data that they're getting from AI?

**Mario Malouin:** Very good question. Trust. We talk a lot about trust and AI, trust and technology. And I think I prefer to use the word trustworthiness instead of trust. Three things you want to look at: can AI and does AI has A) the ability to execute the task? Is it reliable? And what about the integrity of the outcome? So you really have to step back and look and understand the nature of the task, and all those algorithm have been, I would say, (trained) to execute the task. And you need to have a very good discussion on that with the supplier of your AI solution.

**David McGuffin:** I mean, what would that discussion sound like if you were doing it?

**Mario Malouin:** Well, first, you clearly need to understand... Let me come back to something very important in AI. When you leverage AI, you need to understand the complexity of the environment in which AI will be deployed. The more complex will be the environment, the more challenging it is to execute the task. And when I talk about environment, if you, I would say break down an environment, you need to understand if your environment is static, dynamic, observable, and so on. The more complex it is, the more difficult it is to accomplish the task.

Number two is you need to understand and discuss and appreciate what's the outcome you are expecting and what is the quality of the outcome? (What's the level of accuracy you expect from AI



to accomplish the task?) So when the task is pretty narrow in a very static environment, it's much more easier to have a good output from AI. When the environment is very dynamic, you have to appreciate that the outcome will be of a lesser quality, and human intervention will be needed. So let's take an example, reconciling a bank account. It's a pretty static environment. It's structured data, A compared to A, yes, it's matching. It can reconcile.

When you start looking at prediction in a very dynamic environment, for sure the accuracy will be different, and human intervention will be key. So it's not just to talk about the source of the data, how the algorithm have been trained, how they have been tested, and how they are being deployed in real life. You need to zoom out and understand what is the task you want to give to what I call those intelligent agent, and this is key.

**David McGuffin:** I mean, then what steps can a CPA take to audit the information that they're getting from AI just to take it that next step?

**Mario Malouin:** Yeah. Explainability is quite a challenge right now. We tend to call them, I would say, white box or black box, because it's very difficult to understand how certain algorithm will come up with an outcome. And I think in that regard, if you look at the CPA profession depending on for which purpose you're using AI, the task per se, you can't rely on the outcome without... If you put your... Let's put it that way, if you put your ad as an auditor, you rely on AI to accomplish certain tasks like fraud prediction and so on and so on. You always need at this stage human intervention, because it's prediction. Understanding why AI will come up with this outcome - yes, you can always understand how they have been trained, the type of algorithm also they're using, to understand why it can reach that type of conclusion, but you still have work to do.

**David McGuffin:** So Mario, you've mentioned there's all these off the shelf potential products for AI. And I'm just wondering, I mean, how would you advise people to pick the right one for them off that shelf?

**Mario Malouin:** Very good question, David. And I will come back to what we discussed earlier. You have to zoom in the task first that you need and for which you want to leverage AI. Once that is done, you get to go like old fashion way. You go, you explore who could be a supplier for that type of specific solution for that specific task. And you really need to test it, to figuring out if the task you're looking for, with that specific solution is good enough. As an example, you want to buy a chatbot to provide customer services. And I'm sure it happened to you. You talk to someone. That someone is a chatbot, and suddenly, you're being told, let me put you through an agent, because the chatbot has reached its own limit of executing the task. So buying off-shelf mean also you may have to enrich the ability to execute that specific task with your own data. And you got to put it to test. You got to train it and you have to test it.



And this is why defining that there's two things. And this is a very important question. Not only define the task, you need to define the expected result we want to see, so how far you want that specific agent to accomplish a task. And you test that to that limit. Otherwise, you will never know if it's going to do the right job. Meaning, is the outcome, the result you're expecting for.

**David McGuffin:** So we heard Dave Bunce there say that marketing is an area that's tricky for CPAs to evaluate when it comes to ROI, especially over the long term. And that's why AI is helpful. What are some other areas where AI could be helpful in guiding capital allocation decisions, would you say?

**Mario Malouin:** A lot. In many areas right now in the office of finance, if we look at it that way, just think about the prediction that we have to do in the office of finance - whether to predict the level of inventory based on pattern, based on outside data, whether economic condition. So inventory management, good area where you can deploy AI. Maintenance equipment - when we talk about preventive maintenance, trying to avoid breakdown, shut down a piece of equipment, you can leverage different technology, sensor, the data you collect from the sensor and appreciate when you can move on and do some preventive maintenance to avoid shut down and bad consequences related to a shut down.

So when you think about everything that has a level of prediction, where you have a level of accurate data you can capture in real time based on different agent, like capture as an example, AI can for sure provide useful insight. And it comes back to one thing, the task component, and part of the task, the more prediction you have in a task, the more accurate data you have, you can leverage on. If you combine AI plus human intervention, professional judgment, you should expect a better outcome for that task.

**David McGuffin:** Where does bias fit into all this?

**Mario Malouin:** Bias, that's a very good question, and related to marketing too is a good question. I would say, we got to be careful on how we define bias. When you develop algorithm, I will say you want to inject bias. I would call that uncertainty to test your model. If you don't push it and test it to make sure it's going to provide you the right outcome for the task, you will never know. So I tend to use bias from two perspective - creating uncertainty when you develop and test versus the one I call compliance and moral and socially responsible. You don't want that type of bias.

So let's go back to the marketing example. Let's say you're selling food for dog. And you want to advertise that on social media, you're going to have bias, because you're going to target people who have a dog. There's no point for you to spend money to a person that does not own a dog.



They won't buy your product. So that's type of bias. Basically, what you do is you cluster your population. It's a bias.

**David McGuffin:** What are some red flags CPA should look out for when using AI?

**Mario Malouin:** Yeah. There is a number of things we got to be careful. When we talk about AI, you have the development phase, the training phase, and you put it to work. When you use AI, you have, and I come back to the task, first, you need to understand based on the industry you are in, are you in the legal field, are you involved in the healthcare industry and so on, because it's very important to understand the consequences of using AI. And one thing I try to break down, it's related to ethics in AI, is there are four key, I would say question, we must ask yourself when we plan to use AI. The first one is have you defined some guiding principle, whether when you develop or when you put to use AI. That is key. We see many companies now developing principle.

And the reason I say it's important, it bring us to looking at question number two is when you have defined your principle, and before you put it to use, the question is, did you get all the information you need before deploying AI and using AI? Number three is, have you understand all the stakeholders that could be impacted by leveraging AI? And four, do you appreciate the consequences of using AI on those stakeholders? And that is important because if you use AI for, let's say, predicting the book that Mario may decide to buy is one thing. If you use AI to advise, you should buy that stock because it's a good stock, the consequences of making a mistake is not the same.

**David McGuffin:** Yeah. Can you give us an example of what a guiding principle might be for a company?

**Mario Malouin:** Yeah. Basically what we want to do here is to break down, and those four step we're talking about is how to make, I would call that ethical decision. So you need to define those guiding principle. First one will be as an example, for us, what is important is integrity. So whenever we make decision, we can't compromise on integrity. Another one could be when we make decision, we want to make sure that we are inclusive. When you start to define those principle, and you look at where you deploy AI, and you put the two together, you should obviously come up with the best expected outcome. But keep in mind that, David, every technology has a drawback or negative consequences. Think about electricity. We develop electricity, come electrification. We develop a plane, comes the risk of plane crash. So there's always negative consequences with technology. We want to minimize the risk that those consequences will materialize.



**David McGuffin:** So one way or another, AI is increasingly going to be part of the accounting process. I guess the ultimate question here is how does the CPA profession want to leverage that going forward, would you say?

**Mario Malouin:** It's a good question. As we speak now, the CPA curriculum is being under review to access to the profession to better, I would say, increase the exposure of CPA during their studies at university to different type of technology, one of them being AI. I'm not saying, and I don't think every CPAs needs to learn to code. It's like a car. I always make analogy to car with a student is - you need to know how to drive a car, but does that mean you need to fix it? You need to understand the component of AI. You need to understand how it's being developed. You need to understand the potential of use of AI. So then you can better appreciate after that, the potential benefit, but also the consequences of using AI.

**David McGuffin:** Fantastic. Well, Mario, that was all fascinating. Thank you so much for coming on the podcast.

**Mario Malouin:** You're welcome. David.

**David McGuffin:** Mario Malouin is a professor at Université du Québec en Outaouais and a member of the IESBA Technology Experts Group. That's it for this episode of Foresight. If you're interested in learning more about CPA Canada's Foresight initiative, go to [foresight.cpacanada.ca](https://foresight.cpacanada.ca). We'll also have the link in the show notes. Foresight: The CPA Podcast is produced by Podcraft Productions. Please rate, review, and share this episode. It helps others find the podcast. I'm David McGuffin. We're back in two weeks. Until then, thanks so much for listening.