



The Accounting Podcast Series

S01E02: Michael Davern

Transcript

Albie: Welcome to TAPS, [The Accounting Podcast Series](#). My name is Albie Brooks, and working with me is Abbey Treloar. Our guest today is [Professor Michael Davern](#). Michael joined the department full-time in 2003. Michael manages our Honours program, continually engages with industry, and has a variety of research interests, some of which we'll discuss today.

Michael, welcome to TAPS.

Michael: Pleasure to be here.

A: One of your recent lines of enquiry, Michael, is related to big data and data analytics, and in particular, ethical issues associated with big data and data analytics. How did you find yourself working in these areas?

M: Well, I've always been at the intersection between accounting and technology, and I'm fundamentally interested in how people make decisions using accounting information, using technology to do that. And as we move forward, we start to see some of the impacts on the ethicality of the decisions they make, but also the ethicality of the data that they're using as we see all these issues around privacy and everything become concerns as well.

A: Okay. Tell me first about big data, data analytics and the role and functioning of accounting in this space. This has been a dramatic change for us over the last 10 years or so.

M: Yeah, so "big data" is an often-used term. The key thing that people often define it is with respect to a variable number of Vs. Three Vs, four Vs, sometimes up to eight Vs, around the velocity of the data, the variety of the data, the volume of the data, and the one that, as an accountant, I particularly find interesting is the veracity of the data. So if you think about things like in social media, there's a questionable amount of truth in what the information is, and you're trying to extract that. Putting that together with the analytics, as accountants we are the original data

professionals. We took information and data about what was going on in the business and put that into a meaningful form, and we could then make better business decisions. And what we're seeing now is an expansion in the data that's available to us, there's a lot more questions about the reliability of some of that data, which creates interesting things for us. But fundamentally, our role as accountants hasn't changed. We're about trying to make sure we understand the reliability of the data that's going into any processing that we're doing, and giving meaning to what's coming out the other end of that processing. So just like we've been interpreting financial statements and trying to understand what they mean, it's not what the data is in terms of the numbers and those sorts of things, it's what does it mean in terms of the business? And that role hasn't changed, it's just we've got a greater suite of things that are informing that. And the technology has got faster and better at processing the data, but the technology of analytics and data mining and artificial intelligence is about finding patterns in data. What we as accountants are doing is assessing the validity of the data that's going in to that pattern-detecting process, and also then giving meaning in a business sense to what that data is telling us about the business. So that role hasn't changed, and I actually think it's a very exciting time for us as accountants.

A: It certainly is. So why ethics?

M: So ethics is sort of an interesting – as I said, I've always been interested in decision making. So one of the things that starts to happen then is are you making the right decision and should you even be then making that decision or using that data appropriately, but also issues around fraud and management control, which are key aspects of accounting. Now we've got a big data environment, we've got a lot of information. Does that then create opportunities for people to do things unethical in new and interesting ways, or is it able to turn around the other side, help us understand when somebody is doing something unethical, and discover that? For example, in some of the new audit techniques that are available, and technologies that we have there. So there are sort of two things that are going on there. One is the ethics of data privacy and what it means for you as an individual in society. The other area that I've been looking at is thinking about how we as individuals in organisations are making decisions and whether the presence of the technology allows us to disengage morally, if you like, and sort of say, "Well, the technology said that this was what I should do, so I did that even though it wasn't the ethical thing to do. The fact that it helped me make my bonus – that's great. It doesn't matter that it wasn't quite the right side of thing to do." And we see a lot of that, I think, coming through in things like the Banking Royal Commission and so forth, where if the incentives are there and the systems are there, people are functioning within those environments. And so much of our business processes are tied up in these technology and systems that that then raises that issue for us.

- A: So you've been able to combine the big data, the data analytics and the ethics associated with that into some recent collaborative research that you've been involved in. So I'd just like to talk to you and tease out a few things relating to this recent research. What was the trigger to investigate these?
- M: So, as I said, I've always been interested in data and how we make decisions and now it's trying to get across that cross-section of things. And so a range of different triggers came into play. There's always an opportunistic element to this, having the right collaborators. And we started in one of the projects by trying to understand just what are the issues that are going on here, because there was a lot of discussion of big data, big brother-type things that have really come into play, and people talking about what they refer to as "the surveillance economy". And so we wanted to try and start by getting a handle on what some of those issues were and the way data was being used in organisations and the risks that that posed for organisations. And having done some prior work in risk management, that was attractive to me. So the first bit of work we were doing was doing a Delphi study, which involved soliciting from 30-40 experts around the globe and working through a multi-period process with them to identify what the underlying issues are that are driving concerns around the ethicality of the use of big data and analytics. We've taken that a step further now, too, and we're now running both case study work to try and understand what organisations are doing, but also running experiments to just see how people are behaving in the context of these ethical dilemmas that arise in the context of analytics and big data. For example, one of the problems we have in a lot of the analytics systems is they're black boxes. So there's no model that you can look at and say, "Here's how it came to its decision." And so then you can sort of plead a little bit more easily this ignorance and morally disengage from the decision and say, "Well, the system said I should do this even though it's not the right thing to do." So if the system is saying, you know, I should charge a customer a fee, I'll charge the customer a fee even though it's not a service they're really going to need or want. I'll get my revenues up, I'll make my bonus. That's a win for us. And so what we're finding in some of that experimental work is this lack of transparency in the system is encouraging and enabling people to engage more comfortably in unethical actions. The other side of it, then, is how do you get them to be more rigorous in thinking about what's going on and how it changes the accountability. So this gets us back to the accounting question of how to we hold someone accountable for a decision when there's a machine there that's providing a major input to that decision and that machine is a black box? So that balance between the human decision-maker and the system is something I've been interested in right back to my PhD. And now it's just got a lot more complex and interesting in a range of different dimensions, not just the accuracy of the decision, but the ethicality of that decision.

A: So this broader area of research – speaking about the research method and approach that you’ve taken across a number of different studies – is really a multi-method type of approach to the research. So would you like to just briefly talk about the role of the different methods that are used in executing these studies?

M: So I often describe myself as a bit of a methodological schizophrenic in the sense that I do use a range of methods. So we were doing the Delphi study which is really good to bring in a bunch of experts and solicit their opinions, synthesise those, throw that back out to those experts saying, “Here’s the themes we’re identifying; what do you think?” And then iterate through that several times to just identify what some of the issues are. And so some of the things that we’re seeing creating organisational risks are around secondary use of data and data trading, for example. So it’s not just what I as an organisation might do with your data, it’s the fact that I’m often on-selling your data to somebody else, and what they’re going to do, and how we preserve that. And with regulatory environments like with what’s happening in the EU with General Data Protection Regulations, the sanctions on this are quite sizeable if you’re not doing the right thing with data. So it’s something right up to the board level that people are having to be concerned about. Having identified some of the issues, then, we start to try and explore how these things might play out in a more controlled setting. And that’s where we make use of the experiments and say in that setting I know what’s going on, so we actually know, for example, that there are consequences for the decision-making, both in the quality of the decision but also the ethicality of the decisions made when the system is a black box and the individual cannot connect to the processing or the logic of how it’s made sense of the data. Because of the inherent nature of that machine-learning algorithm and how it works, there isn’t a model you can look at. And that creates some issues. And then we move to the sort of next stage of getting richness, because what you lack in the experiment is the richness. You’ve got tight control, you know what’s causing things, but there’s a lot of other context things there, and so we’ve been doing some case study work trying to understand how, for example, organisations become more data-driven, how do they structure that in that way, what are the frameworks, how do they communicate to the various stakeholders? Meaningful information about how this system came to its conclusion and recommendation that it’s giving.

A: Okay, so across the different methods and across the studies, what have you found?

M: So some of the really interesting things are, as I said, it matters a lot whether these systems are black boxes and therefore you don’t know the logic, and that makes it hard for you to integrate your own expertise into that decision, because I don’t know what the system is paying attention to or not to know whether it’s aware of these sort of things. So that hurts and makes it difficult to make

accurate decisions. The other part of it, though, is it also means that I can readily blame the system because I can plead ignorance that I didn't know the system didn't take that into consideration. I was just following orders, essentially, and deferring to the system. And so one of the things that has come out of some of the discussions I've had with practitioners in the field is we can't get people to override the models that are embedded in these systems.

A: What can we do about that?

M: I think it's about how we create incentives. It's how we measure performance and how we hold accountability. And this is getting to the fundamental accounting questions here. We're wanting to make better business decisions, we want to have an understanding of what's happening with the business, but I'm employing you as the manager to make that decision, so how am I holding you accountable for that? And what I'm setting up is the control mechanisms, the business process that wraps around this system, and the accountability that I hold you to is going to change and influence these sorts of things. So some of the things we've found is if you nudge people to think more systematically and rigorously about what's going on, kind of make them aware that there is the potential for, for example, an ethical dilemma here, then they are much less comfortable in morally disengaging and they tend to be much more ethical in some of the decisions that they're going to make. And so it's about creating steps in the process and the way you set the business process around these systems, management controls, the accountability and performance metrics that you put on the individual that are going to lead to the sort of behaviours you want to see. The other side of that, though, is that if you don't get those sort of things right, then you're going to see some really scary unethical practices. You're going to see some really scary decisions come in and people will be able to disengage and do things that we don't want them doing, both from a business success point of view, but also from a risk and ethical point of view as well.

A: So it is still about the role of the human?

M: Absolutely. I mean, a lot of people I know are scared that AI and analytics are going to replace accountants. They're only going to replace those who are doing mechanical tasks. AI and machine learning, deep learning, these things are really good at finding patterns in data. They have no understanding of what that pattern means. And so our role as accountants is to give meaning. So I understand the mechanics of how a set of financial statements are produced. I understand how we calculate costs using activity-based costing. But it's that understanding of that process that allows me to interpret what those numbers mean. The system can identify patterns in the data. It doesn't know what that means. And that's where our role comes into play. We've still got to understand the business really well and we've got to understand how these things are operating as a business to

understand what does this suggest or mean, this insight, and how do we translate that to actions, and then we're accountable for those actions. We're not going to be automating every decision that's there. There's still going to be an accountability issue that's coming into play, and the human being that's coming into that decision process. One of the classic examples I use is this: I had the misfortune of living in New York City through 9/11. And if you had a – doesn't matter how sophisticated it was – machine learning algorithm that was trying to predict what was going to happen with the stock market and you asked it what was going to happen on the morning of 9/11, it would happily give you a prediction, because it had never seen an event like 9/11 before so it didn't have the data to do that. It has no meaning. It just says, "Look, here's the history data. Here's the pattern in the history data. That's what I'm extrapolating to the future." So for us as accountants we need to, in thinking about the decisions, focus on the strategic end, focus on those things where history might not be as relevant, and focus on the meaning and the interpersonal relationships, because those are the things the systems will never take away from us.

A: So the last one on the research element, what work do you think we still need to be doing, and what do you think are some of the pressing issues around the data analytics, big data, ethics? What's still to be done here?

M: So there's a couple of issues at work. One is how do we create organisational processes to ameliorate the problems of these systems being black boxes. So we don't know how to design the processes and controls and performance metrics and accountability well enough yet, so there's still a little work to do there. And the technology at the same time is advancing in sophistication. We also need to think about how to leverage these in the value chain for the organisation as well, so there are multiple elements of what's going on. The other aspect is that we now have a new risk from the organisation, both in terms of the pace at which we're making decisions and the machines are making those decisions, and what we're doing with data. So at a board level and in a corporate governance sort of sense, what's the visibility of this risk and these issues to a board? And I, from discussions, have some real concerns that there's no enough visibility for these sort of issues at a board level. And when you look at, for example, the EU regulations, there's a sanction if you violate those regulations that's based on a percentage of global revenue. Now, we haven't seen that bite yet, but that starts to get really scary. So we're talking about big impacts if you happen across the line. And nobody knows what the line is yet because, for example, the GDPR regulations require you to provide the data subject – the person you're describing in the data – with meaningful information about what you're doing with their data. Nobody knows what "meaningful information" is yet. And again, it goes back to that meaning, which is what we as accountants are all about. So there's a risk there at the board level as well that I think we need to be cognisant of, and it's that age-old problem

of how do we connect the technology and the business side together? Technologists don't get into the board room as often as we'd like them to, and the business people don't communicate enough with the technologist side of things. We have a big risk in that gap there.

A: Right, excellent. Thank you. So looking ahead and changing tack just slightly, what are the implications of all of this for accounting education, first around big data and data analytics, and perhaps secondly around the ethics associated with that?

M: So from an education standpoint, this isn't about turning everybody into data scientists and technologists, it's about making sure people are aware of how to make use of these technologies, what the limitations are, and how they sit in an organisational process. And so you have to have some understanding of what these things can and what they cannot do to understand that they're just producing patterns. You've got to produce the meaning. And so at the University of Melbourne we've introduced new subjects in this space into our undergraduate and graduate curriculum to address the growing need for this. We've always had systems-oriented subjects that talk about processes and controls, and now we're adding in detailed curriculum specifically focused in the one subject on that analytics element, but also recognising that it's going to permeate through every subject that we're offering in different ways. And so it's changing the nature of what we're doing, and it's about creating that awareness, so that when I'm designing my control system, choosing my performance metrics, doing my cost – I'm aware of what this system is able to do to inform my decisions, and what it's not able to do.

A: Excellent. So in wrapping up, Michael, is there anything else you'd like to say around the work that you've been doing in this space, the impact on accounting education, and where we might be going?

M: Look, I think the whole analytics and AI revolution that we're going through at the moment scares a lot of people in accounting, and what they really should be doing is seeing the opportunities. I want to see everyone move to that opportunity camp rather than the fear camp, because it allows us to do some absolutely fascinating things, it allows us to get better at what we're doing, and it really leverages us as the original data professionals who are giving meaning and evidence to the decisions we make in business.

A: Right, excellent. Well, Michael, thanks for joining us here at TAPS. We really appreciate you taking some time out to join us and share some of your thoughts and some of the really interesting research that you've been engaged in and the impact on accounting education going forward, and we wish you well. Thank you.

M: Thanks very much.