5 ways technology is changing accounting skills

Intro:
Hello, and welcome to the CPA Australia Podcast. Your weekly source for accounting, education, career and leadership discussion.

Jana Schmitz:
Welcome to the CPA Australia Podcast on the impact of technology on the desired skills of early-career accountants. I'm Jana Schmitz, technical advisor for assurance and emerging technologies at CPA Australia. And I'm joined today by associate professor Denise Jackson and professor Rahat Munir. Denise is the director of work-integrated learning in the School of Business & Law at Edith Cowan University in Perth. Denise is focused on preparing students for future works for industry engagement in the curriculum. Her work has been recognised by numerous research and teaching as well as learning awards. Most recently, a National Award for Teaching Excellence. Congratulations on that one, Denise, that's a great achievement.

Jana Schmitz:
And now to you Rahat. Rahat is a CPA Australia member, as well as a Chartered Accountants Australia and New Zealand member. He's the head of Department of Accounting and Corporate Governance at Macquarie Business School, at Macquarie University in Sydney. An accounting professional for over 30 years, Rahat has extensive experience in accounting curriculum, strong links to accounting practise, including CPA Australia, and Chartered Accountants Australia and New Zealand, and expertise in a range of accounting fields. He's also a multiple award-winning academic. Welcome, Denise and Rahat, and thank you very much for sharing your expertise with us today.

Denise Jackson:
Thanks Jana.

Rahat Munir:
Thanks Jana.

Jana Schmitz:
Now, Denise and Rahat, you recently published a CPA Australia commissioned research study on the impact of technology on the desired skills of early-career accountants. So I'm very interested in what encouraged you to choose this research topic.

Denise Jackson:
Yeah. So there's been a lot of discussion in recent years on the skills that accounting firms most need in new graduates and early-career accountants. And some of these skills include being able to work effectively with others and communicating well with clients, coworkers, and also senior management. And we ourselves we've noticed the increased uptake of technological solutions and tools by
accountants and auditors. So we're seeing a shift from traditional accounting and auditing to virtual engagement and digitisation of accounting and auditing processes. And this certainly became more pronounced during COVID-19 in recent months. So we were therefore quite interested to see if these technological trends have changed the skills of graduates and early-career accountants need for success, and also whether accounting firms are demanding tech savvy graduates. So a key line of inquiry for us was how prepared early-career accountants are for technology.

Denise Jackson:
We know there’s been some concern in the industry, the graduate talent doesn’t have the right mix of skills, and is not always adapting to evolving skill requirements. And not being agile and not having the right staff can be a real problem for accounting firms in terms of adopting emerging technology. We also wanted to look at not only how technology is impacting on the desired skills of early-career accountants, but also whether this is changing their professional development needs. So for example, how well universities are developing technology related skills and whether they actually might be better developed in-house by organisations themselves or by professional associations, such as CPA Australia. We felt it was important to explore all these areas from the perspective of both employers and the early-career accountants themselves. And we also spoke to individuals from across public, private and not-for-profit sectors, so we could see if opinions varied by work setting.

Jana Schmitz:
Rahat, would you like to add anything?

Rahat Munir:
Yeah. Denise has covered almost every point. Basically the purpose was to see what sort of skills are desired in early-career accountants and then how the evolving technologies impact accounting professions. Especially young graduates accountants, as well as people those will work for. For the companies, their managers, their supervisors, and what they see in those graduates. So this was the temptation in having this research and I think we have got some very good results, which policymakers, managers, companies, whether they work in public sector organisations or private sector organisations, they can use those findings which we are sharing it with the audience today.

Jana Schmitz:
Yeah. Thank you very much, Denise and Rahat. Both of you just mentioned terms such as digital transformation, emerging technologies, tech savviness, digitisation, and now I'm interested in what you consider as the key technologies that are impacting on the accounting profession.

Rahat Munir:
Actually, thanks Jana, this is a very interesting question. And this is a buzzword in accounting and even in business world in a broader sense, that technologies are impacting accounting and technologies are impacting business world. And this is since last 30/40 years I've seen that accounting profession is evolving and continuously changing. In some cases, we have seen some dramatical change, especially in '90s and in early 2000s. Then we saw smartphones coming up and at the same time technologies like artificial intelligence, use of robotics in accounting. That has changed the face of accounting. So there is a huge investment right now going on in Europe as well as in US, Canada, and in Australia also, on adopting all those technologies which directly and indirectly impact organisations as well as accountants. So one of the common thing which we have seen evolving in 1990s onward is more robotic
process automation, which is also known as RPA. And in RPA, what happened is, the traditional back
office work or our bookkeepers job, for example, for payrolls, account receivables, account payables,
voucher system, that has drastically changed.

Rahat Munir:
Now, backend what happened is, even suppliers, they are connected with companies and real-time data
is exchanged and why systems and data entry is done. So this has actually improved the speed of work,
at a same time, cost efficiencies and work efficiencies and productivity of accountants has tremendously
increased because of robotic processes. Machine learnings, blockchain, cloud-based office and learnings,
they are common now. Even very small technology, I would say, as Excel spreadsheets is also very
common in accounting, especially in management accountants. And we have found out that over 80% of
management accountants, they use Excel spreadsheets. They use Excel spreadsheets for decision-
making, they use Excel spreadsheets for sometime in data analysis and so on. So it's a very small
common technology. But big technologies which are coming up and impacting us, which have already
impacted us and will impact us is blockchain. And you would perhaps surprised to know that 86% of
senior executives in US and in Canada, they believe that they have either adopted blockchain or would
adopt blockchain within next five years.

Rahat Munir:
So this is one of the fastest adoption of any technologies in the field of accounting within a short span of
time. So it means senior executives are looking for cost efficient measures or technologies which
improve their processes and that they become more and more efficient and sparing time for their early-
career accountants or accountants at a senior positions for some other tasks. Cloud-based softwares are
very common nowadays. There are many, many softwares which are available in market here in
Australia as well as in New Zealand. And more than 50% of the companies, we found out, they are
already using cloud-based softwares or accounting. So quite a large amount have already been invested
and would be invested. So it is estimated more than $12 billion will be invested on cloud-based
computing or cloud-based accounting softwares. And quite a large number of companies they are
available, those for accountants or accounting firms or organisations, wherever accounting roles are
performed.

Jana Schmitz:
Yeah. Thank you Rahat, that's extremely interesting. I noticed that whenever researchers or industry
professionals, as you also mentioned, talk about emerging technologies and their impact on the
accounting profession or the finance profession in general, they also speak about the disruptive effects
that such technologies may have on different jobs or on larger proportions in general and on entire
industries. I would like to dig a little bit deeper and get back to your CPA promotion research study in
which you mentioned that according to Accenture, technologies such as RPA and blockchain and cloud
services that you just mentioned are predicted to cause a 40% net reduction in staffing levels in finance
by the year 2025. In your opinion, do such projections made by Accenture, for example, affect the
accounting profession? And if so, how?

Rahat Munir:
Thanks Jana. I think it's another very interesting question, which is impacting us every day when we
work. It's true that technologies are impacting and number of roles and jobs are reducing. And it's
expected by 40% net reduction in staffing level in finance in next five years. But at the same time, quite
large number of senior managers, and this was recently published by Deloitte 2017 and we have given this reference in our report also, over 70% of senior executives believe that they will lose competitive advantage if they won't adopt these technologies. It means there's a give and take basically, that's what the position is. Whether you gain a competitive advantage, cost effectiveness and cost efficiency and improve productivity of your staff and proper time management. So as I said, technology is impacting us, evolving. And primarily, the roles which are backend roles, back-office roles, bookkeeping roles, they are being taken over by machines and machine languages and machine softwares.

Rahat Munir:
The roles which have become more critical and accountants are not performing and growing over a period of last one decade are more analytical roles. Business advisory roles and the roles which are more in terms of using data for decision-making purposes. So it means now accountants are trusted advisors, accountants are basically using data which is produced by machines for making decisions. For example, helping organisation pricing decision, helping organisation in terms of efficiencies, determinations in performance management and measurement, whether it is individual business unit level or organisational level. Accountants are using those current dashboards in terms of the data, which is provided through these softwares and machines, or they are able to increase accuracy of those decisions. So you would see that accountants are very much become virtual nowadays, they spend a lot of time on thinking. A virtual CFO term has become very common, where CFOs basically in an old traditional way of spending too much time on producing data, they are spending time now on analysing data.

Rahat Munir:
So back to your question, Jana. Basically what I see is, yes, number of roles have declined. That is true. But those roles are more of routine roles. They are not decision-making roles, they are not roles in terms of where accountants are used for advisory purposes. But roles and responsibilities have changed and increased for accountants. And the nature of work which accountants do now and will do in future would also change. I've recently seen a lot of accountants are not trying to build their skills in cyber governance and cyber management, cybersecurity. Why they are doing so, because blockchain is coming up, blockchain is being used by organisations and they need to know how secure they are in a blockchain. Similarly, many other technologies, for example, cloud-based office would expect to have some understanding of cyber related matters. Internal controls, accountants are working on internal controls as well. In the past, it was more of the job of information system analysts, but now it is done by accountants.

Rahat Munir:
So accountants are helping board to devise procedures, rules, which make organisation better and secure. So these are the new types of roles, forensics, forensic analysts. In the past, financial crime, white-collar crime, blue-collar crimes were done by police, policing departments, but now accountants are very much involved. So in Australia you will see, and you might have seen, forensic accounting industry has increased and is growing. And why it is growing, it is not because of the crimes are increasing, it's because of the nature of work accountants nowadays are doing. Especially by CPAs that expect new types of skills which are required. And then we all are basically focusing on building those skills in our graduates as well as early-career accountants.

Denise Jackson:
And just to add to what Rahat said about the changing role of accountants and the fact that there's been this automation, I guess, of lower level tasks and duties, we've really seen a change in organisation structures. And I know this was discussed by CPA Australia in some work they did last year about the fact that this has led to much flatter organisation structures. And the accounting role, as Rahat alluded to, is more about judgement and analysis and adding value to clients business. And they are working now in cross-functional teams and giving expert knowledge to others across the organisation, as well as to senior management, which really calls for those skills in business acumen and professional judgement and thought earlier in their career than previously.

Denise Jackson:
And also this is critical, therefore that they need those strong communication and collaboration skills have become highly relevant for accounting rather than traditional number crunching abilities, I suppose. And Deloitte do mention this in their report, Deloitte referred to this as the humanistic element or aspect of accounting work. And the fact that that's really there to compliment technology, because technology doesn't have those relationship building and collaboration skills.

Jana Schmitz:
Thank you Denise and Rahat. If you don't mind, I would also like to add that it is really important to emphasise that there was a shift in the skill set that accountants and auditors require. Because I feel like a couple of years ago, or quite recently actually, there was this general headline rubbing message put out there that accountants and auditors will become redundant because of all the technology that has been put out into the market. So your research study is really important as it emphasises this general shift in the tasks and roles that accountants and auditors have to perform in the future.

Denise Jackson:
Yeah, that's right Jana. So the Frey and Osborne reports and the Sid report, I think that you were referring to, did create a lot of nervousness in the industry about future redundant roles and the fact that there'll be less demand for accounting staff. But it's more about, it's not about reduction, it's just about change. And that change is a good thing. It's upskilling, it's about adding value, analytics, judgement and acumen, which is as opposed to low-level duties that can be automated. So it's working alongside technology.

Jana Schmitz:
Thank you Denise. We will be talking about upskilling, which you just mentioned after the very short break. And once we are back, I will ask Denise and Rahat about the findings of their recent study and what they believe the future of the accounting profession will look like.
Welcome back Denise and Rahat. Let's talk about the research findings that emerged from your CPA Australia study, which is linked in the show notes. You have surveyed and interviewed early-career accountants, so those working in accounting jobs for between one and five years. And you have also surveyed and interviewed managers and recruiters of early-career accountants. All of those study participants are located in Australia, I believe. Now, one of your findings that came out of the study is that early-career accountants and managers noted five main ways of how technology changes the skills for success. What exactly are those five ways?

Denise Jackson:
Thanks Jana. Just to give some background first, we found that both early-career accountants and managers strongly believe that technology changes the skills needed for early-career accountants to succeed. So that came through very strongly in the findings. In fact, 72% of the early-career accountants felt technology either moderately or significantly changed the skills for success, and slightly lower compared with 60% of the managers. But less than 10% in both groups felt there was only minor change or no change at all. So with that in mind, in terms of the different ways that technology changes the skills for success, yes, you're right, there were five ways that we identified. First we found it was important for them to understand technology, and that included being aware of different software and also learning to code, came through strongly in the findings.

Denise Jackson:
And this includes also being able to identify ways to automate efficiency and also how to embed technologies into different workflows. So not only understanding how to use the technology, but how to leave ridges so they could add value for clients. Second thing we found, that there had been a shift from transactions and data processing to analytics, interpreting data, solving problems and adding value, which Rahat spoke about earlier. Some felt that new junior accountants would struggle with this, essentially because they'd bypass the lower level process and data entry where they traditionally got time to understand the real nuts and bolts of accounting. Because of that automation of lower level tasks that we were talking about, essentially that they'd bypass that and they'd go straight into being provided with the data and then analysing it and understanding how they can add value and interpreting it to add value to their client's business.

Denise Jackson:
And some anticipated in the survey and the interviews that this could actually be quite tough for some early-career accountants. A third way that it changes the skills for success was that both groups acknowledged technology may bring change in how accounting studies were applied and that it was important to consider how they can underpin and also drive new complex technologies to maintain currency. That was something that was noted by quite a few respondents, but they didn't dig into the how, on how that could be achieved. So I think that's certainly an area for future consideration. The fourth way was building people skills, has become really essential to the profession. Particularly communicating effectively with clients and also being able to communicate in different ways. So early-career accountants need to be able to dissect and also present financial information to clients and also internal stakeholders in a way that they can understand. And that's actually useful for them and they can use it themselves, that they are key takeaways for them.
And we know from all the recent experiences during COVID 19 lockdowns, this includes virtual communication and virtual presentations. And the fifth way, the last way was the early-career accountants and managers commented on how technology has increased their need for self development. So this is really about personal agency and junior accountants needing to take it upon themselves to make sure that those skills are current. It can’t always be provided for them in the workplace. This includes fine tuning their research skills, because it was acknowledged that there’s so many resources out there on the internet. They really need to understand how to locate them and make good use of those tools and resources to help them learn and understand about technology.

Jana Schmitz:
Yeah, that’s very interesting. Especially what you just mentioned, Denise, regarding the self-development idea. Basically the over supply of sources that you can learn from available on the internet. Now that we know that technology changes the skills for success or the required skill sets, who do you believe is best placed to deliver and to also teach these required future skills?

Denise Jackson:
Yeah, this was an interesting part of the study that we dug into. And our findings showed that 51% of the managers believe that early-career accountants were very prepared for technology, first of all, compared with 63% of the accountants themselves. Just to have that in the background. That shows that there is essentially some room for improvement, and therefore, it's really important that we are considering how we are going to develop those technology related skills. What we did, we asked both the early-career accountants and managers to rank how well they felt universities, organisations and professional associations were positioned for developing these new skills arising from trends in technology. And what we found was that about half of the manager group ranked universities as the best positioned to deliver on those technology related skills. They ranked organisations second predominantly and professional associations third.

Denise Jackson:
With the only career accountants, there was the same trend, as in, majority ranked universities first, followed by organisations and professional associations. But they were less definitive in their responses, the percentages weren’t quite as clear cut, although the key takeaway was the same. So for both groups who favoured universities, the reasons that they gave for that was they felt that universities had the capacity to develop foundational skills in technology. Essentially like the building blocks of future learning, which would then take place in the workplace. They would introduce students to broad trends in technology and also what was expected and needed in the workplace. Those people that favoured universities the most also felt that highly skilled academics were best positioned to teach future oriented capabilities, including those related to technology.

Denise Jackson:
Those that didn't rank universities first felt that they're focused on core theoretical content and also potentially a lack of access to the latest technologies might prevent them from upskilling students in this area. Those that felt ... and this is across both groups, those that felt the organisations were best positioned, they felt that they could actually ... were better positioned to provide the necessary exposure to a diverse range of technologies and also give early-career accountants or students, new graduates, the opportunity to actually see them in use. So actually, seeing them embedded in workflows rather than in a theoretical sense at the university. They also felt that this would help early-career
accountants understand how the latest technologies are integrated into practise and what that means for the profession and actually the benefits that they can gain from it.

Denise Jackson:
And they also felt that organisations have better resource to deliver on quality training for technology. And that the organisational space provided a very rich learning environment for sharing knowledge. And this was really, they emphasised networks and mentoring from other colleagues was really important in the learning of new technologies. It was however noted by many respondents and interviewees that this might not always be possible in smaller organisation who don't have those diverse range of new technologies because of resourcing. And also, they might not have the big networks to support that informal learning. In terms of professional associations, it was felt that their role would be that they were really well positioned to deliver short courses and micro-credentials, it developed specific skills for technology. So for example, on blockchain or certain types of cloud-based software, et cetera.

Denise Jackson:
And this was particularly, or considered particularly beneficial for smaller organisations who might not have access to those technologies or the staffing and resourcing to upskill their staff in those areas. And the one thing that really came through for us in the findings ... and again, this was interviewees and the survey, the people that we surveyed, was the importance and value that could be gained from universities, accounting organisations, and the professional associations working together to develop early career accounting skills. So an example might be industry co-creating and co-delivering on training, which is delivered in the university to accounting students. In, for example, blockchain was an example that was cited by quite a few different respondents.

Jana Schmitz:
Yeah. Denise, I find this development of micro-credentials very interesting and that feeds into the next question that I want to pose. When you look at early-career accountants desired future skills through the lens of the accounting firms, how can those accounting firms make sure that their employees, especially the early-career accountants, are and remain sufficiently skilled?

Rahat Munir:
Yes, thanks. And I think this is a very interesting question and important for managers and supervisors and organisations as well. So I would see, and this is what it has come up in our research as well, two levels of learning. One is a formal and another one is informal learning. In a formal way, organisations should and must design courses which are short and taken as micro-credentials. And these courses can be designed with the help from universities and higher education institutions. For instance, somebody who's working for a bank can do a course on financing for small projects or large sized projects in the same way letter of credits are our operated, difference between retail banking, wholesale banking and et cetera. So a number of courses can be designed, which help basically early-career accountants for a lifelong learning. But at the same time, accountants, they themselves have to be a proactive learner and keep on learning in informal ways.

Rahat Munir:
Informal way could be learning from their mentor on the job some learning traits, which are formally assigned to them. Having a buddy system in the organisation, at the same time having informal networks outside organisations and within the organisation would also help in terms of informal
learning. So this is more of a workplace networks, which would support in terms of learning. But the focus is now more on micro-credentials, which are developed by the universities. The universities play a very vital role in developing career, whether a student is within a university and still under learning accounting, or has graduated and working as early-career accountant. They will be supported to do those micro-credentials, which they can stack and build towards a degree or sometime they don't need to. They just do those courses for the sake of improving their knowledge.

Rahat Munir:
And that would also give them some element of practical experience because those micro-credentials are often activity based, and those micro-credentials are taught by practitioners as well. So you will be learning as early-career accountants from someone who's expert in that field also. At the same time, nowadays organisations have become, I will use the word very clever, in hiring graduates or early-career accountants where the universities have work-integrated learnings in their curriculums. For example, their learning is more on activity-based and they use case studies, they use scenarios, they use simulations and they provide assimilated practical experience to those students. So work-integrated learning in fact is common, it's not a new concept, I would say as such. But in fact, organisations are looking for graduates, those who are coming from universities which provide more practical hands-on type of accounting experience to their students.

Rahat Munir:
So there are many things. One is, internal trainings, then using micro-credentials for that. I'll give example of, CPA Australia runs the micro-credentials they have recently introduced. And I think it's a golden opportunity for accountants also to take those micro-credentials to build up towards their CPA qualification. And then look for courses which are work integrated courses.

Jana Schmitz:
Yeah. Thanks Rahat. I just want to add that what I find most fascinating about the micro-credentials is that they allow graduates or young professionals or accountants at different levels basically to take full control of their career path. Because if you want to pursue a career in blockchain for accounting, for example, you just add the micro-credential blockchain for accounting. So that gives more flexibility and I think people really enjoy that. I always find it quite interesting to ask researchers about these study findings that they find most surprising. So that's why what I want to ask you now, Denise and Rahat, is, what are the most unexpected or surprising findings that came out of your study?

Denise Jackson:
Yeah, a few things. We found that the skills considered most important for success by both groups were proficiency in data and technology, which wasn't a great surprise given the discussions we've had today, communication and problem solving skills. Those were the three top ones. And also, they spoke about aspects of a skill cluster, which we term professionalism. And that was, time management, efficiency, and also being able to build relationships with others, particularly clients. But there was one skill set which we thought might be more highly ranked, and that's working effectively with others. And that didn't appear in the top three, which to us perhaps doesn't align with the accountants' important role as a key collaborator across all those multifunctional teams in the organisations, and also supporting horizontal organisation structures. Another one that we found quite surprising was that the early-career accountants themselves are feeling the impact of technology more acutely than their managers. And this was particularly so for those in larger private sector organisations.
Denise Jackson:
And in those organisations, there seemed to be a lot of pressure on these junior accountants to be across emerging technologies. And not only be able to use them, but also know how to embed them in workflows and literally from the get go, when they first went into the organisation. So that resonated with us. And then lastly, something which also surprised us was that we found 60% of the early-career accountants that we spoke with, and there were 300 in the survey and then we had the interviews as well. They were actually aged above 30 years, and that suggests to us that many had transitioned from an earlier career.

Rahat Munir:
Yep. I will be adding here is, I was also shocked to see teamwork or collaborative work was not given that importance. Perhaps one of the reason for that is, early-career accountants, they do quite routine jobs their collaboration with others perhaps is not needed. You'll see they spend a lot of time on building their skills, and universities build students and graduate for lifelong careers and lifelong learnings as well. Perhaps that was surprising to me as well. But it's because of the nature of work early-career accountants they do, perhaps that was not given that importance.

Jana Schmitz:
Yeah. I think the aspect of lifelong learning was very important to mention and the vast amount or the wide range of skills that you basically elaborated on in your study. Now, Rahat, I would like to ask you as the head of the department of accounting and corporate governance, what advice would you give me if I was an early-career accountant pursuing a career in our accounting profession?

Rahat Munir:
I think I would say three things. Number one, as an early-career accountant recently graduated, I would say you have to be proactive learner and learn new things when you are in the organisations, and build a strong network within your organisation and outside your organisation as well. Have a formal mentor within that network who would guide through. So you don't need to be having one mentor, you can have two or more even, as in some cases. Mentors who can guide you through your professional life and personal life journey as well. That is very, very important. And the third one is, keep on learning. When we say proactive learner, but at the same time there could be other new areas which are outside your discipline also. You learn those things because as early-career, you won't stay early-career forever, you will become mid-career and then you become senior and senior executive in the future.

Rahat Munir:
So learning those new skills and competency knowledge perhaps is critically important. And go back to university also whenever you find time, do some micro-credential units. Even if not in the universities, perhaps any other training organisation and have opportunity to upskill your knowledge. Jana, these are my points. I think these three areas are very important for anyone. One can have a list of 140 different items, but I would suggest just focusing on three for any career. I've seen a number of graduates who have been proactive, street smart, organisation smart, and they're securing very senior positions within organisation, whether they are Big Four accounting firm or large sized commercial organisations.

Jana Schmitz:
Yeah. Thank you very much, Rahat, for this great career advice. I just took some notes mentally, and I will certainly type then on the forum. I just want to add one something that I found very important, and
that's my own personal experience. You mentioned mentors and that you should appoint multiple mentors basically. And I think what's also important here is that you have mentors from different groups, different ethnic groups, mentors who have different levels of experiences, and importantly, also mentors who have different opinions. Because you really, as a young career, a young professional, early-career accountant, you need to learn to stress test your opinion. And you can only do that if you have mentors who take completely different views and who educate you about different opinions and different schools of thought basically. So I just wanted to add that.

Jana Schmitz:
Thank you very much, Denise and Rahat, for sharing your study results and your career advice. For early-career accountants listening today, I'm certain that many young accountants now have a better understanding of the skills that accounting firms or other professional bodies desire or even demand for. So thank you very much.

Rahat Munir:
Thank you very much, Jana, for this time and having this podcast.

Denise Jackson:
Thanks Jana, it's been great.

Jana Schmitz:
Thank you. Be sure to visit our show notes and the CPA Australia Podcast webpage for links and more information on this week's episode. Thank you for listening.

Outro:
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