Jos Creese

Interviewed by

Jonathan Sinfield

23rd May 2018

At the

WCIT Hall,

32a Bartholomew Close, London, EC1A 7JN
Kindly provided by The Worshipful Company of Information Technologists

Welcome to the Archives of Information Technology. It's Wednesday 23rd of May 2018, and we are in the Worshipful Company of Information Technologists Hall in London. I am Jonathan Sinfield, an interviewer for Archives of IT, and today I'll be talking to Jos Creese.

Jos has spent in excess of 30 years in public service, in a number of senior positions, including that of CDO and CIO of Hampshire County Council. In 2006 he set up the local public service CIO Council. Recognised for his influence and innovation, he has been the recipient of a number of awards. He is past President of the BCS, 2015 to 2016, and a past President of Socitm, 2011 to 2012. In 2015 Jos set up Creese Consulting, CCL, providing a range of consultancy, research, advisory and mentoring services. Jos is a regular conference speaker, an adviser to journalists on IT trends. Good afternoon Jos.

Good afternoon.

[01:14]
Jos, thanks for joining us today. I would like to take you back, and perhaps you can tell our listeners when you were born, and, a little bit about your, the family you were born into.

OK. So, I was born in 1960. My father was a, a civil servant. We moved around the country quite a bit, he was in Waterguard and then Customs and Excise. So my early years were in a number of locations. My formative years I guess were mostly in Dover, which I still remember well, my first primary education, and my secondary education was in Essex, Saffron Walden, my father was working in London at that time, where I went through my GCSEs and, and A Levels.

[02:02]
Mhm. So, so the, the school that you attended for your O Levels, that was in Saffron Walden?

It was, Saffron Walden County High School, state school, big comprehensive; very fond memories I have to say of the school. It served me well with a mix of science and arts background, so, you know, alongside the, the IT I, I now specialise in, actually music was very important to me, a lot of music in the school. And, at that time, the arts background, history, English, music, probably more than sciences actually.

Right, OK. But, for your A Levels that you took in 1978…

Yes.

What areas did you specialise in for your A Levels?

So, that was, maths and further maths, but with history, English and music. So a slightly unusual clutch of A Levels I guess.

Right, OK. And you said a memorable time at school. Perhaps you could share one of those memories with us, perhaps one that you feel has influenced you in the rest of your life.

So, I think… I'm an only child, and I think, for me, the comprehensive education was quite important. You mix with a lot of people from a lot of different backgrounds. I think it was probably particularly important to me. But perhaps the, the single biggest contribution that I got from my secondary school was the music. I led the school orchestra, at the end it was a large orchestra, and in fact I still play today.

Yes, and at a high level. So our listeners should be aware, you play in a symphony orchestra.

I play with the Southampton Symphony Orchestra, that's correct.

Right.

Yes.

And that's violin, yes?

That's correct, yes. Yes.

Right, so, obviously, often we hear that music is associated with maths, so, there's clearly a connection there. Where do you… Schooling. Was there one individual who perhaps stands out to you as perhaps a, as a mentor, or someone you felt you learnt, learnt from?

Not particularly, but I have to say, there were one or two teachers in particular that were, not so much inspirational but, but gave me a lot of positive encouragement and enthusiasm about subjects, particularly in the, in English and, and in history. But I remember in particular one teacher, she was a peripatetic, so she wasn't full-time at the school, and her specialism was statistics. And while I was doing maths A Levels I was quite interested in statistics, it's sort of a practical application of mathematical theory. And, I had a number of, well almost one-to-one, there were two of us doing statistics, so it was two-to-one, tutorials with her. And, she was certainly inspirational, and was perhaps the main reason I went on to do mathematics and statistics at university.

Yes. Yes, so, and so, that was in 1982, when you we went to Reading University.

So, graduated in '82.

Oh sorry.

I went there in, '79. I had a gap year. And I went there in, in '79 to do Mathematics and Statistics at Reading.

[05:24]
And how much involvement with computers did you have at that juncture in time?

Well, most of my… When I was at school, very very little. Those who really weren't very good academically might do computer studies, because we were quite a forward-looking school, and they had a computer studies department.

Oh right, yes.

But, it was, along with metalwork and woodwork really, and, school catering type, type stuff. So, that, that's interesting perhaps in itself. But at university, very different. So at university, as you would imagine, even in those days a considerable amount of emphasis on computing, particularly computing power to support mathematical algorithms. So I got involved at that stage in, in programming, and in using computing resources for analysis of big datasets and so on. And I have to say, I hated it. [laughs]

Oh right. From what angle, the programming side, or the…?

So, I, I sort of suffered the IT, but I really wasn't very good as a programmer.

Right.

Programming requires a patience and a discipline, a formality, that perhaps didn't sit with me terribly well in those days. I… Computers were quite slow of course.

Yes. Yes.

So I would go to the computer studies room, we'd have teletypes running programs, and I, I worked out you could run various things all at the same time. So I'd have them all chuntering round the, round the room in order to speed things up, so that I could go and do something much more interesting than the, than the IT. The trouble was, it often came up with, with error codes and problems and stuff like that. So, at that point, I had a view that I definitely did not want to pursue IT as a career. [laughs]

Right.

I admit.

Yes. That's interesting. I mean, clearly, your, your studies didn't suffer from your First Class degree that you graduated with, and, and indeed, prize as well for all your, your work in the statistics field.

Well I, I did enjoy the maths. I went to do university level mathematics rather than the other subjects I had studied at A Level, because, I just loved the maths, particularly pure maths. I liked the intellectual challenge, and I just wanted to pursue it.   And I sort of think, in terms of lessons, whatever you want to pursue, should be something that, that inspires you a bit at university. Don't just do it in order to get a qualification. Do it because you want to do it, do it because it's an interesting topic, subject, to you. And mathematics was not my strongest suit, but it was certainly my main interest, which is why, why I pursued that. And I, as I said before, I did very much enjoy the statistics, and it was ultimately the statistics that got me back into a different sort of IT after university.

Mhm.

But yes, you're right, I, I pushed myself pretty hard at university, I loved the study, I wasn't just going there for a, for a good time I guess. And, yes, I came away with a couple of, a couple of prizes.

[08:34]
And, and you've already said that IT wasn't on the agenda as a future career for you at that juncture in time. So when you left university, which direction did you, did you take?

Well, I was still very much inspired by statistics. Statistics as a topic generally people don't like terribly much. They perhaps have a slightly low opinion even of statistics. And, I think it's fair to say therefore I was slightly unusual in that respect. But, the thing that excited me about statistics was being able to use some quite complex theory, applied in a practical way to solve real life problems. So the real life problems that at that point were of interest to me were social, health, agriculture. There are

some, there were some amazing ways of connecting data to issues facing people. So, tracking health trends, whatever, whatever it might be. So, for me, I was looking for a role that would allow me to continue with that. My father had been a civil servant. The Government Statistical Service is highly thought of, particularly in the UK. It's quite hard to get into, and that had some appeal as well. So my main ambition was to join the Government Statistical Service, which in fact I did.

Right.

And I, my first role was with the Department of Health and Social Community as it – Social Services as it was then. Of course, today it's just been joined back together again as we try and integrate health and social care.

Right.

And I pursued the Statistics Service within that department for some time, making links to policy, working with the BMA, the British Medical Association, the British Dental Association, Treasury on financial trends. There were a whole range of topics and research projects that I got involved in. And it was from there that IT suddenly came back. So at that point, and we're talking just about post-1982 of course, the PC came in.

Mhm. Yes.

And suddenly we were not talking about old, fusty, slow, difficult, cumbersome mainframes, teletypes and punch cards. Suddenly we've got a resource that actually was moving technology out of the computer centre into the hands of ordinary people. There were some quite sophisticated statistical programs that were becoming available, one in particular that I'm sure no one will have ever heard of called Package X.

Right.

Which was a statistical analysis programmable language, which I used extensively for a lot of research work. And I suddenly discovered that there were opportunities for using IT and technology generally to make things happen, rather than just to process data. And that was the tipping point for me. I suddenly realised, if I was going to be a statistician, I would be always analysing data, but if I moved into technology, I could reshape the way public services, Government, business, would operate in the future. And you could see at that point the start of a revolution in how organisations would function as a result of technology.

[12:00]
Mm. So I mean, adding value at that, you could see the, how IT could add value to the…

Absolutely. And I, I did have quite an inspirational manager at that stage, his name was Charles Hogan, and he was a civil servant, he was a big boss as far as I was concerned. But he got this thing about technology, and he set up what we called then an information sector, actually it was a, a pseudo IT department, to help support the NHS management board.

Mhm.

So it was to provide information and insight to NHS leaders in the Department of Health about how well things were happening. And that was, that was spawned from within the Government Statistical Service. And I suppose his, his vision and insight was what encouraged me to then want to pursue a role. And I, I became quite adept at database administration, and data administration, both of which are I think beginning to become common currency again today with data science.

[13:04]
Absolutely, yes. And, you, correct me if I'm wrong, but, you were with the Department of Health for what, six years, so…

About six years.

Quite a lengthy period.

It was a lengthy period, but it was a clear career path, so you started as an admin trainee on a fast-track training course. And I left as a principal, Grade 5 principal, which was pretty senior, it's about as far as my father had got in the whole of his career. So, you know, I sort of felt that I was pursuing an interesting career. But, I also at that point decided that for personal reasons as much as anything I wanted to get out of the London commute.

Mhm.

Didn't know what I wanted to do, and I was looking at jobs across public and private sector. But I decided that, my wife and I both felt we'd like to move away from London, out into a region somewhere.

[13:58]
And, you chose Hampshire.

Yes. And that was pure chance, actually. Another inspirational leader as it turned out. I had no intention of working for local government. I didn't even really know much about local government. But a role came up in Hampshire for an IT manager. It was quite an exciting and interesting looking role on paper. It was reasonably well paid, it was in Hampshire. So, I applied, and I got an interview. And when I arrived at the Hampshire County Council offices and I met my future boss, his name was Mike Winchester, in Winchester as it turned out to be, again, inspirational about the power of technology to transform the lives of communities and individuals, in a way that, that was even more prescient I think and personal than central government.

Mhm.

So, you know, I, it suddenly opened a door onto, schools, education, libraries, financial management generally, trading standards, environmental health, transport and roads management. I mean, you know, the list of local government services is

very considerable. And, and Mike Winchester had a vision for developing a, a fulcrum I suppose of technology solutions for public service agencies in the area.

[15:26]

Mhm. And if you could pick out one particular, you mentioned several areas there…

Yes.

Perhaps one challenging project during that, that time, and how you resolved that challenge.

So, when I joined, it was as an IT manager, and I was supporting a portfolio of clients, it included Hampshire Constabulary. And that I have to say was one of my biggest challenges. So I had been used to a fairly well-defined Civil Service role. Much less defined in local government. And the cultural difference between supporting a government agency like a council, and a police authority, is very significant. So for me, there was a, a real challenge in being able to adapt and adjust to supporting different styles of organisation. And it's something I think, I still think is extremely important for people wanting to work in IT. The diversity of your personal background and your ability to adapt and align yourself to the needs of different types of individuals, different types of organisations, I think is the make or break of IT success. Many IT projects fail because they do not understand the way in which people are going to use those systems, and the diversity of the communities that might use the systems. So that was a significant challenge for me. And we were putting in place a number of projects and solutions for the Constabulary, including some fingerprinting solutions and so on. The technology was interesting. But the ability to ensure that it really met the requirements was the difficult bit for me, and how you manage those projects and programs, which was one of the reasons at that time I developed a, I suppose you'd call it an early project management course. This predates prints and prompt. Because I saw inconsistences and gaps between technology management and business delivery that needed to be filled by a more adept and, and attuned project management function.

[17:36]

Mm. It seems to me that, correct me I'm wrong, but you are really talking about the, the soft skills required.

Absolutely right.

Both from the project management side and certainly later on from a CIO perspective.

No, no question. And I, I think… One of the issues that we face today in the IT industry is the perception that it is a, a job for, typically men, and typically people who are a little bit geeky.

Mhm.

And there's no question there is a role for highly skilled specialist programmers, software engineers. And this, this is really important for British industry, it's really important for organisations. But most of the people who I know who work in IT in businesses are not those sort of people. And they depend on being able to make the connection between technology opportunity and the needs of business. And making that connection is the hardest job of the CIO, but it's also, probably the, the make or break of most IT project leadership.

[18:48]
Mhm. And, you, you've shared with us the, the challenge of dealing with different cultures, and I'm sure that wasn't probably the first time, different culture in your career, whether it be from a group of individuals or even working on the international stages, as you have.

Yes.

Is there any particular advice you can give about people who are coming up again those challenges? Is there anything that you can draw from your toolkit that you can say, well this is what helped me in this situation?

So, I think, know yourself, which sounds a little bit trite, but I think it's really important. There are some people in IT who are brilliant at the technology. They really aren't so comfortable dealing with people.

Mhm.

So, if you are like that, then build a career, and there are plenty of them, plenty of amazing careers to be built, around the technology. Become a cyber specialist, become an engineer, become a software developer, maybe at the highest level. Bring your, you know, your, your IT ethics with you, bring your broader skills by all means, but don't move out of your comfort zone into an area that is not going to give you fulfilment or play to your strengths. So if you are not comfortable in leading teams, in being a bit of a politician, then don't become a CIO. Become a CTO maybe, a chief technical officer, or, or stick with, you know, high level software engineering. Equally, if you are someone who likes the softer stuff, is perhaps quite good at making that connection between the potential of technology in a business case to how it will benefit an organisation, society as a whole, government, huge, hugely valuable skill, but don't worry if you don't have all the technical skills, and maybe feel at sea. Make sure you surround yourself with the people who have got that technical ability, and, and make sure you can forge the right mix of business and technology skills.

[20:51]
I mean, in your career you have, we're jumping a bit, a bit ahead now, but, you've dealt with large groups working under, under you in IT departments or the equivalent there. How would you develop the soft skills required in an individual, or encourage them to, to come out? You say about knowing yourself, yup, good point. We've all got limitations, we've all got strengths and, and weaknesses. But, if you identify someone who you thought, let's say might be CIO material, is there anything, a particular programme, not necessarily a given course, but, a programme or, to, to help draw the, the soft skills out?

So, possibly not so much an individual programme. I do think mentoring and coaching is incredibly valuable.

Right. Mm.

You know, if you are a CIO, you're at the top of the tree, there is no one else you can turn to for advice.

Mhm.

And it's not always easy to admit you don't know things, but actually, you have to do that.

Mm.

So having a network of peers, having a coach, having a mentor, I think is particularly valuable. But if I was bringing somebody along, working, working for me who I could see had the potential for being a CIO, then you want to give them the sort of roles that you had as a CIO. So you want to help them build a business case for themselves, and then get them to present it to the board. Don't do it all through you; give them the opportunity to do that. Allow them to get things wrong, and then fix them. And, so don't create a culture, a blame culture where no one can ever make a mistake.

Mm.

Encourage them to, to see beyond the, the technology, in how problems could be solved differently. So the sort of lateral thinking is so important. And I, and I do wonder sometimes whether, because of the analytical nature of IT as a, as a discipline, we tend to go from A to B in a very linear fashion. Whereas, for me, it's much more like a game of chess. Think two or three moves ahead, because sometimes, you need to go a little bit around the houses in order to get the result that you want. So getting an individual to think laterally, to build creative skills, problem-solving skills, rather than just to concentrate on developing and honing their technology knowledge and experience, I think is incredibly important for, you know, future IT leaders.

[23:15]

Mm. And, I think what you're also saying there is also that, if you had CIOs working for you who were responsible obviously for bringing their own staff on, they've got to be able to delegate and they've got to be able to trust in their own staff.

And I think that's right. And that comes in, I mean partly that comes from you, but partly it also comes from ensuring you are developing and recruiting the right people.

Yes.

And, you know, I was very fortunate at my time in Hampshire, being surrounded with some of the most talented IT professionals I've seen and had seen at the time in, in any organisation in any sector. You know, you tend to think that, perhaps the public sector doesn't have the, you know, the, the, the most highly-prized IT professionals. Well I have to say, that is not my experience. So I was fortunate in that respect. But, if you are the CIO , you are probably going to be ultimately responsible for the way in which professionals are recruited and developed, not just the ones reporting directly to you, but your style and behaviour will permeate through that organisation. So from the bottom up. And you don't know whether someone is being recruited in your help desk team today who may be in ten years' time the CIO of the future, if not in your organisation, somewhere else.

Yes.

So I think there's a responsibility to ensure a top to bottom culture that will develop, coach, mentor and recruit, retain the right people. And, it's easy to make mistakes. And I've made mistakes in the past. And, and that can be quite difficult where, you know, you, you've recruited someone and they think, well they're not actually quite right for that role after all. It happens, and you have to be able to resolve that sort of impasse.

[25:02]
Mhm. Thank you, thank you for sharing that with us. So, you were five years as an account and portfolio manager. And then, a change, but still with…

Hampshire, that's right, yes.

Hampshire Council, yes, on the data centre and telecoms side.

Yes, and this was a, this was a… This was jumping into the, the deep water as far as I was concerned. This was perhaps the most challenging career move that I've made, oddly enough, although it was in the same organisation. This is a highly technical area. We had two large data centres, numerous mainframes, one of the biggest IT establishments in the UK certainly outside the big government departments, growing very fast. And as I think I indicated earlier on, my natural preference is not deep technology.

Mhm.

So I took this role on with some trepidation, but a realisation that I needed to become knowledgeable with some hands-on and practical experience, in this sort of area. This was going to be important for my future career, and it was important for the organisation. So I spent, probably the best part of a year burning the candle at both ends, learning about an awful lot of technology, and I can remember reading some, what turned out to be less dull books than I thought they might be, learning all the terminology and the jargon and so on. And, I remember in particular, IBM used to produce a dictionary of IBM jargon, because a lot was dominated by IBM mainframe, and, and for that matter PC technology in those days. And I would learn the lot, what it meant, what the terms were, how they would be applied, and so on. I was never a brilliant technologist, but I really dug into that subject and became quite knowledgeable on, on data centre and telecommunications technologies, and I have to say, it stood me in good stead.

[27:12]
Mm. And… But… Well, three years in that role. And, and then you chose to move to Southampton City Council, which is a separate body from Hampshire…

Yes it was, yes. Yes.

… County Council.

So, so Southampton was a district council, a largish district council as a city council. But at that time, if I recall rightly, we'd be talking, 1988, 9? I can't remember now. So what was the date on this?

I think about 1996.

Oh '96. I'm sorry. Local government reorganisation.

Oh right.

So, it was the time of big change. And a significant proportion of county business was moving to what was the district, it was going to be a unitary, big city, city council. So, this was quite an exciting opportunity for me, bringing experience and indeed some of the services from Hampshire and embedding them into the new organisation. It was a new CIO position, it would be my first CIO position. So, it was a great opportunity, and one that I couldn't, I couldn't turn down. It was also, you know, it, it sort of fitted with, with work-life balance, because I didn't need to move house, my children were at school, and so on. And it was a… And it was a great move actually. Very different culture, different set of business issues to deal with. And, perhaps the biggest challenge that I faced was the successful transitioning of county-based services into the, the new unitary council, without loss of service, money, reputation, et cetera. And given how embedded the IT was by that time, in those organisations, that was a fairly, you know, mergers and acquisitions in reverse. It was a fairly major activity, and it consumed most of my time for the first year I would say.

Mhm.

It was also an organisation that had, how can I put it politely? It was not the most successful IT department. They had had some real issues, aborted outsourcing, a lot of unhappiness in the team. So I had a second role really which was to bring the team

together, to move it from being in the, a bit of the doldrums into being a successful IT department, and, with, with, being a complement to the, to the team I inherited, we turned that department around to become a, an internationally recognised, award-winning IT department, with a specific reputation for smart cards, you know, and we're going back, nearly 20 years now.

[30:88]

Yes. I mean, I've noticed that, as you say, international award for the city smart card. So exactly what, so our listeners understand, what exactly was the purpose of the smart card in relation to Southampton?

Well, the idea was, and you've got to recognise that whilst this might seem common today, it certainly wasn't then, the idea then was that, if we could introduce a smart card, and smart cards as in, you know, cards with chips on, were just coming in then, if we could introduce a smart card for residents, it would enable you to do a number of things. So first of all it would enable you to retire a number of cards, there might be, bus passes or library cards or whatever, and amalgamate them into one place. But it would also allow you to give preferential services to residents, rather than visitors. That might be in, in terms of parking, or transport. It would allow you to put small amounts of cash on the card, that could be used in local shops, for example. But as importantly, it would allow those with special needs, or, in financial difficulty that were getting support, to have that enabled on the card without anybody else knowing. So if you were entitled to a free school meal, or a free bus pass, you'd show your card like everybody else, and it would just, know that that was the case. You wouldn't have to show something special to say, I am special. So, there was something about equality there as well. And, you know, it was something that the politicians wanted to be known for, and, we partnered with some international cities, Copenhagen and Newcastle as well, in developing concepts for, for housing, for transport, for libraries, for, other entitlement. Pretty innovative in its day.

[31:58]

And, tell me, is that system still in use in Southampton today?

So it's morphed considerably from then. So we're talking 20 years ago.

Yes.

And, I think it's fair to say that while smart cards are in use, it's changed quite a lot in the years. And one of the challenges with smart cards for Government has always been the cost. So fine for banking, but the cost of the chip, and the challenges around integrating data, and deciding what data you hold on the card and what should be held in the separate systems, is always, you know, an integration challenge.

Mm.

So, it won awards at the time, it was certainly innovative, it set a trend for citizen-enabled accounts, citizen accounts, but did it fulfil its complete ambition? I'd have to say probably not. But whether the technology endured, I think is perhaps secondary to the vision for how you can design services around citizens in a location, rather than services from a public service body.

Mm. It certainly seems, to me sitting here today, in 2018, innovative, and I'm surprised that people haven't adopted something more similar many years ago.

Across Europe, it's much more common. But bear in mind one of the challenges that we face in the UK is a, a cultural barrier around identity.

Mhm.

And, some listeners might recall the Government's aborted ID scheme, ID cards?

Yes.

And that failed because, we really don't want ID cards in the UK. And where the Government, I think, made a mistake was in associating an ID card with identity management. So we have identity management. If you go to a hospital, if you go to a government department, you've got, you know, you will have your National Insurance number, your NHS number, your, you know, your, your driver licence

number, passport number. We've got plenty of identifiers. But the countries that have moved ahead fastest in this space have unified those. The Estonias and so on have unified those, and they've said, and whilst we've got one, we can put it on an identity card which will allow, you know, greater protection and, and equality for young people, it will allow support for, you know, minority groups and so on. We've not quite been able to get over that, that barrier in the UK, which I think is a shame actually.

We could even link them to medical records….

Well quite.

[34:43]
Yes. [both laugh] And we shall see whether that happens. Well thank you for that, that's, well, that's very interesting. So you were five years. And then you decided to go back to your former employer.

Yes. Well my, my inspirational CIO predecessor, who was my boss, decided to retire. So, the job came up, and, well I was naturally inclined to apply, although I wasn't necessarily expectant to succeed, because I, I loved the County Council, I thought work that they'd been doing had been tremendous, and I felt more equipped by then having had a CIO role to take on a bigger role as a CIO. I don't think I could have done it from within the organisation without having had that sideways step. And I think there's a, there is a message there, and people that are managing their CIO career, I, I don't believe you have to change every two years, some do I know, but I do think you have to get sufficient diversity in your experience if you are going to fulfil the more senior roles, and I think if you are going to carry the credibility that you need for your team and to have the influence with your, your peers across the business.

Mhm. And is it also a question, you sometimes have to come from outside the organisation? If individuals have seen you grow within an organisation, perhaps they always think of you at the time you came in, rather than…

Yes, I… Well, I, I think it depends a little bit on the organisation. Certainly quite a few of the public service organisations that I've worked with or for do look after their own teams and do try and prioritise encouraging promotion and recruitment from within.

Mhm.

But I do think there are times where, even if you are doing that, it is very important, especially for the senior positions, to demonstrate that you've undertaken some sort of appropriate external competitive process.

Yes.

Simply appointing your own because they happen to be there, and everybody likes them, say, is not going to work terribly well I think in any organisation.

[36:52]
And, just to give our listeners a size of the organisation. There were many, presumably the services you were providing were, effectively, I say feeding, the whole of Hampshire in that regard.

There were, I think there were about 2,000 sites that we were linking on the network. There were, at that time, about 20,000 users, or, the County Council was, was a lot bigger than that, but most of the IT was servicing professional and corporate workers, rather than, than many of the others. That I have to say changed over time. And I think at the largest point, there were about 450 people working in, in IT, from the most specialist technologists through to account managers and, you know, service specialists, business analysts, project managing and, and so on. That did continue to grow, however, and by the time I left, because of the growth in shared services, we were up to I think 90,000 seats across many many organisations, in addition.

[38:10]
You shared with me the, how, we talked about developing an individual into a, into a CIO. 450 staff is a lot of staff, within a, within an area or a department. How many

would you expect, or how many did you have at Hampshire County Council reporting directly to you? Because I've seen some commentators talk about a number being the maximum that, that would be desirable. I'd be curious for your views on that.

Well, I, I don't have a view about the number, and I have seen those as well, that should report or shouldn't report. I think if you have too few in your span of control, it's not just rather inefficient, but it also makes it more difficult for you to keep directly in touch. I think if you have too many, then, you dilute your span of association and, and influence. So, we changed our structure, really quite regularly actually, partly as technology changed, partly as the business changed. So it would be between five and nine, I think were the numbers. So, we were still relatively small. But I think, one of the strengths of modern organisations, and I, I think we were a fairly modern organisation, is that you can break out of the stringent traditional hierarchy.

Mhm.

So the idea of one CIO and six reports, and under them you've then got 40, and then under them you've got everybody else. The governance of an organisation, certainly like the one that I was overseeing, it just isn't like that. So you will have different groups of senior professionals that I would have, I would have chaired that, those, those groups responsible for different areas, technology, performance and architectures, there would be one around finance and resource management, you know, HRT and, and people, practice, training, development. There would be one on the general business and performance and vision and strategy. And you will, you'd pick out the senior professionals in those areas, and they would be the management team for that function.

Yes.

So the way I tried to operate was that we'd have a single group that would oversee that as am umbrella, but I was very keen personally to be involved in a whole range of these, these other areas, and very keen not to become remote. And that's always a problem in a big organisation. You become remote, and as you become remote, you

become less approachable; if you're less approachable you don't know what's going on.

Right.

And for me, one of the most important reports were, was my PA.

Mhm.

And I had one absolutely, well several actually, but one absolutely brilliant PA, who not only put up with me and my rather manic habits, but was my eyes and ears, was a, as an adviser, and I would rely on her for all sorts of things above and beyond what you might consider to be typical secretarial work. So, yeah, matrix management, very important.

[41:30]
Mm. Mm, thank you. And you talk about the, the importance of peers as well. I noticed in, well 2006 you set up the Local Public Services CIO Council.

Yes. And there were, there were reasons for that actually. There was a National CIO Council set up by Ian Watmore. This was the predecessor to the Government Digital Service that we, we know today. And the idea, it seems obvious today but it wasn't at the time, was to bring together the group of Government CIOs. And there are an awful lot of them across Whitehall. Some might argue rather a lot. But bringing them together to try and get a coalescence of IT vision, some commonality of practice, very very valuable. And Ian Watmore was smart enough to recognise that Whitehall didn't exist in a bubble, and it needed to work with, health, police, local government, for example. So, he was looking for representation from other sectors. And I was approached, because I had done some work with, with Government already, to represent local government with a, a peer of mine from Birmingham, a guy, Glyn Evans, he was the CIO for Birmingham City Council, and the two of us represented the CIO community for local government, on the National CIO Council. Which was great. Except we realised we were rather further ahead in local government than we thought, and further ahead than Whitehall in a number of things that we were doing,

but also that the two of us were struggling to represent the other 400 CIOs that existed across the whole of local government.

Yes.

So, it seemed to me that it would be helpful, if we were going to have a coherent and single voice representing the sector at the national government level, to set up a mirror organisation, a Local CIO Council. But rather than limiting that to local government, I was very keen to build on the growing links that were emerging between local government and police, fire, health, charities, and, and the list goes on. So the, the CIO council that we set up, which I chaired for the first six years, comprised district councils, unitary councils, boroughs, counties, but also the local government association, the department for communities and local government, a number of leading suppliers, their advisers, health representation, fire representation, police representation, Wales and Scotland. So we brought together a very broad church of professionals with different perspectives. And the primary objective was to try and get some consistency around programmes that were national, but would affect us locally. So the Public Service Network Initiative was a, a classic example of that. We wanted to ensure that the way in which this national programme was being developed was driven and led by the priorities of local government, because, ultimately, most of that network was going to be out there in the regions. It's not going to course the veins of London alone.

Mhm.

It was very successful, and it grew from strength to strength, and in fact when I resigned after the six years, it was still going strong, and it is still going strong today. It works in affiliation with the Society of IT Management, the Socitm organisation, and it has very considerable influence in policy terms both within the sector but also across the public sector more generally.

[45:17]
Mhm. And you mention the Society of IT Management, Socitm. Of course you were a past President of Socitm.

Yes. I, I… The Society of IT Management is, membership, it's a professional organisation. It was originally purely for local government and, purely for local government IT managers actually. It's since expanded into a whole range of other local public service areas, hence it's interest in the Local CIO Council. But I got involved in their research programme. So they had a research programme looking at opportunities, and this sort of, early days of digital government actually, how technology could be used to transform public services and local government. And, the research arm, it was called MapIT at the time. I can't even remember what that stands for, but the IT was obviously IT. And it became Insight later. I got involved in that group, and I then took on the chair of that group. And that's how I got more involved in the governance of the business. It had 90 per cent of local authorities as members, so very high penetration, very high influence, punched above its weight, very practical. And I was very impressed with what they were doing.

Mhm.

So I got more involved, and, it just sort of happened I guess, and you, you know, you become a vice-president, and then if you are sufficiently influential, successful or whatever it is, you, you might get voted through the… [laughs] And I did. So I ended up as President. And thoroughly enjoyed my presidential year, although I have to say, pretty hard work.

[46:55]
Mhm. And, we'll come on to the BCS, but, with Socitm do you have a, as President do you have a specific objective in, in the year that you are in the…?

So, not in, not in the same way that you do as BCS, or I didn't at the time. My main priority was to help to move the organisation and its members from being inwardly focused on technology management, which is what it originally was, to being the, the fulcrum for technology enablement. So, the, the go-to people in a public organisation, typically a council, when you want to exploit the power and opportunity of technology to transform services, again, you know, it's what I would call digital actually, although we didn't use the term at that time. So that was my primary focus.

And, and most of my activity at that stage was, was based, my speeches and, and promotion, was, was based on, was based on that.

[48:00]

Mhm. And, and, in 2011, I said in my introduction, you're the recipient of a number of awards, but, in 2011 you were named as the most influential and innovative CIO in the UK, in the Silicon 50 CIO survey. So, I'm particularly interested in the innovation at that juncture in time that you, you think may have come to their notice.

So, there are a number of things that I guess came together at that point. That was at the time that I was just going through my Socitm presidency, which gave me quite a lot of profile. And, I, I think that allowed me to have considerable influence over changing the nature of the IT profession generally, not just in the public sector, and I was very vocal on that topic. It was also I think fair to say that Hampshire was being pretty innovative in a number of its programmes, its PSN programme, its development of personalised web services, and in particular shared services. Bringing all of those together resulted I, I suspect, in, in me appearing, and, and therefore I was selected. I, I don't, I don't really know the mechanism on that.

No no. No.

You know, these, these things… I wasn't expecting it, it just, I turned up at a drinks reception and I knew I was on the list, and suddenly they said me, and I was rather surprised. So it was one of those, one of those sort of things really.

[49:29]

Well belated congratulations for that, but… [JS laughs] Yes. You say, innovation across a spectrum of areas. And you mentioned shared services that…

Yes.

Perhaps you can expand a little about, what you were doing in that area, or what your initiatives were in that area.

So, I, I am a firm believer that the public sector is not all the same. I do not believe that local councils are all the same. There is a, there is a view that we, we're all doing the same things in councils, so why wouldn't we all have the same systems and, and morph everything together? Well I, I don't believe that is the case. The differences are, politics, demography, geography, the list goes on. There are lots of reasons, you know, your population will require different sorts if services, you will have different policy priorities. But, but, I also have been a firm believer for many years that every council, every health authority, every fire and rescue service and police service in the country doing the same thing at a local level, is a nonsense.

Mhm.

Today, the big priority is around sharing data, but actually sharing data, sharing processes, sharing skills, sharing infrastructure, platforms if you like for the delivery of some of these things, is very important. So, I was very keen to develop services that could be shared with other public service organisations, but I was very keen to do so in a way that was not just a large county council being very generous and doing it to others that might be a bit smaller. So the model that we introduced at Hampshire, and I was championing, was one of a partnership of equals. It was one where, it's more like a, a cooperative farming analogy, which it means, it doesn't depend how big the slice of the field is that you have, you can still share the combine harvester. You get as many rewards as the investment that you put into the service. And you still can decide what crops you're going to grow and how you're going to going to do it.

Mhm.

So, the, the shared services were with districts, with the boroughs, with the unitary councils, health authority, charities. We hosted over 1,000 websites for small community organisations that couldn't get free and cheap web hosting in those days. They're all part of the rich pattern of services that support our local communities, and it seemed to me important that, that we should do this. And could do it at lower cost, and with less fragmentation than simply saying, let the private sector do it.

Mhm.

That implied a different relationship with the private sector. It required a fairly mature approach to how you work with public service partners. I can remember one time where I had to persuade the leader of Hampshire County Council, why we should be apparently giving up sovereignty on some of our IT estate in working with district councils. And we had a long discussion about the risk, the exposure. Would it become a legacy problem that we wouldn't be able to do what *we* needed to as a county if we were going to give up some of our sovereignty to others? And, my argument to him, and, and he was very visionary as well at the time, was that, our futures are bound up together in terms of the communities that we are supporting. Our ability to solve some of the intractable problems that face public service organisations such as, crime and the sources of crime, troubled families, waste and pollution management, transport and congestion, equality, education for all, jobs, economy, you know, the list goes on, these are the big issues that face local public services. Solving those cannot be done by any one organisation, however big it is, and a county council may be very big, a unitary council may be very big. You need to work with others, and you need to be able to break down some of the barriers that prevent us from sharing information between, health and social care, between police, education and, and council services, the list goes on. So, my rationale for the shared services was less about economies of scale for IT, that was part of it, we can grow our IT, we can be a little bit more independent, we're bringing in income which will allow us to retain scarce skills, but it was more about creating the basis from which broader and deeper shared services could follow in the future.

Mm. So as you say, a champion of collaboration.

Absolutely. And I still believe that's important.

Yes. Yes.

And I still think the, the public sector has a long way to go to get that right. And, you know, I commend a, a number of public service organisations that are successfully now doing this. You know, the integration of, of corporate services between Oxfordshire and Hampshire County and Hampshire Constabulary is a major

milestone. But, Leeds City Council are doing this, the devolved administrations in Manchester are doing this, we've got the LGSS services in Warwickshire and Northamptonshire and so on, these are, these are really very important, I think, for the future of, of public service integration.

[54:45]
Right. Thank you. We've talked about your career from 1982 through to, 2015 when you, you left Hampshire County Council. If I ask you for… What would you say would be your proudest achievement during that period of time? I realise we're covering a fair number of years here. But if I could ask you to pick one, or, two achievements from that period of time.

So I, I think there are a number that I would cite. Certainly, and I've already discussed it, the, the collaborative nature and the shared service legacy. You know, some of these things will have changed probably since I, I've left, but… Building the capacity, the capability and the, appetite for sharing. The culture and behaviours I think is very important. And in particular within that, the development of a whole set of integrated infrastructure services, which are deeply shared, and I think are still second to none across public service organisations. By that I mean networks, corporate systems, and, and beyond. But I guess, I think if I was going to say one thing in particular, it would be handing on to my successor I think a world class technology services outfit, the people, the policies, the practices, as I said before, you know, some of the most talented people I've had the pleasure of working with. To me, that's probably the best legacy I could probably leave.

[56:38]
Mhm. And, in that time, many successes but I'm sure some, some challenges, or, certainly challenges, but, if you could have your time again, is there anything you would do differently?

Hindsight is a great thing of course. Yes, I guess there, there are, less so in the latter years, but I think in my early years as a CIO, there were times where, with hindsight I would have stopped projects sooner.

Mhm.

So I think there's a, there's a challenge, and I don't think it's particularly true of the public sector, I think it's true of any sector, but the challenges, the, you back a horse, you've got a great idea, the business case stacks up, you've got some technology that works. But you hit problems. And there is a point at which you have to take a decision that you are going to can that programme, or you're going to carry on. If you can it too early, you've wasted a lot of money, and you will be seen as being risk averse. Because sometimes you have to go out on a limb, sometimes it's going to feel pretty uncomfortable, sometimes you have to break some eggs in order to make an omelette, and all those sort of things So, you know, nothing ventured, nothing gained. But there are also times where, you've got to know when you're flogging a dead horse.

Mhm.

And I can think of, you know, several projects in the past where, the signals were there with hindsight and I should have said, 'I know you all want a bit more time, and you think you're going to solve the problems, and everyone's terribly enthusiastic still, but actually, we should stop this now.' And I think the ability to make mistakes, small and, perhaps not very large, but small and large, contain them, and to move on, is very important. It's part of a, a, you know, a learning process for any leader. But it is also the core ingredient of true innovation. Innovation doesn't come from, someone having a great idea and on Thursday we implement it. That, that, chance would be a fine thing. Innovation comes from ten ideas of which nine fall by the wayside, and one is just a spark of genius. And finding the one, and dispensing with the nine. So that would be my, my only observation I think.

[58:57]
Perhaps takes you back to the project management courses, project managers were always taught, we are supposed to, as you say, can or bin projects.

Yeah. And…

So most of us…

And we don't. And, and I think…

…have been doing it.

You know, one of the things… I, I'm probably not very patient on projects and so on. I don't mean I get particularly angry, but, I tend to want things to be done and fixed and move on, and if you're not quite sure, well then, decide even quicker.

Right. Yes.

But, but if you take a, a project. One of the things that I, I think is a, can be a bit of a, a problem, is, either the attitude that, it said it on the plans, so I assumed it was going to happen, as a project manager, rather than checking it out. Or coming to me as a CIO and saying, 'I've got some bad news. Things have gone badly wrong on the project. We knew about it about a month ago but I didn't like to tell you, because we thought we might be able to fix it.' So I would rather have bad news earlier. And that's why I said earlier on, it's very important for a CIO to be approachable, and to be open to problems and issues. You do not want to be presiding over an organisation where you are seen as scary, and, we don't want to take the failure to, to the big boss because, you know, he's going to look on us badly. I'd much rather know about the failure early please.

Yes. It reminds me of, dare I say it, my, advice I was given, one of the companies I organised from the chairman. It was a lady chairman. And she said, 'Only one thing, I don't want any surprises,' which I think is what you've just…

Yeah.

You have said.

Yes. But you have to be careful with that, in your tolerance for risk and how it's perceived.

Mhm.

I can remember working in an organisation, with an organisation, where, the chief executive was explaining to the senior leadership team that we needed to be less risk averse. It's a bit of a problem in the public sector, but particularly big corporations. Less risk averse. And after all of that speech, we then had a message which was, but please don't make any mistakes over the next six months, because we've got elections coming up and it would be worth, you know, career-limiting. And you get these mixed signals sometimes, unintended maybe, but you get these mixed signals. So I think it's very important for CIOs to be, not only clear in their culture, behaviour and messaging, but consistent as well.

[1:01:32
Mhm. Thank you. So 2015, you decided to, I say, move on from Hampshire County Council. Perhaps you could share your rationale there, and, I know you formed your own consultancy at that stage.

Yes. So I had been there, for clearly some time. The organisation was going through a, a major transformation programme. We were working in partnership at that point with Deloitte consulting, and I worked with the team, embedded in the team really, for the last two years there, as the CDO, Chief Digital Office. And the basis of that was, I left my CIO role behind. So I had some interesting dialogue with, with my bosses and the chief executive about, the digital programme that we were undertaking, and, not just creating the space and time in my diary and brain to do a CDO role, but making it clear to the organisation that I was leaving the technology, the operational technology management behind, in leading on the digital change, to give the credibility, to have dialogue with, you know, the departments about how they would need to change what they were doing, so on.

Mhm.

So I spent two years doing that, with Deloitte. I have to say, I learnt an awful lot from, from Deloitte, I'm very grateful to them, some very talented people working in

that, in that team. But at the end of that interim position, and it was an interim position, I had the opportunity of then moving on, outside the organisation, or moving back to my previous role.

Yes.

And I have to say, it just felt the right time for me to take the plunge and move on. You know, I had always sort of thought about, working for myself.

Mhm.

I loved my time in a large organisation with lots and lots of resources and lots of people and a PA and an office around me. But actually, it's quite refreshing to be working for yourself and managing your own time and your own priorities, and troubleshooting. And, troubleshooting has always been something I have enjoyed. And the work I do now, I don't do any interim work, I don't do any long-term contracts. I only do what I would call pure consulting.

Mhm.

So it's short, sharp pieces of work to fix things. So fix problem contacts to fix the need to appoint a new, CIO, to help the board understand how they need to align their digital programme better with their corporate ambitions, to, support the private sector in engaging better with the public sector. Because, it's complex and difficult, and the procurement rules are hard, or, whatever it might be.

Mhm.

So, I work with, well currently about 150 clients, so a large number in a relatively short space of time. In all of those ways, doing lots and lots of different things, bringing past experience to bear, but also those sort of creative and lateral thinking skills around how to solve problems.

Mm.

And I love it, actually. I very, very much enjoy my, my work. But it's so different from what I did before.

[1:04:42]
Yes. Yes. And in your organisation today, is it primarily yourself, or do you have a team, or…?

It's me.

It's you. Well, very good.

And, and I have, I, at this stage I have deliberately decided that I don't want to build a consultancy business. So I could bring in associates and a team and so on, and I'm sure I could make lots of money doing it and so on. But it would be very very different from what I do. At the moment I do not have to manage anybody, apart from myself. I don't have payrolls and Gantt charts and all those sort of things, and politics and policies and… It's relatively simple. And, I quite like that. I fix problems when people need me. It's a, it's a, almost a Nanny McPhee type existence. You know, I'm there if you need me.

[1:05:34]
Right. I mean, I'm very conscious you, that you engage in a lot of public speaking, and, adviser to journalists. 150 clients is a lot of clients, particularly for one individual.

Yes.

I'm curious if you can share with us, because I'm sure, other individuals out there may be tempted to follow your line at some stage, how you acquire 150. Is it your, is it your, your presence in the public space that brings people to you, or…?

So, although I work, and have worked, with a lot of organisations, a lot of those have been very very small chunks of work, you know, maybe less than a day.

Yes, yes.

But I'm always there if they need me, and, you know, very often after a year, they'll pick up the phone again and say, 'We've got another job for you, could you pop in and have a discussion?'

Sure.

At any one time I'm probably working with about, ten to twelve. But actually, that's still quite a lot to juggle in your head.

Mhm.

So, if you like the diversity, a very frenetic and difficult to manage portfolio of activities, if you enjoy that, which I do, then this is the sort of world for you.

Mhm.

If you like freelancing, but you would like more continuity, then I would advocate, look at an interim role, look at a, more of a contracting type of, of role. For me, I wanted the diversity, rather than the, you know, the business continuity.

Sure.

If I was at the start of my career, and I wanted greater certainty about a pay cheque at the end of the month, I might have a different view about the, you know, the lifestyle I lead at the moment.

[1:07:13]
Mhm. And could you share with us then, if someone wanted to, I say, follow your line, how they would go about getting that type of, of business. Because that seems to be one of the biggest challenges for an individual moving into that space.

Yes. So, and I think I said this earlier on, you need to be clear on what your strengths are.

Mhm.

So, play to your strengths. If you are a deep technologist, of if you're a writer, if you're good at talking, decide what you're, what you're good at, what you enjoy doing, and build a simple business model around that.

Mhm.

Secondly, you do need to get yourself known. I had the advantage of my association with Socitm, and also with BCS, that's helped enormously. I use social media quite a lot. I spend, quite a lot of free time getting involved in discussions and dialogues. I try and have a mix, as you rightly point out, of research as well as, as well as consultancy.

Mhm.

That builds and develops my own professional knowledge. So one of the challenges is, you've got to keep fresh. So, the research work for me is also a way of ensuring that I am keeping up to date with technology trends. So keep it broad. I think there's something as well about being reasonably commercially astute.

Mhm.

It is very easy to work for free. There are lots of companies out there, small and large, that would love to have your ideas and your insights and so on but have no intention of paying you. They will buy you a cup of coffee, they might even buy you a lunch; they will, they will say you a line that there might be some future business and then there… But there really never is. You get a bit of a nose for that. And even then, I don't mind having conversations with anyone actually. Usually they're interesting and I learn something. But you need to also ensure, if you are wanting to build a business, that it is a business, and you are getting paid, and you can bring the money

in through the, the door. So, you know, if I'm bringing enough in that is paying the mortgage so to speak, the that's also buying my capacity to develop, my research undertakings, to maybe do some conference talking that may not pay, or pay as well. Because I want to put something back. And I also, and again this is just, this is just me, but I, I do work at a much lower rate for the public sector because I want to give something back to the sector.

Mhm.

So I won't work for free, because I think, free means you're not worth anything. But… [laughs] Or, it can be seen that, it can be seen that way wrongly. But, you know, I, I do try and make sure that I keep a balance of public-private sector work.

[1:10:07]
Mhm. Well thank you for sharing that with us. [JC laughs] A great recipe. But of course, one of the roles, when you were coming to the end of your time at Hampshire, you became President of the BCS.

Yes.

So, 2015 to 2016. Your theme for the year, or, objective, with the BCS. I know that presidents of the BCS do have those objectives.

Yes.

So, perhaps you could tell us a little about your, your theme or your prime objective during that year.

So, I had a single project ambition which was around IT apprenticeships.

Mhm.

IT apprenticeships have become popular as part of the Government's broader apprenticeship policy objectives. And I was very keen not just to promote

apprenticeships in IT as a means for drawing more young people into the profession. We have a huge skills gap both in numbers and both, and, and technical knowledge. And indeed in terms of gender balance. But also, to try and get across the, the view and the perspective that, this is not just a job for technical specialists. This is not just an alternative to going to university and learning how to become a cyber specialist or a programmer. And in fact I'm still pursuing this today. So, one of the things that I am looking at today is whether we can develop a CEO digital apprenticeship approach. Because it seems to me digital leaders need, or CEOs, need to be digital leaders.

Mhm.

They don't need to become programmers, but they've got to understand the risks and opportunities of technology to change their organisation.

Mhm.

And if they don't, then they're going to be setting policy and priorities that, that are blind to some of the risks. And we have seen lots of examples, the press recently, of, you know, banks that, that fall over when they try and migrate one technology platform to another. And you have to say, you've got to have CEOs, board directors, that really understand this agenda. In 20 years' time this will not be an issue, because we will have a generation of more technically savvy and digitally equipped leaders, but it is still an issue today, and I think it will be for, certainly another decade, where, our leaders, our politicians, need at times digital mentors. And how do we create that space for them in their busy lives, how do we create the right sort of resource, that can support them in their job? Because I don't buy the argument that just because you haven't grown up with technology, you can't possibly become digitally savvy. I just don't buy that argument at all. If the needs are there, you will do it, and I've seen plenty of 80-year-olds who have got to terms with the technology, because it's helped them with, I don't know, their, their health management, or, or something, something like that. Or keeping in touch with family and friends.
[1:13:14]

So, the apprenticeship scheme I think is really important. There is a need for a better integration of on the job learning and experience with classroom-based learning, and I think a lot of classroom-based learning in the way IT has been taught in the past has missed the point. So I'm still fairly passionate about that topic.

Mhm.

I mean, it, it gels a little bit was well with my ambitions that I said earlier on around, changing the perception of IT itself, as a, professional technologists, into something which is much much broader. And, you know you can become an IT apprenticeship if you are an architect or in archaeology, because actually, technology is going to be fundamental to your future ability as a professional, in those areas, to succeed.

[1:14:03]
Mhm. And so, during your, your year, you, you launched the Register for IT Technicians, yes?

That's right. We did indeed.

And, that was in 2015. How successful has that been?

So that's been very successful. The… This is an accreditation, so this is getting a proper accreditation or apprentices. And it's had some very significant backing from industry, and that's the mark of success I think, for something like this. So, it's all well and good for, you know, the BCS has a Royal Charter to, to, to develop an accreditation scheme. But once you get the backing of industry and Government, it really has the credibility that it requires. So it has been very successful and it is growing from, from strength to strength, and it's broadening its, its base now into, into other areas. So yes, I was, I was very pleased to see that launched; again that, that tied in with the, the Government's policy priorities as well as mine as, as President.

Yes, because, at the time, and probably still today, they're trying to encourage apprenticeship…

Yes.

...as a, as a route.

Well it, it's a, it's a great alternative to traditional university education, and you know, nothing, nothing wrong with that at all. But, if it's going to be an alternative, it's got to have the same stature as a degree-based qualification.

Yes.

And I can recall one example where I was interviewing for, apprenticeship of the year or whatever it was, one of the, one of the annual BCS awards, and there was a, a young woman who presented. And her, her apprenticeship position, and she was, she was employed by one of the big companies, her background was not IT at all, she had left school at sixteen. She happened to see an apprenticeship opening. And by the time we were interviewing her, she was nearly through a degree-level qualification in cyber security. And she was one of the most passionate, knowledgeable and eloquent people on the subject of cyber security that I had met. And I think she was eighteen at the point we were chatting to her. And she was dealing with board directors and so on. Now, that is the mark of success. That's what you want to see. That's a valid alternative to a degree. And her career will be propelled, I suspect, much faster than, than someone perhaps who has just gone through a traditional degree. But then, you know, huge talent that she had, university wasn't going to be right for her at the time. This was a much more practical and inspiring route for her.

[1:17:00]
Mhm. And today, you, you commented about, well local news of a, a rather large bank having their IT problems, not for the first time, a national bank having an IT problem.

[laughs] Or the last I suspect.

Or the last unfortunately. Do you think the BCS has got a role in, in assisting as you say CEOs in… Clearly… Without getting into the ins and outs of this particular incident, a greater awareness, or, knowledge of risks, is, would appear to be required.

Yes. I, I think that's absolutely right. But I think I would go further. There is a moral and ethical responsibility for IT professionals, and this going to grow in the future. So, we may have seen it in terms of systems that collapse, that bring companies to their knees, or indeed they, they go under as a result. It may be the emissions scandal where software was, you know, re-engineered by VW. It may be to do with the way in which data has been used and abused, whether it's by Facebook or Cambridge Analytica or any other company. There is a responsibility on IT professionals to ensure an ethical basis in whatever we use technology for.

Mhm.

This I think is, is being understood by governments in democracies across the world. It is fundamental in the way business I think will succeed in the future. The ability to have some sort of Kitemarked reputation for trust in how data is used. It's implicit in the General Data Protection Regulation which is coming into force this month. And I think it is inherent in much of the digital literacy that we need to see in our citizens and the public.
[1:19:00]
So, I see technologists of the future having a role which is more akin to the medical profession than just an engineering profession in the future. And in that, the BCS in particular has a role to develop skills awareness, advocacy, and the, the responsibility that it places upon IT professionals that have its accredited standards.

[1:19:35]
Mhm. And do you think the BCS could perhaps do more in terms of digital literacy, as regards our, our leaders of industry? That's a…

Well, yes inevitably. You know, there's always more that could be done. But, perhaps I go back to my point about collaboration. I don't think the BCS can do this alone. I think it needs to work with, IT professional associations and organisations

across the globe and certainly across the UK, it needs to work with Government, it needs to work with non-members as well as members. And, I, I see a, a stronger coalescence forming in the IT profession around those responsibilities, not least because, where they have fallen foul, there are genuine accountabilities and liabilities beginning to emerge. And you talk about CEOs being more aware. I think CEOs are much more aware now, the reputational damage that can occur from either a failure of IT or an abuse of IT in their organisations on their watch.

[1:20:46]
Thank you. Jos, as we bring the discussion to a close, perhaps I can ask you for your thoughts on what you see as the biggest challenges and opportunities in the IT industry, say for the next five to ten years?

[laughs] Yes, well, there are going to be a lot of them. There are just two I would particularly pick out. And they do relate by the way. The first is around personal data. We've gone through a period where, I think it's fair to say, most of us, most of the population of the world, has been pretty relaxed about personal data. We've given up a lot of personal data, purely because we're getting some interesting services back. And I think it's also fair to say that many organisations have exploited that fact; quite happy for us to tick a box with, with ten pages of terms and conditions that no one's ever going read, which allows them to exploit that data in whatever way it sees fit. And, you know, we've seen with the implementation of GDPR, lots and lots of emails, we're all getting dozens and dozens of emails telling us that we need to reregister. Well, I don't know about anybody else, I'm just deleting those, because I'm quite happy to be off everybody's distribution list, and we'll see where it, where it takes us. But the interesting bit about personal data is that, it is personal, and it offers the opportunity for some really interesting and improved services to all of us in the future.

Mm.

There are risks. There are risks around exploitation by the big companies. There are risks that we are not aware how our data is going to be used. There are risks of people taking on our personal identity, identity fraud and so on. But I see emerging a whole

series of technology solutions and greater public awareness that means this is a, a problem today that will be solved over the next, decade. And I feel quite optimistic that in solving that problem, it will open up a whole range of new benefits to everybody, through democracy, economy, society, environment and, and many other areas

[1:22:58]

The second area which relates to this is, artificial intelligence. Now artificial intelligence, machine learning, robotic automation, all of these sort of things, and they're not new, we've been talking about artificial intelligence for, 40-odd years, probably more than that, but we are just on the cusp of seeing it beginning to materialise. We're beginning to see the ability of machines to link data and insights together and to learn from that in order to make judgements that potentially will replace people, and jobs. And, you know, there are plenty of pundits out there that are predicting something like 30-plus per cent of all jobs will be replaced by machines over the next, decade. Now, whether or not that transpires, I don't know. But I can see artificial intelligence giving the human race some very significant strides in the area of, environmental protection and medicine in particular, that I think are very very positive. The risk is how we ensure we manage that transition in an intelligent way. And going back to the point about personal data, where I don't think to date we have managed that terribly well, we've had a real blind spot about some of the risks, we don't want to have the same blind spots around artificial intelligence. Because we could get to a future where, you know, artificial intelligence is making judgements about what is good for us, the sort of science fiction, you know, model. That is beginning to be a real threat. So it is important that we manage this transition in an intelligent way. And to my mind, that means that governments need to consider what sort of regulation is necessary, and for IT professionals to consider what sort of ethics and moral standards they should be setting in the way that this is developed. And my concern I guess in that is that, there is a view that, true technology innovation will only ever be hampered by government interference and regulation. I think in this space, we need to be very sure that we get the balance right over the next decade.

Mhm. Yes, I mean, you mentioned about, I mean, many benefits or likely benefits to arise out of AI. I mean you mentioned specifically medicine. But, there's a general need for governance in that area, governance not meaning government necessarily

but governance of a… Because before we know it, we'll have AI in, in warfare for example.

Yes.

Which, which I'm sure it's there today. And that's probably one of the areas that, you know, as a society we need to…

Which is why, which is I say, I think there is a, there is a more dynamic role for IT professionals in how we develop our society, rather than simply in doing programming and building gaming solutions and, clever technology that will, that will, you know, allow us to have driverless cars. We have a much bigger role as technologists, I think, in the future than that.

[1:26:13]
And talking about the dynamic role, leads me nicely to a final question I have for you today which is, what advice would you give someone entering the IT industry today?

Well, my advice would be, keep your eyes open for the opportunities. Continual, continually learn, challenge, push yourself. No different from any other role. But, you know, overarching I would say there has probably never been a more exciting time to be working in IT. Some would argue, you know, I, I'm approaching the end of my career I guess, and some would argue that we've been through the most exciting time with the sort of, the birth of the big mainframes and, home computing and the smartphone and the Internet, and, that must have been the most exciting time ever. Well, I don't think it will be. I think the most exciting time is yet to come. And I , I envy anyone joining the IT profession today. You've got a great career ahead of you.

That's brilliant. Well thank you Jos.

My pleasure.

Thank you very much for your, your openness and your, your honesty in answering my questions. This is much appreciated by Archives of IT. We wish you success with CCL, continuing success, and, of course in your musical career as well, with Southampton Symphony Orchestra. Thank you very much indeed for taking the time out to speak to us today.

Thank you very much. Thank you. And I've enjoyed talking with you. Thank you.

Thank you.

[End of Interview]