

Chartech

GDPR COUNTDOWN
OUR NEW SERIES
DISCUSSING
HOPES AND FEARS

FRESH THINKING
FACULTY'S NEW PAPER
ON BLOCKCHAIN
AND ACCOUNTING

CUTTING EDGE
JUST HOW VERSATILE
IS THE SLICER
FEATURE IN EXCEL?

A person in profile, wearing glasses and a dark jacket, holds a glowing smartphone. From the phone, several bright, glowing white lines arc across the sky, connecting to the tops of several prominent skyscrapers in a city skyline at dusk. The buildings are silhouetted against a soft, orange and blue sky. The overall scene conveys a sense of global connectivity and technology.

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The mpg figures quoted are sourced from official EU-regulated test results (EU Directive and Regulation 692/2008), are provided for comparability purposes and may not reflect your actual driving experience.

SEARCH: ALL-NEW FORD FIESTA

January/February 2018 Issue 213

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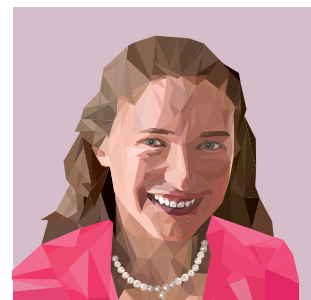
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A packed agenda



Now 2018 is well under way, it seems appropriate to take stock of the IT Faculty's past year: there is no doubt that 2017 was an incredibly busy one.

With an eye on reacting to topics of relevance and to enhance our membership offering, the faculty started running its series of Tech Essentials supplements, not realising quite how popular they would become - each

has been reprinted at least once. We hope you will be pleased to hear that the series continues this year. Faculty staff were in demand more than ever before, making presentations to a wide variety of different stakeholders. The end of the year was particularly memorable, as three staff presented simultaneously in different parts of the world on topics including AI and blockchain.

What does this demand tell us about the impact of technology on the profession, and of the IT Faculty's role in shaping finance professionals' understanding of what is changing? In order to make sense of our future direction, we have worked with the faculty committee and ICAEW executives to create a forward plan. This sees us continue the work we have already done with the goal of helping members remain not just relevant, but to be ahead of the curve on technology wherever possible.

We must offer content, training and events that help to equip you with the skills necessary to operate the businesses of the future, and build connections with stakeholders that make transmitting the value of your skills and expertise possible. This work involves making contact with members locally and internationally, and reaching out to global business.

The plan also sees us focus on helping you to help your clients and colleagues deal with complexity, improve trust in business, and become leaders in digital innovation. Thought leadership work comes to the fore particularly in these areas.

We will need to remain focused on 'big picture' events such as Brexit, GDPR and Making Tax Digital, take stock of emerging trends in fintech, and stay abreast of developments in the more traditional technology that shapes an accountant's work, such as cloud and Excel. Technology cannot be seen any longer (if ever it could) without looking through the prisms of security and risk. To this end, cyber and ethics will remain high on the agenda.

In short, we don't expect 2018 to be any less demanding than 2017. But it could turn out to be even more exciting.

Richard Anning
Head of faculty

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NEWS & EVENTS



FS IN FOCUS: DATA DISRUPTOR



Open banking has arrived. Financial Services Faculty technical manager John Mongelard sums up the implications.

"The UK banking market is not very competitive. I know this may sound strange given the number of price comparison websites and even the number of financial products out there, but it's true. Usually such plurality is a healthy sign of a competitive market.

"So what is the missing piece of the jigsaw? The most important financial product for banks and their customers is actually the current account. However, the portion of us that hold our current accounts with the same big

banks actually went up after the crisis. Far from losing trust in the UK's biggest banks, it looks like more people decided their current account was best kept with one of them.

"But change is afoot. Since 13 January, customers have been able to share their data - one of their most valuable commodities - with other new potential providers. For some time now the process of moving has been made smoother with the 'seven-day switcher' facility, but now, new banks will be able to see what a good customer you are and offer you better products and/or better pricing. The bad news is that fraudsters may find all this data very attractive."



OPEN YOUR HORIZON WITH STRATEGIC IT THINKING

The IT Faculty will be speaking at the Alternative Accountancy Strategic IT Conference in March. At the conference, held in association with ICAEW, the faculty will provide an overview of blockchain and explain the effect of this exciting technology on the profession.

We will be hosting a Q&A session with software CEOs, and a number of our volunteers will be moderating discussion panels. The conference is the largest of its kind in the UK focused on mid-tier firms. See alternativeaccountancyit.com and the details on page 6.

VOLUNTEERS KEEP THE FACULTY MOVING

Are you willing to invest time helping the faculty evolve?



As mentioned previously in *Chartech*, the IT Faculty is extremely fortunate in having a highly talented and active roster of volunteers who help guide its work. With technology developing at the pace it is, we continually seek fresh insight to keep our advice and guidance relevant and timely.

There are various ways you can contribute to this dialogue, for example by joining a faculty committee. Applications are particularly welcome from younger members as well as those with experience of AI and blockchain. We are also keen to promote diversity - something we made a commitment to address during our Women in Tech roundtable event (see *Chartech*, September/October 2016).

Additionally, we would like to hear from members around the world who might be interested in joining agile pop-up working groups. Much group work is virtual, making use of collaboration tools and online meetings.

If you are interested in any of these opportunities or have any ideas, please email richard.anning@icaew.com.





NOTICE OF FACULTY AGM

The annual general meeting of the IT Faculty will take place on 10 May 2018, commencing at 13:00, at Chartered Accountants' Hall, Moorgate Place, London, EC2R 6EA. If you would like to attend, please contact Carol Turner on +44 (0)20 7920 8846 or email carol.turner@icaew.com

NOTICE OF FACULTY ELECTIONS

Elections will be held in 2018 for four seats on the IT Faculty Committee. Nominations for these elections must be received by the head of faculty by noon on 2 March 2018. Polling day is 24 April 2018. The summary of procedures for faculty elections and nomination forms can be obtained from Carol Turner.

IT FACULTY PROFESSIONAL DEVELOPMENT

EVENTS

The Alternative Accountancy Strategic IT Conference 20-21 March 2018

This conference will define how technology can benefit both your practice and your clients. The event will demonstrate how your firm can build the business case to adopt technology and tackle head-on the internal cultural challenges faced when developing a digital strategy. Join us to get advice and insight from your peers on managing digital transformation with 25% discount on registration using the code 'ICAEW'. Register at alternativeaccountancyit.com

WEBINARS

Excel Tip of the Week Live #5 10 April 2018

Join David Lyford-Smith for the latest in his series of short Excel pointers. David will take you through a selection of quick Excel tips and tricks covering all aspects of day-to-day use, and will answer your questions live!

Password management good practice 26 April 2018

With the new General Data Protection Regulation coming into force in May this year, we are revisiting our 2016 webinar on password management good practice. Good cyber security is essential to ensure the privacy and security of business data. This webinar will explore some of the principles behind good working practice when using passwords to access data and applications. By the end of the webinar you will be able to use these principles to improve your your cyber security.

Twenty principles for good spreadsheet practice - why are they important? 17 July 2018

Spreadsheet risk is an important concern that affects organisations of all kinds and sizes. In this webinar we will discuss spreadsheet best practice, risk and how ICAEW's *Twenty principles for good spreadsheet practice* can help.

Power Query - how to get started 18 September 2018

Excel Tip of the Week blogger David Lyford-Smith shows you how to get started with Power Query for Excel 2013, by creating an automated Twitter analytics report.

Further details and online booking can be found at icaew.com/itfacevents2018

WEBINAR ARCHIVES

Don't forget you can access the recordings of our previous webinars via our webinar archives. Recent topics include: Problem solving in Excel; Cyber protection of the supply chain; Excel Tip of the Week Live; 10 steps to cyber security for smaller firms; PivotTables - simple effective and interactive; and Password management good practice.

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C-HR Dynamic 5 door Coupe FWD Hybrid 1.8 VVT-i Auto. Official Fuel Consumption Figures in mpg (l/100km): Urban 80.7 (3.5), Extra Urban 68.9 (4.1), Combined 72.4 (3.9). CO₂ Emissions 87g/km. All mpg and CO₂ figures quoted are sourced from official EU regulated laboratory test results. These are provided to allow comparisons between vehicles and may not reflect your actual driving experience. Model shown is C-HR Dynamic with Leather 5 door Coupe FWD Hybrid 1.8 VVT-i Auto at £29,610. Price excludes metallic paint at £545 or pearlescent paint shown at £250. Prices correct at time of going to print.

'FOREVER BATTERY' NEVER RUNS OUT OF POWER

American company Orissa has developed a battery that charges wirelessly. Initially available in AA format, the Cota Forever Battery can be used in any device that supports the size. Once in place, the batteries can deliver power without plugs, wires or charging pads, and will never become flat.

The Forever Battery relies on a wireless power receiver, transmitter and cloud software which can work together to allow safe radio-based wireless power to be transmitted.

In addition to not interfering with other wireless technologies, the Forever

Battery can be charged from a distance without a line of sight, and multiple batteries can be charged at the same time.

Earlier solutions built by the company required the power receiver to be built into the battery itself. Now, the Forever Battery allows standard battery formats to benefit, with AA being first in line. Orissa says the invention will bridge the gap between the battery-wire age and the wireless power era.

It is possible to retrofit the system into existing technologies. Any location can benefit - home business, healthcare, factory and more. Learn more at ossia.com



CABINET OFFICE TO PUSH ROBOTIC PROCESS EXCELLENCE

The Cabinet Office has announced a two-year agreement with Capgemini to develop a Robotic Process Automation (RPA) Centre of Excellence. The Centre, which is already up and running, will speed up adoption of RPA across central government by helping departments develop plans to automate clerical processes.

Widely seen as a major enabler of public sector transformation, RPA describes a process in which software is programmed to autonomously carry out basic tasks across applications. RPA will help government departments use technology to perform simple, repetitive tasks that may involve drawing information from different databases - for example, to verify a request for a service, grant or benefit.

The Centre will also act as a showcase for RPA activities by providing education and demonstrations, helping departments identify potential RPA initiatives and carrying out detailed analysis of potential benefits before they decide on implementation.

AI TO DRIVE JOB CREATION BY 2020

Artificial intelligence (AI) will create more jobs than it eliminates, according to research conducted by analyst Gartner.

In December, Gartner suggested that AI would create 2.3 million jobs by the end of 2020, but would eliminate 1.8 million jobs in the process.

The research offers a more positive outlook than the studies of Carl Benedikt Frey and Michael Osborne. In 2013, the academics examined the susceptibility of jobs to automation, and found roles within accountancy were in danger of being computerised.

How certain industries are affected by the implementation

of AI will vary; healthcare, the public sector and education would see increases in job demand, while manufacturing would be negatively affected.

AI would not only phase out low-to-middle level positions, but also improve productivity in many jobs and create millions of high-skilled, management, entry-level and low-skilled jobs.

By 2022, one in five workers that were mostly committed to non-routine work would rely on AI to carry out a job. Additionally, retailers attempting to replace sales associates with AI would be unsuccessful, but roles such as cashier would be disrupted.

2.3M

JOBS CREATED BY ARTIFICIAL INTELLIGENCE BY 2020



By **Sandra Vogel**
Freelance IT writer
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INTERNET OF THINGS - A TALE OF UPS AND DOWNS

The Wi-SUN Alliance, a global association for companies involved in the Internet of Things (IoT), has published a report highlighting the ups and downs of implementing IoT.

The study looked at the drivers, barriers, challenges and benefits of implementing IoT across a range of industry sectors. It showed that half of organisations investing in IoT initiatives already had a fully implemented IoT strategy in place, while 36% had a partially implemented strategy.

Additionally, respondents regarded enabling IoT as the second most important IT priority for the next 12 months, behind the need to improve security.

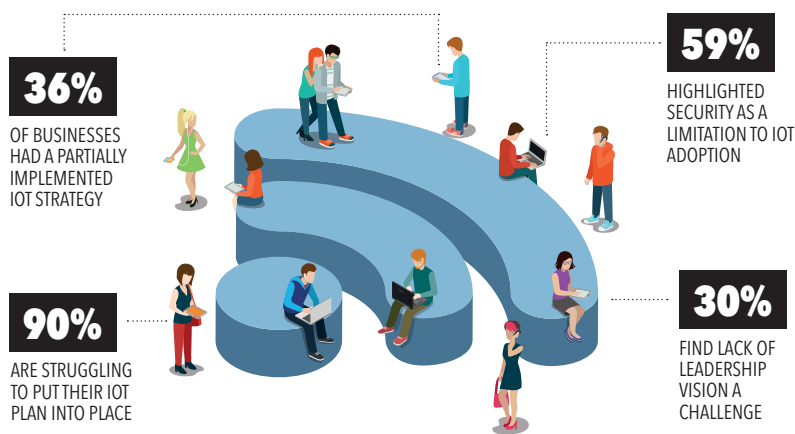
However, the report found a majority (90%) of those with an IoT

plan at various stages of implementation struggled to put it in place. More than a third (36%) said they found it "very or extremely difficult".

In terms of barriers, 59% highlighted security as a limitation to IoT adoption - rising to 64% in the UK and 65% in the US. Just under a third (32%) found funding to be a significant issue, with the same amount mentioning a lack of commitment from leadership as a barrier. Meanwhile, 30% said a lack of understanding from leadership on the benefits of IoT presented a challenge.

Find out more and download the full study at tinyurl.com/Ch-WiiSunIoT

The latest *Tech Essential Guide*, which covers the Internet of Things, has been provided with this issue.



CBI WANTS BUSINESS MAGPIES TO ADD £100BN TO ECONOMY

The CBI has said that more than £100bn could be added to the economy if businesses were encouraged to act like magpies and adopted tried and tested technologies, rather than being stuck in their ways like an ostrich.

In the report, *From ostrich to magpie*, published at the time of the November 2017 Budget, the CBI suggested the government adopt a well-known strategy called "diffusion". In this case, the proposal is to help proven technologies - such as cloud and cyber security - become more widely used via the government's new Industrial

Strategy, providing funding for local business support where needed. The CBI calls these "nuts and bolts technologies", and said its increased spread would improve productivity in the UK.

The CBI also suggests the government runs a campaign on the "five technologies all companies could adopt". Additionally, the organisation said the government's technology innovation agency, Innovate UK (tinyurl.com/Ch-InnovateUK), should create a TripAdvisor-style one-stop shop for assessing technology and business support.

You can download the full report for free at tinyurl.com/Ch-CBIOstrichMagpie



TWEETING UP A STORM

Accountants who use social media to promote their business or share large bits of information may enjoy a new Twitter feature.

Twitter has added a feature that allows users to create a "tweetstorm" - a series of tweets posted by a user in quick succession. The feature has been a part of the social media app in an unofficial capacity.

Previously, users would stitch tweets together by replying to themselves, allowing them to tell a longer story. But the process could be difficult to execute and hard to read.

Twitter has made creating 'threads' easier, adding a plus button to the composer and allowing users not to only connect their thoughts, but publish threaded tweets at the same time.

SECURITY WORRIES REVEALED IN RANDOM CHECK OF SECOND HAND HARD DRIVES

A random check of hard drives sold on eBay found just under half (47%) contained traces of personal data. In many cases, the data was highly sensitive. The study, carried out by data recovery specialist Kroll Ontrack, also found one of the 64 randomly purchased hard drives contained the usernames, home addresses, phone numbers and credit card details of around 100 company employees.

Nearly a third of the drives contained personal photos, private documents, emails, videos, wedding photos, audio or music. Meanwhile, nine of the 64 drives contained transactional data, including company names, salary statements, credit card numbers, bank account info, investment details and tax returns.

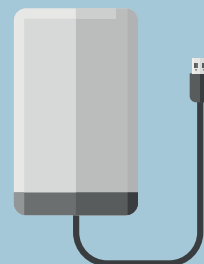
On the business data side of things, six drives contained files such as PDFs, JPGs, CAD files, keys and passwords, full online store set-ups, configuration files, POS training videos, invoices and purchase orders. This included sensitive personal information.

In at least eight instances, no attempt had been made to erase any data on the drives.

When disposing of hard drives, a person needs to be aware of General Data Protection Regulation (GDPR) from May 2018. Under new rules, disposing of an old hard drive containing customer data could be considered a data breach by the original owner.

47%

OF HARD DRIVES SOLD ON EBAY CONTAINED TRACES OF PERSONAL DATA





JESSICA PILLOW

Your onboarding process is a client's first chance to see how efficient your practice is, and it should cement the client relationship from the offset. This article considers the different tools available for onboarding clients into your growing cloud practice.

You need to determine the way that you, as a firm, want your onboarding work to flow. Write down, with expected timings, which staff member will complete which steps, and which tools and templates should be used.

Make sure there are plenty of opportunities within the process to touch base with your new client, and keep wowing them. In the first new client meeting, discuss the workflow schedule so they know what to expect, in terms of content and timings. Assign a team member the responsibility of overseeing the onboarding process to ensure that it keeps flowing.

Once you have decided on your workflow, you need to decide which tools will best operate it for you.

There are several tools available for the process, including programmes GoProposal and Practice Ignition, and tools such as mail merge (if you have a central client database) and practice management systems.

You will probably need to use a selection of these tools, so we will discuss them all briefly below:

- GoProposal produces instant proposals, fully branded with logos, colours, full-page graphics, testimonials and any additional services the client may want. Once the proposal is accepted, a matching letter of engagement is automatically generated, which can be digitally signed. A corresponding invoice is then created in the practice accounting records. GoProposal designed its pricing section by sharing pricing methods from different

PRIMING THE NEW CLIENTS

Onboarding tools can help your business stand out from others so it is important to start as you mean to go on

practices; hence, it can facilitate complex pricing methods with multiple pricing options and breakdowns.

- Practice Ignition produces a combined proposal and engagement letter, again, fully branded and digitally signed. A corresponding invoice is then created in the practice accounting records and the workflow is set up within the practice management system (if you are using Xero products). It works best for fixed pricing.
- If you have already got a central client database, then you can use mail merge to generate your engagement letter. There are support videos on YouTube for creating templates in Microsoft Word. Additionally, some accountancy suite providers, such as Iris and Digita, provide support and basic templates.
- Many of the new-style practice management solutions provide some onboarding facilities, such as letter of

engagement templates; example onboarding workflows; integration of workflow with invoicing in the practice accounting records (ensuring all services get charged for and delivered); and an online portal used for consistent client sign-offs.

- Alternatively, you could look outside the accountancy spectrum to products such as Quotient, which may integrate better with your accounting records. Many of these products are built for professional services and may show a different approach to value pricing. However, engagement letters are not inbuilt, and it may be difficult to adapt the standard terms and conditions to incorporate specific accountancy terms and conditions to cover niche services, such as VAT or payroll work.
- Finally, there is always the option of creating templates within Office. This can range from spreadsheets with detailed pricing calculations to word documents for the letter of engagement and email templates to standardise communication with the client. It will not cost you any money to use the templates, but it could be very time consuming. Additionally, you will need to include instructions explaining how to use each template and to ensure consistent use.

Using these onboarding tools will help future-proof your business as your client base expands. Firms that prioritise onboarding really stand out, setting the best practice in the industry as they create greater opportunities for both upselling and referrals. Some practices have won awards in practice excellence based on their ability to build a professional, seamless onboarding system. ●

Jessica Pillow, managing director, Pillow May chartered accountants



ALAN CALDER

It is only a matter of months until the EU's General Data Protection Regulation (GDPR) comes into effect in the form of a new Data Protection Act in the UK.

With little time left until the new law's much-discussed requirements come into force on 25 May 2018, there are several key areas to focus your efforts. Your starting point should be an assessment of your workflows, processes and procedures to identify where your current approach falls short. You should also identify the gaps you need to fill.

PERSONAL DATA

All personal data - including biometric, genetic and locational data, email addresses and online identifiers such as IP addresses - fall within the scope of the GDPR. Moreover, all personal data you currently hold is covered by the new law. A personal data inventory will identify the types you process and where it is stored.

A data flow map shows how information moves through your organisation, identifying all points of interaction. It should identify key information, such as the type of data processed and how it is collected or transferred, who can access it and who is accountable for it.

LAWFUL BASIS

Processing personal data under GDPR is lawful only if and to the extent that one of the following six conditions applies.

- The data subject has given consent to the processing of their personal data for one or more specific purposes.
- Processing is necessary for the performance of a contract to which the data subject is party or in order to take steps at the request of the data subject before entering into a contract.
- Processing is necessary for compliance with a legal obligation to which the controller is subject.

THE DATA DEADLINE IS UPON US

If stopping processing digital information is out of the question for your business, there is just time to take action and ensure you are GDPR compliant

- Processing is necessary in order to protect the vital interests of the data subject or of another natural person.
- Processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller.
- Processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party.

If you cannot demonstrate that you have identified a lawful basis for processing data under the GDPR by 25 May 2018, you will need to stop this processing. Continuing would be breaking the law. The incoming regulation states that data

controllers must be able to demonstrate compliance with six data processing principles, the sixth of which (integrity and confidentiality) requires personal data to be processed in a manner that means data protection must be embedded into the culture of your organisation. One way to demonstrate this is to achieve certification to a recognised standard or framework.

INFORMATION SECURITY

The UK government's Cyber Essentials scheme sets out five security controls that organisations can implement to protect themselves from up to 80% of common cyber attacks. Certification to the scheme demonstrates independent verification that systems and applications have a base level of cyber security.

Cyber Essentials certification provides a snapshot of corporate security. For a greater level of information security maturity, organisations could think about turning to the international standard.

An ISO 27001-compliant information security management system is a risk-based approach that organisations can use to demonstrate compliance with the GDPR, and which offers independently-audited certification to demonstrate systems exist to address specific security risks that might be faced. ●

Alan Calder, CEO, IT Governance

For more on implementation of the new regulation, see Lesley Meall's article on page 18 - the first in a four-part series on compliance with the GDPR.

Last November I travelled on a two-week roadshow around South-East Asia supporting the local ICAEW teams in bringing the IT Faculty's thought leadership to local members, students and business contacts. This was my first trip of this kind, and I wanted to record my impressions and what I learned from it.

After a long flight, my first port of call was Kuala Lumpur, Malaysia. I was there to support two conferences - the 29th Asian-Pacific Conference on International Accounting Issues (APCAI), an academic conference, and the large-scale MIA International Accounting Conference. Working with academic and local accounting institutes in different countries is a part of how ICAEW can connect to communities around the world.

FOCUSING ON SKILLS

For me, the key topic at the APCAII was skills. I joined a panel with Joel Tan-Torres, (Philippines) chairman of the Professional Regulatory Commission's board of accountancy, and Dr Sagaya Amalathas of Unitar University. We discussed how technology was changing the job of accountants, and how we could keep accounting qualifications, such as the ACA, relevant in the modern world. We also spoke about the need for technologists - who are playing an ever-larger part in the work of accounting departments and professional service firms - to have grounding in the business, and accounting knowledge underpinning their contributions.

Unitar have taken an early step here, integrating ICAEW's CFAB qualification into their undergraduate IT degrees. In the future we will need accountants who can speak knowledgeably about the application of technology to their tasks, and tech experts who understand the business logic and process.

At the MIA conference I joined a panel in a theatre with over 2,000 delegates in attendance, alongside speakers from Tycoon, Axcelasia, Crowe Howarth and the Malaysian Tax Authority. The subject was tax opportunities and challenges in the digital economy, and I spoke about the lessons for tax authorities looking to digitalise based on last year's research paper, *Digitalisation of Tax: International perspectives* (icaew.com/digitaltax). To have people interested in the issues of digitalisation, and the changes it is making to the relationship between government, taxpayers and tax agents, was great to see.

The panel discussed the difficulties

ICAEW ON TOUR

David Lyford-Smith recounts a two-week trip across South-East Asia, discussing how technology is changing accounting





associated with trying to solve taxation of the digital economy when it's fundamentally an international issue. Large online retailers and marketplaces have a great deal of flexibility when it comes to their structure and location, which gives them a tax planning advantage over brick-and-mortar competitors.

The European base erosion and profit shifting project focuses on these issues, and the ASEAN region is also aware of the need to co-ordinate. Modern business models strain the concept of a permanent establishment in taxation, and understanding where value is generated will become even harder. But there's a real opportunity for emerging economies in the region to take a lead on this and try to get ahead on the issue.

ONTO BLOCKCHAIN

Next, I was on to Singapore, where the topic of discussion was blockchain. We were just about to launch our report on the subject (icaew.com/blockchain), and over several events shared our thoughts on the potentially revolutionary technology with ICAEW members, staff of UPS's global accounting centre and Big Four managers. There were plenty of questions, showing a healthy appetite for knowledge and understanding of this area. I was struck by how similar the concerns of accountants across the world were. I heard the same themes of wanting assurance over blockchain security, understanding its applications and how it will affect accounting in the future.

Blockchain is an innovative new method for sharing information between members of a network. It operates free from central control and with no ability to delete or edit data, and suggests applications from cryptocurrency to asset management and trade financing to shipping insurance. One particular speech, given atop the highest building in downtown Singapore with a spectacular view of ships in the harbour, brought this last point home.

The topics of blockchain and digitalisation of tax continued into the second week and the final locations of Hanoi and Ho Chi Minh City, Vietnam. What struck me more on the second leg of the trip were two sessions with university students studying for CFAB, who had come to hear about spreadsheet risks and learn some Excel skills.

Each session was massively over-subscribed and contained a wealth of young minds searching for an opportunity to improve themselves and their employability. Getting good fundamentals

in basic business processes, such as Excel use, early on in your career can really set you up for big efficiency gains later on. I was very pleased to get the chance to speak to so many students who were early in their path of learning. In each case, I opened by introducing them to the Excel Community's landmark work: the *Twenty principles for good spreadsheet practice* (icaew.com/excel20principles). Once the essentials of good and risky practice were discussed, I then covered the two most useful short Excel topics: linking cell appearance to cell value with Conditional Formatting and summarising data easily with PivotTable.

Pivots, in particular, drew appreciative "ooh"s from the crowd, which I always enjoy as a longer-time Excel teacher. The program is all about putting power into peoples' hands, and getting students to appreciate that analysis is within their reach, even without specific technical skills, is something that always brings a smile to my face. These tools are often not that complex, but aren't immediately obvious, and many people wouldn't use them if never shown how. Getting these tools into accountants' hands as soon as possible is vital.

The subject of skills came up again in Vietnam as I gave an interview on the changes blockchain, artificial intelligence and other technologies were bringing to the accountant skillset, and the changing shape of the profession. The interview appeared in the national press. I think the message I got across was that technology, while a threat if not considered, has great potential to help cut out busy work and shift to higher value, more complex areas for accountants.

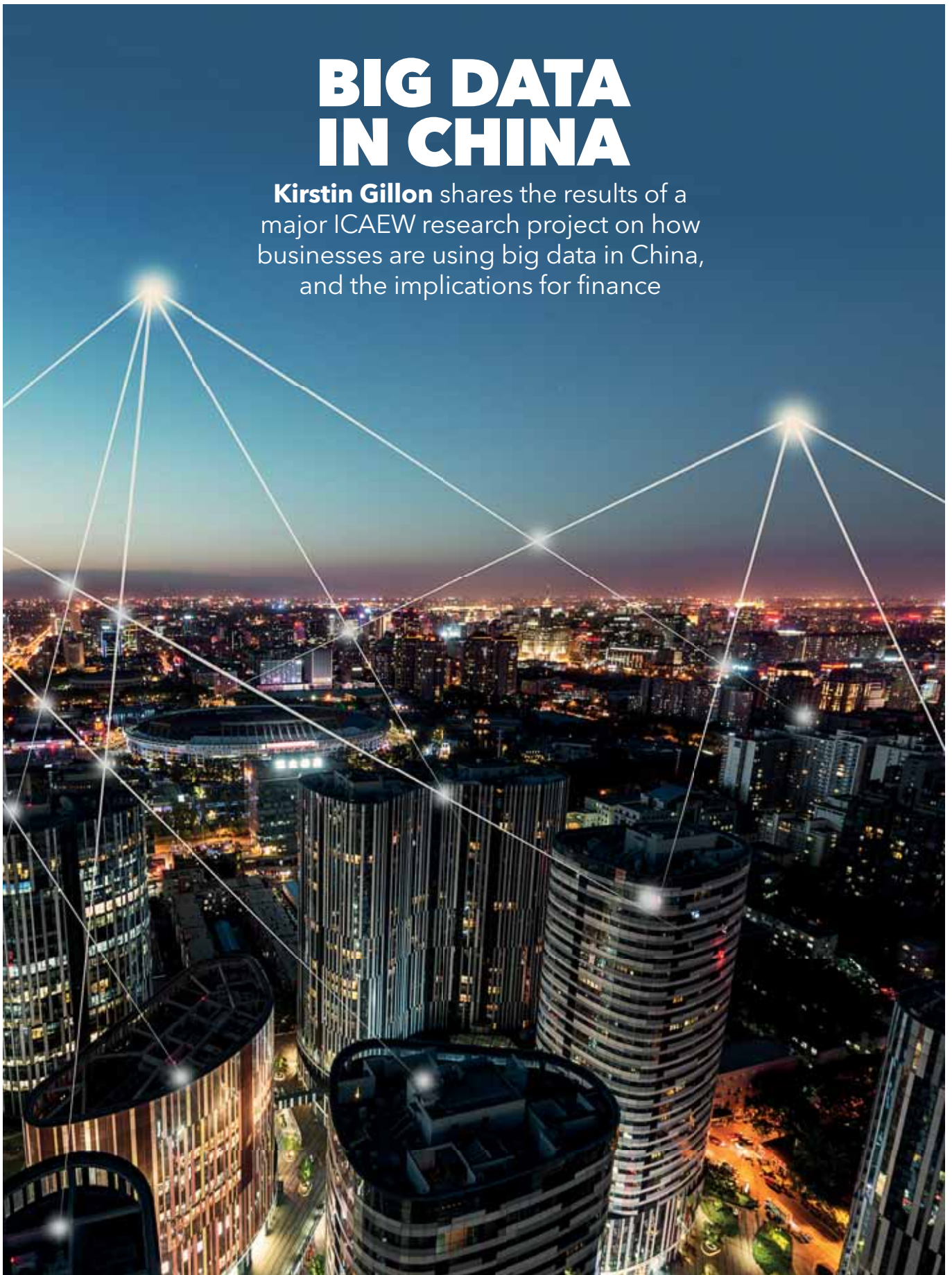
I started the long journey home exhausted, but pleased at what we had achieved. With 24 hours of presenting over eight days, trips such as this are a significant investment of preparation and effort - not only from me, but also from the local ICAEW staff who set up all the events. We can take away stronger connections with our colleagues overseas, renewed confidence that our strategic priorities are universal, and a feeling of accomplishment. I am sure that the faculty, and I, will be back again before too long. ●



David Lyford-Smith,
technical manager, IT
and the profession,
IT Faculty

BIG DATA IN CHINA

Kirstin Gillon shares the results of a major ICAEW research project on how businesses are using big data in China, and the implications for finance



THE RELEVANCE OF CHINA

At the end of 2016, ICAEW set up a new research project on big data and accounting with the Shanghai National Accounting Institute (SNAI) and technology company Inspur. Over the course of this year, we interviewed a range of people from eight major businesses in China, including internet businesses and large state-owned enterprises in more traditional industries. In November, we published our key findings in a bilingual report, co-authored with SNAI.

So, why have we been studying big data in China? Because it is, simply put, one of the best places in the world to do so. After all, data doesn't get much bigger than in China.

With the world's largest mobile phone user base, and rapid adoption of mobile platforms and payments systems, China is generating a wealth of data that businesses can use to improve their decision-making and transform their business models. The sheer scale of data in China enables many new types of platform-style businesses that would not be viable in smaller economies. Therefore, businesses in China present some great examples of the potential power of big data to transform economies.

INNOVATING WITH DATA

To understand the changing demands on accountants, we need to understand how businesses are transforming because of big data. The research highlighted a range of ways businesses in China were innovating with big data:

- **New business models:** Big data enables many kinds of new business models that exploit the scale of Chinese users and data. For example, sharing business models and platforms is a major trend in China, with mobile payment platforms providing a lot of data as well as easy integration for O2O (online to offline) services. Our conversations with companies in the internet and banking sector also showed how the combination of big data and mobile payments systems are shaking up traditional financial services and providing greater access to finance for many individuals and smaller businesses.
- **Precision marketing:** In most of the companies studied, marketing and sales functions were at the forefront of using big data. Marketing departments in particular have access to new sources of data, especially through the internet,

which provides very specific insights into customer behaviour and preferences and translates it into measurable benefits, such as increased sales, increased customer engagement and higher success rate of marketing campaigns.

- **Product planning and investment:** Our research also highlighted how big data can enable a shift from supply-led planning to demand-led planning. It becomes possible to get a much better understanding into the specific demands of the market and thereby take a more strategic and evidence-based approach to business planning. This represented a significant change to decision-making approaches in some of the companies studied, especially the state-owned enterprises, which perceived it as a big area of potential value.



ORGANISATIONAL ISSUES

However, delivering value from new IT systems is a complex organisational task, and the research highlighted many practical issues that are not unique to China.

In particular, all the companies had issues or challenges around data, echoing the experience we see in large companies across the world. Many of the technology investments seen in our research aimed to link internal data from different systems.

However, this was not a straightforward task. A consistent theme throughout the research was the lack of data standards across companies. Internal systems were usually built to meet the needs of individual departments, making it difficult to integrate data from different systems and departments in practice. As a result, strong central governance over data quality and standards was a key part of success with big data platforms.



Clockwise from left: Kirstin meets students at Anhui University of Finance and Economics; Robert Hodgkinson at the Chinese Institute of CPAs; meeting at Tencent to present research findings



“There is an opportunity for accountants to take a stronger role in data governance activities”

There were also a variety of issues related to people and culture. Every company highlighted the importance of collaboration between departments to deliver benefits from big data, which changes decision-making cultures and enables more real-time decision-making. It puts a greater premium on asking questions, building evidence and trying things out, leading to more accurate predictions, greater automation of decision-making and less need to apply human judgement.

Consequently, leading companies recognised the need for wider organisation and cultural transformation, and the chief executive officer typically sponsored the adoption of big data across the company. When IT departments were primarily driving big data investments, they were much less likely to achieve their full potential.

THE ROLE OF ACCOUNTANTS

So, how can accountants help businesses make the most of big data? There is certainly an opportunity for accountants to take a stronger role in data governance activities, based on the discipline, rigour and structure in thinking that accountants already have around financial data. Furthermore, finance functions have a unique position that provides an overview of the business and enables it to understand the controls and processes in place in other functions.

We also saw accountants making use of big data themselves in their work. In many cases, this was helping business functions to make better decisions. For example, the research provided a range of examples of better analysis and new insights, especially in cost management and product planning. This typically involved using new sources of data, linking internal data from different systems or updating models with real-time data.

Accountants were also using big data to help with more traditional accounting work, such as tax compliance and working capital management.



Delegates attending a seminar at the Guangdong Institute of CPAs on RPA

PRESENTING KEY FINDINGS IN SHANGHAI

In November, Kirstin Gillon and ICAEW Technical Director Robert Hodgkinson spent a week in China, sharing the key findings of the report with members, universities and senior figures in the Chinese accountancy profession.

The centrepiece of the week was a session at the SNAI Annual Forum on innovation in management accounting, which focused on big data. Attended by 1,000 senior accountants, and watched online by many more, Kirstin presented the findings in a session about business innovation.

Over the course of the week, Robert and Kirstin visited eight cities in Mainland China and Hong Kong to give lectures, participate in events and meet senior stakeholders. This included a lecture to members of the Chinese Institute of CPAs, lectures to leading universities such as Xi'an Jiao Tong Liverpool and Jinan, and a meeting with Chinese internet giant Tencent to present the findings from the research.

CHANGING SKILLS NEEDS

A strong and consistent theme throughout the research was the desire for accountants to have more IT skills. For example, one business wanted the finance function to lead data governance activities but accountants did not have the skills around data to do this without a lot of guidance from the IT department.

This did not generally mean that accountants should develop deep technical skills in data, programming or other IT areas. Rather, companies typically wanted accountants to become more comfortable with the use of IT systems and data, and the high-level way that systems work. This would make it easier for accountants and data scientists to have good quality conversations about how accountants could use data, and enable them to frame their requirements better.

But this needs to be complemented by good business understanding. The most effective accountants with big data worked closely with business functions. They were

able to understand the key priorities of the business and work effectively with them to manage costs better, based on the insights from data. There were also examples of close working with product development functions, giving quick evaluations on potential new products, and helping in the risk management processes.

Trends such as automation can free up the time of accountants and big data provides the means for new and better analysis and insights. However, technology skills must go hand in hand with greater business and commercial awareness in order for accountants to get the benefits from big data. ●

The full report is available at icaew.com/bigdata



Kirstin Gillon,
technical manager,
IT Faculty

PHASED ADJUSTMENTS

David Lyford-Smith highlights the faculty's latest paper on how blockchain is affecting the accountancy profession

That accountants need to have blockchain on their radar is a key focus of ICAEW's IT Faculty, which has published articles and held events on the subject with increasing frequency over the past several months. When the faculty started its *Tech Essentials* supplement series in 2017, one of the first issues covered blockchain. The faculty also recently released a new thought leadership paper, *Blockchain and the future of accountancy*.

For regular readers of *Chartech*, the basics of blockchain will be familiar. What the new paper does is put some fears to rest about the imminent demise of accountancy in the face of a blockchain-based single version of financial truth. It also develops the key features of blockchain into three 'p's':

1. Propagates: new information propagates to all users, converging on one identical truth.
2. Permanent: edits and deletions

are impossible and attempts to make changes would be spotted and prevented, making each record permanent.

3. Programmable: many blockchains can store instructions for future use in transactions.

WHAT DOES THIS MEAN?

When it comes to applying blockchain to accountancy data, building a universal consensus without a central gateway could be used in the handling of intercompany information for a large multinational. In this example the need for reconciliations and consolidations decreases accordingly. From an audit perspective, requirements will shift, eg, digital assets held on a blockchain don't need to be assessed for accuracy or whether they exist.

But these changes don't necessarily mean that blockchain will become a total solution for accounting; there are at present limits to its function. For example,

KEY RESOURCES

Thought leadership paper, *Blockchain and the future of accountancy*.
tinyurl.com/ITFAC-Block

ICAEW Blockchain hub
icaew.com/blockchain

The *Tech Essentials* series
tinyurl.com/ITFAC-TechEssentials

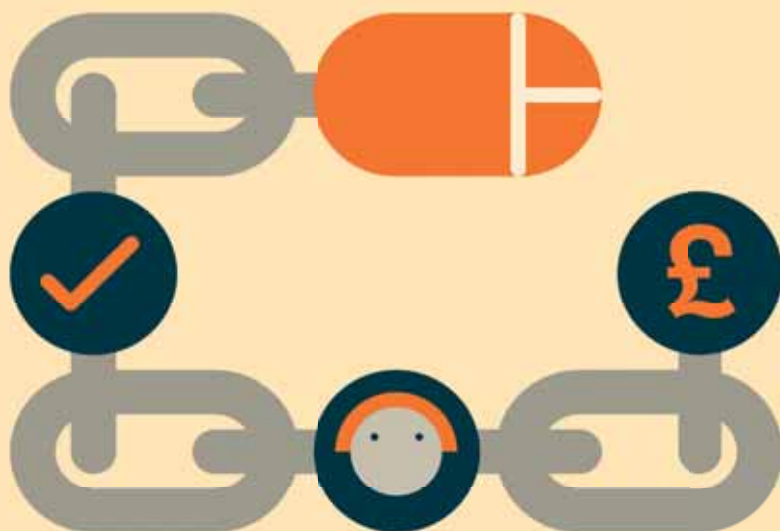
if supply chain information is shared on a blockchain, auditors would not need to circularise debtors to know that the balance in their clients' books agrees with the customer's. But there is still a need to assess the valuation and recoverability of the balance - the distributed ledger won't reflect information on the financial health of the customer.

Seeing as blockchain was created nine years ago, it's interesting that very few viable, everyday solutions using the technology exist. The technical standards required to run blockchains remain a stumbling block for many, and consensus process algorithms run at a slow rate of transactions per second. Governance has been slow to develop around blockchain-based solutions - bitcoin and other cryptocurrencies have suffered due to questions of integrity. Legal barriers remain, too, when it comes to establishing efficiency across blockchains in different markets. Clear ownership rights will need to be created, and legislation will be required to back this up if we are to render blockchains - and their owners - accountable in the real world.

The blockchain market to date is dominated by start-ups, proofs of concept and pilot studies. But accountants can't afford to be complacent with a system on their tails designed to create trust without trusted authorities, capable of reconciling ledgers. Following developments will remain key for some time yet. ●



David Lyford-Smith,
 technical manager, IT
 and the profession,
 IT Faculty



DON'T PANIC!

ICAEW and its members are readying themselves for new data protection legislation. In the first of a new series on GDPR, Lesley Meall looks at what the faculty is doing to become ready

The law has lagged behind technology developments since the implementation of the Data Protection Act 1998 (DPA), with the widening gap becoming increasingly problematic over the past few years. Change is, arguably, long overdue, and the arrival of General Data Protection Regulation (GDPR) legislation in May 2018 (see Timeline box) will make it inevitable. By now, your GDPR preparations may just be a hop, skip and a jump away from completion. Then again, they may not. Many businesses and practices have some way to go before they are GDPR-ready.

Clarity and certainty have been obscured by the hype-driven feeding frenzy among providers of GDPR products and services, and also, the lack of final guidance on national implementations from the Information Commissioner's Office (ICO). "To prepare in advance, we have been advising members to make themselves aware of the main changes introduced by the GDPR, to assess what data they hold, appoint a senior employee to oversee related changes, and visit the ICO website for regular updates," says Richard Anning, head of the IT Faculty.

ICAEW has also worked to help members see beyond the hype and focus their resources on plans and preparations that will enable them to become GDPR-ready, while also becoming GDPR-ready itself. Both of these activity streams offer valuable outputs for members, informing the resources that are being developed to help and support members, while also



generating specialist insights that will help accountants (and the organisations they work with and for) to progress their own GDPR implementation preparations.

LEARN FROM YOUR GDPR EXPERIENCE

Members have shared their GDPR concerns and queries by sending emails with the subject line 'GDPR question/comment' to itfac@icaew.com and we encourage you to continue. These emails informed our recent webinar on the GDPR and our series of FAQs (see Resources box), which offer answers and clarity in areas where there may be confusion. "From the questions, it is clear that not everyone understands that the GDPR is the Data Protection Act plus, not something new," says Dr Jane Berney, manager for business law at ICAEW.

Changes to the rights of data subjects have also been a source of confusion. "Members have told us of instances where clients are refusing access to payroll data because this would require employee

consent, but this is not strictly true," says Berney. Under both the DPA and the GDPR, the right to access and process such personal data is also influenced by other factors, such as the need to meet statutory or legal obligations (relating to the statutory audit of financial statements, for example) and contractual obligations (as specified in a letter of engagement).

Engagement letters will need to be updated for the GDPR. At the most basic level, wording such as, "we will process your data in accordance with the Data Protection Act 1998", will need changing to reflect the arrival of the legislation from 25 May 2018, but not before. ICAEW is working on some pro forma examples, which will be available on the website well ahead of this deadline. Engagement letters that currently bundle up consent for marketing will need updating as too.

"The GDPR requires such consent to be affirmative, freely given and explicit," says Berney. You cannot have a pre-ticked opt-in box, and those who do give consent



“Members have told us of instances where clients are refusing access to payroll data because this would require employee consent, but this is not strictly true”

The internal GDPR preparations of ICAEW also offer insights into GDPR change programmes across four use cases: member services organisation; statutory regulator; educator, trainer and examining body; and, organisation with marketing and commercial interests.

LEARN FROM OUR GDPR EXPERIENCES

ICAEW’s GDPR-readiness programme has three phases. ‘Assess’ looks at personal data held and used, compliance with current legislation and what was needed to meet GDPR obligations. ‘Blueprint’ tackles internal policies and procedures, and also staff re-education. ‘Comply’ will ensure that controls and processes are in place to conform to the GDPR - and prove this. Parallel work streams focuses on creating agreements with suppliers, making third parties GDPR-compliant and gaining clear and affirmative consents from members, while establishing IT audit trails to demonstrate this compliance.

David Storey, ICAEW’s data protection officer, shared some lessons learned along the way. “We’ve tried to standardise wherever possible,” he says, mindful of the different needs of each business model. The main resource hump has been around preparation; going forward most additional work relates to evidence. “In cases where we already had evidence, this was often by accident not design.” The GDPR-readiness programme aims to develop and retain internal expertise, with people involved in the blueprint phase evolving into privacy

TIMELINE

- 2012** European Commission (EC) propose European Union (EU) data protection reforms
- 2015** European Parliament (EP), Council and EC agree the new rules
- 2016** Regulation (EU) 2016/679 and Directive (EU) 2016/680 are adopted
- 2018** EU member states must transpose the Regulation and Directive into national law by 25 May

ICAEW GDPR RESOURCES

Our GDPR hub for members is at tinyurl.com/CH-ITCRC

It includes links to ICAEW resources such as our Tech Essentials guide to GDPR and external resources such as the GDPR section of the UK Information Commissioner’s Office.

Your GDPR questions are answered in a webinar recording, which is available at tinyurl.com/CH-WEBSEM

A series of FAQs and answers are available explaining what the GDPR is, exploring the implications for members and providing a ‘to do’ list to help members become GDPR-ready, at icaew.com/gdpr

for marketing must be able to withdraw this consent just as easily. Post-GDPR use of a marketing database of all past and present customers will require evidence that they gave appropriate consent. On the upside, gaining this authorisation is an opportunity to optimise your data storage needs and marketing efforts by eliminating those who do not want to be included from the database.

Although this aspect of the GDPR has a broad impact, some may feel this more than others, for example, accountants in charities with databases of past, present and potential donors. To meet GDPR obligations - such as those related to disclosure of data to third parties and data security - some organisations will need policies (and the tools to enforce them) with regard to mobile devices to ensure that corporate data (such as photographs taken as evidence during statutory audits, for example) is not being backed up via personal mobile apps to inappropriate cloud storage.

champions. “We want their skills embedded in the business,” adds Storey.

ICAEW’s GDPR programme is interdependent with its information security management system. “Privacy without information security doesn’t fly,” says Storey. Like the GDPR, the ICAEW preparations build on the DPA. “Our levels of DPA compliance are good,” he adds. This makes it easier to comply with the new legislation. So, if your organisation has strong DPA compliance, this is likely to ease the transition to the GDPR. As Storey notes: “The transition from DPA-compliance to GDPR-compliance has been an evolution, not a revolution.”

Coming editions of *Chartech* will further explore the process of becoming GDPR-ready through a series of articles, where accountants in business and practice share their hands-on experiences. This ‘countdown’ to GDPR will offer members the opportunity to broaden and deepen their knowledge and benefit from lessons learned by fellow professionals. ●

SLICERS AT THE CUTTING EDGE

In his latest Excel insight, **Simon Hurst** shows us the versatility of the Slicer feature

At first glance, the Slicer feature introduced in Excel 2010 might seem like just a rather more visual way of applying a PivotTable filter. However, there are many Slicer options that can improve the way that Slicers work and there is also a key superpower that places Slicers at the heart of Excel dashboard creation.

When originally introduced, Slicers only worked with PivotTables. A PivotTable has four areas, the Values area, the Row and Column areas and an area for Filters. Fields added to the Filters area are shown as dropdowns above the PivotTable. Where multiple fields are added to the filter area they operate as 'AND' criteria, so the PivotTable contents are filtered to only show items that satisfy all of the filters applied.

Individual items can be chosen from each dropdown or you can turn on Select Multiple Items to be able to add more than one item to the filter. Multiple items obviously operate as 'OR' criteria, so that any one of the items selected needs to match. One of the drawbacks of 'standard' filters is that, once multiple items are selected, the filter just displays (Multiple Items): (Figure 1).

Here, we have first inserted a new column to the left of our PivotTable and made it wide enough to accommodate our Slicers. Then, with a cell in our PivotTable selected, we have gone to the PivotTable Tools, Analyze Ribbon tab, Filter group and chosen to Insert Slicer. This displays all the fields in our data and we can select any that we want to use as Slicers. In our case, we have chosen the same fields as in our Filters area: ProductName and Country: (Figure 2).

This demonstrates a couple of the advantages of using Slicers. Multiple selected items are visible, and each Slicer

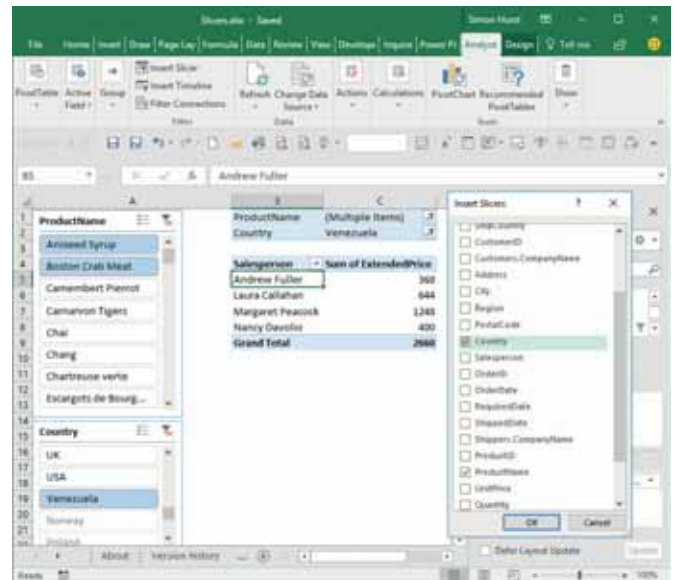


Figure 2

recognises the selections made in other Slicers and filters. Items in the Country Slicer for which there are no values for the items selected in the ProductName Slicer are shown greyed-out at the end of the list, and vice versa.

SLICER OPTIONS

Slicers have their own contextual Ribbon tab. As an example of some of the options available, we have increased the number of columns, changed the Slicer colour and chosen to hide the items with no data in the Country Slicer, rather than just greying them out: (Figure 3).

Note that you can click on the edge of Slicers while holding down either the Control or the Shift key to select multiple Slicers to which to apply your options. Also, with multiple Slicers selected, the Align dropdown in the Arrange group of the Slicer Tools, Options Ribbon tab can be used to neatly align Slicers or to equalise the horizontal or vertical spacing.

EXTENDING SLICERS

Excel 2013 saw the extension of Slicers. A specific type of Slicer was introduced to work with Date and Time fields in PivotTables. The Timeline Slicer allows time periods to be selected in a more intuitive way and includes the ability to choose how they are grouped: (Figure 4).

In addition, normal Slicers, but not Timelines, could now work with Excel Tables as well as PivotTables. Given that Excel 2016 introduced a whole range of new charts that don't work with PivotTables, this gives a way of making advanced chart types, based on Excel Tables, more interactive: (Figure 5).

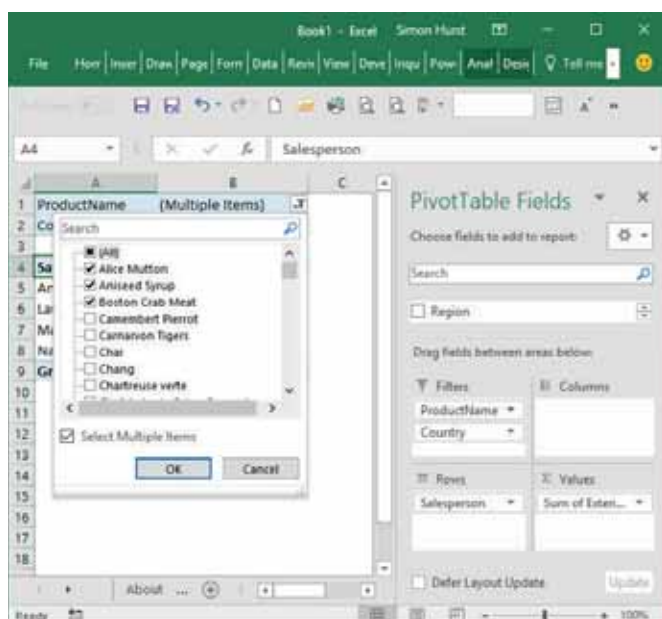


Figure 1

SLICER SUPERPOWER

As impressive and useful as these basic Slicer capabilities are, the most significant feature is probably the ability to connect a single Slicer to multiple PivotTables, as long as all those PivotTables are based on the same set of data. This makes it possible to create multiple PivotTables that summarise a data set in different ways and then use them as the basis for a range of PivotCharts. Each of these PivotCharts could then be moved to a single sheet and arranged as a 'dashboard'.

Appropriate Slicers could be added, and then the Report Connections option on the right-click menu used to connect each Slicer with any of the PivotTables based on that data set. Note that this is made a lot easier if at least each sheet that the PivotTables are on, and preferably each PivotTable, is given a descriptive name: (Figure 6).

Choosing an item in a Slicer will then apply the filter to all the connected PivotTables, enabling the user to see different views of their data with just a mouse-click or two. Note that Timeline Slicers can be connected in the same way as normal Slicers, but that Slicers linked to Tables, rather than PivotTables, cannot. ●

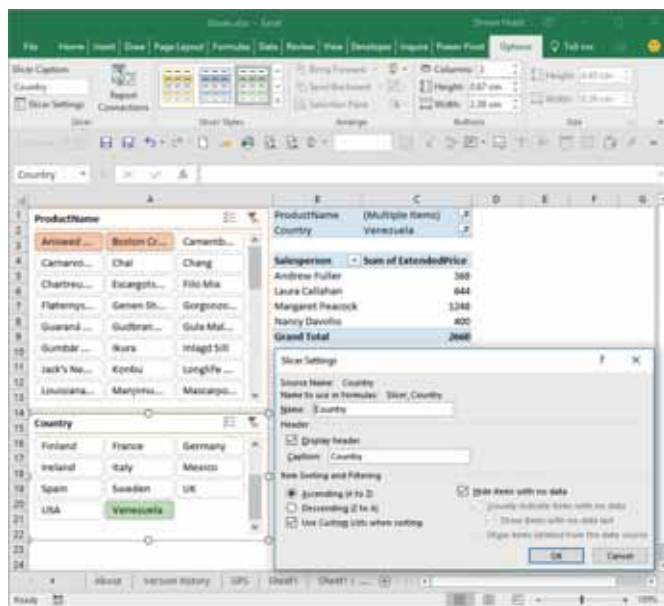


Figure 3

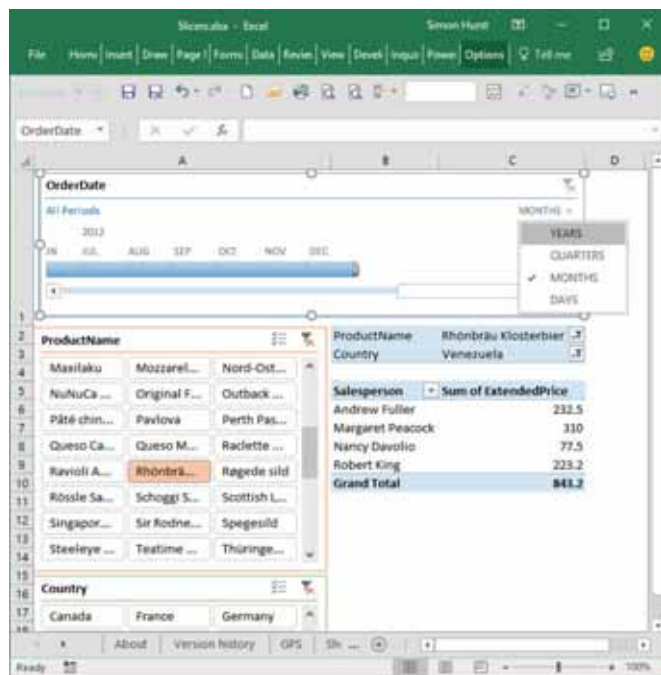


Figure 4

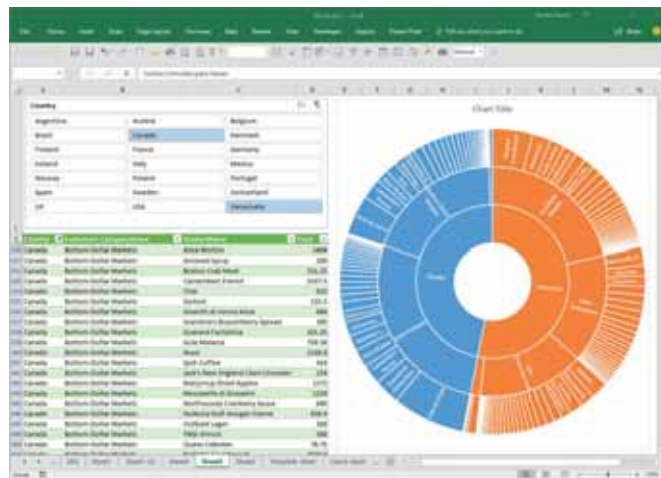


Figure 5

OTHER OFFICE TIPS

The Excel Community site includes many articles on Excel and other office software. In addition, there is a forum (tinyurl.com/CH-ExcCom) where you can ask, and answer questions.

The IT Counts site includes articles of more general interest and it too has a forum: tinyurl.com/CH-ITcounts

Both IT Counts and the Excel Community are available for free to all IT Faculty members as part of their subscription.

Simon's book, *Essential Excel for Accountants (and others)*, is available as a PDF at tinyurl.com/CH-EssExc

Simon has also included many Excel tips in the Lunchtime Learning section of his website: tinyurl.com/CH-Lunch



Figure 6

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LEO WALDOCK

On 1 December last year, we learned that Ciaran Martin, director of the UK National Cyber Security Centre, warned government departments to not use Kaspersky security software on systems containing information that would harm national security if it were accessed by the Russian government. The connection being that Kaspersky is a Russian company, and it was clear that it was being accused of colluding with the Russian state.

My immediate response was to wonder when the heck government departments were given the leeway to choose which free-of-charge security software they wanted to use? Surely they have lists of approved software that has been vetted by GCHQ? Or, perhaps that is just a naïve hope?

So, why was Kaspersky in the crosshairs of the UK National Cyber Security Centre?

It's a complicated story, but the main elements broke cover in 2015, when Kaspersky detected intruders in its own network. It seems clear this was Israeli Intelligence getting busy with Duqu 2.0 spyware, which is derived from the Stuxnet malware used by the US and Israel to attack the Iranian nuclear centrifuges in 2013. Stuxnet was detected by, yes, Kaspersky in 2010 and appears in data as far back as 2005.

Allegedly, the Israelis were looking around inside Kaspersky's systems for information about Iran's nuclear efforts that might be passing through Russian hands. They apparently found clues of the company allowing the Federal Security Service of the Russian Federation (FSB) to somehow access files that had been on machines running Kaspersky. It is standard practice for security software to copy suspicious files from the client computer to their own servers for analysis.

We need to emphasise that Kaspersky has denied pretty much everything -

DON'T TAKE WORK HOME

With an NSA employee set for jail time for working on classified information at home, it might be best to keep work at the office...

beyond some coincidences - and in particular, it denies any malicious intent.

Matters came to a head when an ex-National Security Agency (NSA) contractor called Nghia Hoang Pho pleaded guilty to a charge of wilful retention of defence information. The story is that between 2010-2015 he was in the habit of taking his work home, which happened to be the small matter of developing hacking tools for the NSA. His home PC allegedly ran Kaspersky, and was, incidentally, riddled with multiple instances of malware. The hacking tools were detected as malware and uploaded

to Kaspersky servers in 2015, meaning it ended up in the hands of the Russians. The US government states that the Russians in question include their government spooks.

This sounds farcical, but as things stand, Pho is looking at seven years in prison and pretty much the only allegation that hasn't been levelled is that he was working for Russian money, which is just as well, as an espionage charge would certainly mean he would spend his remaining days in jail.

If we take a charitable view, Kaspersky was just doing its job when it detected all sorts of curious software that was uploaded to Russian servers for analysis. Once the software was identified as NSA hacking tools, it found its way to the FSB.

The harsher view is that Kaspersky security software analyses its customers' PCs for interesting files and then vacuums up anything of interest. A bloke working for the NSA qualifies in spades, and we can be confident that if Pho were flagged as an NSA contractor, he would be treated as a prime target.

As far as I can see, the key points are:

- Pho possibly installed Kaspersky software on his home PC. Wouldn't a bloke from the NSA have access to something more industrial and bulletproof that comes from America?
- The Israelis were inside Kaspersky's systems.
- Pho's PC was riddled with malware, which is ironic.
- Pho took classified files home. This breach of the rules is the part that ruined his Christmas this year and for years to come.

The smart move is to never take your work home, no matter the temptation. Just leave it at the office and deal with it in the morning. ●

Leo Waldock, freelance IT writer



**CONNECTIONS MADE
MORE REWARDING**



SENSUS CONNECT*



BOWERS & WILKINS*

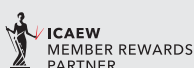


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Official fuel consumption for the Volvo Cars range in MPG (l/100km): Urban 28.0 (10.1) – 70.6 (4.0), Extra Urban 40.9 (6.9) – 85.6 (3.3), Combined 34.9 (8.1) – 155.2 (1.8). CO₂ emissions 184 – 48g/km. MPG figures are obtained from laboratory testing intended for comparisons between vehicles and may not reflect real driving results.

*May be optional. Availability varies per model.

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