

The future of the digital office

Digital transformation and its effect on the future of the workplace

As companies experiment with new digital technologies – such as artificial intelligence and robots – there are likely to be widespread changes in how and where we work, writes Anthony Savvas

In the past 20 years we have seen the marrying together of the telecoms world with the computer world

Remote and flexible working, along with the move towards digital transformation by organisations large and small, are driving changes in how we work and how our workplaces will look in the future.

Companies are experimenting with robots, artificial intelligence (AI), virtual reality and even holograms of people as the business world seeks productivity improvements, built on improved connectivity and wider cloud deployments.

But while some may even predict the disappearance of the “office” altogether, it is more appropriate to think of the workplace evolving over time.

Workplace evolution

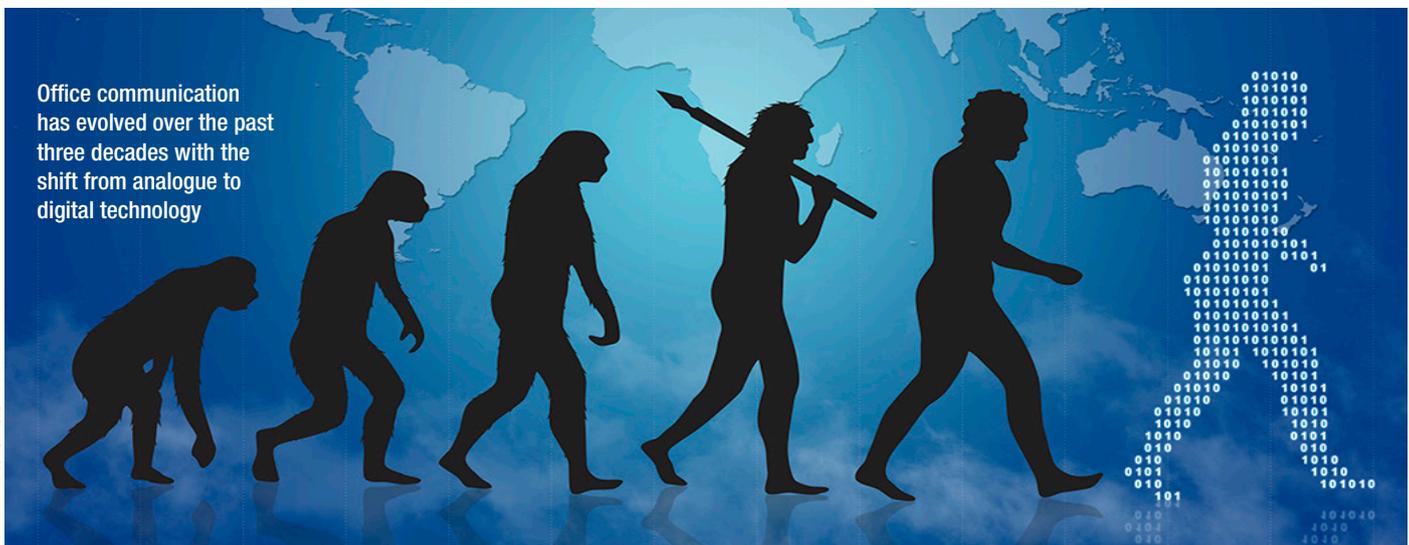
Office communication has changed slowly. Thirty years ago it was all about replacing paper and index boxes with computers. The move to the “paperless office” was accompanied by the move from analogue to digital technology.

In the past 20 years we’ve also seen “convergence” – the marrying together of the telecoms world with the computer world. That led to the first practical mobile email with the first BlackBerry devices from RIM.

The combination of a personal digital assistant with phone capabilities to create the first smartphones has had a dramatic impact on productivity.

Non-competitive casualties

There have been casualties along the way. Among the latest generation of digital workers, one can only guess how many realise that Samsung used to be well behind Nokia, Ericsson, Motorola and BlackBerry in the innovation stakes.



And what would the Apple iPhone breed have thought of the once-revolutionary devices such as the Psion, Palm Pilot and Handspring – each designed to integrate with the digital office, but with far fewer features than the first iPhone?

The reasons for the demise of some of these iconic companies and product lines are wide-ranging. On a technology level, they include a lack of applications to give customers a reason to buy and use their products, and limited ability to connect to other devices and the internet. Many of the companies lost sight of the importance of continual innovation as they became more successful. And they were unwilling to adapt the culture of their organisations to compete with smaller, more creative, startup companies.

BlackBerry and Psion used to have the most dedicated users possible, and Nokia and Ericsson were at the forefront of the mobile internet with the best wireless application protocol-based phones. However, they failed to recognise the needs of the next generation of users, who didn't want to think about how technology worked, but who simply wanted to use it to make their lives easier. The first iPhone – with a full working slide screen, an app store and the promise of cloud data backup making full use of 3G connectivity – filled the gap.

In a clear sign that further shake-ups are afoot, large technology firms, such as IBM, SAP and Cisco, are talking about firms having to “digitise” their business and embrace “digital transformation”.

Digital means change

Aaron Levie, CEO at content management company Box, says organisations need to do far more than replace their hardware and software to really take advantage of digital technology.

“It's not about rewriting your software, it's about rewriting your whole company,” he says. “Digital is not a medium, it's a foundation for every customer experience, both online and offline, covering every touchpoint.”

With digital, you may need a new app to support a new product set, but you also need a new operating model and a new business model. Any organisations that think they can simply put a new app on top of legacy systems supported by legacy ways of thinking are doomed to failure, claims Levie.

Fundamental questions for any organisation, according to Levie, are:

- Is my IT technology focused on making today's business more efficient, or is it setting me up for future growth?
- Is my organisation designed to compete just with my peers, or is it ready to respond to digital disruptors?

And while companies consider what to do in times of digital change, we are approaching a pivotal moment in the evolution of the digital workplace, as technology changes the nature of skills and jobs needed in the future.

Disruptive forces

At the beginning of 2017, the annual World Economic Forum (WEF) met in Davos to discuss the pressing issues of the day. While the threat of war, industrial and market stability, and politics are usually given understandable priority by the world's elite, the appearance of the future workplace made it on to the list, too.

The WEF said the rapid advance in technological innovation will cause “widespread disruption” not only to business models but also to labour markets. As new technologies make “any time, anywhere” work possible, companies are

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Aaron Levie, Box

breaking up tasks in new ways, leading to a fragmentation of jobs across many industries. The effects are further compounded by the rise of the mobile internet and cloud technology, enabling the rapid spread of internet-based on-demand service models.

Jobs in jeopardy

The WEF predicts that up to 7.1 million jobs will disappear across 15 major economies – including the UK and the US – over the next five years during a “fourth industrial revolution”, as a result of disruptive technologies around artificial intelligence, machine-learning, robotics, nanotechnology, 3D printing, genetics and biotechnology coming to the fore.

The losses, however, are predicted to be partially offset by the creation of 2.1 million new jobs, mainly in more specialised “job families” such as computer and mathematical or architecture and engineering disciplines.

If the WEF’s predictions are correct, it will be those companies that innovate and become truly agile that will be able to take advantage of the impending changes in the digital workplace. Organisations of every ilk will have to look to restructure their work processes to take advantage of the opportunities that come with any big change.

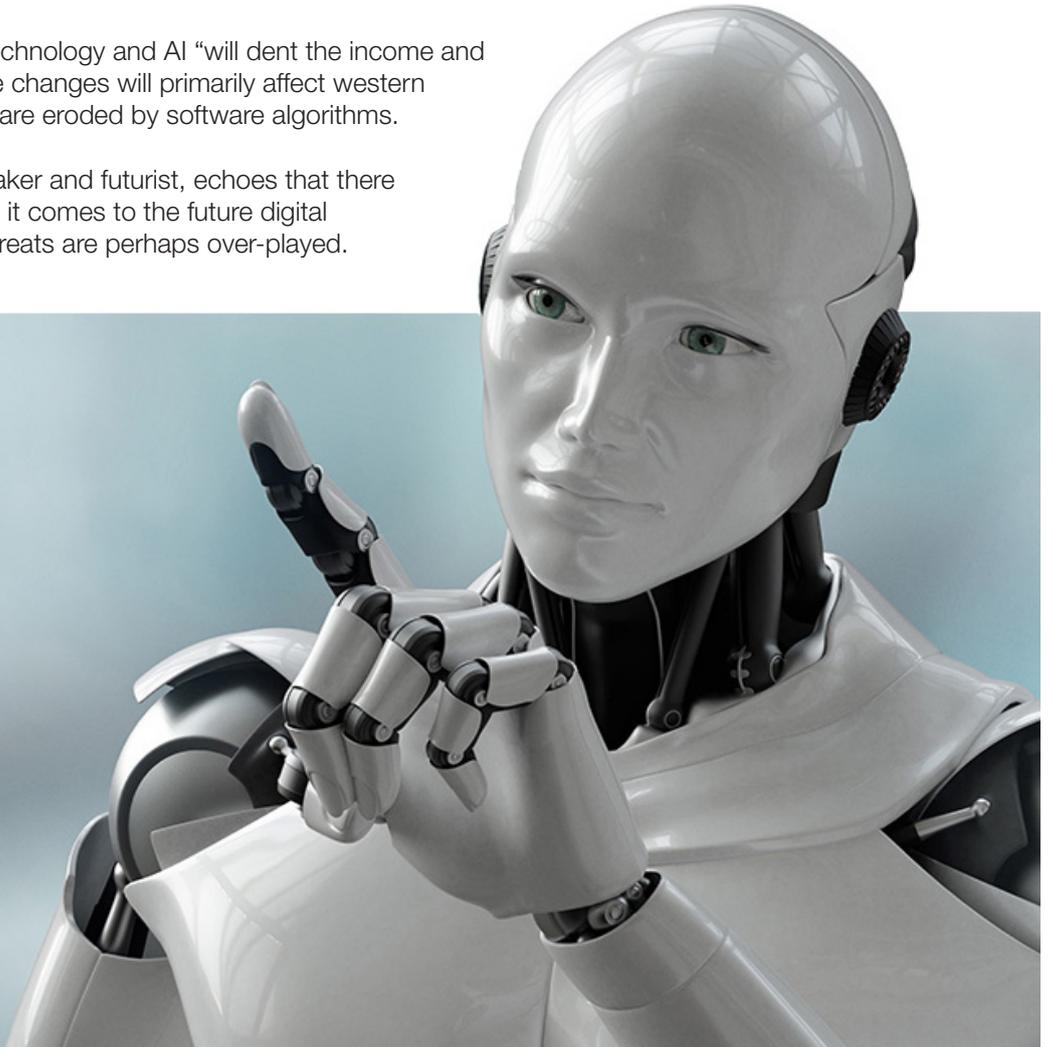
“We believe that we are entering into a period of unprecedented change thanks to ever greater computing power, more ubiquitous connectivity and artificial intelligence,” says CCS Insight CEO Shaun Collins.

By 2025, he adds, advanced technology and AI “will dent the income and wealth of the middle class”. The changes will primarily affect western markets as skilled occupations are eroded by software algorithms.

Jacob Morgan, the author, speaker and futurist, echoes that there are dramatic times ahead when it comes to the future digital office, but he argues that the threats are perhaps over-played.

“We are entering into a period of unprecedented change thanks to ever-greater computing power”

**Shaun Collins
CCS Insight**



The rise of artificial intelligence is predicted to bring about a period of unprecedented change

“We need to distinguish a job from a person and a person from a profession. Automating or replacing a job does not mean eliminating a person,” he says.

“Consider a doctor who has many jobs which range from researching cases to diagnosing patients to delivering a form of customer service. Now, if we have something like IBM’s Watson [supercomputer] that can help a doctor better diagnose a patient, does that mean the doctor is being eliminated? No. Perhaps the tedious job of combing through books, files and research articles to provide a diagnosis might be automated, but the human is not replaced.”

Rise of the machines

Dan Hushon, chief technology officer at business systems provider CSC, says organisations must move with the times. He believes that augmented and virtual reality, the internet of things, artificial intelligence and cloud computing are among the key trends that will help corporate leaders and CIOs devise winning strategies for 2017.

“Machines are beginning to out-think their human counterparts, and are able to perform much more complex computations and process much broader information sets to predict the best possible outcome,” says Hushon. “With the output of this high-volume, high-velocity data, organisations will need to build and eventually merge it into data ecosystems.

“The deeper the data ecosystems, the less sense it will make to transport the data back into the enterprise. This provides for the emergence of cloud-based machine learning on artificial intelligence platforms. The business and productivity implications of bringing information to the forefront of every employee’s job will drive this adoption.”

Bots to boost efficiency

New technologies will undoubtedly change what people do in the workplace, some may have to retrain and some may lose their jobs, but many tasks will still have to be completed by humans. Machine-learning technologies can automate manual and time-consuming tasks to enable employees to focus on other, more valuable, work.

For instance, Microsoft recently acquired Genee, an AI-powered scheduling service, that it is adding to its cloud productivity suite, Office 365. Genee simplifies the time-consuming task of scheduling – and rescheduling – meetings. The technology is useful for large groups and for when users don’t have access to someone else’s calendar. Genee uses natural language processing and optimised decision-making algorithms, so interacting with a virtual assistant is “just like interacting with a human one”, says Microsoft.

Also, IBM and Slack are partnering to bring IBM’s cognitive computing platform Watson to Slack’s enterprise communications users. As a first step, an updated Slackbot – a customer service bot – is to be powered by Watson Conversation, a natural-language tool. Since the Watson Conversation tool uses machine learning, Slackbot promises to become more accurate over time.

The pair are also building a cloud-enabled Slack chatbot for IT and network operational incidents, so enterprise teams can more efficiently identify, address and fix these issues. Once a team integrates it, users will no longer toggle between communications tools and other resources to resolve an issue, as the bot centralises troubleshooting via one channel.

And it isn’t just the corporate sector that is realising AI can do some of the heavy lifting, as the public sector is making the move to such technologies, too. More

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than half (53%) of UK public sector senior managers say their organisations have explored the use of robotics process automation (RPA) technology in the past year, to help transform services in the wake of increasing workloads and tightening budgets.

The research, commissioned by business outsourcing firm Arvato, revealed that 21% of respondents expect automation technology to be trialled in their department or authority over the next 12 months. According to the survey of 134 decision makers across 118 public sector organisations, those who have started experimenting with automation technology cited the potential to free up employees to deliver business-critical services (89%) and reduce the burden of repetitive work (84%).

Debra Maxwell, Arvato UK and Ireland CEO of customer relationship management systems, says: “Fundamentally, it’s about enabling public sector employees to focus on what’s really important, and redirect resources away from mundane, repetitive tasks. At Sefton Council [near Liverpool] – one of the first local authorities to implement the technology – our RPA project there has delivered impressive results, including reducing input times for council tax direct debit payments by 80%, with 100% accuracy.”

Evolving digital roadmap

Therefore, the roadmap for the future digital office is out there, but it is an evolutionary one, albeit moving at a faster rate than the conversion to the paperless office. Jacob Morgan says: “Today, it’s virtually impossible to read an article or watch a news broadcast that doesn’t in some way mention job automation. This serves as the metaphorical ‘smoke’ that can force individuals and organisations to take action before they actually see the fire.”

But, he adds, it appears we still have a “bit of a technology paradox”. On the one hand we see all these discussions around robots, automation, AI, virtual reality, and the like – and all the amazing changes they will bring and the effects they will have. While on the other hand, we still have issues setting up wireless printers or getting our smart home devices to connect to each other.

Autonomous cars are a great example of the technology paradox. “Today, it’s safe to say that we have the technology to allow cars to drive autonomously,” says Morgan. “However, we still don’t have the regulatory requirements in place, an infrastructure that can support autonomous vehicles, many people are not comfortable with self-driving cars, and there are still plenty of debates around safety, ownership and insurance.”

As far as the office of the future goes, many aspects are covered in Morgan’s upcoming book, *The employee experience advantage*. He believes employee experience is a combination of three environments: culture, technology and the physical workplace. According to Morgan, technology comprises 30% of the employee experience, the physical workplace is 30%, and culture is 40%.

“Although technology is a big part of the employee experience, it is just one part,” he says. “The most forward-thinking organisations, to enable them to deliver positive business change, do an amazing job of focusing on all three.”

According to Box’s Levie, the aim should be a new digital operating model: “Old firms look to hierarchy to make decisions, digital firms rely on a flat/ decentralised decision-making model; old firms regard IT as a cost centre, while digital firms see IT as a growth driver. Old organisations rely on people-centric processes, while digital ones look to artificial intelligence and are data-driven; and old firms are designed to avoid risk, while digital ones are designed for the upside.” ■

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