



The great technology take-up

How unified communications is changing the way we work

With a foreword by Don Tapscott, one of the world's leading business thinkers and co-author of *Wikinomics: How Mass Collaboration Changes Everything*



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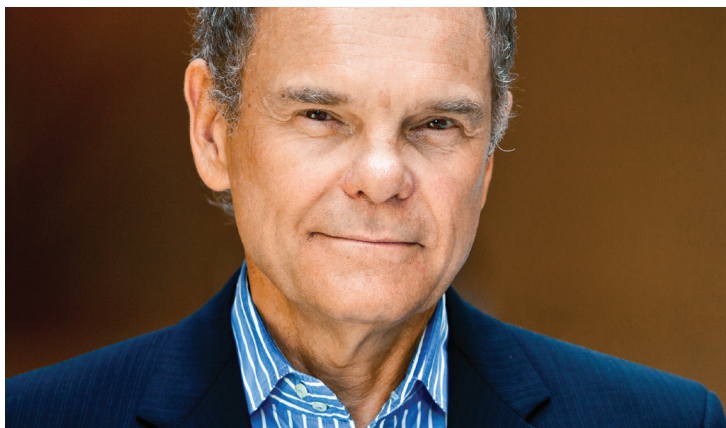
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Foreword

by **Don Tapscott**, one of the world's leading thinkers on mass collaboration



“This is not an information age. It’s an age of networked intelligence”

Our world is at a turning point. The challenges of sovereign debt, economic malaise, youth unemployment, social unrest, resource scarcity and other problems are all connected. Many of the industrial economy’s institutions are beginning to fail. We need to rethink and rebuild many of the organisations and industries that have served us well for decades, but reached the end of their life cycles.

At the same time the contours of new enterprises and industries are becoming clear. With the arrival of the internet, society now has the most powerful platform ever for bringing together the people, skills and knowledge needed to ensure growth, social development and a just and sustainable world. The web enables new approaches to almost every institution in society from the corporation, government, media, healthcare and science to our energy grid, transportation systems and institutions for global problem solving. Like the printing press centuries earlier, the internet is a new communications medium that enables us to rethink and rebuild civilization for the better.

A decade ago I likened the first iteration of the web to a traditional newspaper. You could read its information, but you couldn’t modify or interact with it. And rarely could you communicate meaningfully with its authors, apart from sending a letter to the editor. The web was seen as a tool to publish information that users could then browse. Today’s social web is fundamentally different in both its architecture and

applications. Instead of a digital newspaper, think of a shared canvas where every splash of paint contributed by one user provides a richer tapestry for the next user to modify or build on. Whether people are creating, sharing or socialising, the web is now about participating rather than passively receiving information.

Goodbye behemoths, hello co-creation

In yesterday’s industrial economy, large, secretive, vertically integrated corporations prevailed. Companies found it was more cost-effective to do as much as possible in-house. Not anymore. Many behemoths are losing market share to more supple competitors. Digital technologies slash transaction and collaboration costs. Smart companies are making their boundaries porous, using the internet to harness knowledge, resources and capabilities outside the company. They set a context for innovation and then invite their customers, partners and other third parties to co-create their products and services. Among other things, this means small entrepreneurial companies can have most of the advantages of large firms without the main drawbacks.

Changing for the next generation

This is all happening while a new generation of young people is entering the workforce. Back in the 1990s, I named it the Net Generation. These young people bring with them a new ethic of openness, participation and interactivity, and can’t imagine not having Google or Facebook always within

reach. Treated properly, Net Generation employees are ideally suited for today’s new corporation. They are savvy, confident, upbeat, open-minded, creative and independent, which makes them a challenge to manage. To meet their demands for more learning opportunities and responsibility, ownership, instant feedback, better work-life balance and stronger workplace relationships, companies must alter their culture and management approaches. Properly cultivated, this generation’s attributes will be a critical source of innovation and competitive advantage to the organisation.

Turning danger into opportunity

From education and science to new approaches to citizen engagement and democracy, sparkling new initiatives are underway, embracing a new set of principles for the 21st century – collaboration, openness, sharing, interdependence and integrity. Which is why I say this is not an ‘information’ age. It’s an age of ‘networked intelligence’. It’s about people and their capacity to think together, not about information, which is becoming a commodity.

If you look around it seems to be a time of great danger and peril. But as we enter a new age it is foremost a time of great opportunity, not just for wealth creation, economic development and social justice but also for nothing less than the reinvention of civilization. I hope you’ll join in.

Executive summary



The technology available to us is rapidly changing, but our management is struggling to keep pace.

An executive we interviewed for this report is going through her third revolution in the past decade. We bet she's a lot like you.

Ten years ago she lived on a plane, and in meetings. She'd spend long hours in between at offices, catching up on her to do list whenever she could get to a computer on the network. The introduction of the smart phone in 2007 started boosting her mobility, growing capabilities in the cloud let her run ever more from her home office. Two years ago tablets hit the scene, and unified communications technologies started linking both her kit and her people. Each development has transformed how she and her team work, and every change has come faster than the one before.

As a senior executive, she's on the barricades of this revolution. That's one key finding of a recent BT survey you'll read about in this report. The take up of the digital tools that comprise what we call unified communications isn't being led,

as you might expect, by the oft-discussed 20-somethings of the digital generation, but by the elder statesmen of the leadership.

It could be because their time-poor, meeting-rich lives appreciate anything that gives them back a few minutes. But we think it's because they realise this is a game changer. And, if not adopted, an organisation killer. Because the people who really understand unified communications ... its potential, its scope, even its dangers ... are going to be more successful than everyone else. More efficient. More creative. More fulfilled. [More profitable.](#)

This special report explores that revolution and the changes that it will bring to the workplace.

We know you want to be on the winning side once the world stops rocking. So we've pulled together our best information and opinion to help you understand how to do it. Private sector or public, domestic organisation or international, big or small,

you need to know about these changes and what they mean for you. And it's not just about technology. Our IT capabilities have changed faster than our styles of working or of management. You need to understand and integrate it all.

Our special report brings together news coverage on the leaders of today's revolution with opinions from BT experts. Given context by a recent survey that captures what people like you are doing and thinking. Here's a bit more detail on what's inside.

You've seen our foreword from one of the world's leading business thinkers, Don Tapscott. His ideas are bold, maybe too bold for some, but they show what an interconnected world can be like. A world that harnesses people's talents and skills.

Don Tapscott was inspired by the way Wikipedia came together as a collaboration of experts, via the internet – hence the title of his best-selling book [Wikinomics](#) – and you can read more about his ideas in

our piece [The story of mass collaboration: bringing down the hierarchy](#) on page 17 by technology writer Lewis Dowling. Could your organisation be bold enough to throw open its frontiers?

The joined-up world: how it's evolving and the questions it poses

Would you think of film making as one of the most collaborative industries? Find out how the movie world is leading the way in an article by business writer Dave Madden who also reveals how pharmaceutical companies are teaming up to overcome the prohibitive costs of launching new drugs. (page 6 [Which industries are best at collaborative working?](#)).

In the new collaborative workplace, workers seem to want something different from their leaders. Knowledge workers, who are used to sharing their information and ideas in online forums, won't respond well to the old command-and-control model. See what that means for your leadership style in Dave Madden's second piece, [Re-thinking leadership in a collaborative world](#) on page 9.

Then there's psychologist Alex Fradera, who shares his thoughts on the personality types that will get ahead in the new collaborative work environment. In [The perfect virtual workmate](#) on page 12, he says that the perfect team is made up of people who are extroverted, emotionally stable, keen to cooperate and conscientious – which is a long way from the highly political, combative organisations once the norm. How close is your organisation to the new model, and what can unified communications help you do to get there?

In parallel with the technology comes the rise of the people who've grown up with it. Technology writer Alun Lewis thinks about the differences that the younger generation of 'digital natives' will bring to the workplace (page 14 [How the next generation works](#)).

Are you providing the right environment for Generation Y to flourish?

Doing more, working smarter

Alongside those trends, we talk about the tools. Our BT Global Services experts spend

a lot of time thinking about what this technology can do and how best to deliver it. They know the full range of collaboration tools first-hand and they know how they can help people work better. From instant messaging to virtual 'white-boarding', from desktop sharing to telepresence.

Andrew Small relates how he was first impressed by UC when, during a work discussion, a business contact launched an instant teleconference from his laptop to resolve a problem.

David Dunbar shares his insights into the power of hot-desking. When he books a desk online at a BT building he never knows who he'll be sitting next to and makes sure to add them to his contact list.

Emails are dead, says Nicola Millard, who embraces IM and social media as ways of building trust in virtual teams.

And Christine Vincent is keeping up with trends in the world of mobile devices and is excited about MAMs – that's when organisations develop their own enterprise-level applications specifically for their line of work.

What the world thinks – our new research

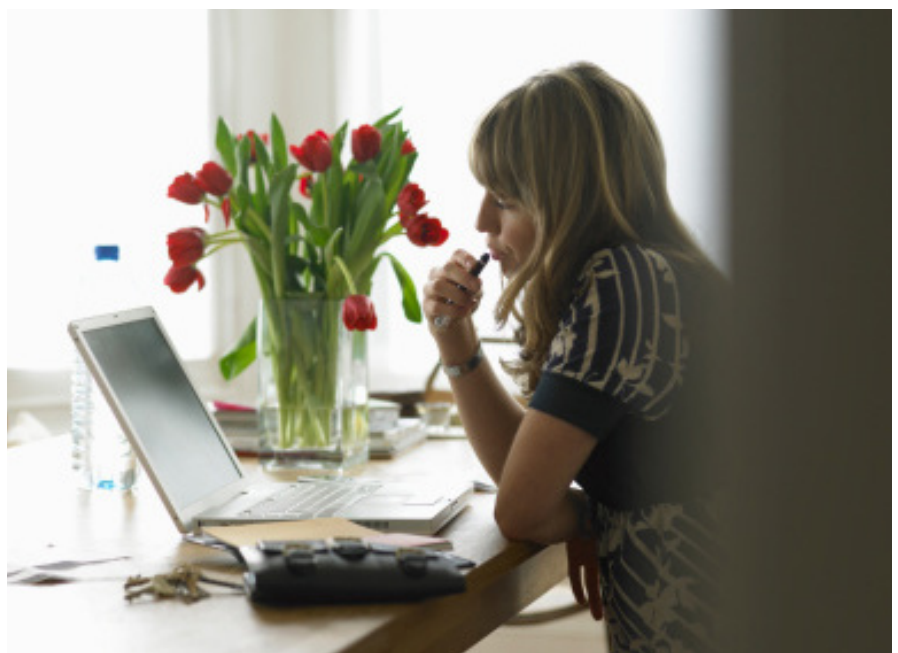
We also have the results of a special survey commissioned from Davies Hickman by BT Global Services. Called 'The Collaboration Paradox', it's packed with insights into how executives are using unified communications. And you'll find statistics from the survey scattered through the paper.

It's all part of a vision of a world joined up to make the most of its talents.

A world connecting for a better future.

And – just as Don Tapscott said in his foreword – we hope you'll join in.

“The people who really understand unified communications ... its potential, its scope, even its dangers ... are going to be more successful than everyone else.”



The new generation doesn't worry about where they are or what they're working on, they just want to connect face-to-face.

Which industries are best at collaborative working?

Organisations are learning from the film industry that collaboration works. It's pragmatic, it spawns ideas and it can even save time, writes **Dave Madden**



Film making is now invariably a complex series of creative, technical and financial collaborations.

Twenty-five to thirty-five years? Six feet tall? Male? Some martial arts experience? You could be the next Batman.

How do I know this? It's just one of the roles on offer at the unfortunately named Shootingpeople.org, a network of independent film collaborators.

Film making has been an increasingly collaborative process since the demise of the studio system 50 years ago, and in an age of Computer Supported Cooperative Work (CSCW), of internet driven hyper-specialisation, film making is now invariably a complex series of creative, technical and financial collaborations.

In fact Shootingpeople is just one of dozens of internet-based services built for film-making communities: Crews TV (for freelance film crews), Mandy (production jobs hub), Plotbot (a tool for scriptwriters to work together), IndieGoGo and Kickstarter (crowd-funding for film makers) ... the list is virtually endless, and endlessly virtual.

Where film goes, the advertising industry is rarely far behind, and this is true of internet-based collaboration too.

Tongal is a social media platform that, in essence, crowd-sources TV ads and videos through collaborative contests. Founded in

Collaborative technologies brought together 50 geographically dispersed suppliers to create a successful new car.

California in 2008, Tongal members have generated creative content for brands from Braun to The Beach Boys.

From movies to manufacturing

Film and advertising have a natural freelance element and specialisation that lends itself to collaboration. But there are signs that more conventional businesses and production processes are being influenced by CSCW too.

The application of social media systems is changing the way some technology firms function internally.

Dassault Systèmes, a French software firm, has allowed customers to actually take part in their production process. It has created an online virtual environment in which employees, suppliers and consumers can work together to turn new ideas into

reality. It even provides lifelike manikins on which to try out new things. The way products might fail, how they could be fixed and how they can be taken apart for disposal can also be modelled with the system.

Then there's the more traditional environment of car manufacturing. Next year should see the launch of The StreetScooter. It's not actually a scooter at all, but a \$7,000 German electronic car. DHL has already ordered 3,500 of them – but what's most interesting about the vehicle is how it came to be designed and made.

More ideas in less time

It's the product of collaboration between some 50 specialist parts suppliers, technology companies and software developers. Geographically dispersed, they used product lifecycle management and CAD software as a substitute for the everyday coordination of a large, integrated company. The project uses the Windchill product development suite from PTC.

Unusually, instead of one manufacturer dictating its designs to suppliers, all the companies had equal status, and could provide input. They were also all involved in the collaboration from the start, which is quite foreign to conventional manufacturing models.

The StreetScooter and its novel design and production process are the brainchild of Professor Achim Kampker, of Aachen University.

Each of the collaborators on the project were organised into a lead engineering group (LEG), made up of experts in each of the vehicle's components. "Everyone is on a par with each other. Everyone can bring in ideas to radically try whatever makes sense," said Kampker, and one result of this collaborative process was that, perhaps counter-intuitively, the first physical prototype of the car was built in "12 months rather than 12 years".

The collaborative method in the StreetScooter's production is echoed in the car's design. It is a modular vehicle, with parts that can be added, removed and reused. Even the batteries are leased separately so that fleets don't have to deal with maintenance.

The StreetScooter collaboration model has a long way to go to overturn the global car-manufacturing orthodoxy, but that is precisely what is happening in another fiercely competitive and famously discreet industry, pharmaceuticals.

A deadly cocktail of R&D costs, research failures and collapsing control of drug revenue streams is forcing big pharma to change its business culture in quite dramatic ways – and seek collaborative ventures not just with academia and biotech, but with its historical enemies.

When enemies become friends

One of the most compelling examples of this new order is the EU's \$2.4 billion research programme, the Innovative Medicines Initiative, IMI.

So far, 37 IMI projects are up and running, with €600 million committed by industry. Those involve 350 researchers from 19 companies and 500 researchers from academia. In addition, four regulatory bodies and seven learned societies are involved.

"The main mission is to address bottlenecks in pharma R&D: for example, knowledge fragmentation, insufficient understanding of diseases, lack of biomarkers," Michael Goldman, executive director of IMI told delegates at the Euroscience Open Forum in Dublin last month.

Goldman said it's important to stress that all the research is precompetitive. "This is non-competitive research on activities in which pharma companies that are normally strongly competitive agree to mutualise efforts and share risks," he said.

Another key principle of IMI is that more than one pharma company must be involved in each project and that external partners are chosen through competitive, peer-reviewed calls. "The pharma companies and their partners work together in an environment of open collaboration and open innovation, so there is a flow of knowledge between companies and partners," Goldman said.

As a result, the boundaries of precompetitive research are moving and extending. An example is in collaborations to run late-stage clinical trials, as in NewDrugs4BadBugs, which is developing new treatments for antibiotic-resistant infections. Both GlaxoSmithKline and AstraZeneca are putting in Phase II compounds to be advanced through further trials by the collaboration.

New technology and new economic pressures are making companies think again about how they operate, and breeding a new climate of collaboration.

"Everyone is on a par with each other. Everyone can bring in ideas to radically try whatever makes sense."

Have you seen this?

The idea of teams working together across continents used to be fantasy. Not anymore, says [Andrew Small](#), vice president for unified communications at BT Global Services

Unified communications marks the start of a new era. Before unified communications there was a piecemeal approach that just coped with each new technological development as it came along. Now BT One can pull it all together.

I'm in charge of BT One and I know that once you've seen them in action, you want to use them all the time.

I remember discussing a project with someone from Cisco, and he said he needed to talk to someone in his office about it. In the old days that could mean you were stalled for a day or more waiting for the answer. Instead he opened his laptop and got the person on the end of a high definition video call. It was like an instant meeting that I could take part in as well, and we solved the problem straight away.

It was better than a phone call, as I could join in instead of just listening to one half of a conversation. The video quality is now so good in high definition that I could see the person clearly and pick up on their body language. And it was so speedy and easy to do.

That's where technology has brought us. It's making new ways of working possible.

The growth of a global workforce

I'll give you another example from my own

work. I needed a product manager for one of our key unified communications products and I realised that the best person I'd talked to about it was based in Singapore. Previously I'd have thought that their location would have made it impossible to link them up with our development team in the US and our marketing team in the UK. But now it's possible.

The team use instant messaging (IM) and online presence to check each other's availability. They have audio conferences, and telepresence ones for larger group meetings of six or more. And they can work together over the web by sharing documents during a call.

If I'm in the middle of an IM session with someone – using Microsoft Lync or Cisco Jabber, for example – I can press a button to offer them the chance to see my screen. They just click to accept and we can both work on a document or presentation together.

And the team learns to deal with the problems that time zone differences cause by working on the move or taking an early or late call from home. The old divide between work and free-time is being eroded – people are just adapting to managing their own time.

Show it's easy and people will do it

We're focusing on making unified communications simpler and more convenient. And that's not about adding more products, but about making it all easier to use. So we're extending

these products to people's own devices. If you were using an iPad I could send you a web address for Cisco's collaboration area, Webex, with a log-in and a password, and we could share a screen that way. Or you could download a Jabber app from the app store.

At BT we work with technology partners like Cisco, Microsoft and Avaya, who provide the 'middle bit', and we make it all connect. So if you're working on an iPad, you'll need to connect to a network and a cloud, and out to me on another network.

We also know our customers have a mixture of technology, so we work with whatever they have. It'd be too expensive and confusing to rip it out and start again.

So how to spread the word about unified communications? Well, people are getting used to the benefits of products like Skype and FaceTime in their home lives, and they want to use them at work too. So we know the word will get out there.

In the meantime, I'm just thinking about an app that will display a tidy home office behind me on the screen for when I video-call my team.

Leading the charge

New research shows bosses are the early adopters when it comes to unified communications technology, reports Marcus Hickman in the first of three round-ups from our specially-commissioned survey

Directors and general managers are leading the way in the take-up of unified communications, and usage levels have soared, according to a survey commissioned by BT Global Services.

The start of unified communications dates back to the 1980s but it's now easier to use than ever, and it's being seen as vital for business. Until recently take-up was slow, but finally the adoption rate has been transformed as executives around the world collaborate through IM, presence, cloud storage and video communications. In fact, more than 50 per cent now agree that "real-time collaboration with colleagues using IM/chat is very beneficial to me".

Our survey of 1,042 executives working in large enterprises across Australia, Brazil, China, India, Italy, Germany, Spain, the UK and the USA shows a wave of enthusiasm for unified communications: 62 per cent would like integrated IM and email, while 68 per cent would like cloud-based file storage, and 66 per cent are keen on 'Bring Your Own Device' – being able to access their corporate network from a personal smartphone or tablet. Almost as many executives (58 per cent) have two or more conference calls each week as have formal meetings (65 per cent), suggesting decision makers are increasingly comfortable with having big conversations outside the boardroom.

Why bosses are biting

There are a number of factors driving this strong take-up of unified communications:

The new economic order – Brazilian, Chinese and Indian executives are enthusiastic adopters of unified communications, outshining their counterparts in the West, who tend to work in more traditional ways. For example, 73 per cent of Brazilian, Chinese and Indian executives would like phone to video calls – a system where you can switch a phone call to a video call when you want – compared with 40 per cent of American and 38 per cent of German executives. This suggests decision makers in the emerging economic superpowers are less weighed down by organisational baggage and established ways of working.



The survey suggests that decision makers are increasingly comfortable with having big conversations outside the boardroom.

Slow decision-making – Some 56 per cent of global business executives say slow decision-making is a major problem at work, with another 41 per cent citing a lack of consultation and poor team working. Working globally, across cultures and time zones, relies on open communications. If manufacturing executives dialling in to a conference in the UK can make a decision after hours, it could give colleagues in Asia a headstart, saving time and money.

Gen Y – After much anticipation, the tech-savvy generation of people born since 1980 are finally leading the workplace and actively adopting new ways of working. Some 23 per cent of under-35s use Facebook for work, compared with 10 per cent of over-55s. At the same time, older executives are trying to keep up with their younger competitors, and possibly even learning from the children.

Outside-in collaboration – A total of 81 per cent of the business leaders in our survey do their work wholly or mainly in teams and recognise the importance of collaboration. The growth of the network economy means executives are increas-

“Brazilian, Chinese and Indian executives are enthusiastic adopters of unified communications”.

ingly seeking to collaborate outside the organisation, with experts, customers and suppliers. Some 75 per cent of Chinese and Indian executives want to work in this way, compared with an overall average of 60 per cent.

Invisible time cost – Global business leaders say they waste more than two hours a day on a range of communication difficulties. Nearly a third are still working after 9pm, and 16 per cent are online before 7am. The average executive spends 38 minutes each day commuting and travelling for work. In India it's over an hour each day. All the more reason for them to welcome unified communications, which can get round poor infrastructure, saving time and effort and keeping productivity up.

Source: The Collaboration Paradox, 2012

Re-thinking leadership in a collaborative world

The more collaboration takes hold, the faster the role of business leaders evolves beyond the old command-and-control model, says **Dave Madden**

Matt Black Systems, of Poole in Dorset, has been building specialist parts for the aerospace industry since 1971. It's your archetypal engineering business, the sort of firm that used to be the bedrock of the British manufacturing economy.

As the world's aerospace giants moved progressively to more aggressive and lean manufacturing, Matt Black Systems found itself trapped in a spiral of reduced price contracts and poor delivery performance that threatened its very existence.

A challenge to top-down management

And its response was.... to remove all management.

I'll repeat that. The response to crisis by this essentially traditional manufacturing business was to abandon its management hierarchy, and cull the management, administrative and "leadership" roles that went with it. Jobs that added demonstrable value, such as production activities, were retained, and the individuals doing them now operate as collaborative virtual "micro businesses", with their own personal profit and loss accounts and balance sheets.

Matt Black Systems is thriving and it says that this radical new model is key to its return to productivity and profit.

And whilst it would be absurd to argue that its strategy could be replicated easily, it does throw an imaginative and provocative straw into the leadership wind.

It is axiomatic that in an age of internet-driven collaborative working, traditional management structures, styles and attitudes must change too. The question is, how?

"Over the coming decade, we can expect work to become more complex, global and task-oriented," says Lynda Gratton, professor of management practice at London Business School and head of the Future of Work Consortium. "As a consequence, we can expect the value of collaboration to become a crucial consideration in business strategy. This will require a more human approach to leadership, with a shift away from command-and-control and towards authentic horizontal relationships.

"What is clear is that many current leaders are not fully prepared for the deep level of openness and authenticity that employees are

coming to expect, and are still overly fearful of taking risks and being creative."

Tomorrow's leader: coach or delegator? Or both?

One way of reading the global financial crisis, the drawn-out death throes of the Euro, the LIBOR scandal, even the UK's phone-hacking saga – is that as well as failures of public policy and regulation, they all show failure of leadership. Add in internet-driven collaborative working, and the spotlight on leadership has never been hotter.

"Many current leaders are not prepared for the openness and authenticity that employees are coming to expect."

Some executives see the role of leadership changing from a task-based, command-and-control model to a coaching and facilitating role. Others see the focus shifting to a more dynamic collective leadership, to leadership as a process distributed over members of a team.

The World Economic Forum, the meeting place of world business leaders, is taking this debate seriously. Last year it convened the WEF Council on the Future of Leadership for the first time. Its mission statement is revealing:

"The scope and depth of the economic crisis that unfolded in 2008 reveals not only a temporary economic cycle, but the need for a profound structural transformation involving business, public organisations and civil society, a deep shift that places the human being and humanitarian values at the core of the new model. Hence current and future leaders would need to redefine their values and behaviours as well as the tools they have at their disposal to help them to align their vision with the organisations and people they lead so that the necessary individual, corporate and societal transformation can take place."

"On the operational front, the world today is far more interconnected and dynamic, as well as increasingly complex and globalised. These changing parameters require new thinking about how leaders operate in complex and flexible ecosystems, beyond traditional models such as matrixes or hierarchical structures."



Some executives see the role of leadership changing from a task-based, command-and-control model to a coaching and facilitating role.

Framing the debate

Ahead of the council's first meeting it agreed a framework for this leadership debate:

1. The demographic shift, and in particular the increasing importance of Gen Y, who seem to want a different way of living and working that's increasingly clashing with old models of hierarchy and authority. Leaders are perceived as curators of knowledge and information, projecting authority and command through their expertise and not their position. The importance of Gen Y is also putting more emphasis on the role of followers as opposed to leaders.

2. The capacity of social media and technology to join up the world at speed and with an extraordinary transparency of ideas and data. This has implications for traditional command-and-control leadership (as many rather than few have access to knowledge). It also brings a level of transparency that creates real opportunities to demonstrate and reveal authenticity. And it will shift the focus of leaders increasingly to influencing and shaping virtual communities and building alliances.
3. The forces of globalisation have created complex interdependencies and turbu-

lence, but they show how leaders can manage diverse communities and indeed create inner calm in times of great stress. Globalisation is causing ecosystems to emerge where value is distributed rather than held within a single company. It's also pushing leaders into increasingly complex decision-making environments where focus and attention as well as self-awareness and mindfulness will be key if they're to succeed.

The implication of these forces – as the council says – is that our notions of 'the leader' are in the midst of a profound review as traditional models feel the heat.

Are you a leader in unified communications?

The keener executives are on unified communications, the more sophisticated the technology they use. **Marcus Hickman** explains our Collaboration Index

Our research shows that general managers and directors of large enterprises are the fastest adopters of unified communications. One reason is that one-third of this group travels overseas at least once a month and they need to stay in touch. As well as that, some 74 per cent of them say working collaboratively with people and teams in other parts of the business means a great deal of effort, so they appreciate anything that makes it easier, whether it's live meetings or video conferences. These people make up the 'Leader' group in our 'Collaboration Index' of unified communications take-up, using a classic S-curve for adoption. This is based on a scale dividing unified communications according to how difficult they are to adopt, with level 3 being the toughest.

Next comes the 'Follower' group, who make up some 38 per cent of the total. They use tools ranging from online presence to

cloud services for accessing and storing data. Behind them is the 'Adopter' group, which uses level 1 tools like desktop sharing and instant messaging. And bringing up the rear are the 'Inactive' who have the tools but don't use them, and the 'Uninvolved', who together form just over a quarter of the sample.

Each group has different characteristics and uses unified communications technology in different ways.

Our survey found that leaders are more likely to use video communication, with 58 per cent of general managers and directors making more than one video call per week on average. Although they have a heavier communication and collaboration load, leaders and followers waste less time, which could save the average large enterprise millions of dollars.

Source: The Collaboration Paradox, 2012



It's the company's responsibility to let employees use the technology they're most comfortable with so they can be at their most productive.

UNINVOLVED 8%
UC technology not available at work

Profile of Executives

- Older, 55% over 45 years old
- More in Australia and Italy
- More in smaller enterprises, operations and support services
- More likely to work by themselves

INACTIVE 12%
UC available at work, but not personally used

Profile of Executives

- Older, 47% over 45
- More in the US and working in support services
- 16% use a tablet computer at work

ADOPTER 12%
Personally use at least one of the easiest to adopt UC technologies

Profile of Executives

- Average age, only 35% over 45
- More in Brazil and Germany
- 25% use Instant Messaging and 2% use Presence
- 25% use a tablet computer at work

FOLLOWER 38%
Personally use at least one of the easiest and one of the second most difficult to adopt UC technologies

Profile of Executives

- Younger, 63% under 44
- More work in sales and IT
- 43% use Instant Messaging and 31% use Presence
- 39% use a tablet computer for work
- 17% use web conferencing
- 17% use Facebook for work, 11% Twitter

LEADERS 24%
Use all three levels of UC technologies, including one of the most difficult to adopt

Profile of Executives

- 76% under 44
- More in China and India
- More are GMs/Directors and IT
- More working collaboratively or in teams
- 63% use Instant Messaging and 51% use Presence
- 94% use a tablet computer at work
- 39% use web conferencing
- 41% use Facebook for work, 31% Twitter

Let the dancing begin

BT learned a lot when it brought in flexible working. Now it's sharing the knowledge, says David Dunbar, general manager of BT Flexible Working Services at BT Global Services

When I meet a new customer to introduce my area of work I'm really introducing them to a state of mind.

With flexible working and unified communications you can introduce the tools but you also need the culture to support them, and this reaches really deep into the way your organisation is set up.

To put it another way, the tools are the dance floor, but it's the people that are doing the dancing, and it's up to the leadership to give them the permission to dance the best they can.

We've seen this at BT GS – which certainly isn't unique as a company, but has gone a long way down the route of flexible and more collaborative working.

From home-working to hot-desking

When I joined the company in the 1980s it was going through some big changes, shedding 100,000 employees within 18 months and reducing its property significantly. The company promoted home-working early on and built up that ethos.

Since then, the emphasis has changed with just as much focus on what happens inside our offices as on more traditional home and mobile working, to make sure that everyone is working flexibly – not just coming in to a set seat, in a set department, every day. That way we can break down some of the barriers between functions. Often an HR person only sits with HR people or a finance person only sits with finance people. It's like a salesman who never meets his customers! And it blocks organisations.

Clearly technology has progressed at a tremendous pace during this time and enabled much greater flexibility. We can log on to any of our internal systems anywhere and with any device. I've just been working from home and updating my team's half-yearly appraisals. We can order a car or file expenses from an office hot-desk, an internet café or an iPad at home.

But the biggest change is in the culture. In the last decade, BT has driven relentlessly towards an objective-based management culture. It's moved away from "management by presence" to "performance management", and it's about enabling and empowering people.

Work as an activity, not a location

With that came the necessity to measure people's output because if you can't see them at their desk, how do you know they are working? There are two broad areas for appraising performance. First in terms of what's being achieved. And second by analysing how people are doing their job

and how they are interacting with others and adding to the organisation. In other words, the What and the How.

For example, my team is very diverse and includes developers, salespeople and product managers. For them, I have several metrics based on revenue and margin, as well as ways of valuing their proposition development, market influence, contract negotiations, and entrance into new market areas. Each person has six or seven headline objectives. A bigger goal such as "I want five sales of this proposition in the Benelux market," drives a whole stack of objectives behind it.

As a result BT has become a very project-based, virtual company. The management is much more diffuse than it used to be, and the company flows a lot more. I've watched people at headquarters moving from one meeting to the next and it's quite a lively dance!

After introducing flexible working at BT, we now offer it as a managed service to our customers so they can gain from our experiences. We help with the processes and procedures, HR, risk assessment and property issues that crop up. We also manage the transition process and support the culture change. We worked with the Greater Manchester Police, for example, to introduce flexible working and now only 3 per cent of their employees at headquarters have a fixed desk.

I'm a homeworker, but I often go into BT buildings to work and I can book a desk online in any one of 122 BT buildings around the world. When I arrive at the desk I've booked, I never know who I'll be sitting next to, but saying hello to them means I get to build up a huge network of contacts in the company – people I might need in the future.

So somewhat perversely, flexible working produces stronger teams that are driven more by their output, as they are not as internally focused as before. From the top down the message is loud and clear – there are huge advantages from working flexibly, focusing on objectives and getting involved.

Letting the talent out

To encourage that last point, we've also developed our corporate social network to encourage new ways of getting involved and sharing ideas. Our intranet has blogs, wikis and even podcasts – all generated by our employees. So on the discussion group on our main homepage I can see a piece about VAT from someone in one of our finance teams, and I can also find a comment headed "28 years and still not grown up", which is both personal and funny. All life is here.

Our BTpedia is a company-wide wiki with entries on products, processes, structures, departments and projects. I used it recently to check how colleagues are dealing with the tran-

sition to Internet Protocol version 6, which is replacing version 4. I know that some of my products need to be IPv6 compatible and the wiki page gave me a good overview of what's happening as well as contributions from BT people in other areas saying what they had done to deal with the change and what the areas of contention are.

Dare 2 Share encourages people to post videos of a skill or bit of knowledge they have. Then there's Blog Central, where some employees have developed a tremendous following. And Podcast Central, which is mainly work-related material.

All this activity means that instead of a few people in the centre generating content and updating it once a year, our employees are constantly contributing useful material. And new talents are being released.

Power to the people

We don't moderate our intranet – it's self-policing. Some people think that letting employees post information on their company intranet without moderation is scary. But we rationalised it. First, if you're worried about factual accuracy, there's space for people to comment and straighten out any points. It becomes an open, informed, debate with the real experts forming the content. Second, if someone's saying something inappropriate then at least it's online, it's out in the open and it's not anonymous. People know how they should behave, and if they behave inappropriately then our existing procedures are more than adequate, with the added advantage of an audit trail.

For years, management thinkers have been analysing the best ways of sharing information and managing knowledge in companies. But we've found that with new technology, one way is to sit back and let it manage itself.

At BT, we also use our intranet for e-learning – people from across the company use courses that are available any time. We deliver this for our customers too, and we've supplied one of the the biggest learning platforms in Europe for the UK's Ministry of Defence.

As I said, BT is by no means unique in doing all this, but it is true that there are nowhere near enough large organisations embracing this more flexible culture. The tools, the technology, the spaces for collaboration underpin it, but what makes it work is how people are encouraged to work together, how they are motivated to make use of the tools, and how the culture is communicated.

That's the way to really make your organisation dance!

The perfect virtual workmate

Plenty has been written about the personalities that make up the perfect team. But what if the team members never meet face to face? Alex Fradera introduces the psychology behind virtual groups

What makes collaboration possible? Social psychologists agree that harmonious groups are made up of people who think they're similar to each other. While early research focused on surface-level similarities, like age or gender, recent research suggests it's more important to share deeper features, such as values.

Wanted: stable, agreeable, conscientious extroverts

But there are also certain personality traits that make effective collaboration with others easier. Teams perform better when their members are more extroverted (social, talkative), emotionally stable (less inclined to worry), agreeable (keen to cooperate, not boss others about), and conscientious (disciplined and organised).

And it helps if the group shares these qualities. Specifically, teams tend to do worse when members vary wildly in agreeableness and conscientiousness. This is understandable, as these reflect fundamental differences in how people treat each other and deliver shared objectives – differences not easily put aside.

For other traits such as extroversion, meanwhile, variety doesn't appear to harm groups. And for creative activities, team diversity may actually be an advantage. Openness to experience – denoting curious and imaginative qualities – is generally associated with more creative results. Yet studies suggest that teams that are best at creative tasks contain at least one person who is less open to experience, who can contain and shape the wilder ideas.

“Openness to experience – denoting curious and imaginative qualities – is generally associated with more creative results.”

When collaboration went virtual, sacrificing face-to-face contact to connect people over distances, researchers initially thought it would impoverish communication. Yet subsequent work shows that over time, teams relying on virtual communica-



Managers need to allow their virtual workforces the time to bond and build trust as though they were in the same office.

tion can compensate for absent cues like body language, and keep interactions rich enough to sustain close-working teams. Moreover, technology can be an equaliser in discussions, giving more introverted people space to contribute and offering back channels so information can flow in parallel to the main conversation.

Can I trust you, virtual colleague?

However, it can be hard to develop full trust in collaborators you haven't met. Trustability is key, rather than capacity to trust. A trustworthy person may win over a suspicious one, whereas even a trusting soul may keep a suspect individual at bay. Trustability emerges from seeing someone as competent, which we can glean from virtual interactions, and also benevolent, putting the best interests of others first – something hard to get a sense of in virtual situations.

Trust matters, as geographically separated teams are more prone to misunderstandings. It's been seen that conflict can come from behaviour that seems unremarkable when witnessed, but from afar seems puzzling and gets attributed to false motives. Trust also lets members ask for help when they need it, without worrying about being judged for revealing their vulnerabilities.

Different strokes for different collaborators

Personality interacts with technology-assisted

collaboration in two more ways. First, people have differing appetites for new technology. This is partly down to confidence in their own proficiency, but also influenced by personal reactions: computer anxiety on the one hand, and on the other, computer playfulness, the readiness to use a new system for its own sake. Finding systems intrinsically enjoyable helps people overcome learning bumps so they engage more deeply.

Finally, people differ in how they share knowledge. Those willing to share see it as an obligation that helps meet group goals. They're dutiful, sharing information when specifically asked to, and expect others to do the same. Those who are eager to share feel allegiance to the subject matter, not the group. They're enthusiasts, geeks even, sharing information proactively, whether solicited or not, and looking for acknowledgement from their peers plus heightened reputation. People with these different attitudes to sharing knowledge will interact with a mass-collaborative, wikinomic world in very different ways.

From a psychological point of view, all these factors – how we collaborate, how we communicate, how we're trusted by others and how we share information – are differences that feed into a virtual collaborative environment.

Getting to know you

Working with people we don't meet messes with our human programming. So the tools we use have to help replace social glue, says [Dr Nicola Millard](#), customer experience futurologist at BT Global Services

For collaboration to happen, trust is vital.

We're used to building trust with colleagues by seeing them in meetings or chatting to them in the canteen or round the water cooler. Yet many of our work trends are pulling away from these traditional trust-building situations – people work from home, projects are run online and you may work with people you've never met who are in another part of the world.

And there are contradictory forces here. For example, we know that if you want to get innovative ideas then the last thing you want is to sit in a room with people you see every day, who know each other well and have the same world view. But as soon as we're in a diverse group with mixed ages, cultures and disciplines, our brains are challenged. They've evolved to work in tribes and to trust the people we see every day and who look similar to us. If we can't see someone and don't know them, then it's easier for our brain to stereotype them.

Creating fast trust and social glue

Today's working world of short, sharp projects with global virtual teams goes against our natural human programming.

“Today's working world of short, sharp projects with global virtual teams goes against our natural human programming.”

So I'm investigating how the tools we have can create a kind of 'fast trust'. How we can collaborate better given that we can't physically get together. How we can develop the kind of social glue that we need to work well with other people.

Collaborative tools vary in how much they can help create that social glue. An audio call can be good but an audio conference can be too task focused to develop relationships and many participants don't get a say. Also, without body language you can get misunderstandings. Video conferences might seem like the obvious answer and they can certainly be a great tool, but some people can feel self-conscious of what the camera is picking up or find it intrusive.

I have a colleague who used to do two regular calls with his team each week – one was task-related, the other was for a chat about what they were all doing in their free time, just to build up that social glue.

Social media is not that rich a tool for relationship building, but it can be a good way to give people a bit more idea of what someone is like. If you have a page that gives your photo, shows what you've studied and worked on, and what your interests are, then it will really help people relate to you.

Then there are companies' own social networks with forums and discussion groups that let people ask questions to a wider group, beyond their team or department and the conventional silos. Some managers still see these forums as 'time wasting' so there needs to be a willingness in management to create communities where people talk and to encourage it. And that kind of collaboration needs to be rewarded.

“We do at least have a range of tools open to us – audio, video, social media and real-time instant messaging, which let you have a conversation with someone.”

So while it can often be impractical to meet up face-to-face in today's world, we do at least have a range of tools open to us – audio, video, social media and real-time instant messaging, which let you have a conversation with someone.

Email – the collaboration killer

The one thing that I think makes a terrible collaboration tool is email.

Email is so ingrained in most corporate cultures but it is full of problems. I've limited my email time to half an hour in the morning and half an hour in the evening to avoid the endless to and fro of cc'ing on emails. It can also be easy to misread the tone of what's written in an email, causing endless misunderstandings. And if you want to brainstorm a new project, sending a message out on social media will get you far more responses than sending an email round to your old list of names.

So we need to get to know the tools and get to know each other, and start building that social glue that we all need.

How the next generation works

Technology comes naturally to Generation Y. They grew up with it. But can organisations and their leaders cope with the mindset that goes with the tech-savvy, asks Alun Lewis

There's now a group of people in the workplace who are different.

For all the difficulties surrounding comparisons between generations and the stereotyping it creates, there's no doubt that people born after 1980 – variously dubbed 'Generation Y', 'Digital Natives' and 'Millennials' – were part of the first generation to grow up with computers in their homes.

Also, they're completely at one with digital technology and – more recently – social media.

The first always-connected generation

A Pew Research Center report in 2010 described them as "history's first 'always connected' generation". More than eight out of ten told the researchers that they sleep with their mobile next to their bed. Three-quarters have created a profile on a social networking site. And one in five have posted a video of themselves online. Millennials, says the report, are also more likely than older adults to say technology makes life easier and brings family and friends closer together.

Business analysts have drawn lots of conclusions about what this will mean for the workplace – the way this generation works with others, the way they respond to management, their goals and aspirations – and clearly this is an ongoing process. But there are some interesting insights into the directions this could lead.

From Skype to Dropbox to FaceTime in a day

For a start, being good at the technology brings a whole new flexibility to working anytime, anywhere. Erica Dhawan is a

“For my work, I use Dropbox for online shared folders, Evernote to store and categorize information, and Skype videoconferencing or iPhone’s FaceTime application to connect with my colleagues across the world.”

Generation Y-er and a commentator and consultant on next generation leadership. In a piece for [ForbesWoman](#) earlier this year, she wrote: “Consider my own experience: Last Friday, I had two work-related Skype calls, one to Nassau and another to England, during my Amtrak train ride from Boston to New York. For my work, I use Dropbox for online shared folders, Evernote to store and categorize information, and Skype videoconferencing or iPhone’s FaceTime application to connect with my colleagues across the world.”

That's a change in mindset from the generation who grew up thinking that work only happened under supervision, in an office. Of course there are counter examples. There are plenty of young people who long for a nine-to-five job, which in today's difficult economic climate can be hard to find. But digital technology has made new things possible, and this generation is ready to play with those options.

Then there's the impact of social media. These online communities are a flurry of messages, trends, ideas and proposals. Young people have got used to sharing information and communicating across groups, and this throws up new ideas for collaborative working.

Can your CEO be your peer?

What you need is a company that is receptive to your ideas and that's not always easy, as Tammy Erickson, management thinker and author of [Plugged In: The Generation Y Guide to Thriving at Work](#), describes. “They've grown up in a peer-to-peer world, so they're used to sending information to peers based on their perception of who can use the information, where it would provide the most value, and they come into a corporate environment with that same set of assumptions,” she said in an interview with [Harvard Business Digital](#). “So if they have an idea that they think could benefit you, I don't care who you are – CEO, head of marketing – if they've got an idea, chances are they are going to share it with you.”

That might challenge some of the hierarchical ideas of the way companies are managed, something that Dr Karsten Jonsen, research fellow at the IMD Business School in Geneva and a specialist in team working, has

“To work successfully in a collaborative way, digital youth also need to be able to connect and communicate with others in the well-tried-and-tested art of conversation.”

also been studying. “Power and respect in the workplace have to be earned in [millennials'] eyes,” he comments. “Interestingly, they're also far more critical of organisations and quickly see through empty mission statements and corporate hype.”

Don't forget conversation

But out there in the business world, there are still ways of doing things that can't be overturned overnight. Dee Gibbs is MD at a leading high-tech PR company Liberty Communications. She is wary of the way computers can breed isolation for young people: “While they're actively engaging with others in real time, they're doing it in front of a screen – and never having to physically communicate in face-to-face conversations at all. To work successfully in a collaborative way, digital youth also need to be able to connect and communicate with others in the well-tried-and-tested art of conversation. As with everything, it's about choosing the most appropriate tool.”

Technology doesn't change everything, but it does provide new opportunities. And overall, given the world of peak oil, peak food and peak population that this generation is going to inherit, they're going to need the best tools available to survive economically, let alone thrive individually.

Meanwhile, there is one other interesting characteristic that has been assigned to Generation Y: “They expect work to be ‘fun’,” adds Dr Karsten Jonsen. “They want instant recognition and they don't want to have to wait for a formal career reward structure.”

Oldies, you have been warned.

Keep on moving

As technology improves, so do ways of keeping security high and costs low, and managing new apps, says **Christine Vincent**, general manager of managed mobility at BT Global Services

In my job, things are changing all the time. People want mobile communications and that's driving massive changes as technology evolves to meet their ever-increasing demands.

It's just five years since Apple's iPhone burst onto the scene and, along with Android smartphone devices, changed the face of mobile communications.

The first iPad came in 2010 – just two years ago – and ushered in tablet computers. Demand for these devices keeps growing. When Apple launched the new iPad in March this year it sold three million iPads in 3 days – that's nearly 700 every minute.

These devices have caught on because they make life easy for people. Easy to check their emails anywhere, easy to access the internet anywhere, easy to do most things anywhere. Just compare looking at your emails or calendar on a smartphone with having to get out your laptop computer, turn it on and wait for it to load up. People just aren't prepared to wait for things to work anymore.

Making a mobile workforce

Managed mobility is about helping organisations to have a mobile workforce. It's about helping them to harness the benefits of mobile technology, like better employee productivity, while at the same time minimising the potential drawbacks such as security breaches and increased costs.

A key trend that we're seeing at the moment is Bring Your Own Device, or BYOD. This is happening because people have embraced the benefits of smartphones and tablets in their personal lives and want the same ease and accessibility for their work. This is particularly relevant for the younger, more tech-savvy generation that's joining the workforce.

Organisations are discovering that the standard corporate-issue phones they'd typically given to all employees aren't seen as up to the job anymore. Employees are simply removing the SIM card and inserting it into their own personal smartphone or tablet so they can benefit from the extra functionality at work. This also means they can carry out their personal activities in work time and benefit from only carrying one device. Even employees who don't have a corporate-issue phone are using their personal devices in their working life, simply because it's easier.

At first, employers tried to stop this happening, largely for security reasons. But now they're accepting that they can't

stop it, and they need to embrace the trend and make it work for them.

Making mobile devices more secure – and keeping costs under control

We've been developing a number of products to help organisations get mobile. The priority is to tackle security issues. We've all heard the stories of laptops going missing and the resulting worries about highly sensitive data being in the public domain. Well, mobile device management, or MDM, lets an organisation remotely lock and wipe a device if it gets lost or stolen. We provide simple access to an internet portal; the employee just needs to log in and type in the details of their device, and then it's registered and can immediately be locked and wiped remotely if necessary.

Once it's registered, employees can load their device with mobile versions of collaboration tools their company uses, like Microsoft Lync or Cisco Jabber (available from BT in your office or the cloud). I love instant messaging because of the immediacy – I've used Microsoft Lync on my iPad to stay in touch with my team through instant messaging while I'm on the train. Having different applications available on my device means there's so much I can do while I'm on the move. I can quickly check my email and my calendar, I can look up train times, I can check if my team are available for calls, have a video call with them, and, for those late train journeys home, I can read my current book, a magazine or even catch up on last night's TV.

“An emerging trend we're seeing is for organisations to develop their own enterprise applications for use on smart devices.”

Another concern for organisations is the extra costs these devices bring, particularly around mobile data. Our BT MobileXpress product has an application for smartphones and tablets that lets people connect over BT's Wi-Fi footprint at more than 4.3 million locations around the world, saving on mobile data costs, which is particularly relevant when users are travelling overseas. It also creates a 'secure link' from the device to the corporate network.

Speaking of costs, our BT Managed Mobility Expenses product lets organisations get a firmer grip on their mobile expenditure with invoice audit and management tools, an order portal and a full range of management information and reports. They can track

costs down to an individual level and then target high users with cost management tools. For high mobile data users, the BT MobileXpress smart device app cuts costs. For users who spend a lot on international or roaming voice calls, the BT OneVoice anywhere product routes calls away from the mobile network and over the corporate OneVoice network.

MAM's the word

An emerging trend we're seeing is for organisations to develop their own enterprise applications for use on smart devices. We're developing a service for mobile application management, or MAM, to help them manage these applications. I've just seen an analyst say: "Where MDM is the bread, MAM is the jam." Okay, maybe that's a bit of an in-joke, but there's no doubt that MAM is where it's at.

With MAM we help customers who have developed their own applications to host them on their own enterprise-level 'app store'. MAM builds security round the application as well as providing the ability to target specific groups of users with relevant applications and make sure they have the latest versions.

A good example of an application we've worked on was with a company making high-end fashion accessories. They had problems with their giant paper catalogue: because the products changed so quickly, it quickly became out of date. It had to be reprinted every few weeks, which was costly, inefficient and certainly didn't play to a sustainability agenda. We worked with the company to develop an app to let their salespeople show their product ranges to their customers on iPads – and immediately check stock availability and place orders. A central team within the organisation can make any changes to the product list instantly, and the salespeople just need to update the app to get the latest details.

As well as business process applications like this, we're also seeing organisations develop apps for core activities including time booking and business expenses that employees can complete in their downtime, for example while travelling.

Clearly mobile communications is a fast-moving area, and a large part of my job is keeping up with all the new ideas and technologies that are constantly emerging – and making sure we're at the forefront to support them.

Can IT departments overcome the ‘wild west’ dilemma?

IT bosses have to walk the line between helping unified communications happen and taking full control. **Marcus Hickman** reports on our survey findings



Employees will always want to use the latest technology, but that doesn't mean you have to compromise your security.

While growth in the take-up of unified communications is undeniable, there's much further to go, say executives. Increasingly, executives are 'going behind the back' of their IT department to bring their own devices and software into the workplace. Some 54 per cent of Leaders would like to use their own smartphone or tablet to access work files. A similar number want to

“The danger is that collaboration communication in large enterprises becomes either chaotic or too controlled by IT departments.”

use Facebook and Twitter to collaborate with people outside the organisation for work purposes, whether it's swapping ideas or flagging Economist articles.

And executives say their IT departments are cautious and cash-strapped. Some 55 per cent say their IT department seems unable to get enough budget to invest in the best technology, and 59 per cent say they put too much emphasis on security over ease of use.

The danger is that collaboration communication in large enterprises becomes either chaotic or too controlled by IT departments. It's a 'wild west' dilemma CIOs need to manage.

What are the lessons for IT departments looking to manage this situation? An answer lies in implementing secure unified communications successfully, and here the research

shows what executives think the barriers are. These figures show how many say they strongly agree with each statement about unified communications:

1. Training – 26 per cent say they haven't had enough training.
2. Ubiquity – 18 per cent say too few colleagues are using it.
3. Availability – 10 per cent say it's often unavailable at the right time.
4. Effort – 8 per cent say it's too much effort.
5. Ease of use – 6 per cent say the technology isn't easy to use.

So, some interesting trends, and some remaining barriers to unified communications. But most of all this is a picture of a technology whose time has come and that business leaders are keen to use.

Source: The Collaboration Paradox, 2012

The story of mass collaboration: bringing down the hierarchy

Many are cleverer than one – if the conditions are right, says Lewis Dowling

How can a thousand people in a minefield find the safest path out? By collaborating. If they walk out in a circle then some will certainly hit mines, but the others will learn from their mistakes and reach safety. As a whole, more will survive. But suppose everyone follows just one person who thinks they know the path. If they're wrong, the whole group fails.

“If you only walk in single file, and in the same direction, you only need to make one mistake to die.”

It's not a minefield, it's business. When everyone has the ability to work together on what they know, instead of being guided by the ones at the top of the hierarchy, we can harness the collective intelligence of mankind. This is mass collaboration.

Once upon a time...

It was Linus Torvalds who realised this comparison could help him work more efficiently to create a better operating system: Linux.

“If you only walk in single file, and in the same direction, you only need to make one mistake to die,” Linus said in a Google group discussion in 2001. “Don't underestimate the power of survival of the fittest. And don't ever make the mistake that you can design something better than what you get from ruthless massively parallel trial-and-error with a feedback cycle. That's giving your intelligence **much** too much credit.”

As the original architect of the software (based on Unix), he gave the source code away for free to let others make improvements. Very quickly the community came together and today thousands of programmers have taken part. A few have been integral to development, while a huge number have contributed – no less valuably – only once or twice.

Though often (erroneously) stereotyped as solitary, the programmers displayed a camaraderie that evolved one man's hobby project into a behemoth – now deemed one

of the most important operating systems in the world.

“Under the right conditions, groups can be remarkably intelligent. And they can actually often be smarter than even the smartest person within them,” James Surowiecki, finance journalist for the New Yorker, explained at a TED talk in July 2005. When a group is asked to guess how many jellybeans there are in a jar, the average is within three to five per cent of the actual amount. And that's just when they're asked to guess.

But with Linux, it was an educated guess. So “contributions are received not from a random sample, but from people who are interested enough to use the software, learn about how it works, attempt to find solutions to problems they encounter, and actually produce an apparently reasonable fix,” wrote Eric S. Raymond, internet developer and writer, in his essay [The Cathedral and the Bazaar](#), originally published in 1997. “Anyone who passes all these filters is highly likely to have something useful to contribute.”

A knight in shining armour

It was Don Tapscott, the author of this paper's foreword, and Anthony Williams who coined the term *wikinomics* to describe this phenomenon in relation to businesses.

“A wiki is more than just software for enabling multiple people to edit Web sites,” they wrote in their book [Wikinomics: How Mass Collaboration Changes Everything](#). “It is a metaphor for a new era of collaboration and participation.”

Many believe (such as Tapscott and Williams) that the collaborative process will change the way organisations operate.

“Though it is unlikely hierarchies will disappear in the foreseeable future, a new form of horizontal organisation is emerging that rivals the hierarchical firm in its capacity to create information-based products and services, and in some cases, physical things,” Tapscott and Williams wrote. “We will witness the rise of an entirely new kind of economy where firms coexist with millions of autonomous producers who connect and co-create value in loosely coupled networks.”

A happy ending

While the model is still fresh and in its infancy, it's beginning to take off in a variety of ways. A company called Distributed Proofreaders is turning books which are out of copyright into ebooks, giving out individual pages to anyone who has time to proofread them – they're then quality checked by another person and all brought together.

Meanwhile LibriVox provides free audio books narrated by the community. And Galaxy Zoo contributes to the research of galaxy classifications (overruling some commonly held beliefs, such as the idea that if a galaxy is red it's elliptical – it turns out a third are actually spiral).

Whole professions are being challenged. Journalists, for example, have seen their hold on providing informed analysis blown away by bloggers who can now publish around the world, at the touch of a button.

Clay Shirky, a writer who studies the effects of the internet on society, predicted at a TED talk in July 2005 that just as the printing press precipitated 200 years of chaos, the internet will usher in new ways for people to organise which will challenge existing corporate and institutional structures. The next 50 years, he says, will lead to the rise of loosely co-ordinated groups.

“Under the right conditions, groups can be remarkably intelligent. And they can actually often be smarter than even the smartest person within them.”

“And so the point here is not, ‘This is wonderful,’ or ‘We're going to see a transition from only institutions to only cooperative framework’; it's going to be much more complicated than that,” he concluded. “But the point is that it's going to be a massive readjustment.”

Conclusion

Revolutions are hard things to predict. Just ask the French guys who started one, only to find their own necks on the guillotine. Information is your best protection against a worst-case scenario. And that's what we've tried to give you here.

You've seen how collaborative technology is set to transform how much you get done. But, more than that, it can change your structure, your leadership, the way your teams work and your culture. And fast.

You've seen descriptions of how that's already happening. People have found new ways of working and communicating with the technology now available. And these people are enthusiastic about the new possibilities it brings. They're models for you when it comes to making lives easier and better.

- There's the fashion company that replaced its bulky paper catalogue for its sales teams with an iPad version that's easy to update with new products.
- There's the collection of some 50 small specialist firms who worked together

virtually on a project to design the StreetScooter, a \$7,000 German electronic car, beyond the confines of a major manufacturer.

- There's the manager who has two conference calls with his geographically-dispersed colleagues each week, one work-related, one just to chat to build the social connections needed to make a virtual team work.
- There are the executives in Brazil, China and India who are enthusiastic adopters of unified communications, outshining their counterparts in the West.
- And our own Andrew Small, who chose to employ a team leader in Singapore, distant from his other team members, but connected via collaboration tools like IM and telepresence.

From exciting possibilities to real benefits

We know you've got a lot of this technology already. But we also know that it probably arrived in a piecemeal fashion over the past few years, and may not quite fit together

as you wish. It doesn't have to be so. Today, with unified communications, a whole picture has emerged of how you can use the technology to connect everyone you need, in new and different ways.

You can be more flexible. You can be quicker and more efficient. You can be more collaborative and more global. You can spend less to do more. Whether you're making profits, or stretching a public sector budget, that matters.

BT Global Services connects your people, your customers and the rest of the world. We can advise on what will work for you, then design and deliver a new level of efficient and empowering communications.

The revolution's happening with or without you. So be a part of it. Take advantage of it. Build a better future.

To do that, you're going to have to change. Learn from others. Ask hard questions of yourself. Be honest about what you want and need. Then bring your team together to make the connections.

We'll see you on the barricades.



“The revolution's happening with or without you. So be a part of it.”

The **big** questions



We hope you've enjoyed this paper. But if it's doing its job, it should be more than just a good read. It should have made you think. See how you do in answering the following questions for your organisation...

How effective are your current communications tools?

1. Does technology back your strategy and objectives, or get in the way?
2. Do your current communications tools promote collaboration and help to connect employees, suppliers and consumers? How cost effective are they?
3. Are your mobile roaming costs becoming unpredictably high?
4. Can your existing communications systems accommodate the latest collaboration tools?
5. Can you facilitate a collaborative working session across at least three locations with the same impact as a face-to-face meeting? If not, what's that costing you in travel expenses, lost morale and reduced productivity?

How is your workforce changing?

1. Do you have people spread across multiple locations who need to work together?
2. How many channels of communications are your employees using? What tools do they prefer? What do you need more of?
3. Have you categorised your people's work-styles? Who needs to be at a desk and who's out and about? How

much money could you save by consolidating office space and eliminating unused desks?

4. How are your Generation Y employees interacting with your technology? Are they leading the way, or feeling limited? What's the potential of the former, and what are the costs of the latter?
5. Have your senior executives changed their working style? Do they use the same communications tools as most of your people? If not, who's doing what? How big is the gap, and what damage could it do?

What's your unified communications plan?

1. What could you do better if your people collaborated more effectively? And how much could you save?
2. What plans do you have in place to combat the collaboration-killing effects of email?
3. Do you know how cloud services can help deliver those new unified communications features that the business wants, without a lot of capital expenditure?
4. Are all your communications and data using the cloud completely secure? What damage could someone do to

your enterprise if any of the material was hacked?

5. What's your bring-your-own-device strategy? Are you content that work done on employee-owned devices is as safe as what's done on enterprise-provided kit?

How are you going to do it?

1. Who makes the technology decisions in your organisation? Do they have the licence and the resources to make change happen?
2. Do you work with HR to make sure that employees are trained and equipped to deal with the pace of technological change? What's the cost, in both human and technology terms, of doing this wrong?

A daunting list? It needn't be. BT Global Services is here to help. Our experts will help you find those answers and deal with the results. Then they can dip into the products and services in the BT One family to suggest the customised kit of tools and support that's right for you. Call us today.



Bringing it all together

Offices worldwide

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