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Mobile Work Futures for Microsoft  
January 2007

**‘The future has  
already happened;  
it just isn’t very well  
distributed’**

**William Gibson**

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# thefuturelaboratory

ideas trends brand futures and intelligence



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The Future Laboratory was established in November 2001 and is recognised universally for its innovative approach to forecasting, consumer insight and brand strategy.

Via its 2,500 strong LifeSigns Network and its 15 in-house analysts and ethnographic researchers, it offers clients qualitative and quantitative insights into future consumers and how to target them in terms of products, services and a brand's tone of voice.

Quarterly, weekly and daily, 200 clients in the retail, technology, finance, automotive, food, fashion and creative industries sectors use our news feeds ([www.lifesignsnetwork.net](http://www.lifesignsnetwork.net)), insight reports, consultants, strategy documents and brand personality audits to keep their brands on track, and their design, marketing, research and strategy teams informed and insightful.

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# EXECUTIVE SUMMARY

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Britain has become one of the most wired-up, interactive nations in the world. Mobile and networked technologies are now so firmly embedded in our working, social and family lives that we barely notice they are there. But they are having a profound effect on the way we work, play and communicate, as this report demonstrates.

The report contains three main sections, followed by a summary of our conclusions. Section Two looks at the key forces that are already driving change. Section Three investigates the rising new trends that are affecting the world of work. In Section Four, we profile new mobile worker typologies, including our data jockeys and digital artisans.

## TREND DRIVERS

This is the decade of 'ubiquitous computing', where 24/7 connectivity is becoming the norm.

- British businesses are ranked third in the world for information and communication technology sophistication
- Almost 40% of British consumers have broadband at home
- Net-surfing has replaced TV as Britain's favourite leisure activity
- Internet hotspots are set to outnumber 'coldspots'
- 46.8% of workers say they already work outside the office
- 41% of male workers spend 10-24 hours per week away from their desk
- 61% of consumers aged 15-plus have accessed the internet remotely
- 77% of people feel new technology has had a positive impact on their productivity



## Trans-corporate workers

We have dubbed a new generation of permanently logged on employees 'trans-corporate workers', to distinguish them from their fixed-desk colleagues; they will number 5.5m by 2012.

The opportunity to work away from the office is increasingly seen as a right, rather than a privilege, by trans-corporate workers; 48% of under-25s say that being able to determine their own work structures would be more appealing higher salary.

## A new way to shop ...

Our identities as consumers have already been transformed by the internet and the ongoing creep of continuous access. The Future Laboratory estimates that 25% of all shopping will take place online by 2009, much of it from mobiles and PDAs.

## ... and to earn a living

According to the Centre for Economics and Business Research, the average British household boosts its earnings by £3K through online trading, and according to MasterCard/Warrillow International, there are now 5m online entrepreneurs in the US, accounting for 25% of all small businesses. By the end of the decade this figure is set to rise to 35%.

## Slow start

Organisational and behavioural structures in the workplace are only now adapting to the digital infrastructure on which so much of modern life depends. Only 23% of British businesses say that they adapt to new technology with ease. Improving on this is critical for businesses seeking to compete internationally and it requires a new type of relationship between employer and employee. A new generation of workers is keen to embrace more flexible and federated approaches to working.

## Key concepts:

- The federated organisation, where individuals can exploit the potential of networked technologies and work in a project-based, just-in-time fashion, working with teams and talent pools from outside the business when required
- The 'keyboard factory', where the keyboard is effectively used to chat to teams, define projects, measure and oversee results
- Rapid prototyping, which allows not only design but manufacture from the desktop
- Flexible working initiatives, such as remote access from home, broadband and online training
- Just-in-time information; why commit information to memory when it's readily accessible, even on the move?
- Intelligent environments which take advantage of technologies such as RFID, face- and pattern-recognition CCTV, smart cards
- Peer-to-peer working, a flexible, bottom-up structure that is increasingly replacing more permanent, top-down organisations
- Fractional consulting, where workers sell their time and services (IT support, financial services and so on) to each other within a culture that is based on ideas rather than information
- Face-to-face work, which will never be entirely replaced by technology; urban centres retain their advantage in areas of work where communication is subtle, social and face-to-face and requires creativity, emotional contact, flexibility and trust

## Soft capital comes first

In this new environment, businesses cannot afford to prioritise their hard capital over their soft capital. The quality and commitment of their top workers will have a greater influence on their performance than traditional business concerns such as finance and infrastructure. Many elite employees require an entirely new type of employment contract, in which power, reward and intellectual property are shared more equally.

## New Trends Rising

As the boundaries between work and home life become increasingly blurred, constant connectivity becomes the norm, and managing family and social life becomes a job in itself, the same technologies are being used in all areas to achieve a balance. In Section Three, we analyse the key trends affecting the world of work, which include:

- **The happiness economy.** Even economists and politicians are recognising that simple prosperity is not a guarantee of national well-being. However, one of the key components of happiness is commitment. How can this be reconciled to an increasingly fluid working environment? Some workers are taking matters into their own hands: down-shifting remains a growing phenomenon, with 155,000 workers quitting London alone each year. The happiness economy leads workers to seek more control over their lives: 40% say that control over the working day is the main benefit of mobile working.
- **Work-life blending.** As a new values system develops that is not entirely oriented around productivity and money, nor around leisure and relaxation, but somewhere between the two, work-life blending is emerging as the next step on from work-life balance. Here, the 'pro-ams', amateurs with a professional level of expertise, come into their own, as does the new 'hacker ethic' which sees sharing as a valid work principle, and 'micropreneurs'; over half (59%) of new businesses initially develop in the home.
- **Mash culture.** Internet giants who have made Application Programming Interface software available to all have contributed to the growth of mash culture, which allows individuals to use programs in newly inventive ways; nearly three new mash-up sites are created every day.
- **Collaborative branding.** Consumer desire to cut and paste and do their own thing is being harnessed by savvy businesses who are allowing them to do just that – and creating new brands at the same time. Nike, Earnest Sewn, Nespresso and Nokia are just a few of the brands who are developing a whole new collaborative relationship with their customers.
- **Peer publishing.** We are moving towards a time when people upload as much as they download. The current generation of under-25s wants to control its own media via blogs and social networking sites such as MySpace and upload sites such as Flickr, Revver and YouTube; MySpace is the sixth most popular site in the world. However, as the larger sites become more corporate, new sites are focusing either on niche interests that blur the distinctions between work and play, or on better services.
- **Sleeve living.** Virtual 3D communities allow users to create an 'avatar' or a 'sleeve' as a virtual representation of themselves, to interact with other site members. Sites such as Second Life are also being used by our trans-corporate workers to meet, discuss and collaborate on new ideas, helping to make video conferencing redundant. Companies such as American Apparel and Reuters are already operating in these virtual worlds, which are examples of work-life blending in its truest sense as they combine the real and the virtual and career-based activities with personal and leisure activities.
- **Just-in-time associations.** Unlike traditional associations such as trade unions, just-in-time associations are assembled and disassembled as and when they are needed, depending on how long individuals choose to remain affiliated. Associations are becoming deformalised and re-organised in network structures based around 'third spaces', which are neither commercial nor social spaces, but somewhere between the two. New types of collective projects for the digital age include online versions and bottom-up, flexible trade unions.



## New Mobile Worker Typologies

Section Four moves on to investigate the new breeds of digital-age, mobile workers, defined by how they respond to the absence of definition and clear boundaries. Here we profile:

- Data jockeys, the younger generation who live and breathe information and technology, include the 14% of respondents who are happy with work-life blending. These 18-24-year-olds work deftly on multiple windows and even multiple laptops, graze a vast amount of information, but have yet to learn to translate data into insight.
- Urban unitaskers attempt, with some success, to keep work-life blend to a minimum and comprise 35% of respondents. In their 30s and 40s, they understand that insight rather than information is the new driver of culture; they appreciate the benefits of home working but prefer working alone to collaborating and increasingly want to do one task but do it well.
- Digital artisans are among the most enthusiastic users of new technology, eagerly exploiting its potential to create their own content and define themselves through their work; they would rather work for nothing on a worthwhile project than collect a fee for work they don't believe in. An idea shared is an idea doubled is the mantra of these keen collaborators with a strong leaning towards inclusivity.
- High-wire walkers tread an uneasy tightrope in the new economy; they yearn for emotional and financial security, find a high-tech, flexible future alarming and are not adept at penetrating and exploiting social networks. Still based in hierarchical structures, they worry about lack of job security and pensions.

It is thus clear that the world and the workplaces that drive it are changing profoundly. In Section Five we draw together our conclusions from the preceding sections.

We believe issues relating to quality of life will become more important than pension rights over the coming decade, as the battle to add meaning and value to our lives becomes directly related to our ability to moderate the flow of information that swirls about us.

Awareness and discussion of the multifarious issues related to technology is likely to become a requirement of working life. One of the key factors here is the acknowledgement that data and knowledge are not the same as insight; experts in the field believe that it is from insight that tomorrow's competitive edge will stem.

Alongside this, the search for balance will continue, coupled with the quest for a work structure that suits an age where traditional organisational hierarchies no longer apply. Standard managerial tiers will give way to a flatter, more organic, more fluid nexus of communication and command. This federated, bottom-up, 'you-control-the-schedule' approach will usher in a profound and promising stage of our culture: the age of creativity and self-actualised choice.

Creativity, collaboration, the desire to be a player rather than an observer: these are fast becoming the new way forward, thanks to the connective powers of the internet. The way users increasingly mitigate and change the technology they use to suit themselves is another key factor. Far from technology changing society, we are learning that society changes technology.

Another aspect of the internet and ubiquitous computing that appeals to our trans-corporate worker is the power and pleasure of sharing. For our data jockeys, urban unitaskers and digital artisans, information and knowledge sharing is fundamental, even down to sharing knowledge with competitors!

As more organisations become project-driven and task-specific, employees will be expected to field a wealth of talent, information and connections. Few employers however, seem to be noting these new needs. Many businesses are still missing the point about the higher skills needed by this new generation of knowledge-based employees; the ability to share and distribute information, to work lightly across seemingly unconnected disciplines, to establish and maintain collaborative networks and to distinguish between data, information, knowledge and insight.

The crux lies in how we take mobile technologies and use them to gain deeper insights about the world in which we work. Information will be everywhere, but tomorrow's digital citizens will make their mark by extracting opportunity from the buzz that surrounds them.





# TREND DRIVERS

In this section we look at the key drivers that are changing the way we work, play and communicate, at a time when Britain has become one of the most wired-up, interactive nations in the world.

## The onset of 24/7 computing

Britain is one of the most wired-up nations in the world. Almost 40% of consumers have broadband at home, compared with 26% at the beginning of the year broadband was rolled out, while British businesses are ranked third in the world for 'information and communication technology (ICT) sophistication'.<sup>1</sup>

Mobile and networked technologies have infiltrated our working, social and family lives with unprecedented speed, to the point where we barely even notice the devices which surround us.

A Google UK study shows that surfing the net has replaced the TV as Britons' favourite leisure activity. Teens and young 20somethings say they would be 'lost' without their home computers, according to the Tech Tribe Report 2006. They spend 21 minutes more online per week, make seven more mobile phone calls and send 42 more text messages than their elders, according to a report by UK media regulator Ofcom.

Future Laboratory researchers are conducting an ongoing research programme into this area for a number of technology clients, including Microsoft. They have dubbed this the decade of 'ubiquitous computing' and predict that, within the next four years, internet hotspots will outnumber coldspots (places where you can't log on in public) by a ratio of five to one.

## Ubiquitous computing

The onset of ubiquitous computing, our growing ability to log onto the internet 24/7, also means that many more of us are working away from the office, and are doing many of the tasks once carried out at our desks while we are in transit.

Almost half (46.8%) of those workers who responded to our survey say that their job already involves working away from the office, while 41% of male workers say that they now spend 10-24 hours per week working away from their desk, using their BlackBerries, mobiles, laptops and wireless hotspots to stay in touch.

More consumers are using internet access points outside the home or office to work and access their email. In 2002, for instance, 45% of consumers aged 15-plus had accessed the internet from their BlackBerries and PDAs, in Wi-Fi cafes and other mobile internet points. By 2005 this had jumped to 61%, according to a Mori/Mintel survey.

In 2005, around 2.4m people worked mainly from home, using both a telephone and a computer to carry out their work, according to Future Laboratory research. This figure is expected to rise to 3.5m by 2008, as more and more realise the full potential of broadband, or mobile-phone-mounted software systems such as the 3 Network's Orb, which allows users to access their PC's hard drive from anywhere in the UK.

## Trans-corporate workers

Because of how they work (without fixed places in the corporate model) and where they work (in transit, at internet cafes, at touch-down desks in satellite offices, etc), we have dubbed this new generation of permanently logged on employees 'trans-corporate workers', to distinguish them from their fixed-desk colleagues.

According to our own estimates, we are set to see 5.5m trans-corporate workers (including self-employed workers) by 2012, as a new generation of 20somethings now see the opportunity to work away from the office as a 'right', rather than a privilege.



In a survey of 1,000 consumers, 48% of those under 25 say that being able to determine their own work structures would make a company more appealing to work for than a higher salary.

Other desirable incentives include having more control over their working day (39.5%), being able to work around their personal schedule (25.9%), or spending more time at home with their families (22.1%). Thus the ability to pick and chose, personalise and self-schedule, will become fundamental to attracting and keeping our new trans-corporate worker in the future.

### Shop till you strop

On a more day-to-day level, our identities as consumers have already been transformed by the internet and the ongoing creep of continuous access. Estimates from The Future Laboratory suggest that 25% of all shopping will take place online by 2009, much of it from our mobiles and PDAs.

In tandem with this shift towards more engaged and interactive ways of shopping and working, we are likewise witnessing the rise of new methods of consumer engagement:

- The growth of 'gripesites', where consumers use their mobiles to upload images or messages about brands they dislike
- Trends such as 'crowdsumerism', where potential purchasers work with other consumers via the internet and their mobiles to get brands, products and services to offer them a better deal (see [Crowdstorm.com](http://Crowdstorm.com) for an example)
- The rise of 'micropreneurs', where internet users increasingly blur the boundaries between work and play by using their 'pro-am' talents for collecting say to have a second career online

Fifty thousand micropreneurs in the UK now derive their primary or secondary income from trading online via sites such as eBay. According to a study by the Centre for Economics and Business Research, the average British household boosts its earnings by £3K through online trading, and according to MasterCard/Warrillow International, there are now 5m online entrepreneurs in the US, accounting for 25% of all small businesses. By the end of the decade this figure is set to rise to 35%.

### Slow to start

However, these transformations have been slower than many of us expected: which is why we have almost overlooked the real impact of the changes technologies such as broadband, Wi-Fi and ubiquitous computing are ushering in.

Only now is our working life adapting to and reflecting the digital infrastructure on which so much of it depends. There are two reasons for this.

Firstly, organisational and behavioural structures take longer to change than technological ones. While the UK has unusually high levels of technology take-up, British businesses have shown lower-than-average ability to achieve the managerial innovations that could exploit it to the full.

Only 23% of British businesses say that they adapt to new technology with ease.<sup>2</sup> Improving on this is critical for businesses seeking to compete internationally and it requires a new type of relationship between employer and employee. Outside the large institutions, a new generation of workers (especially those born post-1984, who have little or no memory of the world without mobiles or the internet) are keen to work in businesses that offer them more flexible and federated approaches to working, as we have noted.

Being present in the office for this generation is all about being online, and being connected rather than being physically present in their place of work, according to Professor Lynda Gratton, associate professor of organisational behaviour at the London Business School.

## Federated organisations

Hence the emergence of new organisational forms, our 'federated organisations'. Here, individuals can exploit the potential of networked technologies to work in a project-based, just-in-time fashion. In this work model, traditional top-down command structures are replaced by bottom-up structures between trans-corporate workers. In many cases, this cuts out tired middle management layers and allows ideas to flow through an organisation more effectively and organically.

It also allows organisations to work with smaller numbers of full-time staff and to use the remote and collaborative capabilities of technology to pull new teams and talent pools together from outside the organisation where and when they are needed. Here distance isn't an issue, only the ability to access the internet.

'This change in how we broker the structural aspects of the organisation has given rise to a generation of 'e-lancers', or 'talent for hire' techno-nomads,' says Martin Raymond, co-founder of The Future Laboratory and author of the Tomorrow People, which, inter alia, charts the rise of this phenomenon. 'Increasingly, companies will have to recruit their talent in much the way Hollywood or the theatre assembles the cast for a film or a play.'

The creative industries are already familiar with this e-lancer approach, and soon it will be equally familiar to many mainstream companies, believes Charles Leadbeater, author of Living on Thin Air. 'Imagine working in the film business, moving from film to film, crew to crew, set to set, a success one month and a flop the next, a progress in which you are only as good as your last project,' write Leadbeater. 'Work may be like that for many more of us in the next decade; at times fun and rewarding, but itinerant and punctuated by bouts of insecurity.'

Increasingly, ubiquitous computing, driven by the growing number of internet hotspots and the arrival of broadband mobile with software packages such as Slingbox, Skype and Orb, will enable more of us to work remotely yet with others, creating and disbanding work teams as required.

The growth of social networks, from MySpace to Bebo to YouTube, Wiki and open source sites, has likewise helped form a culture that is increasingly about collaborative, interactive and associative engagements and activities.

## Keyboard factories

Some have even called this the 'keyboard factory' effect, where the keyboard is effectively used to chat to teams, define projects, measure and oversee results. Technologies such as rapid prototyping are set to take the notion of the keyboard factory a stage further over the coming decade.

Rapid prototyping takes virtual designs produced on your laptop or from animation-modelling software and transforms them into cross-sections of digitised data. These activate a printer or fabricator which lays down successive layers of liquid or powdered material to create a solid version of the CAD design.

Designers like Patrick Jouin and manufacturers like Materialise.MGX now use these techniques to produce everything from chairs, to lamps to household products. Domestic versions of these fabricators are already being prototyped, so at some point in the near future consumers will be able to design and order their own pair of Nikes, and have them printed or fabricated in their own homes.

Sites such as eMachineShop.com, where anyone can go online and design their own products, are already up and running. Soon you will be able to dream up ideas in your leisure time, according to eMachineShop creator Jim Lewis, and watch them being printed in 3D before your eyes, functional circuits and all.



## Self-made society

Consumers designing products for themselves is further blurring the lines between work and play, so much so that we are witnessing the emergence of collaborative product design, and the emergence of 'collaborative brands'. These are brands, products and services that consumers design themselves, and we will look at them in more detail in Section Three.

This 24/7 access we are increasingly enjoying is changing how we work from the inside out, and indeed how we talk to each other from the bottom up.

'Large companies are beginning to disaggregate themselves through outsourcing, alliances and the use of web-based integration and straight-through processing to link the players in extended value chains,' says David Lindop, a strategy consultant for firms including PricewaterhouseCoopers. 'The net result is that global brands are often supported by a network of smaller organisations and individuals. Tax and legal advice is outsourced, transaction processing is conducted in offshore service centres, freelance marketing and strategy advisers compete to make up support networks.'

In the UK, for instance, British Telecom's flexible working initiatives include 'e-BT', a system which gives workers remote access to the information needed to do their jobs. BT also installs broadband for home-workers and delivers online training. BT home-workers take on average just three sick days each year. According to the Chartered Institute of Personnel and Development, the national average is 8.4 days. Each home-worker also saves BT an average of £6,000 annually in overheads.

Increasingly, organisations such as Accenture, IBM, GlaxoSmithKline, General Motors and PricewaterhouseCoopers are adopting these systems and approaches as the exception (ie working remotely and smartly) increasingly come the rule.

## Just-in-time information

Ubiquitous computing is also altering the way that people learn and think. The need to learn and retain information is being replaced by a just-in-time information culture, in which information is constantly accessible on the move, through the internet and mobile phone services such as 82ask.

## Intelligent environments

William Mitchell, dean of the Faculty of Architecture at MIT, writes in *Me++: The Cyborg Self and the Networked City*: 'the trial separation of bits and atoms is over'. After 100 years in which telecoms were used to divorce communication from geographic constraints, intelligence is becoming re-embedded in the physical world, thanks to technologies such as RFID tags.

Meanwhile, environments can respond to the movement of people, thanks to technologies such as face- and pattern-recognition CCTV. Smart card technology, seen in its infancy with Oyster cards in London, will allow individuals to access services effortlessly. One consequence of all this is growing concerns over privacy and surveillance, both inside and outside working environments.

## Coldspots

Tolerance for disconnection is plummeting. Ryanair recently announced that it was going to enable passengers to use mobile phones on planes. Business passengers expect full connectivity in the air while in transit. We are reaching a tipping point where places will be defined not as 'hotspots', but as 'coldspots', notable for the absence of connectivity.

## Peer-to-peer working

The traditional structure of permanent, top-down organisations is being replaced by a flexible, bottom-up model of peer-to-peer (P2P) employment networks. Employees are taking advantage of the new possibilities for horizontal information-sharing to create new organisational forms, in which individuals opt in and out of projects depending on what they can both put in and get out of them.

## Networked labour

In his famous study of how professionals find jobs, Mark Granovetter identified the strength of 'weak ties': distant contacts are more commercially effective than close ones. Online referral services such as Realcontacts.com enable people to distribute job information and recommendations through their social networks. Zubka.com is an online network that offers financial incentives for successful referrals. This viral method is more efficient and effective than formal advertising structures, and the referral market in the UK is now worth an estimated £7.6bn.<sup>3</sup>

## Slivers of time

As we have already mentioned, eBay has created a vast P2P market in goods. But most of us don't sell goods; as workers, we sell our time. Sliversoftime.com is a website which enables people to sell their services to each other, and to offer feedback, according to the same model as eBay. As a result, individuals are able to establish themselves as self-employed where previously they lacked the social capital or reputation to do so.

We have called this trend 'fractional consulting', and it is one we believe is set to become dominant in industry over the next ten years, as we move away from a culture of information towards a culture of ideas.

Services such as Ether.com already offer fractional consultants a simple system to conduct business over the phone. Would-be customers call Ether's number and the fractional consultant's extension for free and give their credit card details to Ether. They will be charged a prearranged rate before being connected for the fractional consultant to provide their services.

This is great for home-based technical support and the growing number of people across Europe (estimated at 30m by 2015) who work from home, many of them as consultants.

The LiveOps brand allows companies to set up virtual call centres so that operators can work from home, thus reducing overheads. LiveOps statistics show that this method of organising staff attracts a maturer workforce (aged 32-38 instead of 18-21), who are better experienced and more likely to be educated. Additionally it eases the burden of childcare costs, allowing a parent to stay at home. According to the New York Times, 112,000 workers in the US were working through firms like LiveOps at the end of 2005.

Indeed fractional consulting, as we've seen elsewhere, is becoming very popular with small to medium-sized companies who want to pay for expert advice but cannot afford the sometimes exorbitant fees charged by traditional consulting firms. This process allows them to work with a greater number of smaller consultancies, to get the best cross-sector advice available.

Another company, FreshMinds, has taken this idea one step further by providing corporate clients with access to some of Europe's top young minds for research projects and permanent recruitment. Charlie Osmond and Caroline Plumb founded the company in September 2000 and it has doubled its turnover each year since then.

The organic nature of networks is also being harnessed by our cross-culture workers and fractional consultants, to create more serendipitous business opportunities. Sites such as LinkedIn.com and Soflow.com act as crucial support mechanisms for those workers seeking to exist outside the sheltered environment of a traditional organisation and career.

Entrepreneurs have always relied on social networks to access capital and collaboration. But new technology is extending the reach of these networks, creating a form of 'social search' in which workers with specific needs can find one another. Gary Franklin, founder of the social search engine Eurekster.com, believes that 'the more focused online social networking tools have been very successful. And there's potential for more.'

The impact of global competition has a psychological impact in British workplaces. As the UK competes to attract and retain high-value knowledge production, businesses compete to attract and retain high-value knowledge workers. This economic driver pushes work into new territory, partly in terms of the stress it can cause, but also in terms of the new contracts that are being struck between knowledge workers and employers.



## Face-to-face work

It was once thought that the onset of technology would replace face-to-face (F2F) working. In fact, in an age in which so much information processing can be done by computers and over long distances, urban centres retain their advantage in areas of work where communication is subtle, social and face-to-face.

As the US sociologist Manuel Castells puts it, technology 'replaces work that can be encoded in a programmable sequence and enhances work that requires analysis, decision and reprogramming capabilities in real time at a level that only the human brain can master.'<sup>4</sup> Services that can't be done by a computer or via a telephone are where the competitive advantage of developed economies lies: creativity, emotional contact, flexibility and trust are the essence of these.

Daniel H Pink, in *A Whole New Mind: Moving from the Information Age to the Conceptual Age*, writes about the shift from valuing 'left-brain' skills such as analysis and logic to 'right-brain' values such as creativity and intuition. In many ways, technology is making this process easier, smarter and more insightful.

Smart use of new technology has been proven to give nations and businesses critical forms of competitive advantage.<sup>5</sup> A 2006 YouGov survey reveals that 77% of people feel new technology has had a positive impact on their productivity. There are similar improvements outside the office environment. Use of computers in schools creates improvements equivalent to half a GCSE grade.<sup>6</sup> Mobile workers (both white-collar and blue-collar) reap particular productivity benefits from technology as they no longer have to return to a single point of contact to access information or communicate. This shifts mobility from a model of hub-to-spoke to one of spoke-to-spoke, eradicating the need for organisational centres, as we have seen.

## Soft capital comes first

In this new environment, businesses cannot afford to prioritise their hard capital over their soft capital. In other words, the quality and commitment of their top workers will have a greater influence on their performance than traditional business concerns such as finance and infrastructure. Many of these elite employees require an entirely new type of employment contract, in which power, reward and intellectual property are shared more equally. The distinction between employing and contracting begins to blur.

The networks that ubiquitous computing allows us to develop, and the way a growing number of people use and nurture these networks, are all leading to a brave new world of collaborative work practices and federated work systems. In the next section of this report, we look at some of the more striking changes these are bringing about.

- 1 'Business in the Information Age: International Benchmarking Study', DTI, 2004
- 2 Ibid
- 3 Research conducted for Zubka
- 4 *The Rise of the Network Society*, M Castells, Blackwell, 1996, p. 242
- 5 'Computing Productivity: Firm Level Evidence', E Brynjolfsson and L Hitt, MIT Sloan Working Paper No 4210-01, 2003
- 6 'Fulfilling the Potential: Transforming Teaching and Learning in Schools', DfES, 2004





## NEW TRENDS RISING

In this section we look at how technological and economic changes are transforming the experience of work in the UK, and in the process are creating a new social and cultural landscape. Get ready then for the emergence of 'sleeve living', 'collaborative branding', 'peer publishing' and 'mash culture', among others.

The most important consequence of the drivers noted in section two is a blending of our working and our non-working lives. Whether this is positive or negative depends on how much you enjoy your work, and how well you manage this complex new environment. The same drivers can be either liberating or enslaving.

A central feature of emerging technologies is their adaptability, which means that various different parts of our lives come to be mediated by the same tools. This results in the convergence of work, domestic and social lives. In the office, workers feel that they are still in constant contact with their friends and family thanks to email, instant messaging (IM) and mobile phones. Out of the office, many workers feel that they are still in constant contact with their colleagues and, less happily, their managers thanks to mobile technology and ubiquitous technology.

The trends explored here are responses to this process of convergence. There are two broad themes at work here. Firstly, what does it mean for our domestic and social lives to intrude into our working life? For most, this is a welcome phenomenon, although many working environments remain where the blend is not managed well. For instance, some employers have used technology in the office for surveillance purposes, to prevent 'homing from work'.

Meanwhile, because a new generation of workers no longer recognises a clear work/life division, they increasingly apply a consumer's judgement to their career path. If they don't feel their work defines them or fits with their values, they will reconstruct their career in a way that does.

'This is an attraction economy and the consumer is in control,' argues Kevin Roberts, CEO Worldwide, Saatchi & Saatchi. 'Rules of engagement are out; laws of attraction are in.' The same holds true for employment relationships. This may involve entrepreneurship, or down-sizing to a job that allows time with family, less commuting and greater access to a healthy lifestyle.

The flip-side of this is that domestic and social lives become infused with aspects of the work ethic. As Emma Jones of Enterprise Nation puts it: 'home-workers are now seeing the value in keeping their home-office door shut, to keep their work and life separate.'

The management of family life and complex social lives becomes a job in itself for those with busy working lives. The same technologies are being used to achieve a balance.

Key trends that are affecting the world of work include:

- **The happiness economy**
- **Work-life blending**
- **Mash culture**
- **Collaborative branding**
- **Peer publishing**
- **Sleeve living**
- **Just-in-time associations**



## The happiness economy

Thanks to work by the LSE economist and policy guru Richard Layard, there is a growing awareness that economics can't calculate what is genuinely of value to us.<sup>1</sup> A burgeoning science of happiness is developing new metrics and research tools to help us take better decisions over issues which have a decisive influence over our happiness. When the leader of the Conservative Party is able to argue: 'it's time we admitted that there's more to life than money, and it's time we focused not just on GDP, but on GWB – general well-being', it's clear that this a shift in values that has become pervasive.<sup>2</sup>

The most significant outcome of Layard's work is that the choice which gives us the most happiness is that which reduces our choice: commitment. Because of technology such as the mobile phone, modern consumers run their lives with the hope of keeping all options open and maximising individual expression. This is why we cancel meetings at the last minute, or keep our social options on hold until the best offer comes via that last-minute phone call from a friend.

However, it is in long-term committed relationships, in which choices become closed down, that human beings are most fulfilled. For the future of work, this creates a dilemma. As work increasingly becomes something that we consume, something to which employees never commit to too strongly for fear of stagnation, a short-termist, half-hearted working psychology is unlikely to make us happy. Happiness economics would suggest that the future of work involves a reappraisal, and the re-creation of jobs that people commit to sincerely and for the long term.

Work is ceasing to be an industrial activity. Increasingly, individuals seek forms of employment that are consistent with a green and healthy lifestyle. At present, around 40% of us spend over 30 minutes each day sitting in traffic or waiting for public transport. Home-working eradicates this, while research by BT on conference calls shows that an average conference call saves £100 in travel costs per user, and a total of 22kg of CO2 emissions.

Happiness economics can also explain people's propensity towards working away from large cities, as the down-sizing trend continues. Home-workers in suburbs and rural areas contribute financially to the local economy, which is a benefit for sustainability.

Of the 155,000 people who quit London every year, many move to areas such as Cornwall. Heavy investment in broadband has made the south-west peninsular one of the most attractive and pro-active regions for SMEs that depend on remote technology.

The happiness economy is leading many individuals to seek work that gives them as much control over their lives as possible, even if this means working on their own a great deal, and technology of course facilitates this. Asked about the main benefit of mobile working, the most common answer (40% of respondents) is more control over the working day. Technology enables this greater independence, and also guards against isolation, offering the constant promise of contact.

While some trade monetary wealth for well-being, others remain locked in jobs and workstyles that prevent them reaching such an equilibrium. Elite knowledge workers in finance, law and business services (called 'symbolic analysts' by US economic writer and politician Robert Reich) lose their evenings and weekends in exchange for six-figure salaries. These workers are treated like racehorses: pampered and invested in heavily, but without sufficient autonomy to enjoy their wealth.

## Work-life blending

As technology helps break down the distinction between work and life, a new genre of quasi-working activities is emerging which combine aspects of both. This relates to a new value system that is not entirely oriented around productivity and money; but nor is it entirely oriented around relaxation and leisure. Increasingly, individuals seek to develop the grey area between the two, in which activities are fulfilling and useful at the same time.

Work-life balance is being replaced by 'work-life blending'. Digital technology is encouraging a multi-tasking psychology, for young people especially. They expect to be exchanging emails or texts with friends, while also engaged in some form of work. Equally, they are happy to perform working tasks while at home or during leisure time. However, work-life blending can also cause problems. Research shows that 57% of British professionals work while on holiday and 89% admit to checking their email on holiday.<sup>3</sup> This tends to be caused by a fear of giving away responsibility, or lack of preparation for time away from the office.

Charles Leadbeater, a leading commentator on the knowledge economy, argues that our economy and culture are being shaped by 'pro-ams', 'innovative, committed and networked amateurs working to professional standards'.<sup>4</sup> The internet has enabled people in areas such as the arts and science to create grass-roots organisations that enable amateurs to operate in a way that was previously only possible for professionals. This represents a new possibility: maintaining two careers side-by-side, one relied on for income, the other generating prestige and fulfilment.

A growing number of people are turning to entrepreneurship both as a hobby and as a new way of working. Over half (59%) of new businesses initially develop in the home; hence the emergence of the 'micropreneur'. This may also have engendered the 'hacker ethic' of the under-25 generation as an alternative work method, rather than a way of breaking the law.

While the term 'hacker' has connotations of breaking into a computer system, the true meaning of the term is more benign, and pertinent to the contemporary world of work. Pekka Himanen, author of *The Hacker Ethic*, argues that this is a new work ethic, in which 'recognition within a community that shares their passion is more important and more satisfying than money'.<sup>5</sup> For those who share this ethic, work needs to be experimental, playful and free from discipline.

### Mash culture

Mash culture, with its cut-and-paste ethos, is one of the more noticeable trends to emerge from the hacking and work-life blending aesthetic. Mash-up sites are created by combining content from two or more sources using an Application Programming Interface (API), software that allows enterprising individuals to use programs for new and inventive purposes.

For example, Geobloggers.com allows users to place their Flickr pictures onto GoogleMaps, relating holiday pictures to their geographical position. The Gawker Stalker mash-up site plots celebrity sightings by keen-eyed Manhattanites.

Internet giants including Amazon, the BBC, Google and Yahoo! have all made APIs available for free, which has increased the take-up of this technology. The cataloguing website Mashupfeed.com reports that an average of 2.77 new mash-up sites are created daily.

### Collaborative branding

Smart brands and businesses are capitalising on consumer desire to cut and paste and do their own thing by giving customers the opportunity to customise products. Think Nike's iD service, which allows sneakerheads to create their own colourways for iconic Nike trainers, or Earnest Sewn's An Earnest Cut & Sew service that allows customers to tailor and customise their jeans.

Global connectivity means that the exchange of ideas is taking place at an unprecedented pace. This shortens the time it takes for ideas to move from concept to reality. We have already seen the democratisation of the internet give tech-savvy consumers the platform to develop open source software.

Consumers are also modifying software and other products for their own use. Rather than voiding their warranty, forward-thinking companies are harnessing the intelligent, creative consumer and trans-corporate worker to contribute to product development. All enjoy the involvement and status they receive and could even become future brand employees.

In his book *Democratizing Innovation*, Professor Eric Von Hippel, head of the innovation and entrepreneurship group at the MIT Sloan school, writes: 'User-centered innovation processes offer great advantages over the manufacturer-centric innovation development systems that have been the mainstay of commerce for hundreds of years. Users that innovate can develop exactly what they want, rather than relying on manufacturers to act as their (often very imperfect) agents. Moreover, individual users do not have to develop everything they need on their own: they can benefit from innovations developed and freely shared.'

Nokia's Concept Lounge invited designers to share ideas for the next Nokia phone. The winning design of the Nokia 888, by Tamer Nakisçi, features a malleable touchscreen interface that can be wrapped around the wrist or clipped to a shirt pocket. Nespresso's 2005 Design Contest, which looked at coffee rituals of the future, worked with consumers to create products such as the Nespresso InCar coffee machine and the Nespresso Chipcard, which stores coffee preferences for registered individuals, and, when inserted into a vending machine, communicates with a central database to brew a personalised cup of coffee.



## Peer publishing

The power of peers and peer publishing is another of the biggest stories of how our ability to access technology anywhere, anytime is changing the way we work and engage with the culture around us.

We are moving towards a time when people upload as much they download. The current generation of under-25s does not want its cultural content to be dictated by tv networks, record labels and film studios – this generation wants to control its own media. This explains the popularity of blogs and social networking sites such as MySpace and upload sites such as Flickr, Revver and YouTube.

Consumers use social networking sites to publish information about themselves, but more importantly to meet people with similar interests and form new networks. MySpace, which focuses on music tastes, is the sixth most popular site in the world, according to Alexa.com, and the best known social networking site in Europe and the US.

Since it was bought by Rupert Murdoch, many users feel MySpace has become too corporate. This has led to the creation of new sites focused either on niche interests that continue to blur the distinctions between work and play, or on offering better services. In the UK, Bebo has overtaken MySpace as the most visited social networking site, according to Hitwise.com. Users can upload as many songs as they wish to their profiles and the profiles also feature the 'whiteboard', an area where friends can leave hand-drawn messages using an application somewhat like Microsoft Paint.

Dandelife.com users share their biographies online, using Flickr and YouTube to import images and videos to illustrate their stories, as do users of WikiBios and OurStory.

## Sleeve living

Virtual communities such as Second Life, There.com and Cyworld allow users to create an 'avatar' or a 'sleeve' (as in something you wear over your body). This sleeve is a virtual representation of the user, or of how they would like to be, and interacts with other site members.

Much like online social networking sites, virtual communities are also a way of building communities and relationships offline; members can choose to meet the creators behind the online persona. Naughty America combines the idea of Second Life with a real-life dating site.

Sites such as Second Life, however, are also being used by our trans-corporate workers to meet, discuss and collaborate on new ideas. In many ways, they are even making video conferencing redundant for a generation that wants to immerse itself in the web and truly exploit the potentials of the virtual space in a way that video conferencing cannot.

Stores such as American Apparel are already trading in Second Life, while news organisations such as Reuters have built a headquarters there to report on the business, financial and work-related activities of Second Life inhabitants. Radio 1 also took over one of the islands in Second Life to stage a virtual version of the One Big Weekend event in Dundee. SLBusiness, an online magazine dedicated to developing virtual products, has just launched. These are examples of work-life blending in its truest sense as they combine the real and the virtual and career-based activities with personal and leisure activities.

## Just-in-time associations

Professor Paul Resnick of the Michigan University School of Information argues that networked technologies are helping us move from 'just-in-case' associations to 'just-in-time' associations. The former offer a constant safety net when things go wrong, as trade unions have done in the past. The latter are assembled and disassembled as and when they are needed, depending on how long individuals choose to remain affiliated. The shelf life of associations is shrinking, as they become deformalised and organised in network structures.

Work is not simply moving out of offices into homes, but out of offices per se. With ubiquitous technology becoming a reality, workers are now using cafes, book shops and other public spaces to work, hold meetings and coordinate their networks. These are what the anthropologist Ray Oldenburg calls 'third spaces', with have a mixed function that is neither entirely commercial nor entirely social.<sup>6</sup>

Third spaces are critical to the functioning of work in the information age, offering spaces in which entrepreneurs and mobile workers can network, relax and log on. A study by AnnaLee Saxenian, dean of the UC Berkeley School of Information, compares the innovative milieus of Silicon Valley and Boston's Route 128 corridor and shows that this type of social infrastructure underpins the West Coast's advantage over the East.<sup>7</sup> Yet entrepreneurs fear that the UK, particularly outside London, still lacks a sufficient number of third spaces. Mobile working will put additional pressure on those that exist.

David Lee, a consultant who researches career structures in creative industries, argues that many independent workers currently face an institutional deficit. 'There's a space for a new networked workers collective to emerge,' he says. New types of collective projects and associations for the digital age include Ecademy.com, in which workers share advice and favours in an online environment, as and when it suits them. A new type of bottom-up, flexible trade union has also emerged, as the American economist Richard Freeman demonstrates in his study of Alliance@IBM. This is matched by professional associations which use the net to bring together independent knowledge workers internationally.

Amazon has launched Mechanical Turk (mturk.com), an online service that brings together people with tasks that need doing with people willing to perform them. This is work that requires no face-to-face contact or expertise, but which computers are unable to do, such as jobs involving picture recognition. Freelancing releases work from the constraints of employment contracts. Now micro-working practices are releasing it from the constraints of a working day and breaking it down into individual chunks to be bought and sold over the net.

It is the flexibility and freedom of mobile work that is so attractive to those who seek it. But these same traits can make it precarious. Bruce Davis believes that technology is only just reaching the point at which it is sufficient to cope with the demands of working on the move. 'For people who work all over the place, mobile phones are fine most of the time, but many workers find that things can get out of control and they don't yet have the technology to cope. But we're getting there.' Similarly, there is a large segment of the workforce for whom independence and flexibility are frightening. These workers seek to escape the looming precariousness of 21st-century employment.

The next section of this report analyses the new kinds of worker these technologies are throwing up in their wake.

- 1 Happiness: Lessons from a New Science, Richard Layard, Penguin, 2005
- 2 David Cameron in his Google Zeitgeist 2006 speech
- 3 Research carried out for the Chartered Management Institute, Microsoft and Ecademy
- 4 The Pro-Am Revolution: How enthusiasts are changing our economy and society, Charles Leadbeater and Paul Miller, Demos, 2004
- 5 The Hacker Ethic and the Spirit of the Information Age, Pekka Himanen, Secker & Warburg, 2001, p. 51
- 6 The Great Good Place, Ray Oldenburg, Marlow & Co, 1999
- 7 Regional Advantage: Culture and Competition in Silicon Valley and Route 128, AnnaLee Saxenian, Harvard University Press, 1996



# NEW MOBILE WORKING TYPOLOGIES

Workers in the digital age are defined by how they respond to the absence of definition: how they cope without clear boundaries around work, leisure and family life, and how they use technology both to weaken those definitions further, and to rebuild them in ways that suit them personally. As we have already seen, the trans-corporate worker with a connected laptop or PDA is already among us. But there are other tribes on the move, and with our trans-corporates, these are blazing the trails the rest of us will eventually follow. They include:

- Data Jockeys
- Urban Unitaskers
- Digital Artisans
- High-Wire Workers

## Data Jockeys

As hotspots gradually eradicate coldspots, Data Jockeys demand ever more opportunities to access and share information. This is partly a generational phenomenon, but also a feature of an age in which appetites for communication are rising faster than technology can satisfy them. Data Jockeys include the 14% of people who are happy about work-life blurring.<sup>1</sup>

A generation of Data Jockeys that expects to be connected to the network constantly is about to enter the workforce. For these 18-24-year-olds, who have no memory of the world without the internet or mobile, the digital network is their social network and they don't like to go without it. They are always online, always multi-screening (our researchers note that they work with three, four or five screens open) and always scanning the web, looking, suggests Linda Stone, writer and former vice-president of Microsoft, 'for opportunity'.

This is a group that grazes information, scans data banks and tends to acquire a wide-ranging but superficial understanding of a subject, rather than a deep or insightful understanding. They are avid multi-taskers and are giving us terms and activities as back-grounding and swing time. Back-grounding involves skipping between all the screens open on your desktop, without concentrating on any one in particular.

The 80s-style Masters of the Universe demonstrated their prowess by staying awake and at work as long as possible. The 00s equivalent does so by working as many windows as possible, across two or more laptops, without losing concentration or agility. Adeptis say they get a 'high' that is better than recreational drugs, and describe their ability to work so fast as 'being on the burn', a term borrowed from air traffic



controllers who have to keep thousands of data bytes in their head at any given time.

How employers cope with this change in future workers' behaviour will be decisive in how successfully they extract value from this generation's unprecedented playfulness and technological nous. Over a quarter (26%) of 18-24 year olds say that their ideal place to work would be the beach, so it seems that new possibilities for mobile work will be a key factor. Companies will have to 'woo them with a sense of place as well as a sense of salary', suggests Kjell Nordstrom, author of *Funky Business* and *Karaoke Capitalism*.

An older group of 'connection addicts' are the 30somethings who are first to check their BlackBerries when a plane lands, and the mobile workers seen wearing Bluetooth headsets on the move.

They consider mobile working as crucial to their jobs. This is a generation of independently minded businesspeople for whom new technology is a fresh challenge, and who are driving the uptake of new opportunities to connect. They find it difficult to ignore their email and mobiles on holiday, but can welcome encouragement to do so. Like their pre-teen children, they connect, therefore they are.

A YouGov survey conducted for this report finds that the majority (61%) agree with the statement 'I feel slightly addicted to email and log on as soon as I get the chance' underlining the fact that, as a working population, we have become hooked on email as a communication tool.

The research also finds that 80% log into their email within the first few minutes of arriving at work. This raises the question of whether British workers are allowing their daily agenda to be driven too much by their email inboxes rather than their task lists.

Coffee houses and other Wi-Fi-enabled third spaces are of growing importance, especially to our Data Jockeys. Many of them, especially those in their early 30s (our Generation Xrs) have no single fixed place of work, and therefore roam the city in search of somewhere to log on. With 59% saying that being outside the office makes it easier to work, their goal is simply to get out – anywhere.

## Urban Unitaskers

35% of people are unhappy about the blending of work and life. These are our Urban Unitaskers, who attempt to retain a clear delineation between work and life and increasingly want to do one task well.

Linda Stone and other writers and researchers in this field see this as a counter-cultural move against a growing propensity towards paying partial attention and failing to spot the difference between information and insight. As Stone sees it, younger groups thrive on information, mainly because they confuse it with knowledge and insight. However, older users in their 30s and 40s are beginning to understand that insight, rather than information, is the new driver of culture. And insight, says Stone, comes from the ability to assess data and information thoughtfully; hence the desire to unitask and to draw clear lines between work and rest, home and office. Although Urban Unitaskers may be fighting blur, they are also fighting the trend to confuse scanning with understanding and insight, she explains.

Although our Urban Unitaskers enjoy the benefits of mobile working and home working and are keen users of the latest gadgets, they attempt to impose a bureaucratic discipline to prevent their working lives leaking into their social and domestic lives.

For our Urban Unitaskers, the most important function on a mobile or laptops is the off switch. Some go further still: 16% say that a mobile phone is the technology that they would be happiest to lose.<sup>2</sup> These workers resist the growing ubiquity of connectivity, not least because they feel that trains and planes were previously good places to work away from the distraction of email. They may also be suspicious about the potential ICT offers as a surveillance tool for managers. Likewise they see it as an intrusion on thinking time, and being creative. Being older than our Data Jockeys, they do not necessarily see collaboration as a means to creativity, and possibly as a factor that may inhibit it.

Our Urban Unitaskers, especially those in their mid-40s, are very competitive and see themselves as thought leaders and ideas creators – but in the solo sense. Thus technology to them isn't an end in itself, as it can be to our Data Jockeys. Rather, it is a means or a format through which they can achieve their goals.

This type of mobile and home worker uses space very strategically to differentiate work from non-work. If they have a home office, they will view it as a separate part of the house and keep the door shut when not using it. However, as Bruce Davis points out, children create issues around the understanding of space, and Urban Unitaskers will battle to keep work and family life separate.

The most important means of achieving a work-life split is social. 57% of British workers say that their colleagues know when they can and cannot contact them.<sup>3</sup> Many '9-5 nostalgics' will specifically choose to use quite traditional aspects of the working day, such as formal clothing and regimented hours, to signify their values to others.

### Digital Artisans

Digital Artisans are among the most enthusiastic users of new technology, eagerly exploiting its potential to create their own content and define themselves through their work. They are keen on collaborations, and are at the forefront of collaborative branding and the collaborative or federated office phenomenon. These workers embrace an open source approach, enjoying new opportunities to produce original work and refine their skills.

Gary Franklin of Eurekster argues that Web 2.0 is already altering business and knowledge management models. The new generation of employees do not expect to have to locate information they need through codified systems that they may not understand. Instead, they expect to be able to share it and find it on wikis and collaborative tools that develop collective intelligence.

The commercial value of specialist communities is becoming apparent. As JC Herz and others have argued, in areas such as computer games, R&D and innovation can often be handed over to the communities of vocational users who give their time for free. Digital Artisan workers and those with a sense of the 'hacker ethic' do not distinguish between commercial and non-commercial work, only between work they perceive as worthwhile and work they do not perceive as worthwhile. They would rather work for nothing on something they believe in, than for money on something they don't.

Digital Artisans view new technology as a way to enter markets which otherwise had high entry barriers. They view technology as a democratising force, and see blogs and self-publishing companies such as Lulu.com as ways of defining themselves. Meanwhile, eBay, Slivers of Time and the micro-venture capital network Zopa enable entrepreneurial activity on the part of people who are not full-time entrepreneurs. Although many of our Digital Artisans may have dabbled with social networking sites like MySpace, Bebo or YouTube they have moved on, finding these sites clique-ridden and juvenile. MySpace users are people who rank their importance by the number of friends or associates they have, while Digital Artisans rank themselves according to the number of ideas they can contribute or the number of products, brands or services they can create via such associations and collaborations.

Traditional social networking sites still require exclusive or hierarchical friendship tiers. The Digital Artisan, egalitarian by nature, demands and offers inclusivity rather than exclusivity to people who join their guilds or open source adventures. An idea shared is an idea doubled, is their firm underpinning belief.

### High-Wire Workers

The prospect of a high-tech, flexible future is a source of anxiety for some. Even though true technophobes are declining in the workforce, the precariousness of mobile, independent working can be a worry, especially for the 25-35 age group who are seeking emotional and financial security in amongst it. For those walking the high-Wire, the short-termist, more fluid workstyle is appealing, but offers little opportunity to relax.



## Outside the network

Social networks in the context of work, says David Lee, 'can be useful, but they can also be exclusive and quite opaque.' An informal social economy can be hard to penetrate for those without the soft skills that determine success. For those workers struggling to achieve their identity in fluid environments, networks are infuriating and intriguing in equal measure.

Independent, entrepreneurial career structures can also be daunting if individuals don't get the information they need on things like tax. 'There is no one-stop shop to find out how to set yourself up as an independent and people are not making the leap as a result,' notes Bruce Davis.

Many people don't yet feel sufficiently empowered in the new age, and suffer the negative effects of flexibility, such as job insecurity and lack of pensions, without the compensating positive effects. Thus, while the much-talked-about 'digital divide' is in decline, in the UK at least, we are witnessing the emergence of a new social phenomenon: those who fear the pervasive nature of networks and the notion of always being connected.

In part this is due to a genuine lack of social networking skills, but also due to the fact that these high-Wire Workers still live in a culture where hierarchies rule and middle management still has its position and privileges. In some ways, our high-Wire Workers are an endangered species. They see the benefits of technology, but they are also fearful that it is ushering in a new world order they have little desire to deal with. Having been in control for so long, they are not keen to let go of the reins just yet!

So watch out for a mid-life, middle management struggle over the next five years as our Digital Artisans and Data Jockeys get ready to do battle with their nervous, 40-something high-Wire colleagues.

These workers at the heart of the New Economy are adamant that they don't want to return to their parents' job-for-life career structures, so they are already working towards change.

The anxiety of flexible career structures can be stressful, but these workers believe it is part of the same package which offers greater autonomy and creativity. This is a generation and a group that can be described as cuspal, in that they can remember a time before the internet and a time before mobiles made the world permanently contactable. Their fear as much a fear of letting go, as a desire to cling to the past.

## INTERVIEWEES

Bruce Davis  
Gary Franklin  
Emma Jones  
David Lee  
Kevin Roberts

## LINKS

[www.ecademy.com](http://www.ecademy.com)  
[www.enterprisenation.com](http://www.enterprisenation.com)  
[www.eurekster.com](http://www.eurekster.com)  
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# CONCLUSIONS

**The world and the workplaces that drive it are clearly changing profoundly. Thanks to our trans-corporate workers, our data jockeys and the rise of collaborative work practices and opportunities, markets are colliding and the divisions between buyer and seller, product and service, skills bought and knowledge sold are blending and overlapping.**

Within a decade, our researchers suggest that as many as 5.5m will be working in rootless, deskless, 'always on the move' jobs.

We are swiftly entering a period when all aspects of the career market, from the structure of the organisations we work in to how we work in them, are up for grabs. And the arrival of technologies such as Wi-Max, Wi-Fi, broadband and broadband mobile that allow us remote access to our laptops or even our TVs, is pushing this moment ever closer.

The prevalence of Bluetooth and RFID is also contributing. A wireless world won't just be invasive, but all-pervasive. We will, literally, be able to connect 24/7. For the generation following us, the notion of ubiquitous computing and of city-wide, even nation-wide hotspots ('wireless lakes') will be accepted as the norm, just as internet access to the home or mobiles are accepted now.

In fact, areas will be noted as coldspots rather than hotspots; these will be avoided by some but welcomed by groups such as our urban unitaskers or high-wire workers.

## Quality of life

Because of this, we believe issues relating to quality of life will become more important than pension rights over the coming decade, as the battle to add meaning and value to our lives becomes directly related to our ability to moderate and stem the flow of information that swirls about us.

Indeed, a high proportion of those surveyed for this report agree that these issues will increasingly become the responsibility of the employer, as well as the employee. As 'wireless creep' continues, some even suggest that internet-free Fridays, log-off days, and silent or 'no-tech' zones will become as common as no-smoking zones.

There will be a generational aspect to all of this. However, awareness and discussion of such issues is likely to become a requirement of working life, as writers and researchers such as Linda Stone suggest.

The search for data, is not, as Stone explains, the same as the search for knowledge or the acquisition of insight. And as we become increasingly dependent on information and knowledge, writers such as Stone and Daniel Pink believe that it is from insight that tomorrow's competitive edge will stem.

Alongside this search for knowledge and insight, we are also likely to see a parallel (and not unrelated) search for balance, for a work structure that suits a generation and an age where traditional organisational hierarchies no longer apply.

We are thus set to enter the age of the federated organisation, where standard managerial tiers are replaced by a flatter, more organic, more fluid nexus of communication and command.

Authors and commentators such as Neil Crofts (author of *Authentic Business* and *Seven Stages of Authenticity*) and Charles Leadbeater (author of *We-think: The Power of Mass Creativity*) rightly believe that this bottom-up, 'you-control-the-schedule' approach is leading to a far more profound and promising stage of our culture. We are moving towards the age of creativity and self-actualised choice.



As Leadbeater says: 'People want to be players, not just spectators, part of the action, not on the sidelines, participants and contributors, not just workers by day and consumers by night.'

This is very clear from trends such as collaborative branding, or from social tribes like our data jockeys and digital artisans. It is also set to become part and parcel of the new world order, as facts from the US demonstrate: 9m US teenagers watch home movies created by other teens; 4m US households have video cameras and software to make home movies; about 750,000 people in the US do this every week; YouTube shows 100m video clips a day; around 50m Americans have created web content. Creativity, then, is no longer the province of a privileged elite.

But we have only just begun to tap the appetite for participative culture.

Creativity, collaboration, the desire to be a player rather than an observer: these are fast becoming the new way forward, thanks to the connective powers of the internet. The way users increasingly mitigate and change the technology they use to suit themselves is another key factor. Far from technology changing society, we are learning that society changes technology as people become more adept and canny at using it for their own ends.

Consider the growth of social networking, or the arrival of Web 2.0, and sites such as Second Life, There or Tale of Tales. Technology may 'host' these, but it is the ingenuity of the user that makes them sticky and compelling. The internet, after all, was created to stream vast amounts of data between universities, research establishments and the military; now it is used to order milk from Tesco!

Another aspect of the internet and ubiquitous computing that appeals to our trans-corporate worker is the power and pleasure of sharing. This may not seem the most important feature of modern technology; but remember that the business models of the 20th century were based on 'need to know' decisions and on power structures that used knowledge to maintain their balance. It will certainly be difficult for old-century managers and workers to cope with our data jockeys, urban unitaskers and digital artisans. For them, information and knowledge sharing is fundamental to their ability to complete a task: even down to sharing knowledge with their competitors!

This is especially true of the e-lance sector (people who sell their services online). Here, the most connected freelancers are the ones businesses want to use, because they bring with them a wealth of talent and knowledge.

And, as more organisations become project-driven and task-specific, especially in the banking, financial, media, marketing and administrative sectors, this is what will be expected of employees. The old-style manager who used information to wield power will become an old-century freak – the office joke.

Few employers however, would seem to be noting these new needs. Many businesses are still missing the point about the higher or 'soft skills' needed by this new generation of knowledge-based employees. By this, we mean skills that embrace the ability to share and distribute information, to work lightly across seemingly unconnected disciplines, to establish and maintain collaborative networks, and to be able to distinguish between data, information, knowledge and insight. The latter ability is the real skill and value of the digital artisan, and the universal skill that business will demand of us all tomorrow.

Mobile technology and the power it brings will, after all, soon be simply the norm. What will make a difference is how we take these technologies and use them to gain deeper insights about the world in which we work. Information will be everywhere, but tomorrow's digital citizens will make their mark by extracting opportunity from the buzz that surrounds them.

