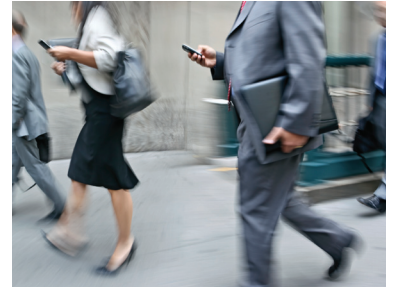


The Evolving Workforce

Report #1: Expert Insights



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Foreword

Paul D'Arcy,
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Only a few years ago, the workforce was predictable and easy to define – with most employees working routine office hours, using the same office computer. Today, working practices are far more varied and unpredictable. We respond to emails at all hours from our smartphone or tablet; we collaborate and share ideas with colleagues, peers and even strangers around the world via social media; and we get inspiration from working in curious places – be it a coffee shop or a museum.

Rapid developments in technology have empowered the workforce to adopt new ways of working. We're already experiencing the benefits of today's technology in our personal lives – on the go access at the tips of our fingers, the latest gadgets which connect our home and work devices. We simply want to extend these benefits into the professional realm and, in the current environment, expect employers to provide the capability. This expectation and sense of entitlement will only become more commonplace as younger generations of 'digital nomads,' who have grown up with technology all their lives, enter the workforce.

Employers are taking notice and beginning to embrace this new way of working. CIOs want a thriving workforce – one that is creative and efficient – and see a business opportunity to provide the technologies that empower workers to ultimately have a positive impact on the bottom line.

But with these opportunities and demands come new challenges and potentially increased levels of IT complexity. How do organizations deploy and support the right array of devices that serve as the best tool for the job? What are the security implications for enabling flexible working environments? How do organizations efficiently and cost-effectively manage the exponentially increasing amount of data consumed, created and stored on these devices? We are witnessing the convergence of consumer technology and behavior with the corporate environment; the IT manager's reaction to this, as well as the changing business and workforce demands, will shape the next generation of IT and play a key role in an organization's success.

To better understand the changing make-up of the workforce and how employee demands will continue to impress upon employers and IT professionals in years to come, Dell, together with Intel, are exploring key trends driving this phenomenon. The following report is the first in a series of three entitled the 'Evolving Workforce.' We are excited to reveal these initial findings and look forward to sharing further insights as we continue our exploration of an evolution that affects each and every one of us.



Introduction

Dell and Intel have commissioned TNS Global to undertake a global project to identify and explore key future trends and themes pertaining to the workplace and workforce, and in particular, the role that technology has played in its evolution. The project spans eleven countries and comprises of several stages combined to form an iterative journey of learning and discovery.

In the first stage, a team of specialist desk researchers and analysts identified an array of key economic, technological, social, environmental, political and legal factors that are driving the changes taking place in organizations throughout the world. After an examination of the commonalities and synergies among the drivers, the team developed seven overarching trends with accompanying hypotheses for exploration and validation throughout the project.

The second stage solicited views from a mix of global experts – including senior technologists, analysts, journalists, senior recruitment professionals, designers, futurists and organizational psychologists. This first report presents the key findings derived from the knowledge and experiences of these experts and includes top insights, geographic comparisons and the overall implications and conclusions for the workforce.

In months to come, Dell and Intel will produce another report that will include findings from a global survey of thousands of workers across multiple industries. This will further test the exploratory trends and hypotheses and delve deeper into insights about how the workforce is evolving in each of the countries explored. In the third and final report from the Evolving Workplace Research series, experts will revisit and provide commentary on the survey results.

Exploratory Trends and Hypotheses

The seven trends and accompanying hypotheses that are guiding and informing the journey across the project are:

Crowdsourcing and Crowdsourcing service: The workforce of the future, for many industries, could be thousands of people working in different places. Is Cloud computing and other information and communications technology (ICT) applications going to make it easier to distribute more tasks and adhere to a 'just in time' labor force model?

Productivity measured in outputs, not hours: Standardized measures of productivity based on numbers of hours inputted would become less relevant in a knowledge based economy. What are going to be the new metrics to assess productivity?

Changes in adoption of devices: The number and types of devices and operating systems are proliferating and changing. Choice of device would become more about the situation, location and occasion. Are employers and the current systems and processes going to allow for increased end-user utility and choice?

Intergenerational kiss and punch: There will be more intergenerational knowledge transfer between younger 'digital natives' and the older generation. However, is there an increased risk of conflict and tension between workers of different ages, backgrounds, knowledge and skills?

Values versus rules: It would become easier to tell what employees are doing, but harder to tell them what to do. In this scenario, would employers use pervasive technology to oversee their workforces at any given time? And if so, would distrust of employers accelerate?

Many hats of the IT manager: As employee aspirations change to a greater onus on happiness, autonomy and choice, workplace IT would be one way of recruiting and retaining staff. Will the job of the IT manager increasingly align to the HR department?

Employee-led innovation: The business software of the future will be adopted and increasingly be designed by employees rather than management or the IT department. Are we going to see more networked, de-centralized organizations to facilitate this shift in corporate hierarchy?



Executive Summary

Dialogue with our experts revealed how the impact of the trends is potentially contributing in a number of ways to a polarization of the workforce and increased tensions between different employee groups, as well as between employers and the workforce. The degree to which these tensions exist today and how they might intensify tomorrow, as well as how tensions could be pre-empted or overcome, provides a great deal of rich insight to further deepen our understanding of the trends.

1) The Generation Divide

Being a digital native does not necessarily translate into higher demand for the Consumerization of IT. Many Generation X employees also have a healthy appetite for new technology that needs to be satisfied, as well as the influence and seniority for their voices to be heard. Younger, more junior workers, despite being digital natives, may be more eager to 'conform' and less willing to rock the boat.

2) Suspicious Minds

Mistrust between employers and employees is holding us back from embracing new technologies and working practices. Transparency and a constant dialogue may have to underpin any process changes.

3) Access to the digital world

The choice of devices and operating systems will become more of a personal and situational preference, rather than a technological necessity, as the move to cloud computing gives more choice in how we access the digital world. Form factor will become secondary, although still important, as the portal through which information is accessed.

4) Compatibility

The increase in use of Crowdsourcing and Crowdsourcing services will continue to push compatibility to the forefront of IT challenges. Employees and employers across the world will need to work seamlessly together and any technological hurdles that present obstructions will be heavily resented.

5) Are we ready for employee-led innovation?

The benefits of employee-led innovation are finely balanced with the challenges they present, and companies will have to find a way to overcome these and support new ideas if they are ever to truly exploit the advantages.

6) What's it worth?

As the shift to a knowledge-based economy continues, the means to measure productivity is becoming ever more challenging. The role that IT can play in this is still to be determined, but could be significant.

7) IT Managers...the next generation

CIOs are often seen as the barrier to technology advances as they must balance the need for evolution with the inherent security risks and any budget constraints. Rapid advances in technology require a new breed of 'nimble' IT Managers, who proactively integrate developments into an organization rather than delay and block the transition.

8) A company divided?

The increase in Crowdsourcing and changing working patterns mean groups of people are often brought together for a single task and then disbanded. This makes it increasingly difficult for companies to build a unified workforce, sharing common values and goals.

9) The new generational conflict

The idea of intergenerational conflict is nothing new, but as the speed of technological advancement increases, are we beginning to see the first signs of an intra-generational conflict, where a divergence of technological interest and ability is rife amongst peers?

10) Simplification and segregation of expertise

As IT applications allow workers to carry out increasingly sophisticated tasks with simple IT devices and interfaces, we question whether the notion of specific areas of expertise and knowledge become redundant, or whether they will shift to a higher plateau.



Hypothesis

The workforce of the future, for many industries, could be thousands of people working in different places, the majority of whom don't know each other. Due to the rise of pervasive ICT and the development of cloud computing, it will be easier to distribute more tasks and services and to invite input from a community through Crowdsourcing.

We will also see the growth of a 'Just-In-Time' labor force as it will be easier to unbundle and split up work into component tasks, and then to Crowdsourcing resources to accomplish these via a labor market. As the class of semi-temporary contract based workers expands, there may be stronger allegations made that this system is exploitative.

Top insights

Crowdsourcing and Crowdsourcing service are expected 'to be great levelers' with employers able to obtain services and invite ideas and feedback from anywhere and anyone, leading to a greater need for meritocratic organizational cultures. If executed well, quality and cost benefits could be realized as employers are better able to match tasks with the exact resource required, as well as, quickly scale up in times of peak resource demand. For example, an internet-enabled television could be repaired by a skilled operator in Shenzhen.

Offices and shared workplaces would still be required as they would continue to provide the physical hub for connecting individual employees, but with the potential to rationalize permanent workforces, employee concerns and unrest are inevitable; hence careful consideration of the impact on morale is essential.

Rather than fixed resources, employees become contractors; getting paid for the actual work they deliver. Although, they would enjoy greater flexibility and potentially higher earning potential, income will be less stable and some of the social dimensions of workforce participation will be lost.

Local context

Crowdsourcing and Crowdsourcing service are starting to become prevalent in some countries. Our expert in Japan estimates that 30% of the national workforce is on contractual and short term employment. Labor markets in the U.S, U.K, Canada, France and Germany are also seen to be in the vanguard of Crowdsourcing; however, it is less apparent in India, Mexico, Brazil and Australia.

Workforces of the developing world will have more to gain than the developed world, but there are risks attached. In China, Crowdsourcing is seen by some employers to be problematic due to a reduction in quality of the output, erratic levels of commitment and availability of freelancers over a period of time.

Opportunities and barriers

The productivity and cost benefits of Crowd Source Service are potentially lucrative for organizations as a more flexible, fluid labor market emerges and 'just in time' resourcing replaces a fixed overhead. For capable workers, earning potential will increase.

On the other hand, strong resistance is expected from many parts of the labor force in the same way as outsourcing and globalization is seen by many to be damaging. The gap will widen between the best workers and the worst in terms of opportunities and earnings, contributing to greater income inequality and therefore potential social unrest.

Broad compatibility and standards-based protocols are required before Crowdsourcing can reach critical-mass. This is related not only to IT infrastructure, but also agreed standards, and in some cases regulations for data protection, confidentiality, security protocols and legal matters such as anti-bribery and contractual legislation. In line with a more flexible market for human resources, Crowdsourcing is also expected to accelerate the move towards leasing IT resources and on-demand service packages.

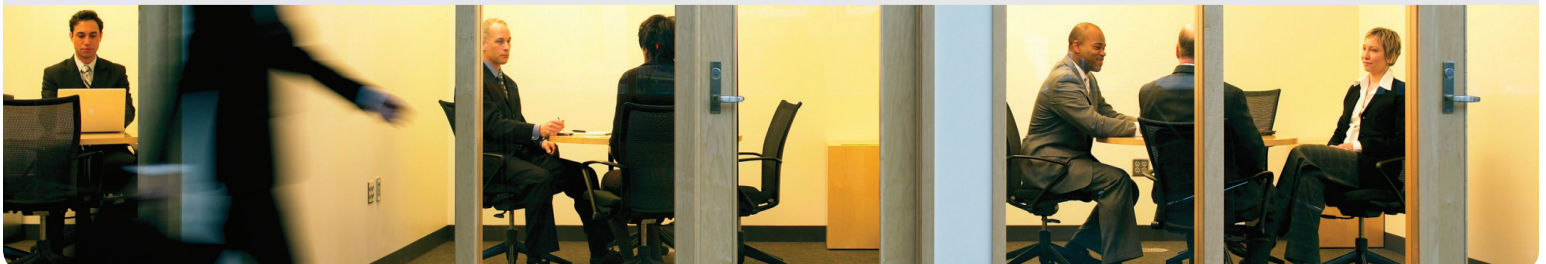
There exists enormous potential to form temporary partnerships across the world for specific tasks; however, utilizing resources in this way could be precarious for ownership and accountability.

Case Studies

Crowdsourcing: Geologists used the internet to invite people to capture data about craters on the moon and upload this information to a shared database. A recent estimate revealed that over a hundred individuals have uploaded approximately 2 million moon crater images. The output was deemed to be as good as those expected from professional geologists. A significant cost saving, in terms of both time and human resource outlay, were additional benefits of adhering to this approach.

Crowdsourcing: Dell is a leading example with 'Ideastorm' which is used to gauge which ideas are relevant to customers. 'Employeestorm' has since been developed with an internal focus that solicits ideas from Dell employees.

Crowdsourcing service: 99designs.com needed a new website design template. Instead of hiring a U.K. web development agency, the company published a crowd sourced auction requesting submissions from web designers worldwide. The specific design requirements, along with the fee, were outlined and posted for a seven-day period. The winning bid, from a Mexican based designer, was commissioned and delivered to the same level of quality in a shorter time frame and at a fraction of the cost of a London agency.



Hypothesis

Standardized measures of productivity based on the number of hours will bear less and less resemblance to actual expectations of working life. This is due in part to the growth and diversification of the knowledge economy, by which we mean an economy based on human capital and their intellect, rather than reliance on an industrial economy. New metrics of productivity will begin to be defined based on quality of output rather than quantity of input.

Additionally, with flexible working patterns and greater expectations of connectivity inside and outside of work, it will become even harder to distinguish between, much less measure, company time versus non-company time. Achieving a work-life balance is expected to be more challenging for many people.

Top insights

Productivity, and being able to assess output, is a fundamental pillar of business and serves to underpin many of the other trends, such as 'Values versus rules' where monitoring output is crucial. Also, 'Employee-led innovation' where employees are seen to have the potential to unlock increased efficiency and therefore productivity. Recognizing the importance of mutual trust between employers and employees is key, but the challenge lies in finding a workable solution to measure output that can be embedded into the structure of an organization.

The notion of trust compliments the changing work-life balance and the shift of focus from hours worked to placing greater emphasis on the delivery. As working patterns become much more fluid and workforces transient, the end result becomes more important than the process.

However, there is a consensus that it is becoming increasingly difficult to develop an absolute definition of an output. Questions are raised about accountability and responsibility: who delivers the output, where does the value lie? Particularly in light of the move away from a manufacturing dominant economy to a knowledge-based market structure, it is a much trickier concept to measure the value of creativity and innovation.

Global comparisons

The global impact of a shift in focus from hours to output is likely to affect more developed markets that have longstanding 'information societies.' Our expert in China predicts that productivity will continue to be measured by 'quantifiable indicators like number of hours,' because of the nature of the predominant industries, such as automotive and consumer electronics. However, in Japan, it is believed that productivity, regardless of how it is measured, is not going to be the sole determinant of an organization's or an individual's performance. Instead, factors such as workplace conditions, employer and employee collaboration, levels of innovation and Corporate Social Responsibility (CSR), will become increasingly important to employees, and therefore to employers who wish to attract this talent.

In the U.K, U.S, France and Canada, the economic climate will force all organizations to increase output levels. In France, it is expected that the public sector will be very different in capturing and recognizing productivity in new ways due to its inherently traditional hierarchies and slow implementation of change. Similarly, the Australian government has raised concerns about the decline in manufacturing, but experts suggest that the corresponding increase in the contribution made by the knowledge based sector has not yet been fully recognized.

Opportunities and barriers

Advances in hardware and systems are going to enable workers to deliver incrementally quicker and better output. Questions of fairness may arise as workers would be rated, valued and rewarded for the quality of their work and not for the number of hours worked, thus potentially creating a rift within teams.

Technologies can help in both recognizing and increasing the visibility of different tasks and the accompanying effort of individual employees. Virtual networks and other technology applications would be needed to allow for real-time tracking of simultaneous workers for comparisons to be made and the value calculated. Legal and contractual issues may arise if the focus on outputs drives greater outsourcing and if the lines of accountability and responsibility become blurred.

Overall, there is recognition that difficulty exists in agreeing a common set of measures for valuing the output of a knowledge economy.

Case Studies

A number of companies, led by the technology sector, are making video games available in the workplace. Rather than a waste of company time, this is viewed as contributing to productivity as it helps workers to relieve stress and stay motivated.

As the only institution of its kind in Japan, the Japan Productivity Center (JPC) is committed to highlighting the importance of moving from a traditionally resource driven view of productivity to a more quality and output specific model.



Hypothesis

The number and types of devices and operating systems are both proliferating and converging. As Cloud computing takes hold, the range of applications and functionalities available are rapidly increasing and the number of providers is expanding – leading to massively increased utility and choice for the end user.

For the mobile worker in particular, resting alongside a laptop will likely be a smart phone and more and more often a tablet. While the number of devices is increasing, the need for compatibility and interoperability becomes more important – all of which is underpinned by the move to the Cloud. Choice of the device will become more about the situation, location and occasion as well as affordability and ease of use.

Top insights

Choosing the correct tool for the job was seen as an underlying necessity. It was unanimously agreed that the future workplace will revolve around the issues of compatibility and not solely about the devices used by employees, which is also important.

Some experts envisage (and expect) that compatibility will become less of an issue as the next generation of hardware and software is going to offer this as an inherent capability. They envisage the software and the Cloud that is behind the fascia, powering IT functions, to be more important.

Opportunities exist for small organizations and the public sector to employ tools that have previously been confined to large private sector firms. Devices such as Blackberries are now more widely available and familiar as a result of consumer-driven demand, and now offer more comprehensive support packages.

Global comparisons

This trend is already evident in the U.K, U.S, Canada and China, where the package of devices is beginning to follow individual worker and team preferences. In developed markets, employers may need to pay attention to their employees' demand for certain devices, particularly in retaining the top talent.

Data protection, confidentiality and security issues are likely to be encountered as a result of Cloud-based international collaboration, and questions are raised about the capacity for current security protocols to cope with this model.

Opportunities and barriers

Offering connectivity for the plethora of devices and platforms will become increasingly important for all stakeholders, because employees will pay close attention to the experience and usability of devices as well as operating systems such as Android, Windows 7 and iOS. Just as in their home lives, employees are beginning to appreciate that overlaying of applications with simple user interfaces will allow them to carry-out tasks that were once specialized.

This will lead to the democratization of global workforces reducing significant differences according to IT skills and expertise. Affordability and ease-of-use of these devices and platforms would help in promoting awareness, availability and access to IT solutions among the poorest and least mobile workers.

A 'good' employer may be judged on the robust range of choice given to employees. However, up-front investment in effective security measures may be needed by employers before external device owners can be allowed access to internal networks and servers.

Case Studies

Nokia, a global telecommunications manufacturer, has brought a handset to market that encourages shared phone usage. This phenomenon is rather specific to the developing markets, but represents a responsive action taken to fulfill demand and targets shared users with features like a multiple address book for multiple users.

IFFCO (Indian Farmers Fertilizer Cooperative Limited) and Airtel (Indian Communications company) have collaborated in an initiative to offer value-added services to boost the country's agriculture. Farmers and fishermen in Indian states like Maharashtra are benefitting from a mobile-based service that provides education, commodity and market information in real-time.



Hypothesis

We could see greater conflict in the workplace between a younger 'digital native' group, and an older and typically more senior generation, although there will also be huge opportunities for knowledge transfer in both directions.

The observed expansion of the workforce, both in age range as well as cultural and ethnic background, will lead to a looser and more diverse group of employees in terms of background and values, working habits, knowledge and skills. As a result, we may see more intergenerational conflict and resentment, which will be exacerbated by more competition for jobs from new graduates and more experienced workers.

Top insights

There was consensus that the generational division has always been an issue within the workplace. Arguably, the rapid developments in IT have served to accentuate the differences, although this is not limited between generations, but increasingly within a single generation. Being 'digitally native' does not necessarily denote expertise, and similarly many Generation X employees have embraced technology to the fullest.

Whilst IT is one driver of tensions between generations, it is also thought to hold the solution to bridging gaps and removing the issues. For example, mobile phones are being tailored to meet the requirements of different groups based on their needs and familiarity with the technology - and the spectrum available caters for all.

Global comparisons

The many IT developments and increased ease-of-use of certain technologies may lead to a more level playing field in terms of education and skills required to perform particular tasks. This could have a polarizing effect as people with different levels of education, from different backgrounds and cultures, would now be competing for the same jobs.

An organization's adoption of technology is thought to be a more pressing issue in developing markets as they are on the cusp of shifting from a manufacturing to a knowledge-based economy. In countries such as India, this change is happening more rapidly than had been experienced in the U.K., France and Germany and this could cause a greater upheaval on the working relationship between generations, but more importantly greater implications for individuals as they choose whether to adopt new technologies.

Opportunities and barriers

In China, it is believed that the time span between one generation and the next is getting shorter. Our expert predicted that no more than two years will separate employees and gaps will exist between people we would normally consider to be peers.

As different generations enter the workforce, the consumerization of IT will allow them to specify the technology they use; the challenge will be to ensure that these work together. The older generation may wish to stick with the systems they know and trust, but they will need to connect seamlessly with the new systems and still fulfill the necessary functions.

As systems are developed and replaced, they must take into account the need for compatibility to allow people to use different technology. This connects with the 'Adoption of devices' trend where there is an increased importance placed on the user-interface and experience. An intuitive interface reduces the required investment in training and eases anxiety and disruption that often surrounds the adoption of new technology.

Building a unified organization may have to go beyond the surface consideration of generations and appreciate the horizontal diversity of the workforce. IT has a crucial role in helping to achieve cohesiveness.

Case Studies

Lloyds of London has moved from a paper-based system for creating, maintaining and updating client contracts to a tablet-based system. However, a significant level of resistance was encountered from some brokers. A solution that employs software that imitates the look and feel of the old paper-based system has now been rolled out. This has been received positively from the brokers.



Hypothesis

In the workplace of the future, the availability of pervasive technology will make it easier for companies to monitor what employees are doing. Potentially more data will exist on what employees are doing at any given time and employers may take more interest in analyzing this information.

Distrust of employers and a negative view of workplace IT may accelerate as a result. This could lead to challenges in setting company rules. Consequently, employer-employee trust will be one of the most valuable resources that positive workforces can cultivate. Enlightened employers may move further towards a 'values-based' model to govern behavior and incentivize staff.

Top insights

Underpinned by the concept of trust, both values and rules are considered to be of increasing importance, particularly the conflict they will have with each other in competing for dominance in a company ethos. However, they are not necessarily mutually exclusive. There is an overall view that trust is a two-way process and that, if employers choose to monitor their staff, then transparency would be key to maintaining the relationship and gaining mutual respect.

Many experts dislike the notion of using pervasive technology, but admit there can be some useful deployments, particularly with the changing working patterns that we see in 'Crowdsource service,' and the need for accountability.

Global comparisons

Opinions were divided as some strongly recommend that employers refrain from monitoring as this sets the tone for distrust, but others believed that rules do not necessarily have a detrimental impact because consistency and rules governing collective interaction are still the main determinant in shaping the workforce.

Employee preference to work for a values-based employer is seen to be more prevalent in developed markets, but the trend is more pronounced within organizations where knowledge and innovation are important. There is a growing assumption that a more empowered workforce is likely to be more productive and creative, and this is crucial for industries where product development forms a large part of their business.

Opportunities and barriers

Values-based corporate strategies are already in place in some workforces in the U.K., U.S., France, Japan and Canada, where the benefits of fostering shared values is recognized as important in attracting the new generation of employees.

Smaller companies, although able to monitor employees more closely, are also thought to be more likely to share similar values. Similarly, newer, perhaps more digitally advanced companies are also more likely to share a liberal employee-centered outlook as the nature of their work requires them to work closely and collaboratively. An expectation exists that the traditional social values of the public sector are under threat from the need to make drastic efficiency cuts in the current economic climate.

Fewer rules may mean advantageous new freedoms for employees, such as control over device procurement and usage. However, the majority of experts acknowledge that technological advancements will facilitate greater monitoring, particularly in light of other trends and their impact on working patterns. There was no general acceptance that this surveillance would be rejected by employees, so long as the activity is explicit and not covert.

Company strategies based on a softer, common outlook can work alongside more rigid rules to achieve homogeneity and reach universal goals.

Case Studies

Online fashion retailer, Zappos, was built around core values and delivers in happiness. The use of social media was actively encouraged within and around the workplace and a very honest and trusting environment was nurtured as a consequence. The company generated \$1 billion plus in revenues in 10 years and as a result was bought by Amazon for \$850 million in 2009. The brand was kept separate due to its unique experience and performance.

'The Seven Habits of Highly Effective People' by Stephen Covey, conducted research into organizational performance data which has been mapped against softer indicators to reveal that employer/employee trust is one of the most valuable factors in cultivating productivity and sustainability.



Hypothesis

We are witnessing a shift in employee aspirations, with greater emphasis placed on happiness, well-being and fulfillment at work. Employers will, and should, mirror this trend with greater incentives to keep their workforces healthy, happy and continuously developing their skills.

As a result, the IT manager role is likely to increasingly align to that of the HR manager, because IT has a crucial role to play. Workplace IT of the future will not merely be a tool to accomplish tasks, but constitute a means of recruiting and retaining staff, of managing well-being, and of facilitating personal and professional development.

Top insights

The IT department is seen as a barrier to the Consumerization of IT by implementing and enforcing systems and regulations that block, rather than assist, employee development. Anecdotes are rife of the IT department blocking certain sites or programs, some of which may contribute to employee efficiency and satisfaction.

There is a feeling that a gap exists for IT managers to take a more rounded view of what the company and employees need, drawing up a comprehensive overview using their strategic knowledge and awareness. Perhaps a more flexible approach to systems and IT is required, and this can be seen in smaller companies who are able to react quicker: IT managers in larger firms often have legacy and investment issues preventing adaptation to meet company needs at a fast enough pace.

Global comparisons

However, the belief that the technology is in existence on most devices is widely held. The issues arise because the awareness of how to access and utilize this capability is low.

In China, experts believe that IT managers need to look more holistically at the needs of the particular market and there are assertions that public and private companies may differ significantly in their adoption of this transition.

Opportunities and barriers

Experts in the U.K. and U.S. believe that the IT manager will not necessarily eclipse the HR function, but it is morphing into a project management role with a focus on increasing workforce productivity. This incorporates some elements of HR strategy, but an IT manager's remit includes satisfying the more functional needs of employees.

There are strong implications for the IT manager's provision of devices and whether the suite allows them to fulfill this new role of employee satisfaction. There is a potential risk of losing out to competition if they do not offer the choice of device or software desired by potential applicants.

The scope of work undertaken by the IT manager is likely to change and this requires a different skill-set from the traditional IT manager, with a potential shrinking of the overall HR function within a company.

IT managers need to think of more wide-ranging issues associated with IT such as compatibility, employee device choice and attracting and retaining talent through the provision of appropriate tools.



Hypothesis

One-size-fits-all IT solutions implemented from the top down are likely to be phased out in favor of systems that are designed by employees to suit their own needs. Social media is facilitating the formation of social networks and communities of interest within and across organizations that straddle and disrupt traditional corporate hierarchies.

Similarly, interoperability and ease-of-use will be crucial for the increasingly de-centralized organization, and employees are more likely to turn to software solutions that are easily available and often freely available. Employees will expect to be able to use whichever hardware or software they choose and to not be restricted in their own innovation.

Top insights

With the increase in project based work and the move toward a flexible, fluid labor market, employers are recognizing the value of the knowledge held by their employees and are beginning to leverage this to share learning and create bespoke systems and new tools.

The Consumerization of IT means that employees are now more aware of the portfolio of devices available and therefore demand has increased for individual choice. Employees expect to be able to pick and choose the software and devices they want to use and no longer want to be forced by their IT department to adopt a certain solution. Restrictions are resented and sometimes counter-intuitive, particularly if the current systems are felt to hinder progression and efficiency.

Global comparisons

This resonated overwhelmingly in the U.S., and many experts asserted that all the top performing companies, generally known for being at the cutting edge of technology, are already embracing this trend.

In Japan, the expert believed that products are led by needs and that IT reacts to this and will assist accordingly. However, there is a strong feeling that this is a cyclical process and that IT creates new needs requiring a fix, which in turn will spawn new IT solutions.

The French expert mentioned that the common hierarchical structure in companies inhibits employees from proposing potentially 'disruptive ideas.' On the flip side, for Mexico and the U.S., provisos were raised that if a company decides to ask for employee input, they must not dismiss any contribution because this would be counter-productive and potentially very damaging for the employee/ employer relationship of trust.

Opportunities and barriers

There is an overwhelming feeling that the potential for this trend is incredible, but if employees give input then their efforts must be recognized. Many experts appreciated that if employees have frustrations that cannot be resolved, then the company must react to them. The flip side is that employers can utilize existing resources and allow employees to find their own solutions.

The proliferation of personal devices has led to expectations that they will be supported in the workplace, and this extends to bringing outside technical knowledge to bear. However, companies need to empower employees, but also to accept and legislate for failure. There must be a support system to ensure effective execution and delivery.

In order for this trend to be successful and employee innovation to be effective, companies must provide them with the time, resource and support to think and experiment with the creation of new systems.

Case Studies

The I-Power concept came out of a meeting between Martin Edelston (founder and president of Boardroom Inc.) and Peter Drucker, renowned management consultant. Everyone invited to a meeting was asked to be prepared to put forward two ideas for making his or her work more productive. Edelston was overwhelmed by the continuous flow of ideas, including a new product idea from someone who worked in the post room. There was no system in place to ensure that these ideas were actioned, so Edelston began to formalize the I-Power system based on the theory of continuous improvement.

In early 2011, Microsoft completed renovations on its new 'Garage,' a place in Washington that encourages innovation among small groups of employees. In these work spaces, teams of two to five employees can collaborate on projects for weeks at a time; something that can otherwise be tough to achieve in a company with 50,000 to 100,000 employees. Similar initiatives can be found at companies like Google and Hallmark.



Conclusion

Around the world, work attitudes and work practices are evolving rapidly, fueled by technological development and widespread connectivity. As cheap connectivity shatters physical boundaries and facilitates the free flow of information, ideas, talent and other knowledge resources, the world of work is being redefined and traditional expectations of workers, managers and organizations are being challenged.

We are still some way away from a tipping point, however. Legacy behaviors and beliefs do not disappear overnight, and while knowledge-based industries and occupations have been quick to embrace the benefits afforded by technology, the opportunities may not be as apparent to others. There are risks attached to the new way of working, and there will be losers as well as winners.

Moreover, the pace at which things are changing throws into sharp contrast the widening gulf between those who welcome change, and those who do not. In the next report, we will reveal findings from a comprehensive global survey that will highlight in detail where the change is happening and how, the opportunities versus risks and which potential futures are being embraced and which ones rejected.

Methodology

The Evolving Workforce program is a long term strategic campaign conducted by Dell and Intel, in partnership with TNS, which aims to unveil future workforce trends and the implications for IT and emerging technologies. The research is being conducted over an 8 month timeframe, and consists of four phases which include both qualitative and quantitative findings. The program has been designed to guarantee a flow of information from the first phase through to the fourth, ensuring that all the insight and learning are leveraged accordingly. Below is a brief outline of the design and methodology for each phase.

Phase One: Filtering existing knowledge and identifying key trends

The first phase centered on identifying key trends shaping the future global workplace and workforce. To ensure that the first 'filtering' stage of the program created a coherent project platform, TNS worked with WPP partner company, The Futures Company, which specializes in drivers and trends analysis. A scanning process was undertaken by a team of analysts to determine the key economic, technological, social, political, environmental and organizational factors driving change within the workplace. The Futures Company used its proprietary knowledge-base, as well as other secondary research sources, to provide a set of key trends, that were both relevant and supported by evidence, and that could be explored in the subsequent phases of the study.

Phase Two: Validating the key trends and furthering our hypothesis

The second qualitative phase was conducted to 'further explore and flesh out' the key trends identified in Phase One through speaking to experts from eleven countries. A full-day workshop was conducted with ten U.K.-based experts, as well as a further eleven telephone interviews with experts based in North America, Latin America, Europe, Asia and Australia. The experts specialized in a range of fields including senior technologists, analysts, journalists, senior recruitment professionals and advisers, architects and designers, futurists and organizational psychologists. In addition to contributing their insights, the experts also provided the case study examples referenced throughout the report (Dell and Intel were not involved in the case studies referenced in any way). The experts helped further the hypotheses as well as identify the relevant workforce that will be surveyed in Phase Three of the research.

Phase Three: Quantifying the findings across sub-groups and verticals

This quantitative phase of the research will consist of a 20 minute online survey, speaking directly to the working consumer, and getting their perspective. It will provide a 'drill-down' into the identified trends, delving deeper into the specific context of each country participating in the project, and providing Dell and Intel with robust data.

The population of survey respondents will include:

- Respondents from the following countries: US UK France Germany Brazil Mexico Canada Japan Australia China India
- Respondents who work either full time or part time
- Respondents who use a computer/ laptop/ netbook or tablet for work purposes

The design will allow comparisons by: Country, Public vs. private sector, Organization size, Different demographic profiles
Full time and part time employees, Dell segmentation

Phase Four: Closing the loop – Experts reconvened

Outputs from the three subsequent phases of the research will be packaged and presented to the experts contacted at Phase 2 for their comments and additions. At this stage, the experts would be contacted by phone or email for their inputs, having had sufficient time to read and digest the output from the preceding stages. Using these additional commentaries to organize and focus the findings, TNS will be compiling 'final thoughts' on future-scenarios. A final output will be delivered in the form of core findings, with levels of confidence and likelihood of their occurrence, plus a range of less likely but more impactful (catastrophic to empowering) possibilities.



Meet the Experts



Sue Beitz
Head of Secretariat and Analyst, Skills Australia

Sue Beitz was appointed to the role of Head of Secretariat for Skills Australia following her role as an Assistant Secretary in the Department of Education, Employment and Workplace Relations. Sue has a background in analyzing vocational and labor market issues and has a depth of experience in the areas of policy development and program management in the Australian market.



Dr. James Canton, CEO And Chairman, Institute for Global Futures (U.S.)

Dr. James Canton is a renowned global futurist, social scientist, keynote presenter, author, and visionary business advisor. For over 30 years, he has been insightfully predicting the key trends that have shaped the world. He is a leading authority on future trends in innovation and The Economist recognizes him as one of the leading futurists worldwide.



Charlotte Conrad, Co-founder, Thomson Dunn (U.K.)

Charlotte conducts assessments for recruitment and leadership development. Following assessments, she creates development plans and implements coaching programs. This enables clients to identify their unique characteristics and needs, and achieve their goals.



Arnaldo De Hoyos, Professor (consultant and futurist), Catholic University of Sao Paulo (Brazil)

Prof. Dr. Arnaldo José de Hoyos Guevara is Professor at The Management Program of The Catholic University of São Paulo (PUCSP). He is also the Brazilian representative of the World Future Society (www.wfs.org) and The Millennium Project (www.millennium-project.org). He has an MS in Nuclear Eng PRNC and PhD in Statistics at the University of California, Berkeley.



Thomas Frey, Executive Director, The DaVinci Institute (U.S.)

Author of the 2011 book "Communicating with the Future," Futurist Speaker Thomas Frey is a visionary who specializes in thinking about the future.



Joyce Gioia, Consultant and Author, The Herman Group (Mexico/U.S.)

Joyce Gioia is a Strategic Business Futurist concentrating on relationship aspects of the future. This arena includes workforce and workplace trends, as well as consumer, education, and business-to-business trends. Joyce is President of The Herman Group, a firm serving a wide range corporate, trade association and governmental clients on an international basis.



Martin Guomin, Director of the New Media Center, The Shanghai Daily (China)

Both a technologist and a journalist with an academic and professional background, Martin is currently in-charge of leading a team of software developers and designers who undertake large IT related projects for an array of Chinese public and private sector clients.



Kate Jeffries, Global PMO Director, Michael Page International (U.K.)

Kate has been a project manager for 15 years, starting out with a government department, where she worked on a national project. She then moved into software development as a PM and Account Manager before becoming Head of Development for a software development house specializing in systems for the recruitment industry.



Dr. Kazutaka Kogi, Ergonomist, Institute of Science of Labor (Japan)

Dr. Kazutaka Kogi, Research Adviser of the Institute for Science of Labor in Kawasaki and currently Vice-President of the International Commission on Occupational Health (ICOH), has been active in occupational health and ergonomics internationally.



Ewan Macleod, Editor, Mobile Industry Review (U.K.)

Ewan has launched a plethora of successful websites, communities, services and organizations. Mobile Industry Review is a daily service providing mobile and wireless news and opinion to over 250,000 mobile industry executives around the world.





Alan Martin, IT Director, Orange Business Service (U.K.)

Alan has been responsible for large office environment design projects, Data center design and consolidation initiatives. In his current role he is responsible for the delivery and support of Cloud-based solutions for a number of large multi-national customers.



Lisa Martin, Consultant, Author and Certified Coach, Lisa Martin International (Canada)

Lisa is an Executive Pathfinder and Leadership Coach. She has helped numerous Fortune 500 companies and thousands of corporate executives and professionals around the globe blast through hidden barriers and surpass even their most challenging goals.



Andrew Mawson, Founding Member and Managing Director, Advanced Workplace Associates (U.K.)

Andrew is regarded as a leading specialist on Workplace Strategy and Change Management. He has led a number of transition programs for major corporations designed to improve the strategic performance of the Workplace and the Facilities Management Operation.



Ben Munn, Joint Global Head of Workplace Strategies, CB Richard Ellis (U.K.)

Ben Munn has extensive experience in strategic occupancy issues, advising corporate occupiers on property requirements, workplace and occupancy opportunities and change management strategies.



John Riley, Head of Employer Engagement, Skills Training (U.K.)

As part of the leading prime contractor for DWP, John consults with public sector organizations to improve their ability to scale up quickly and effectively and enter new markets. He also specializes in employer-employee engagement and the wider community.



Philipp Rode, Executive Director, Cities Program, London School of Economics (Germany)

Philipp is Executive Director of LSE Cities at the London School of Economics and Political Science. He is also the Ove Arup Fellow with the LSE Cities Program and co-convenes the LSE Sociology Course on 'City Making: The Politics of Urban Form.'



Lee Schlenker, Managing Director / Chair, Leveraging Human Systems and Technology / EMYLON Business School (France)

Lee holds the EDSF prize for the use of technology in teaching. He currently teaches various graduate and management education courses in England, Finland, France, Italy and the Netherlands.



Stavros Theodoulou, Managing Director, Zynk Design (U.K.)

With over 15 years experience in the commercial interior design sector, Stavros founded Zynk Design to deliver contemporary interiors and eye catching brands for various workplaces throughout the U.K.



Mohan Tikku, Director, Center for Future Studies (India)

Mohan has also been a Senior Fellow of the Indian Council of Social Science Research, New Delhi. Mohan began his career as a journalist, and became a leading writer and foreign correspondent of the Hindustan Times in New Delhi.



Dean Van Leeuwen, Co-founder, Intellectual Adventure (U.K.)

Dean is an intellectual adventurer, customer experience alchemist and scholar of the new world of work. He has an insatiable appetite for discovering how businesses can become more successful and increasingly contribute to society.



Tim Weber, Business and Technology Editor, BBC (U.K.)

Tim Weber is the business editor of BBC News interactive + radio, and is in charge of business output on domestic radio news programs and all interactive services - the BBC News website, Ceefax, digital text and mobile platforms.

