

What **consumerisation of IT means for the enterprise**; the shift to user centric computing

Are organisations embracing the opportunities afforded by developments in new device form factors, computing models, and collaborative working?

The key findings from a major Dimension Data and Ovum study

A Definition of End-User Computing (EUC)

There is a **major transformation in the enterprise**: from desktop computing to user-centric computing. This model allows users to be placed at the centre providing them with access to applications and data from a number of devices.

We define **End User Computing** as the **integrated management** and the **secure delivery of application services to any user end-point**, whether that's a smartphone, tablet, laptop, desktop, or even machines in future.

More importantly, the location of the originating service is transparent to end-users, whose concern is instant access to their data and applications.

This fundamentally changes the way users consume information. It also provides a unique set of challenges for IT management since it represents a shift away from traditional Infrastructure Management and End User Support paradigms.

Catalyst

Somewhat worryingly for enterprises, a significant proportion of the workforce are “doing IT” for themselves – often using their own devices, self-provisioned tools, and cloud services to get the job done. This situation has arisen as a result of under investment in the end-user computing environment and, in Ovum’s opinion, overly restrictive IT policies in many instances. Organisations must address this important aspect of enterprise IT or risk losing control and ownership of their digital business assets.

Ovum believes that factors affecting the end-user computing environment extend beyond enterprise mobility: there’s a fundamental shift from the desktop-only environment towards a device-agnostic, more user-centred one.

This shift also changes from being technology-focused to a more outcome-focused approach.

- **enables** and **supports** the changing work styles being demanded by all employees to work anywhere and everywhere
- **allows the introduction** of new technology consumption models to support initiatives such as BYO-X as smart devices proliferate across organisations.
- **allows for more efficient** operating models such as self-service to be deployed across the organisation.

Organisations are steadily moving towards a model where employees are able to use any sanctioned device to access applications and data from any location; increasing engagement and improving productivity as a result. While IT strategy may be to improve enterprise mobility, the realisation should always be to strive for better business outcomes.

‘Continued **growth in the use of employee-owned devices and self-selected applications** is **changing the face of the end-user computing environment**, yet many organisations continue with outmoded, desktop-only computing strategies that were conceived over a decade ago.’

Ovum view

A consensus is forming: future competitive advantage will be created through data and analytics; business models will be shaped by cloud; and engagement will be powered by mobile and social technologies. Continued growth in the use of employee-owned devices and self-selected applications is changing the face of the end-user computing environment, yet many organisations continue with outmoded, desktop-only computing strategies that were conceived over a decade ago.

Marshall McLuhan, an eminent Canadian philosopher of communication theory, once said:

‘We become what we behold. We shape our tools, and thereafter our tools shape us.’

If we apply this to the enterprise, then we see that over time the tools used by the workforce do indeed shape the processes and products of the organisations that employ them.

Findings from a survey by Ovum, commissioned by Dimension Data, of 100 UK IT decision makers support the Ovum view that workforce engagement must be a top priority if organisations are to flourish, and that those organisations adopting a more progressive end-user computing environment are more likely to succeed than those that are not. A key attribute of the customer-adaptive enterprise is an engaged workforce; one that is well-equipped and well-trained. There is little doubt in the minds of IT management that an engaged workforce contributes significantly to business agility, process innovation, and customer satisfaction.

‘...**workforce engagement** must be a **top priority if organisations are to flourish**, and that those organisations **adopting a more progressive end-user computing environment** are **more likely to succeed** than those that are not.’

Key research findings

- **The consumerisation of IT** has brought about an 'experience gap' in the workplace, as employees use modern hardware, software, and services to lead their digital lifestyles.
- **The combination** of mobile devices and cloud services presents a real opportunity to fundamentally rethink business processes, and to alter the way work gets done. In addition, communication and collaboration can be extended well beyond the traditional desk-based employee and the corporate network.
- **Establishing** a coherent and progressive end-user computing strategy is no mean feat for the resource-constrained IT department. Senior IT managers are constantly grappling with issues relating to business risk and compliance while the business and technology landscape only ever increases in complexity.
- **A consensus is forming:** future competitive advantage will be created through data and analytics; business models will be shaped by cloud; and customer and employee engagement will be powered by mobile and social technologies.

IT consumerisation and the arrival of the millennial workforce, is putting pressure on the seams of existing end-user computing environments

In a great many organisations, the IT department has been given the job of the "enforcer" when it comes to information-management policy, so it often sees no other option but to block or ban the use of non-sanctioned devices or IT services. Such actions often produce contention in the workplace, with the IT department seen as a "preventer" rather than an "enabler" of productivity, innovation, and change.

Every business clearly needs to have rules, regulations, and guidelines, but when there is no malicious or malign intent from the employee, one has to question the sometimes draconian regimes that appear to have been erected around the end-user computing environment. On occasion, such regimes are put in place to give other parties a sense of security and authenticity, but there can be no doubting that locking down the desktop generally reduces the functionality of the equipment being provided to the employee.

Ovum's survey of UK IT management suggests that most end-user computing environments are being stretched by the demands of the workforce. While there appears to be a slight demographic edge

to the data, it would seem to be the more general trend of IT consumerisation that is pushing the IT department to deliver more from the end-user computing environment. An increasing percentage of employees now have access to more modern equipment and more user-friendly tools at home than they do in the office or workplace. This can result in frustrated employees with low morale becoming disengaged with the business – words that no business leader wants to hear.

Surveys over the last decade have indicated that employees generally regard themselves as somewhat ambivalent when it comes to business IT, basically having a "take it or leave it attitude." But CIOs cannot ignore the changes in attitude that are coming about as a result of innovation in consumer technologies. Just as the PC changed the place where data processing took place (i.e. on the desktop), the tablet computer and similar devices are now changing the place where applications are consumed and data analysed. New devices, apps, and interfaces are being used to engage customers via the mobile Web, and these same technologies are applicable to the enterprise too. "Joy-of-use" is not a category one usually finds on a user acceptance testing sheet today, but Ovum maintains that it should be.

'An **increasing percentage** of employees now have **access to more modern equipment and more user-friendly tools at home** than they do in the office or workplace.'

The voice of the employee is starting to be heard as its volume increases

In Ovum's survey, 46% of the respondents agreed with the statement that "Employees have a strong voice in decisions affecting the end-user computing environment." This suggests that engagement levels between the general workforce and the IT department are increasing. However, a significant percentage of organisations have yet to start actively listening to the voice of the workforce when it comes to matters of IT, so one assumes a prescriptive approach is deemed necessary.

One of the challenges that IT departments face in large organisations is the sheer variety of employee computing scenarios. If IT departments were to ask every employee what they required from their

computing environment, one might suppose an endless list would emerge, with niche requirements that would require a huge army of IT professionals to address. But if one looks at the patterns emerging from IT consumerisation, then we see clear signs that indicate where current end-user computing environments are heading and by comparison where corporate IT strategies may be lacking.

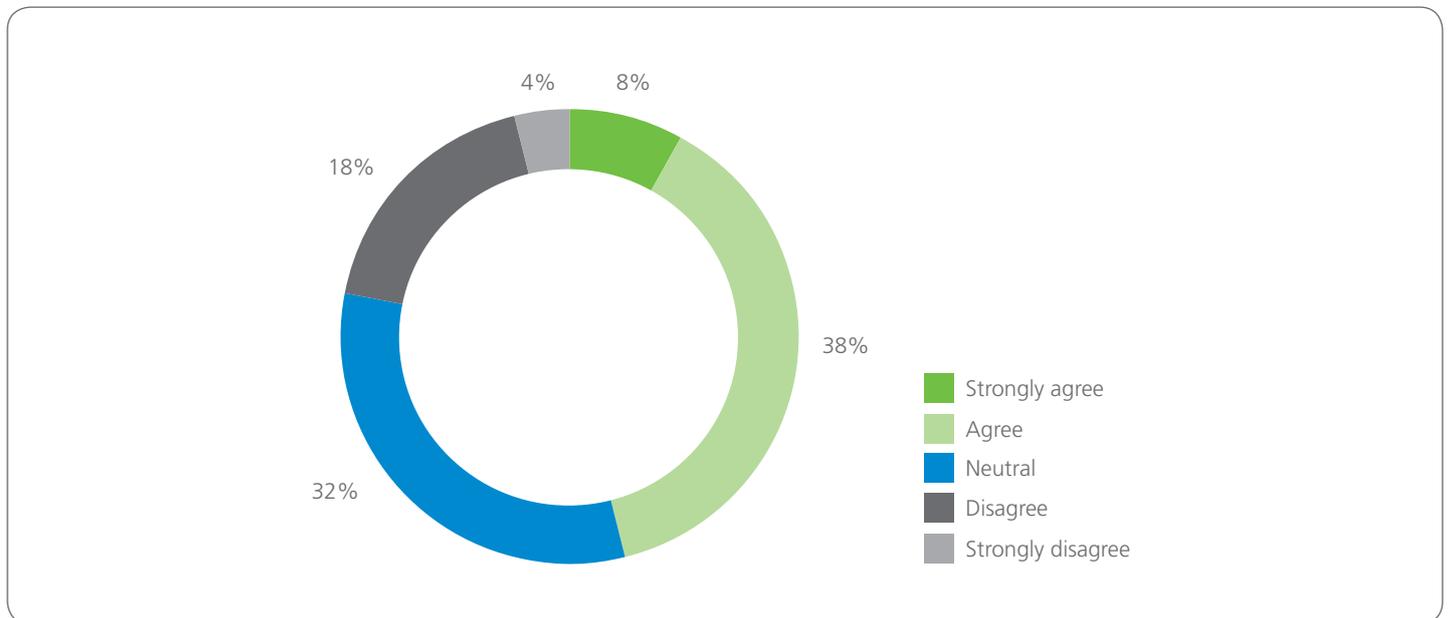
As an example, if 10% of the workforce decides to set up its own enterprise social network using a freemium offering, then clearly a local or more general business need is not being met. Likewise if employees use consumer-oriented file sync-and-share products or audio/video conferencing tools – these are clear indications that something is missing or not quite right. A recent study by Ovum suggest that 18-24 year-olds are the ones

most likely to go out and self-source an alternative tool or application if their need isn't being met by the IT department, but they are certainly not unique in this regard.

The democratisation of IT continues to be a popular theme at IT industry conferences and in vendor PR. It is also implicit when discussing BYOD and associated initiatives. But, while recognition and acknowledgement of the employee voice is growing, the business still expects thought leadership and guidance from the CIO and IT management team. Providing this to the business requires well-informed insight and analysis which in turn requires time and attention – neither of which are available in abundance. To address this issue, IT professionals need to establish relationships with trusted suppliers and advisors.

Figure 1: Does the user have a say?

Employees have a strong voice in decisions affecting the end-user computing environment?



Source: Ovum

'One of the **challenges** that IT departments face in large organisations is the **sheer variety of employee computing scenarios.**'

The end-user computing environment has been languishing in the doldrums for what seems like an age

The Windows PC, in its various guises, continues to dominate the end-user computing environment of small, medium, and large enterprises. While the arrival of Windows 8 produced contention and discussion in the consumer market, most organisations continued with their migrations from Windows XP to Windows 7. Despite reaching end-of-life on April 8, 2014, Windows XP is still in use at 39% of UK organisations according to Ovum’s survey. Anecdotal evidence suggests that most enterprises have a rolling programme

‘92% of UK enterprises are now running Windows 7, but Windows XP is still more prevalent than Windows 8.’

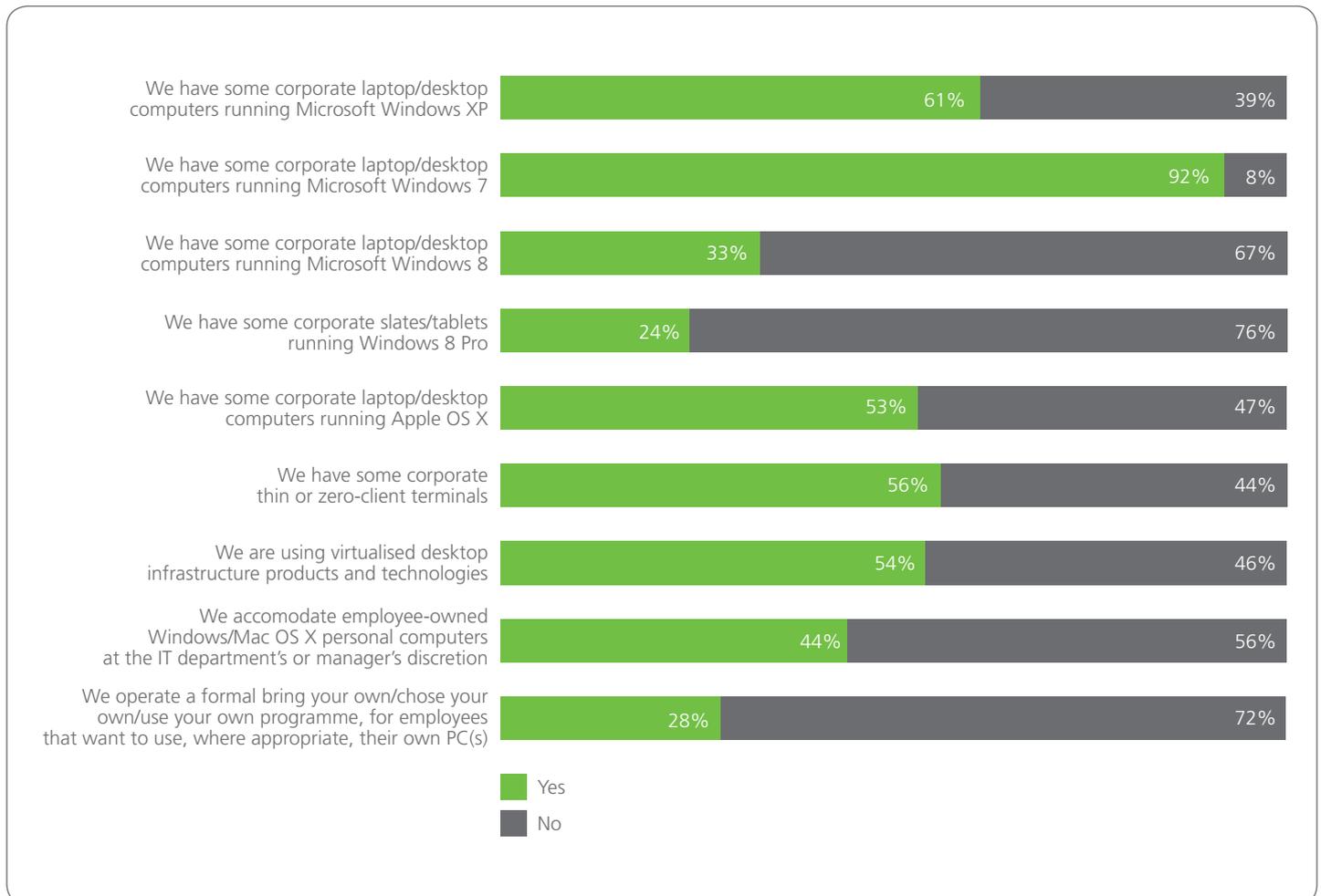
of system upgrades, but fragments of Windows XP are likely to exist for some time to come.

Windows 8 is being used in 33% of those organisations surveyed – a number Ovum expects to climb only slowly. The follow-up to Windows 8 (and 8.1) - codenamed Windows “Threshold” – is slated for release mid-2015. Just as Windows Vista became a somewhat tarnished brand, so Windows 8 has a stigma attached to it that may prove difficult to shift.

Windows 7 is extremely well established within the enterprise on desktop and laptop computers, and organisations wishing to deploy tablet computers appear to be generally satisfied with Apples iPad (even though 24% of organisations have slates and tablet computers running Windows 8 Pro). This being the case, Ovum cannot see much of a future for Windows 8 in mainstream business use, other than where a very specific use case demands it or a “Bring your own” or “Chose your own” strategy encompasses it.

Figure 2: The shape of the computing environment in 2014

What does the current end-user computing environment look like?



Source: Ovum

Microsoft has lost its vice-like grip on the end-user computing environment as corporately owned Apple computers become more common in the workplace

According to Ovum’s survey, 53% of UK enterprises are now running Apple OS X computers – a huge shift from just five years ago. As an accepted component of the end-user computing environment, organisations and employees now have an extra dimension when it comes to enhancing the employee computing experience. The Windows PC is seen as a “necessary evil” for many organisations, but there are

others who see the switch to OS X as a real opportunity to revitalise user engagement, especially with corporate IT services.

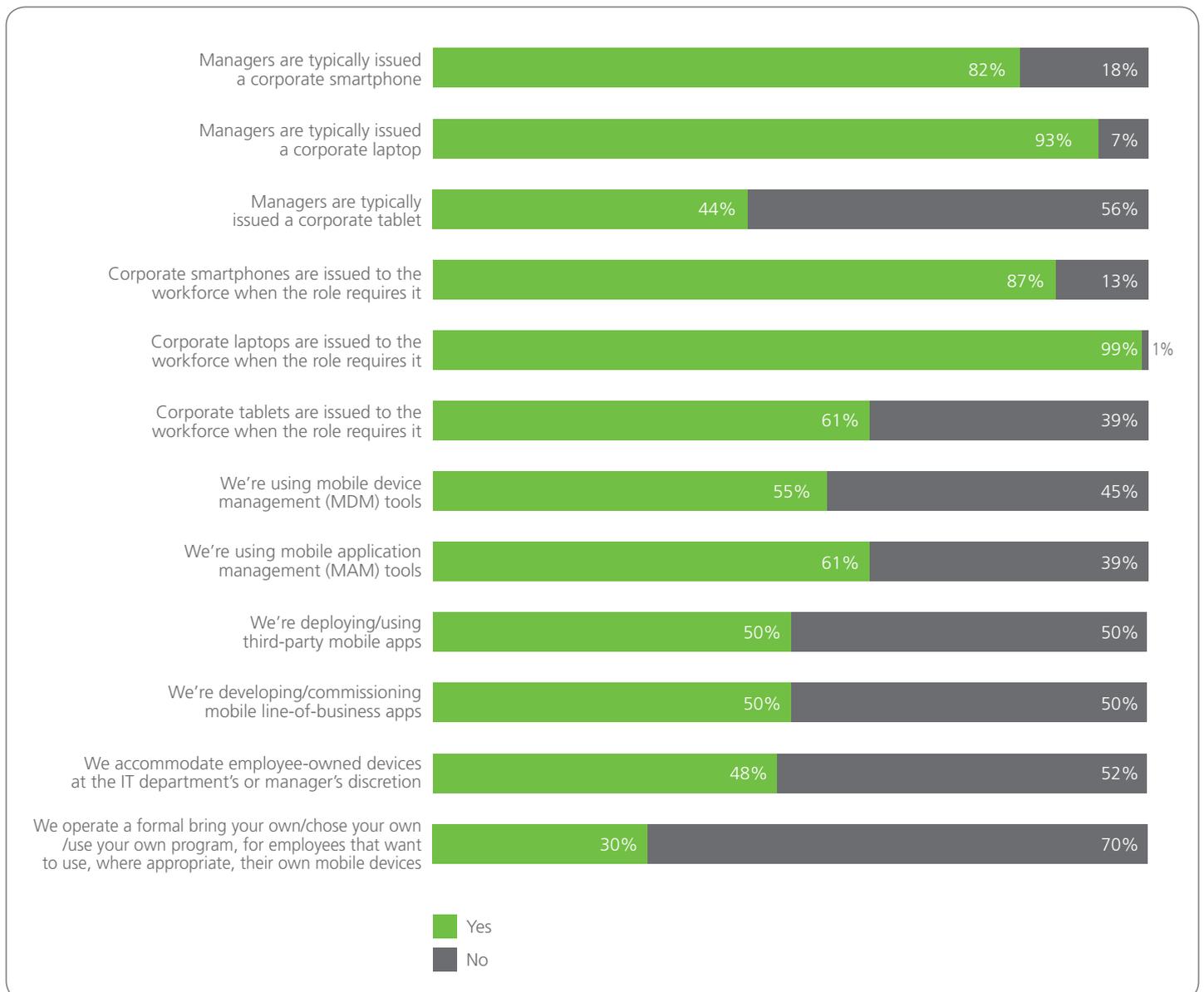
Virtualisation solutions, such as those provided by Citrix, have enabled Apple Macintosh computers to sit reasonably comfortably within traditional corporate IT landscapes. It is by no means a coincidence that 56% of organisations report using thin- or zero-client terminals, as desktop virtualisation technology can be used to support a whole range of end-user computing scenarios, including BYOD – a strategy being formally adopted by 28% of those organisations surveyed.

Mobile device management is becoming mainstream as enterprises start to deploy mobile apps

Enterprise mobility, in the guise of corporate laptops and BlackBerry smartphones, has been a facet of the end-user computing environment for the best part of a decade. So much so that 82% of UK managers are issued with a corporate smartphone, and an even higher number, 93%, are issued as corporate laptop as standard.

Figure 3: The shape of the mobile computing environment in 2014

What does the current end-user mobile computing environment look like?



But one cannot deny the fact that the tablet, and specifically the iPad, has significantly extended the reach and range of enterprise mobility strategies. Ovum's survey suggests that 44% of UK managers are now typically allocated a corporate tablet computer – a huge take-up in such a short period of time. However, there is still a significant (39% of organisations) residual reluctance to issue tablet computers to other segments of the workforce, even when the role of business requirement appears to warrant it.

Ovum believes that part of this reluctance to roll-out iPads whenever the business need arises is linked to use of mobile device management (MDM) solutions. Ovum's survey suggests that 45% of UK organisations have not yet deployed MDM solutions, even though 61% say they have mobile application management (MAM) solutions in place. The overlap in numbers would suggest that IT managers are less

'67% of senior IT management say that issues relating to business risk and compliance are inhibiting progressive end-user computing strategies.'

worried about devices being lost, stolen, or compromised than they are of applications being inappropriately used.

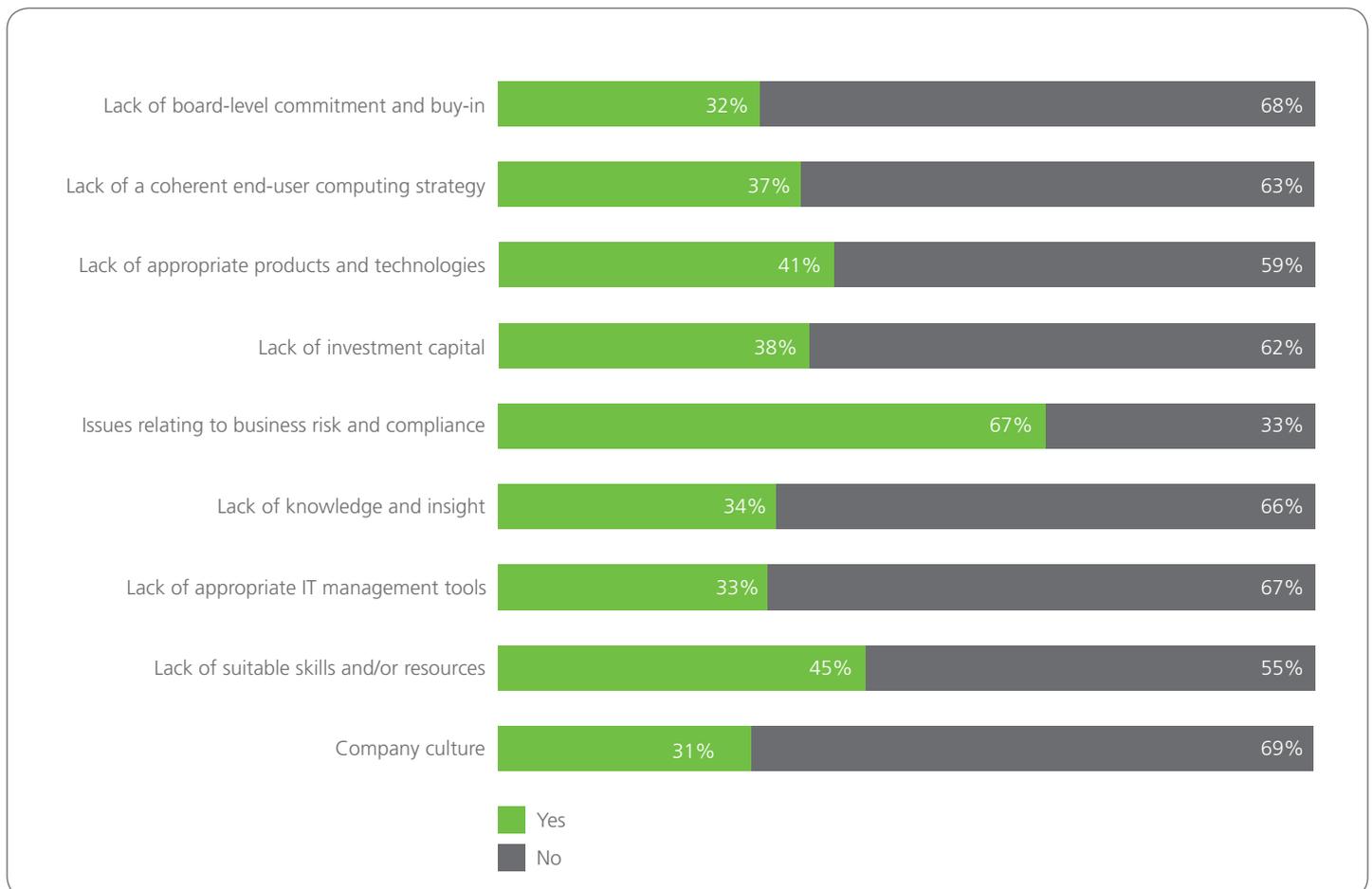
50% of organisations are now deploying/using third-party mobile apps, and the same percentage are developing/commissioning mobile line-of-business apps. It would seem, therefore, that use of the phrase "mobile first" is not without substance. The challenge for developers of mobile business apps is that of meeting the expectations of consumer persona of the employee; one that is generally exposed to slick, easy-to-use, and highly engaging apps from their preferred app store.

IT departments need the help of strategic partners if they are to cope with the accelerating pace of technological change

Enterprise IT management covers a broad set of areas, ranging from the purely technical to the company political. When it comes to managing business risk and compliance it often seems that other departments look to the IT team for a solution when, in fact, another layer of technology is not always the optimum way forward.

Figure 4: Obstacles blocking implementation of an end-user computing strategy

Which of the following barriers are you currently dealing with as you try and develop a progressive end-user computing strategy?



Many of the employee niggles and complaints relating to the end-user computing environment are, in Ovum's opinion, the result of overly restrictive, and sometimes draconian, IT security measures. The IT security industry is apt to use the levers of fear, uncertainty, and doubt to sell their wares when other options, such as better IT training, would offer a more flexible solution.

CIOs and IT management do not perceive their role to be that of policing the workforce, but this is often how employees see it. There will always be a need to put in place solutions to enforce certain corporate policies, but Ovum would advise organisations to take a step back every once in a while to assess the impact of policy enforcement solutions. If employees complain of slow, sluggish, unresponsive end-user computing environment then someone needs to investigate why this is, as vanilla PC systems, tablets, and other mobile devices are never like this when they are brought to market.

Over a third of enterprises struggle to produce a coherent end-user computing strategy

The increasing pace of change and sheer breadth of IT developments means that IT leaders cannot expect to cover all aspects of IT strategy without a good deal of help. Moreover, actively engaging in business-led projects can result in missed opportunities elsewhere within the business unless someone is actively monitoring the market on behalf of IT decision makers.

Ovum knows too well that today's busy IT executives do not have the time they would like to devote to methodical and detailed research into areas that may affect efficacy of IT operations and business agility. Combine this with industry-driven agendas, and Ovum believes that the end-user computer strategy seldom reaches the top of the IT agenda. As a result, some IT departments now fear they're losing control of this realm, as employees adopt a self-service approach to certain aspects of IT provision.

Freemium cloud services are being used and SaaS-based products are being put on expenses to create what some call "shadow IT". Technology products and services not sanctioned by the corporate IT department are not necessarily harmful to the business or a security risk to the organisation, but it is important that IT departments at least keep track of what is being used. This is not a trivial undertaking when it comes to apps – millions of which are downloaded every month by employees trying to find better ways to get the job done.

The IT skills gap is looming large within 45% of enterprises: skills, knowledge, and insight are all in short supply

Shortages in the IT skills market continue to present challenges to organisations, not only in terms of staffing major transformational IT projects, but in maintaining the momentum of rolling programmes, such as desktop refresh and system upgrades. The end-user computing environment is more complex than it has ever been, and it therefore requires a level of knowledge and expertise not readily found in-house or through general IT contracting services.

Advisory services, such as those offered by Ovum, go some way to plugging the knowledge and insight gap, but deep technical skills and real-world implementation experience are essential if an IT project is going to be successful. This is where companies like Dimension Data play an important role; helping organisations to address some of the most common issues relating to the end-user computing environment, such as:

- How can I continue to support the specific requirements of the desktop – such as moving to Microsoft Windows 7 and 8 – and extend my operations to support mobile devices such as tablets and phones?
- How do I approach BYOD and enterprise mobility?
- How can I use virtualisation to automate labour- and time-intensive tasks?
- How do I give my users the desktop experience they want, while keeping my environment secure?

'The increasing pace of change and sheer breadth of IT developments means that IT leaders cannot expect to cover all aspects of IT strategy without a good deal of help.'

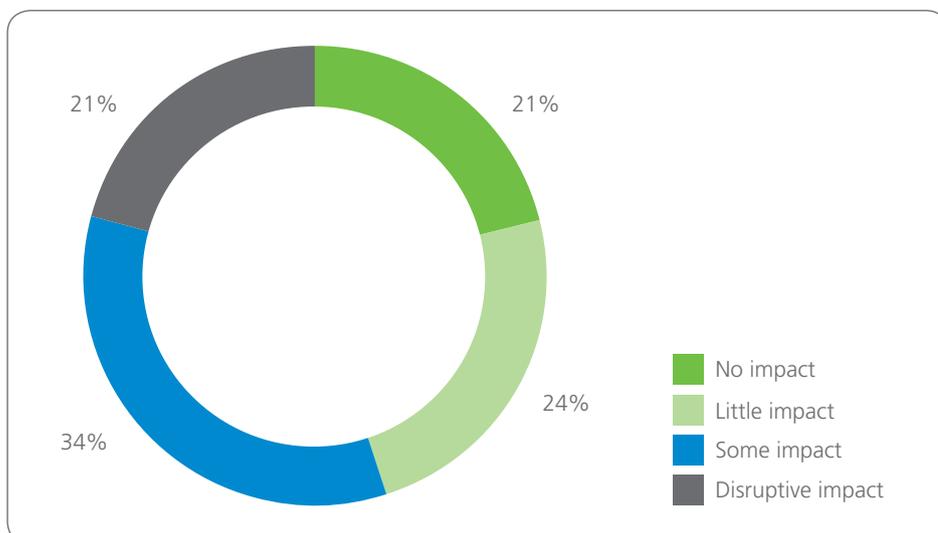
Continued impact of social, mobile, and cloud on UK businesses

Consumerisation of the end-user computing environment continues to have a growing influence on corporate IT strategies. B2C companies have arguably felt the effect of IT consumerisation more than the B2B companies have, but business social software, such as enterprise social networking and enterprise file sync-and-share, continue to find their way into organisations of all shapes and sizes, and not without some disruption either.

Enterprise social software is transforming the way many employees communicate and collaborate, both internally and externally. Even SharePoint, which was marketed as “the document management system for the masses,” is being upstaged by a range of enterprise file sync-and-share products, many of which are able to provide a more user-friendly interface to corporate documents and collaboration workspaces. Traditional infrastructure vendors, such as Citrix, have stepped into this new market of enterprise-ready, consumer-centric experiences, with products such as ShareFile and Podio. Such offerings work with existing end-user computing components, but they extend the digital workspace well beyond the walls of the enterprise and its tethered Windows PCs.

Figure 5: Transforming the way employees collaborate through enterprise social networks

What impact will enterprise social networks (e.g. Yammer, Chatter, Citrix Podio, Jive) have on your end user computing strategy this year?



‘The impact of file sync-and-share and enterprise social networking will be felt by 80% of UK enterprises throughout 2014.’

Two-thirds of UK enterprises surveyed say that cloud-based communication and collaboration products will have an impact on their end-user computing strategy throughout 2014

Cloud-based communication and collaboration solutions are combining with new device form factors to change the way that work gets done. Face-to-face meetings, phone calls, emails, and Windows PCs are not going to vanish overnight in favour of video conferences, social networks, and iPads, but the next two years will see the development of a much more heterogeneous end-user computing environment; one that is not dominated by a single hardware platform, operating system, or computing model. Two-thirds of IT management already see this coming their way, and are expecting it to have an impact on their end-user computing strategy. The challenge, therefore, is to prepare the business and the IT department for change.

Ovum believes that a clear consensus is now forming:

- Future competitive advantage will be created through data and analytics

- Business models will be shaped by cloud
- Customer and employee engagement will be powered by mobile and social technologies

Most organisations recognise the emergence of new mobile workspaces and the business value of a shift to user-centric computing, but not every company is adopting a progressive end-user computing strategy, one that is going to power the next phase of process efficacy, business transformation, and enduring competitive advantage.

Becoming a customer-adaptive enterprise is one way of ensuring company longevity and increased market relevance, and several key attributes of the customer-adaptive enterprise (engaged workforce, collaborative environment, continuous innovation, and connected business processes) are intertwined with the end-user computing environment.

Recommendations

- **Engage the workforce** in matters relating to their digital workspace. Be more flexible when it matters and less prescriptive unless mandatory. Educate and train the workforce in the use of new technology in order to gain competitive advantage. Become a customer-adaptive enterprise.
- **Embrace the opportunities** afforded by developments in new device form factors, computing models, and collaborative working: As an organisation: think differently, act differently, and work differently.
- **Backfill the IT skills shortage** by establishing proactive business relationships with trusted suppliers. Focus on extracting business value from the knowledge and insights of others: peers, subject-matter experts, and communities of practice.

Middle East & Africa

Algeria • Angola
Botswana • Congo • Burundi
Democratic Republic of the Congo
Gabon • Ghana • Kenya
Malawi • Mauritius • Morocco
Mozambique • Namibia • Nigeria
Oman • Rwanda • Saudi Arabia
South Africa
Tanzania • Uganda
United Arab Emirates • Zambia

Asia

China • Hong Kong
India • Indonesia • Japan
Korea • Malaysia
New Zealand • Philippines
Singapore • Taiwan
Thailand • Vietnam

Australia

Australian Capital Territory
New South Wales • Queensland
South Australia • Victoria
Western Australia

Europe

Austria • Belgium
Czech Republic • France
Germany • Hungary
Ireland • Italy
Luxembourg • Netherlands
Poland • Portugal
Slovakia • Spain • Switzerland
Turkey • United Kingdom

Americas

Brazil • Canada • Chile
Mexico • United States