Mobile Working

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Introduction

Mobile working is changing the way we do business. Technologies are enabling mobile staff to work productively and cost effectively from any location. Mobile phones are now owned by more than three-quarters of the population. In the same way, a whole range of computing devices is now becoming portable, allowing employees to access e-mail, create documents and even hold meetings without being in the office.

Like mobile phones, the effect of mobile devices isn't simply to replace wired devices like desktop PCs. Instead, as with text messaging, they open up new possibilities, making them as much a complementary option as a straightforward replacement. For example, handheld data collection devices have opened up retail opportunities by allowing ordering, purchasing and invoicing to occur in the field, with data uploads replacing paperwork and keyed input in the office.

WHAT EMPLOYERS WANT FROM MOBILE WORKING

- 48%
- 21%
- 15%
- 5%
- 3%
- 8%

Source: Ovum Research

- ■ Increased productivity/reduced costs
- ■ Improved communications
- ■ Better catering for employee needs
- ■ Improved public safety
- ■ Improved service quality
- ■ Other
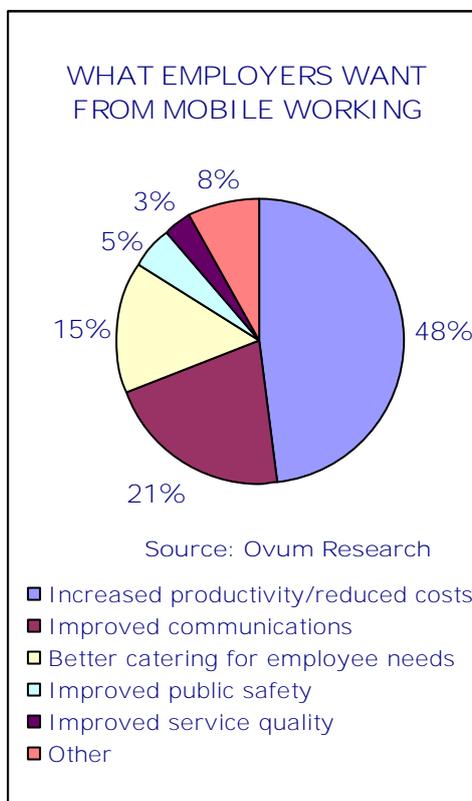
This publication explains the benefits of mobile working; looks at some of the most common mobile technologies and how you can use them to improve the way your business operates.

Mobile Working Trends

More hours on the road
- Professionals are spending an increasing proportion of their time outside the office – from 25% of working hours two years ago, to an anticipated 42% in two years time.

No such thing as a typical working day
- Work day patterns are becoming increasingly fragmented as a result of globalisation.

Virtual workplace relationships common
- Business people increasingly work in virtual teams across geographies.

Communication is the main out-of-office activity
- The most common work performed outside the office is communication with colleagues and business contacts, whether in face-to-face meetings, by phone or via e-mail.

Productivity is high
- Business professionals have been quick to embrace the shift towards greater mobility, with the majority feeling as or more productive working outside the office as within.

Mobile working delivers significant business benefits
- The majority of professionals see mobile working and wireless technology delivering significant competitive advantage.

Wireless technology increasingly pervasive
- A majority of professionals own a laptop and wireless hotspot usage is a growing trend.

Control over professional and personal lives
- Three-quarters of professionals believe mobile working allows them greater control over their professional lives and 60% perceive benefits in managing their personal lives.

Barriers to mobile working
- Security concerns and cost top the list of reasons companies cite for not encouraging more mobile working.

EU to boost mobile working
- The majority of respondents see EU enlargement as a future driver of mobile working.

Source: Destination Wireless survey, Economist Intelligence Unit for Intel

The advent of the iPad

This publication was written before the first iPad was launched (April 2010).

The iPad is a line of tablet computers designed and marketed by Apple Inc., primarily as a platform for emails, audio-visual media including books, periodicals, movies, music, games, apps and web content. Use as a mobile phone has been added to the ever-growing list of functions.

The iPad runs on an Apple operating system.

The Benefits

The design of the standard office workstation has been heavily influenced by the need to plug in a phone and PC. Often this works perfectly well. But equally there are times – for example, when travelling or home working – when you aren't at your desk but need access to your company's systems. Mobile technologies give you the freedom to work in the place and the way that's best for your business. Their benefits include:

- increased productivity;
- working in real time;
- flexible working.

Increased Productivity

With mobile working, time spent travelling between locations can be used productively. There is now a range of products and services on the market that enable you to manage e-mails, access your company database or edit documents on the move. A simple calculation of the benefit this offers can be quite surprising. If your employees spend a total of only ten hours a week travelling, that's over 500 hours a year – potentially tens of thousands of pounds of lost productivity a year. In simple terms, mobile working frees you from your desk.

Paperwork and duplication of effort can also be reduced, for example data can be collected in the field and uploaded to the office instead of paperwork being completed by hand and keyed in by another worker in the office.

Working in Real Time

Mobile working means that sales people or staff working at client sites can be in constant contact. The result of this is that you can get instant responses to queries and they can have access to the most up-to-date information. Now, instead of having to type up notes or update the database on their return to the office, staff can enter information directly onto the system.

Likewise, with the additional information available to them, they can offer a more complete service to clients. For example, instead of simply demonstrating a product with a laptop, they could connect to your system; give clients the latest prices and stock figures; and even place an order on the spot. This can mean more sales and better customer service.

Flexible Working

With a new generation of smaller, cheaper mobile devices, businesses have a range of technology options. Previously mobile working was synonymous with laptops. Now, however, you can buy handheld devices like PDAs or 3G phones that will let you handle e-mail or make videophone calls on the move. This means you can match technology to employees' needs. For example, while sales staff might still need laptops, warehouse workers might have portable barcode scanners to check stocks and senior staff PDAs to check their e-mail and appointments.

Depending on your business model and objectives, the mobile technologies you choose will vary. The next section explains some of the key technologies and their costs and benefits to help you decide what's best for your business.

Customer Service

Good customer service breeds customer loyalty. Mobile working allows staff to respond to customer requests on the move. This could be as simple as voice communication or include e-mail and remote access to customer information. The use of handheld devices in the field to record and upload customer information to a central database can yield significant savings in both paperwork and staff time. An additional benefit is that office operatives then have an up-to-date picture of customer status and any additional customer requests can be actioned immediately.

Cost Savings

Staff equipped with a laptop or smartphone do not need to have fixed desktops, a desk or even an office. They can work from any location, thereby reducing their cost as an employee.

Mobile Working Technologies

There follows some of the most common mobile working solutions. They are not always direct competitors – they have different features and are suited to different uses. Some, like Bluetooth, work in conjunction with other technologies in this section.

Flexibility makes for a happier workforce

In a survey by The Work Foundation, 47% of employees said they sought flexibility in their work. 80% of 18 to 24 year olds said they would be more motivated if they had access to work-life balance schemes.

3G Phones

3G stands for third generation. 3G phones offer the following features:

- They are always on – permanently connected so, unlike WAP **phones, there's** no waiting time to access the Web;

- They have a high data transfer rate. A standard modem can receive information at up to 56Kbps. The original WAP phones had a data transfer rate of less than 10Kbps. 3G phones, by contrast, can download information at anything from 144Kbps to 384Kbps. At the lower end, this is a fast as an ISDN line. At the top end, this is faster than many home broadband connections.

The key feature driving sales of 3G phones has been video messaging. The data transmission speed allows owners to watch streamed video clips – like goals from football matches – and hold video calls with other users. While the quality isn't good enough to make it a replacement for formal meetings, it's certainly a useful communication tool. 3G phones also come with a range of other useful options – like digital cameras, web and e-mail access, and the ability to play music and video files.

Benefits

- Face-to-face communication;
- Mobile staff can use video and camera features to get an instant second opinion on a problem;
- Quality voice calls;
- Fast download speeds.

Drawbacks

- Video quality is only moderate;
- Coverage in rural areas can be patchy.

Suitable for

- People who to need to be constantly **contactable, but don't need the features** of a PDA/Smartphone;
- Engineers or other field workers.

Costs

Prices are beginning to fall. Depending on the tariff you get, handsets can start from £50. Monthly line rental is about £30 with additional charges for calls and the different services.

PDAs

PDA stands for personal digital assistant. Also known as 'palmtops', these handheld devices have an increasing amount of power and are far more than just electronic diaries.

Most PDAs now run versions of standard office software which means you can work on documents, spreadsheets or other files from the office. Cheaper PDAs need to be connected to your network on return to the office so that they can 'synchronise' themselves – download any new files, like e-mails that have arrived, and upload any files you have worked on while away from your desk. Increasingly, though, PDAs are available with 'Bluetooth' and 'Wi-Fi' options which allow them to access your network wirelessly – meaning that if you are within range, you are constantly connected. Many PDAs also double as mobile phones and can be linked to laptops for wireless internet access.

Benefits

- Very small and light;
- Runs standard office software;
- Bluetooth and Wi-Fi capacity available;
- Relatively cheap.

Drawbacks

- Small screen (but colour);
- Not all have a full qwerty keyboard – although most offer it as an optional extra.

Suitable for

- People who are rarely at their desk or travel a lot;
- Dealing with e-mail on the move;
- Scheduling;
- Making notes and reviewing documents.

Smartphones are advanced mobile phones with PDA functions. A typical device includes a colour screen, digital camera and QWERTY keypad with built-in software to provide e-mail, Web browser and office applications.

Costs

Generally, between £70 and £500, although top of the range models can push up toward £700.

Laptops

A laptop is a smaller version of a PC, with a flat screen and keyboard in one portable package. Most current laptops are "wireless ready" without having to install a wireless card.

As computers get more powerful and memory becomes cheaper, laptops have become small, more affordable and more powerful.

Many businesses have replaced desktop computers altogether, giving employees laptops which can be plugged in to docking stations to connect to networks and recharge their batteries. These advances mean that laptops can do anything that a desktop PC can.

Most laptops can connect to the Internet. Increasingly this can be done without any cabling by using Bluetooth or Wi-Fi.

Benefits

- Full keyboard and reasonable size screen;
- Lots of processing power and storage space;
- Ever lighter and smaller;
- Wide range of software;
- Centrino users have wireless facilities.

Drawbacks

- At the lower end, laptops can still be bulky;
- Replacement parts and upgrades are more expensive than for desktops;
- Battery life means that you will probably need to carry a power lead with you;
- Initial boot-up takes time.

Suitable for

- Presentations;
- Hot desking;
- Staff travelling between sites;
- Working from home.

Costs

From about £700. A laptop with decent performance, office software and features like a DVD drive can cost as much as £2,000.

GPRS devices

General Packet Radio Service (GPRS) is the technology that supports most current mobile phones, allowing you to access e-mail and the internet on the move. GPRS is sometimes referred to as 2.5G, meaning halfway between old GSM mobile phones, which are 'second generation' and the new 'third generation' or '3G' phones which offer video calling. The reasons for this are:

- it has a much higher bandwidth giving access to a greater range of services;
- it is permanently connected ('always on'), which means that, unlike the early WAP phones, you don't have to wait to be connected to the internet.

With data transfer rate of up to 171Kbps, GPRS phones and PDAs are particularly suited to sending and receiving small bursts of data, such as e-mail and web browsing. As well as voice calls and SMS, they often support Multimedia Messaging (MMS) – messages containing a combination of text, sounds, images and video. Many mobile phone providers offer an integration service, linking your company e-mail system to all your mobile handsets.

Benefits

- Can connect to laptops to provide internet access for mobile working;
- Cheap and widely available (in 200+ countries);
- Mobile e-mail requires no technical knowledge.

Drawbacks

- Not as fast as 3G phones;
- No video calls;
- Uses more power and network resource.

Suitable for

- Mobile communication, rather than full mobile working;
- Dealing with e-mail on the move;
- Occasional access to the internet.

Costs

GPRS is a standard feature on the majority of current mobile phones so there are no extra equipment costs. Because it is 'always-on', when you use e-mail or the internet you pay by the amount of data you transfer rather than for time. Most mobile companies offer packages with a small monthly subscription charge for a set amount of data. Additional data is charged at a few pounds per MB. Each extra MB is equal to about 100 plain text e-mails or 20 web pages.

WIFI

Wi-Fi is the name for a group of standards that govern how wireless networks operate. It is the default setup for most wireless technologies from wireless internet access in coffee shops to wireless broadband in rural areas. Most devices can access Wi-Fi networks without requiring extra hardware. Like Bluetooth, a large number of mobile devices are Wi-Fi compatible. Unlike Bluetooth, though, its use isn't confined to connecting up largely consumer items. It can be used to network up whole offices and provide internet access ('hotspots') almost

anywhere.

Benefits

- Increasingly widely available;
- The default wireless standard – in future, a wide range of electronic items will be available with Wi-Fi compatibility;
- Internet access anywhere there is a Wi-Fi network;
- Ultra fast, cable-free working;
- Wi-Fi devices are simple to use;
- Uses short wave radio, so no contracts or monthly connection costs.

Drawbacks

- Require some technical expertise to set up a network;
- User must be stationary;
- Limited range.

Suitable for

- Travelling workers;
- Hot desking;
- Non-desk based staff – like warehouse workers;
- Businesses with limited space or who want to create cable-free offices.

Costs

Typically, a wireless access point can cover up to 100 metres and support from several up to 256 users, depending on the specification of the equipment. You can buy packages from £120-£500, which includes a Wi-Fi router.

Extranets

An extranet is a way of giving people access to business information using an internet browser. Effectively it is a private network enabling you to share specified areas of information or operations with people like clients, customers, suppliers or staff.

At its simplest, an extranet can be a homemade, password-protected area on your website. At the top end, it can be a very sophisticated way of sharing product and pricing data; accepting order and payments; and managing collaborative projects online. What information you share is up to you – you can allow different people to access different levels and types of information.

Benefits

- Low cost options;
- Allows files to be transferred which are too big to be e-mailed;
- Makes it easier for remote workers to access company data;
- Extendible to clients and other supply chain partners.

Drawbacks

- Most extranets are not directly linked to your network. Files have to be uploaded to it, which means users aren't necessarily working with the most up-to-date information;
- Though more secure than e-mail, extranets aren't necessarily suitable for highly confidential information.

Suitable for

Any business that needs to give clients, suppliers or staff access to information off-site.

Costs

Adding a password-protected area to your website is relatively simple and inexpensive – it can cost from about £25 per month for the additional web hosting fee. To give your extranet added levels of functionality– like increased security and publishing facilities – there are a number of software solutions starting at around £200.

Virtual Private Network

A virtual private network (VPN) is a secure way to give remote access to your network to other offices or individuals. Unlike systems of linking offices through private leased phone lines, a VPN uses the internet and encryption technology. This means it is extremely secure, widely accessible and comparatively cheap.

VPNs can be extremely secure – you can use the most powerful encryption commercially available. They are also very flexible – users can access your actual network, which means they always have the most current data.

Benefits

- Much more secure than e-mail or extranets;
- Cheaper than leased line connections between offices;
- Quick and easy to give access to new users;
- Allows you to create 'virtual teams' – people anywhere can work together on projects;
- Guarantees currency of information.

Drawbacks

- Requires investment in new equipment and technical knowledge;
- May be overkill for smaller businesses.

Suitable for

- Businesses with a set of permanent mobile or home workers, or several offices;
- Businesses who work collaboratively on projects with business partners;
- Business for whom data security is a prime consideration.

Costs

Some VPN retailers claim running costs savings of between 60% and 80% over remote access by modems and up to 40% on office-to-office communication. Most VPN options require a broadband connection (available from about £25 a month) and have installation and annual charges. You can expect to pay upwards of £1,500 to set up a VPN, but costs will vary depending on your requirements.

Wireless – Bluetooth

Bluetooth is a way of instantly connecting up electronic devices. Using radio waves, any Bluetooth enabled device can talk to any other device provided it is in range (usually 10m, but this can be up to 100m for some equipment). Bluetooth technology has some overlap with Wi-Fi but is cheaper to implement and use. It is particularly suited to mobile phones.

Bluetooth is best thought of as a way of creating ad-hoc networks for consumer devices. So for example:

- a Bluetooth-enabled laptop could print straight to a Bluetooth-enabled printer without being cabled up;
- a Bluetooth PDA could automatically synchronise itself with a PC just by being in the office;
- a Bluetooth mobile phone could be used to connect to the internet by a laptop. The potential benefits are impressive – you no longer need a phone or network connecter to access the internet with your laptop; meeting rooms can become cable-free; and visitors to an office can simply sit at a desk and begin working;
- an increasing number of electrical devices are now Bluetooth-compatible or can be upgraded with cards or adaptors, which means you can use Bluetooth without substantial extra investment.

Benefits

- Fast download speed – at up to 1Mbps it matches the speed of leased-line internet broadband connections used by many businesses;
- Simple to use – Bluetooth devices require little technical knowledge;
- If necessary, you can buy Bluetooth cards and adaptors – so you **don't have** to replace existing equipment;
- Lower power output and cost than Wi-Fi;
- Uses short wave radio, so no contracts or monthly connection costs.

Drawbacks

- Short range;
- Not robust enough to replace a standard wired network in an office;
- Subject to local interference;
- Though growing in popularity, some people question if Bluetooth will ever become a mainstream technology.

Suitable for

- Anyone with a mobile device;
- Connecting up disparate electronic items;
- SOHOs (small office / home office);
- Companies with limited IT budgets.

Costs

Bluetooth technology is increasingly built into contemporary mobile phones, PDAs, PCs and PC related products. You can also buy a Bluetooth adaptor or card for many devices. A Bluetooth adaptor, which can be used to add Bluetooth functionality to a laptop or PC costs about £50. A Bluetooth router costs about £120.

Other Technologies

SIM based equipment

SIM cards can now be embedded into a variety of devices. This opens up the possibility of SMS alerts being used as a communication tool where a fixed phone line is unavailable or costly to use. In particular, a piece of equipment with an integrated SIM card could automatically send an SMS alert to a service centre should a fault occur.

Location based services (LBS)

LBS can also be embedded into devices to track a device's position using the Global Positioning Scheme. This is particularly useful for companies who wish to track the locational progress of a delivery person or engineer.

Determining a Mobile Strategy

There may be many driving factors for implementing mobile working, including improving productivity, cost-efficiency, sales and customer service. With such a vast array of mobile products available, it is imperative to ensure that the products selected match your business requirements and that their implementation is planned. An adhoc implementation can result in high costs, incompatibilities and security risks.

Any mobile strategy should consider the following:

- Business usage requirements per type of worker;
- Manageability of multiple mobile devices;
- Data accessibility – for e-mail/Internet services;
- Adaptability – to allow emerging technologies to be integrated where possible;
- Security;
- Cost of ownership.

The first point is particularly important: different types of workers will have different requirements and the strategy should reflect this. An assessment of workers will identify the type of mobile devices and the data access required. It will also help to break down the costs involved in differing types of communication. Depending on the type of work, a mobile worker may require word processing or presentation software, a diary, e-mail; web access and upload capabilities.

Workers can be categorised as follows:

- Office based workers who do not conduct work outside the office;
- Office based workers who sometimes conduct business outside the office, and who need voice communication only;
- Workers who conduct most of their business outside the office and need both voice communication and e-mail access;
- Field only workers who need central data access;
- Field only workers who generate or collect data in the field.

Some workers may fit into more than one category, other workers may not fit any of the above categories and have specific requirements.

Implementation Checklist

This checklist will help you implement mobile working in your business. To keep track of your progress, tick off each area as you work through it.

Research and Analyse

Set Targets

- ❑ Set goals for mobile working. For example, do you want to improve customer service, reduce costs, or improve efficiency?
- ❑ Agree specific, measurable objectives for what you want to achieve, such as improved productivity or increased sales.

Cost Benefit Analysis

- ❑ Compare the costs of mobile technologies – like software, maintenance, licences and less tangible costs such as staff training – with the benefits – like increased customer satisfaction and greater efficiency.

Consult

Professional Advice

If you lack the skills in-house, contact your Business Link adviser (or equivalent in Scotland, Wales or Northern Ireland) for help on how best to:

- ❑ outline your requirements
- ❑ establish how much you can afford to pay
- ❑ scope the project
- ❑ advise on implementation
- ❑ provide training and software support

Plan and Test

Evaluate Options

Think about the way you work. Profile each of your staff and their communication needs:

- ❑ Are your business or staff artificially constrained by location or work space?
- ❑ Would your staff welcome the opportunities of more flexible homeworking?
- ❑ If you want to offer your clients the ability to review work remotely, consider an extranet.
- ❑ If you want staff to be able to access your network via the internet, a virtual private network might be for you.
- ❑ If you have mobile staff or sales people – compare the new generation of mobile phones with PDAs and laptops.
- ❑ Do they need to have a full PC or is receiving e-mail enough?

Plan the Rollout Phase

- ❑ Run a pilot – see if a few individuals benefit from the technology before you invest heavily in any one technology.
- ❑ Look at training implications – what will the cost be?
- ❑ Decide which staff will require training and allow time for them to adjust to the new system.
- ❑ Will you have the technical expertise to install the technology yourself? And what about teething problems and ongoing maintenance?

Implement Data Storage Solutions

- ❑ Roll out any necessary training.
- ❑ Encourage staff involvement and feedback, this will help smooth implementation, as staff buy-in can make or break a technology project.
- ❑ Consider setting up a cross-departmental taskforce to manage the implementation process – it will help with staff buy-in and ensure that implementation works company-wide.

Evaluate

- ❑ Monitor and review the impact on your business and against your objectives.
- ❑ Get feedback from staff, customers and suppliers on the changes.
- ❑ Evaluate the impact after 6 months and 1 year. Have you achieved your objectives? Establish how you could improve things further.

Mobile Working and the Law

Employers and employees need to be aware of the following legal and compliance considerations with regard to mobile working:

- Use of mobile devices while in a vehicle;
- Health and Safety;
- Data Protection;
- Working Hours.

Use of Mobile Devices While in a Vehicle

It is illegal for a driver to use a hand-held mobile phone while a car engine is running. However, drivers can also be breaking the law if the use of a hands-free mobile phone detrimentally affects their safe control of the vehicle.

Health and Safety

An employer has a legal obligation to consider mobile working in its risk assessment of the workplace. Anywhere where work is carried out, needs to be considered, including vehicles and employee's homes.

Data Protection

An employer has a legal obligation to protect personal data from unlawful processing, accidental loss, destruction or damage. This includes employees' and other individual's names and addresses, supplier and customer information. This means that any information stored on mobile devices needs to be subject to the same security and policies that apply to data stored in an office. Data Protection laws also cover the transfer of personal information to countries with inadequate data protection laws. This may affect employees who travel outside the European Union.

Working Hours

The Working Time Directive limits an employee's working week to 48 hours – averaged over 17 weeks. Mobile workers hours are not visible, and it could be easy for this limit to be passed without the employer's knowledge. The onus is on the employee to record the hours they work, but employers do have a duty to ensure that the directive is adhered to.

Further Information

This guide is for general interest - it is always essential to take advice on specific issues.

We believe that the facts are correct as at the date of publication, but there may be certain errors and omissions for which we cannot be responsible.