Introduction to Mobile Working

Part 1: Benefits, Barriers and Initial Considerations

NDL

Foreword

This eBook provides an introduction to mobile working and highlights key considerations for those embarking on a mobile transformation project within their organisation.

This introduction defines mobile working, discusses the benefits of mobile adoption and suggests some potential barriers an organisation may face as well as highlighting some further considerations for a mobile transformation project. The information in the eBook has been collated by NDL based on a decade of experience in mobile working with a variety of public sector clients. Examples of success stories from NHS Trusts and Local Government have been included alongside NDL's recommendations.

Contents

What is mobile working?

Mobile working is the delivery of on-site or remote working practices using mobile technology to digitalise your current process. Mobile working allows users the flexibility of accessing and recording information, that synchronises securely with an organisation's back-office systems, while on the move. Work continues irrespective of signal and the need to return to the office to collect or update information is removed. This is achieved using well-designed and integrated mobile apps that are trusted and easily adopted by the end user.

It's a mobile world and mobile apps are everywhere, being used on personal devices, every day. However, the term 'app' is often used very broadly and has been applied, or misapplied, to cover everything from a small piece of software on a phone to the large-scale cloud-based back office systems of large organisations. This means the term is imprecise and subject to some variation, therefore, the use of apps to support business users in the field needs to be carefully defined. For this document 'apps' refers to specific mobile apps designed to be used on portable devices.

On one level, developing a basic stand-alone app is simple for someone with a reasonable level of coding capability. It's not very time-consuming, and a basic consideration of user experience is just common sense. However, this can lead to false confidence and devalues the amount of work that should go into the production of apps that are fit for true mobile working in a business context. When an app is being designed for a field worker or someone working across a campus there are a few key considerations to address.

User Security

Using personal Apple or Google IDs is not usually acceptable in a corporate setting, so how will the user's identity be verified? Ideally, the app would be integrated into an organisation's corporate security architecture and personnel directory. This has huge implications for deployment, rights and role allocation, audit, access and overall security.

Networks

This is probably the biggest disconnect between the developers and the remote worker. Software developers usually inhabit offices where they benefit from strong Wifi or a good mobile signal. Sadly, working remotely is not like that. Mobile signal is never reliable or consistent, no matter what providers claim. Should work stop because a user can't get a signal? No, it needs to continue. For example, a clinician undertaking a home visit in a remote location still needs access to patient details so they can deliver the best care and avoid harm.

In most scenarios, the ability for a remote operative to work whilst offline is critical. The user will need to be able to look up and store new information seamlessly, enabling them to continue with their work knowing that the data will synchronize automatically later, when the device is connected. Just as you'd expect with emails. This means that there must be a secure offline source of data and synchronisation mechanism.

Back-Office Integration

There are always back-office systems and workflow processes that drive the activities of field workers, even those still using paper. The needs of these systems will be creating, rather than eliminating, the need for paper for most field teams. Users will almost certainly be collecting data throughout their working day that will need to be transferred into systems back at base. Failure to address this and simply creating new data stores that don't integrate often causes as much admin as was saved by the new app in the first place.

Even for the smallest team, the benefits and return on investment offered by mobile working can be huge. NDL bases this on direct experience working with customers who have used NDL's Mobile working tools and solutions, to deliver hundreds of apps to tens of thousands of workers in a variety of team sizes/organisations.

Savings on field worker time of up to 25% are regularly seen. In addition to the process time and motion savings, the improvement in data accuracy delivers insights and the ability to plan and design services more efficiently and deliver better services and patient-centric care.

If you would like to find out more, contact info@ndl.co.uk or visit www.ndl.co.uk/casestudies to read some of our customer stories.

Benefits and barriers of mobile working

Now more than ever, communities and individuals benefit from mobile technologies in a major way. An individual's work and social life is vastly improved with every new device, app and network that becomes available. However, as with any revolution, there are challenges to face - especially when new technologies are applied to the world of business.

The benefits of mobile working

Flexibility and Multitasking

This cannot be underestimated, for the individual and the business. With mobile technologies, workers are not tied down to one location. This means their days can be more flexible, both in terms of the hours worked and the variety of jobs, projects and locations they can move between. It also means they can be more responsive, re-routing as demand dictates instead of having to regularly return to base to collect or update information.

Staff can re-join the day's activities and be available after a short period of unavailability, whereas previously they may have had to register as unavailable for a half or full day. Mobile working would allow a user to be immediately effective when returning to a job, rather than having to travel to base to collect work-load details. This can have a significant effect on staffing levels, especially in resource stretched environments such as community health.

NDL has seen clear benefits of this flexibility delivered by mobile working in a business context. For example, one Council's Highway Safety Inspectors were able to perform over 50% more inspections a year, saving over £50,000 on the cost of paper in the same period. All through use of a mobile working app that enabled on-site viewing of inspection lists, recording of details, creation of work orders and closing of jobs. As a result, the Council has adapted the app for other departments, including environmental quality surveying, flood risk management, public rights of way inspections and recycling bin delivery and removal.

An NHS Community Care Trust saw clinicians able to perform two more visits per nurse per day, with clinicians reporting that they felt better about their jobs as they had more time to spend on actual care of both patients and their carers, which is why they chose that profession.

Motivation and Satisfaction

Many professionals have spent years training and studying to develop their expertise and ability to do their job. Unnecessary paperwork and administrative aspects of a role cause frustration, particularly amongst clinicians and social workers who would like to spend more time with patients and service users and who need vital information to deliver the best care and services possible.

By streamlining processes through mobile transformation, workers can spend more time on the rewarding and challenging parts of their role rather than the paperwork or needless journeys. For example, having Building Surveyors visiting the office to pick up job details, going to site and then returning to manually enter data into the back-office system means that a greater proportion of the day is spent on non-professional and frustrating tasks. With mobile working technology, they can go straight to the survey job from home, record the information on-site and then move directly to the next job. Doing what they have been trained to do.

Data Accuracy

Recording information immediately on location instead of later - after returning to the office, for example - always results in improved accuracy. Additionally, in this increasingly regulated and audited society, the ability to demonstrate good business practice can mean the difference between winning and losing a contract. The capacity to immediately perform an audit or collect data on the spot is becoming increasingly important. If data can then be posted directly into the back-office system, huge amounts of repetitive administrative work can be prevented.

The immediacy and accuracy of data collected in the field allows the information to be readily available in a structured way, unlocking massive amounts of information upon which business decisions can be based. If the data languishes on paper or takes weeks to become available in a meaningful and accessible format, then huge opportunities can be wasted. Being able to see and respond to the changing needs of the work environment, to plan services based on facts rather than hypotheses, unlocks the next level of business transformation.

Office Space

If workers are spending less time in the office, desk space and office-based IT equipment can be reduced – saving organisations money through the use of sharing models. As an example, one NHS Trust has experienced a reduction in their desk to worker ratio from 4:1 to 10:1 through the adoption of mobile working.

Reduced Costs

Everything from the ability to access documents and mail while on the move, to increased streamlining of administration by uploading data directly from the field, to savings made through the more efficient deployment of staff to target locations helps to achieve lower business costs. This includes reductions in paper and print, along with fuel bills and travelling time.

The introduction of mobile working by another NHS Trust's Community Nurses enables them to enter data directly into central systems while they are with patients in their homes. Alongside huge practical benefits, they are now saving around £750,000 per year.

The Environmental Protection Officers and Planning Inspectors of another Council use mobile working technology to enter data while out in the community. As a result, teams are making 1300 fewer re-visits and travelling 20,000 fewer miles each year.
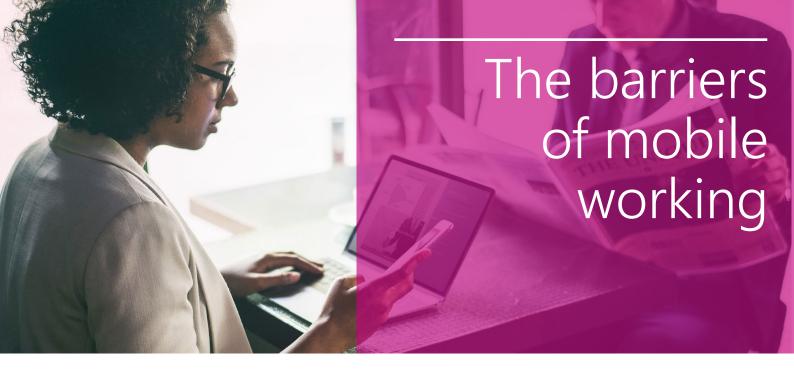
Service Standard

Immediate, on-the-spot access to core information often results in a better customer or patient experience through reduced waiting times, more efficient and accurate services and timely care. For example, Care Workers utilising mobile working can visit elderly patients first thing in the morning - which has been shown to be the preferred time for visits - rather than in the afternoon, for examples, after a team meeting.

Secuity and Safety

Security is key and the press often disproportionally and negatively report on data and device security. It should be remembered that devices are inherently more secure and accurate than piles of unfiled paper containing confidential information.

Knowing the location of field workers, that they are safe and providing a mechanism for them to reach out for help if needed, is increasingly important in the mobile working world. Devices can be wiped and replaced if lost and the ability to enhance protection for staff is a major benefit that is often overlooked when evaluating the effectiveness of mobile transformation.

The barriers of mobile working

Digital transformation is not all plain sailing, there may be challenges along the way. It's important to fully understand how a business process will be delivered remotely, rather than in an office, and the changes that may be become necessary because of this. Based on NDL's experience, highlighted below are some possible barriers you may face while implementing a mobile working solution. Consideration of these before embarking on a project, even if you dismiss them as not relevant in your context, will hopefully help you avoid wasted time or worse, a project failure.

User Input and Adoption

Projects can fail or be significantly delayed by ignoring the importance of user input. All the benefits of great devices, servers and networks are meaningless if users reject or misuse them. Users need to be willing to accept new systems, something that is made easier through education, involvement and understanding. Of all the points in this list, this is the issue that will require particularly careful management for the project to succeed. The importance of involving the end-user in a co-design process to develop the solution, design, workflow and the look and feel of the new app is crucial.

Devices

The device selected for your organisation needs to be appropriate for the tasks at hand to ensure successful mobile working. A well-considered and user-friendly device ensures that workers are comfortable and willing to adapt to it. Size, weight and screen size should be considered – as well as the battery life, memory space, camera quality and durability.

Appropriate accessories and the work environment should also be considered. For example, if a device is large and heavy, it probably unreasonable for it to be held all day, therefore, some form of support or holder may be required. In a construction environment for example, NDL has seen adapted high-viz vests with pockets and lanyards for mobile devices to be used on site.

Staff Culture

A workforce may be reluctant to change their way of working. The same can be said for managers who, in NDL's experience, often appear to struggle the most, especially when they are used to a culture of presenteeism. It's important to emphasise the massive benefits of mobile technology for the workforce and management, especially for creating a better work/ life balance and team flexibility. This will build trust in new, innovative ideas and technology. Appropriate device selection, proper training and reliable and appropriate support will make everything easier.
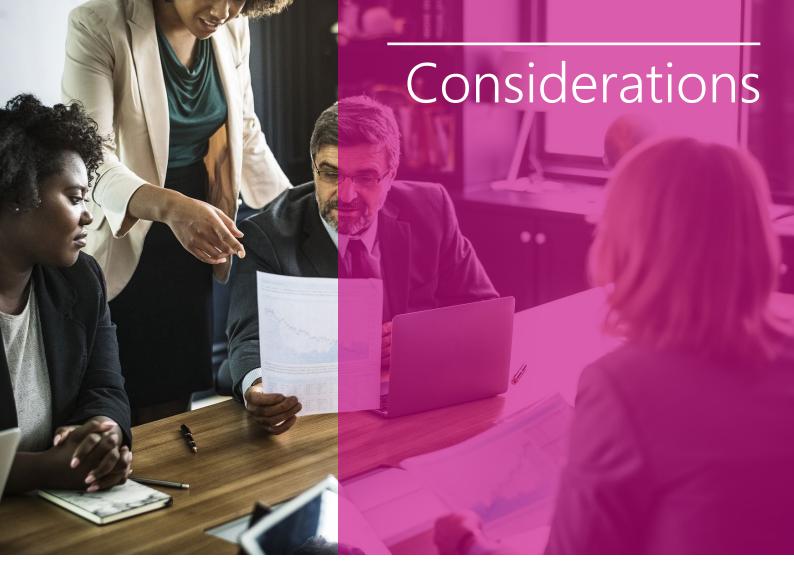
Investment

Implementing, supporting and managing mobile working methods can be initially costly for a business, however, the ROI is huge - with projects recouping their costs inside the first year. As the growth in successful projects becomes more common, new funding sources are becoming available to help drive this innovation. The NHS is aiming to be paper-lite by 2023, and the focus of local governments is currently on the Digital by Default agenda. Reducing the reliance on paper, collecting data at its source and the transformative role of mobile application are all playing a massive part in supporting these initiatives. Solutions, such as NDL's MX toolkit, that significantly reduce the level of investment needed to get up and running are now available to help overcome current financial challenges. These solutions allow organisations to manage a cost-effective mobile workforce. For advice on producing your mobile working business case, speak to our experienced team by emailing info@ndl.co.uk.

Integration

Without back-office system integration, mobile working will not meet its potential in an organisation. If an in-house workforce still has to re-enter data from the mobile systems into legacy systems, the cost and time savings will not be delivered. It is relatively simple and straightforward to integrate mobile app data with an individual or multiple back-office systems. There is no reason why a field worker cannot have relevant information collated from multiple sources at their disposal. This is achievable with the right choice of platform. For further details on integration, please refer to Introduction to Mobile Working Part 2: Devices, Network and User Adoption

Connectivity

Plan for signal loss. Everyone has experienced connectivity problems when making phone calls. Therefore, it is to be expected that workers may pass through areas of poor mobile and data coverage, negatively affecting connectivity. However, it's possible to use mobile apps which can work offline and be synced with the back office when coverage is restored. Start by designing your app to work this way to avoid re-writes.

Considerations

Those at the start of their mobile working journey will have to adapt to significant changes, technologically, culturally and behaviourally. HR policies and working practices, as well as technology adoption issues, need to be carefully managed for the project to succeed. These differ depending on the nature of the work, but it's worth highlighting a few of the recommended considerations so that they can addressed in the planning process.

Device Selection

End users must be involved in the process of selecting the correct device. A device must be user friendly and fit for purpose, or the workforce may find it too hard to adapt to. For example, PC/laptop users should find the transition to a tablet quite straightforward, but a business app on a smartphone may take longer to adapt to. It can be exasperating for the user, so time should be allocated for familiarisation and training on the device, as well as the app, before it is to be used in a live environment.

HR and Policies

However positive a change may be, having to adapt can create worry. For example, when GPS tracking technology is used, concerns could be expressed over management 'spying' on their field teams in a Big Brother fashion. It is therefore vital that potentially controversial elements are thought through and adopted into any planning, reassuring the users.

Clear policies should be drawn up and training given to workers about how they apply to app and mobile device usage. For example, guidelines to questions such as: "If working from home and making visits in the field, when does my working day start?".

Data Security Policy

A means of locking and storing a device when not in use will be required, along with a theft or loss policy which may include wiping the data from a device. Clarity over how such events are reported will also be needed. One point of comfort that can be taken is that in 10 years of working with a huge range of organisations, device loss / theft and even damage levels are miniscule. Nevertheless, appropriate policies need to be in place.

Flexible Working

Mobile working often goes hand-in-hand with 'flexible' working arrangements and the HR policy and contractual arrangements need consideration.

Safety

Devices should not be used while driving or in a hazardous situation. Both the user and those who may contact them should be subject to this policy. For example, one customer working in the construction environment provides designated 'mobile safe' zones to eliminate the dangers when a user is focussing on a device as opposed to their hazardous surroundings.

Personal Use

There is potential to compromise confidential organisational data should staff be able to download apps onto their devices freely. This is a challenge within user adoption that must be carefully and delicately managed as early as possible. The challenges are different if a Bring Your Own Device policy is in place. NDL customers achieve this by deploying their apps in a 'sandbox' mode, where all the NDL business apps are contained in a highly secure area. This area is inaccessible from the rest of the device and requires additional authentication.

Team Working

Despite being able to go direct to a job, many teams may want to retain the "morning meeting" culture as peer interaction is important. The need for this interaction for the overall health and wellbeing of the team should not be under-estimated. Contact time should be part of a mobile working plan, to avoid meetings occurring on an ad hoc basis which would result in unnecessary journeys being made, decreasing benefits and savings. To make things easier, early morning or end-of-day meetings, which would involve rush-hour travel, could be changed to take place near lunch time.

App Design

When designing the app, the end user's wants and needs should be the highest priority to ensure the best chance of successful use. Pay attention to the User Experience (UX) which can be achieved by involving the end user in a co-design process from the outset.

A workforce is far more likely to adopt a solution if they are involved in its design and their recommendations are implemented, or if they are involved in giving field trial feedback. Apps "imposed" from above tend, in our experience, to prompt user rejection and lack of use. Being part of a co-design process means users "buy into it", helping to keep focus on aspects which would make their lives easier rather than imposing administration that seems unnecessary.

A great place to start is by identifying the process the user is undertaking and building the app around them, as opposed to building an app that merely mirrors current system behaviour. Examples of successful apps give users clues as to where in the process they are and have open and clear interfaces that are familiar to the users. If the app is to be used on multiple device types, deliver the natural behaviour of the device type, rather producing a one-design-fits-all solution that won't work effectively on either device. In the app world, people 'buy with the eye' and are unforgiving when it comes to poor design.

Keep it small, do not try to copy a whole back-office system into a single mobile working app, it is better to have two separate, but integrated, apps that each cover a single process.

Conclusion

Mobile working technologies and apps extend business existing systems' reach into the field by enabling processes to be digitised and reducing the replication of unnecessary administrative processes. They significantly improve productivity, corporate agility and customer responsiveness while lowering business costs. Choosing the right platform and investing in proper planning is essential. The key is having a mobile working platform and vendor that offers a proven way of integrating with the existing infrastructure.

This eBook has introduced the positive aspects surrounding the adoption of mobile working technologies whilst highlighting some of the potential barriers to avoid, so that others can benefit from NDL's extensive experience in this sphere.

MX from NDL puts you in control of your mobile working. You can take information from different back-office business systems and turn this into a series of mobile working apps which accurately mirror the processes your field teams are performing. Operating in and out of signal, MX takes the information captured and automatically updates your systems. It's so simple to use; with the intuitive toolkit, you can design and make unique business mobile working apps for your organisation and run them on any device type you choose. There's also a full suite of management and security features to make sure your information is protected.

It takes just days to create a highly effective mobile working app that integrates all the features and platforms your teams need. NDL also provides an App Showcase containing a large variety of templates, designed by users, each of which is free to download and customise. All of this is available in one unique product.

Read the MX case studies online at www.ndl.co.uk/casestudies to see how NDL's mobile working toolkit, MX, has helped organisations like yours to deliver successful mobile working solutions, increase efficiencies and save money. It's easy to do yourself without specialist developers to get results quickly.

Download Introduction to Mobile Working Part 2: Devices, Networks and Technical Considerations to broaden your understanding of mobile working before embarking on your project.

For more information or to book a demo, contact
info@ndl.co.uk

To read full case studies, visit
ndl.co.uk/casestudies