



Mobile Business - A Task Based Focus

**An Approach to Identify your
Mobile Critical Success Factors**

A Siemens Applications Marketing White Paper

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1. Foreword

The latest mobile technology is gaining attention for its potential effects on the consumer marketplace, but it is having a faster and more profound effect on the business sector. Mobile technology allows organisations to take valuable information and applications directly to the point of need in a timely and cost-effective manner. Enterprises can transform the speed and accuracy of their most important business processes especially those aimed at directly satisfying customer needs.

A mobile employee, equipped with a mobile device and services designed for their use, will benefit at each stage of working with the customer. An engineer or salesperson, for example, can arrive at a customer appointment pre-armed with up to date information; pulled and formatted from relevant sources as it is needed.

This white paper examines how the differences between mobile technology and static computing environments open up opportunities for businesses. It looks at how mobile technology can be used to leverage the considerable investment organisations have already made in corporate systems. Finally how a task-based approach to mobile business will generate compelling business cases.

The paper also offers a means of determining where your organisation is on its own journey to mobilisation, and a set of touchstones for the way ahead.

2. Introduction

How mobile technology is changing behaviour

Business is always changing – that much never changes. A new dawn is going to see the sudden rise of a new type of business, or a new type of management, or a new killer technology. Today, the bearer of change is mobile technology.

Mobile technology is a driver for the evolution of business, and its effects are in action right now.

The wave of mobile technology is currently sweeping across both the consumer and business landscapes. It is distinct from the spread of PC technology over the last twenty years, in that it is born primarily of developments in the consumer world rather than from business imperatives.

Mobile usage is radically different to static computing

Mobile devices and PCs are very different propositions. Not only are mobile devices more ubiquitous than PCs, they are also easier to use by untrained owners. Mobile phones have simpler user interfaces, with limited keyboards and shallow menu systems. They may be smaller, cheaper and less “rich” than desktop machines, but mobile devices prove easy to control and interact with. Putting a device in a user’s hand, rather than on his desk, demands a different approach to system design and a revised attitude to usage scenarios. Mobile technology lets us design services that become integral parts of a user’s lifestyle, delivering valuable applications at the point – and time – of need.

Mobile consumers - personal services

The evolution from deskbound to mobile technology signals a transition from applications and services designed for undifferentiated users seen in the mass to personalised services designed for unique individuals. As we will see, this shift in emphasis from generic to personal design is key to realising immediate and recurring benefits from mobile technology in the business setting.

Mobile consumer applications are extending information and access to services to individuals whatever their location. Many of us wear wristwatches partly because they serve our compulsion to check and mobile technology is a highly efficient enabler of addictive behaviour.

Services such as mobile banking and broking can serve a similar purpose, allowing customers to check their balances and portfolio values without requiring the personal intervention of a customer services representative or fixed web browser services. Building mobile communications options for the customer will provide competitive differentiation and it is more than likely that an enhanced relationship will increase future transactions.

Mobile technology the enabler for business

Mobile technology puts the accent on communications, rather than information processing. It delivers capabilities that feed into our activities while the day unfolds, rather than demanding that we sit down, adjust our thinking, and submit to a session on a computer. Mobile technology enables a more natural and task-related lifestyle. By using mobile services, we make better use of our time and satisfy more of our needs as they arise.

Mobile employees need technology support to enable them to get the job done, access and control the organisations’ systems, ensure more effective use of time, and support them spending more time with customers.

Research conducted by Siemens at m-business Expo (UK) in late 2001 found that 83% of respondents were looking to mobile technology for productivity improvement and associated time savings. 60% of respondents regarded financial savings from streamlined business processes and the ability to generate additional business as the next most important impact areas for mobile technology. Mobile technology clearly has a significant role to play in enhancing the performance of all types of business.

3. The Task In Hand

Who will get the most benefit from mobile business applications?

Key mobile users can be distinguished by the following characteristics:

- They are supported by substantial investment, often in IT services
- They require secure and discreet access to tailored services
- They need to check certain data items on a regular basis.

The rapid maturing of mobile technology brings immediate recognisable benefits to organisations with existing teams of mobile workers. These teams will be the primary focus for mobile business projects during 2002/3 as organisations stream cost-effective mobile technologies into their customer-facing functions.

Mobile technology will help such teams to develop a proactive approach, arming them with the information to pre-empt customer requirements and with access to corporate systems that can execute customer requirements – immediately.

Leveraging investment in existing systems

This is not just a matter of exploiting the functional value created by mobile technology in the consumer market: it is also about unlocking the investment made in information systems within the business. Organisations have spent heavily in recent years to equip their customer-facing staff with systems that improve their interaction with customers. Customer databases, linked to product and service histories, allow customer service staff to identify and position enquiries rapidly and accurately.

Wider company workflow systems can empower team members to progress a customer's query through relevant operational stages, adding real value to the interaction and making optimum use of the organisation's resources.

However, the value of these sophisticated capabilities drops to zero as soon as a user leaves the building. The organisation's knowledge, and its ability to act upon that knowledge, are all too often circumscribed by its physical location. Where an organisation's mobile workers are clearly identifiable as key workers, this effect is all the more acute. Never has the chill of systems exclusion been so profound than for today's sales person, field services representative, or executive.

The advent of mobile technology is allowing many organisations that have invested in CRM (Customer Relationship Management) solutions to realise the full benefits of those systems by extending access to the real point of need.

Duplicated effort makes for duplicated costs

Mobile workers tend to circumvent existing office and network constraints by generating activity in the channels available to them. This activity is usually unmonitored, often informal, and always expensive. Mobile workers without systems access in the field may call the company's call centre and ask their colleagues to look up information on the system on their behalf.

Each such call can generate two readily definable costs and a further variable cost. The first two cost elements derive from the call itself: the call is likely to come from a company-supplied mobile phone, and may come via a subsidised 0800 or local-rate number. The additional, unpredictable cost relates to the time spent by the colleague back at base in conducting the research on the mobile worker's behalf, relaying the results and taking any further actions. During this episode the base worker's workload is interrupted, with further potential costs accruing. The lack of connectivity for the mobile worker results in a doubling of the staff required to perform the task in hand.

In this case the benefits can be quantified. Reduction in voice call volume has a clear monetary value. Increasing the number of calls that a centralised employee handles, or the number of visits that a mobile employee makes, can also yield hard money benefits.

An opportunity to review mobile tasks

Haphazard interpersonal communication between mobile workers and static colleagues is not necessarily a bad thing – far from it. However from the enterprise point of view, some workaround interactions serve to consolidate and promulgate outmoded business practices. It may be best to capture and correct these where necessary and implement new mobile task based interactions.

Many existing business processes are orientated around office-based employees and are not always friendly to mobile workers. Enhanced mobile technologies give organisations the opportunity to review tasks performed by mobile employees, from their perspective.

Possibilities for field service

For instance, a field engineer faced with a fault in a new product, calls a trusted colleague who has worked on the new model already. The targeted colleague becomes a source of expertise within the engineers' community, and as such adds value to the whole team, albeit at some potential disadvantage to his own workload. The community has elected its own expert; knowledge is not effectively shared, built on or applied across the organisation, and is not available to anyone outside the charmed circle.

This analysis is not meant to criticise mobile workers who find their own workarounds, despite their lack of real support in the field. Effective mobile workers get things done, but their admirable perseverance can be a blockage to organisational progress as they build serviceable workarounds to their tasks rather than demanding improvements to process design.

Pragmatic mobile workers are amongst the groups least likely to press for better technological support. Mobile integration with systems and processes will simplify activities and make employees more productive. Most mobile workers will embrace mobile technology with enthusiasm and commitment. The key is to include them in the analysis, design and implementation phases of any project.

Mobile business applications serve customers better

Today's mobile workers achieve their goals despite the information systems we have built for them. Mobile technology gives us the opportunity to improve this situation, to correct the distortions in apparent costs caused by mobile employees' workarounds, and truly to empower our mobile workers to fulfil their roles.

Whilst mobile technology's benefits begin with the servicing of the direct user, their end-point is further along the chain: with the customer. We aim to improve the efficiency of mobile workers through the use of mobile technology, but the end results of improved efficiency are higher completion rates in customer interactions – and higher satisfaction levels too. Users who can get more things done, with greater speed and accuracy, can please more customers more of the time. The responsiveness of the entire organisation is enhanced through the addition of the mobile channel: both the reach and dexterity of the enterprise are extended, making it a more effective and committed player.

These quality benefits can often be measured.

For example, sending price or stock availability data to mobile worker will cannibalise costs of voice calls. Small, well-defined data items like these can be delivered efficiently to mobile devices, cutting out the need for human interruptions, conversations and call charges.

Delivering a faster, more consistent response

The ability to strike a deal based on real-time data delivered to a salesperson's hand can improve cashflow at a stroke. Using a mobile device to book orders in a timely fashion can radically alter the business's reported financial position, and therefore its perceived performance. Mobile technology therefore helps the business to respond, and to measure itself, in real time.

A mobile employee, equipped with a mobile device and a set of services designed for his or her use, will benefit at each stage of an encounter with the customer. A salesperson, for example, can arrive at a customer appointment pre-armed with the relevant contact history and credit rating, with the information pulled, cropped and formatted from corporate systems just before it is needed. During the meeting, our salesperson might be able to check product details, call up pictures and technical specifications for the customer to view. Real-time connectivity to back-end systems allows the salesperson to check stock levels, and to commit real stock reservations at the moment of customer commitment.

In this example additional revenue generation opportunities also begin to emerge. The business case is enhanced by quantifying the value of additional business that can be generated from more timely access to systems and the ability to instruct the organisation's systems there and then. Customers compare their experiences dealing with a connected, confident organisation as opposed to one mired in apparent bureaucracy and vote with their feet.

At the same time better connectivity amongst employees improves not only front line sales but also the organisation's ability to share information and build its knowledge base, leading to improvements in first-time-fix rates and feeding in to product and service design.

Traditional organisations often unnecessarily expose their complexities to the customer while trying to perform the simplest of tasks. Organisations using mobile technology leave complexity where it belongs: in the background. They acquire a nimbleness that lets them respond faster to opportunities, allowing them to set new standards for excellence in customer service.

4. The Tsar's Finger

Mobile technology exposes inefficiencies in existing processes

The railway from Moscow to St Petersburg has long been a vital part of the Russian economy – and, in its day, it was a marvel of engineering. The route is dead straight for its entire length; that is, all except one stretch where the rails bend away on a seemingly pointless detour.

Russian tradition has it that the Tsar mandated the route, drawing the new iron road onto the map with the aid of a ruler. The detour is said to be where the Tsar's finger protruded beyond the edge of the ruler, and his pencil skipped; imperial flunkies dared not correct the error. It is however entirely possible that the troublesome detour on the Moscow-St Petersburg railway owes its existence to a hill, rather than a digital error.

In 21st century Russia, the Tsar's Finger adds an unnecessary hour to the journey time between the country's two most important cities. As high speed trains are ordered for the line, the bump has to go; work started in October 2001 to straighten the line.

Every organisation has its own inexplicable detours: stretches of business process where functions are visited unnecessarily and needless delays inflate the time to completion. These detours can be hard to see until environmental changes alter our perspective. Whether an obstacle is real or random in origin, it can always be removed, as long as two criteria can be met.

- First, the technology must exist to spotlight the obstacle and presage its removal.
- Second, the organisation must demand its removal.

In today's businesses, mobile technology is casting a harsh light on obstacles and detours; wasted time and effort, whilst these are being driven out by an ever-sharper focus on bottom-line benefits.

Obvious candidates for mobile applications?

The initial effect of mobile technology's spotlight may be to bring the mobile worker back into the mainstream by extending the availability of basic office services to the worker in the field. Many organisations are targeting email, corporate directory, and intranet access as priority applications. In the short term, these functions may add to the mobile worker's productivity and sense of inclusion. However, it is usually hard to create business cases for common applications such as e-mail and these may not be the applications which will add most value.

Mobile usage differs from deskbound behaviour

If organisations restrict the mobile offering to the generic applications, then they can run the risk of reducing productivity. E-mail in particular can increase interruptions and distract employees from the task in hand. Organisations need to understand that in many senses mobile usage does (and should) differ markedly from deskbound behaviours.

When we seek to serve colleagues in the field, we need to fit mobile services into their work, not around it. We can't risk interrupting – and potentially derailing – a customer interaction that is unfolding in real time. Mobile services need to pre-empt users' activities, answering their needs in a timely, cost effective manner.

Identifying the applications with the most value add

The true benefits of mobile technology for mobile workers are to be found in applications designed for specific tasks: applications that straighten the routes our people travel. These are also the applications that yield most readily to the creation of business cases.

5. The Fractured Day

Using mobile technology to ease the pressure points in your business

One of the side-effects of the current economic downturn is the return to prominence of sound business planning. Outside of the collective bubble-era dream shared by some parts of the media with some investors, business planning has of course never gone away. Managers have always looked to reduce costs and enhance revenue, and the surface disturbances of management fashion will never displace this.

Mobile technology is ideally suited to an age in which cost savings and process improvements are clearly at the top of every agenda. Mobile business justifications are clear winners.

A three-step process can be used to generate a task based mobile business case:

- Identify the value of existing tasks
- Redesign tasks with mobile business principles
- Establish where mobile business can add most value.

Identifying the value of existing tasks

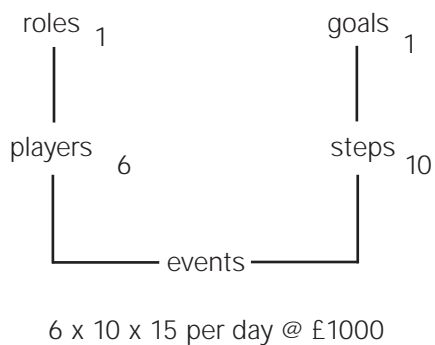
The first step in building a task based mobile business case requires organisations to assess how employees are working today and identify the value of the existing tasks and processes.

There are five principal areas where metrics can be collected and used to construct the productivity improvement element of the benefits case (Figure 1).

- The number of **roles** refers to the types of job that will be impacted by a mobilised application; for example, sales person or field service engineer
- The **players** are the actual people performing the roles. Remember that one person may play or share many roles
- The **goals** are those outcomes desired by the business which are targeted for the mobilised application; for example, sale of a product line
- The **steps** are those predefined actions which are taken to achieve the goal
- The final component in the model is the **events** which represent instances of steps being performed.

The volume and value of events is the ultimate matrix required to make an effective business case. In the example we assume that six players each perform a ten-step process fifteen times a day. Here we have a total of 900 events, which have been given a value of £1000 each.

Example of a Simple Process Model - Figure 1

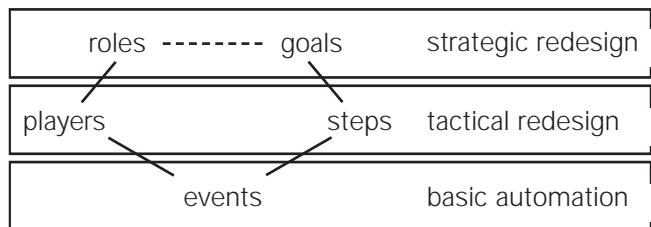


Redesigning appropriate mobile business processes

The second step will help you determine which of these events can be adapted to make them more suitable as mobile working practices.

Clearly this generic model is a malleable construction. We can expect to employ iterative development of the business case (a technique often referred to as satisficing) whereby progressive refinement of the project's scope results in a design optimised for the group as a whole. It is best to drive this iterative development consciously, taking advantage of the opportunity to redesign the business process rather than just attempt to account for the events it generates. The second step is demonstrated as a three level model (Figure 2) and identifies the following strategic, tactical and automatic process improvements.

Opportunities for Process Improvement - Figure 2



In this version of the model, roles and goals are marked for investigation from the **strategic** improvement perspective. You must decide - Is it possible to redefine or streamline at this level? Do our roles and goals actually still correspond in the mobile environment?

In the middle layer of players and steps, we focus on the traditional arena of **tactical** business process redesign where functions can be reengineered for better effectiveness.

The lowest level of the model, which we term the automatic layer, is the domain most directly impacted by the application of new technology. This is where mobile technology is brought to bear to increase the number of events handled, or potentially to maintain or even reduce the number of events handled whilst serving a more valuable aggregation of steps and hence business goals.

Building a process model

In practice, how do we populate process models?

The answer lies in recording the moment-by-moment action of our business, or describing its daily narratives.

Every business is a set of unfolding stories in which protagonists seek to achieve goals by deploying resources and interacting with others.

This becomes clearer as we begin to track the actions of mobile workers and note how their time is occupied. Where do they go? Who do they meet? What information do they use, and what information do they create?

And where are they left stranded by the organisation on whose behalf they act – left, as it were, to their own devices?

Establishing the mobile value add

Once you have completed the first two steps for all appropriate mobile activities you be able to clearly identify which processes add most value to your operations.

The following examples show how business process review and pilot projects can identify significant mobile business opportunities and generate a compelling business case.

Case Study 1 – Keeping UK police officers on the beat

Valuable descriptions of true mobile business processes can be readily built by making diaries of mobile workers. The UK government's Home Office studied police officers in this way, publishing the results in November 2001. The study identifies how to improve the efficiency of procedures in the police station, in the car – and on the beat.

A total of 378 diaries were compiled, showing that an officer spends only 17% of his time on active patrol: "It is readily feasible to put laptops in patrol cars and offer police officers on patrol hand-held devices that will allow them to work productively outside of the station while also providing reassurance by their visibility."

By improving the whole process design, including reducing the variety of forms in use, and streaming relevant tasks to the officer in the field, we can support the officer's primary function whilst improving his productivity. This is the win-win outcome we seek in applying mobile technology for mobile workers.

Case Study 2 – Improving productivity in field service

Siemens Communications is employing mobile technology in its Customer Services Division (CSD) to enhance and accelerate existing processes, deliver savings to the company and improve service to its customers.

The National Service Centre deals with a wide range of issues, from providing replacement consumable parts through to investigation and resolution of complex service requests. The unit has a classic hub-and-spoke structure, with information sources and technical expertise at the centre and field engineers at the periphery. Customer and technical information is accessed and relayed by colleagues at a call centre. Call centre staff also act as the link between job assignment and completion, and effectively "drive" the company's ERP system for the engineers.

Siemens took mobile technology as an enabler of better performance within CSD and then generated a set of objectives for a pilot project:

- Improve response and fault resolution times through to resolution
- Reduce volume of voice calls between call centre and field engineers
- Simplify communications during problem resolution phase
- Reduce agent data entry into ERP systems
- Reduce erroneous spare parts ordering
- Improved flow of information for both field engineers and customers.

The two month pilot project achieved an impressive 82% reduction in phone calls between the call centre and field engineers.

In the same period, the engineers achieved an increase of 10% in the number of events they carried out. The greater accuracy in dealing with each case also resulted in substantial savings in inventory.

The team derived a business case from the pilot project aimed at building these mobile business benefits into ongoing practice. The business case focused on a 15% reduction in headcount at call centre, a 2% reduction in field service force, and a 5% reduction in inventory and logistics costs – recurring savings that impact immediately on the bottom line.

Stages in the mobilisation journey

Where is your organisation in its journey towards mobilisation?

Are there any unnecessary deviations and detours that mobile employees are forced to take to complete their tasks?

Here are some questions you can use to determine your progress.

- **Do you recognise teams of mobile workers in your organisation?**

If so, how do they access their support systems? If you're not sure, or you know that they access their support systems indirectly (by voice call), or you know that they only use the systems when they are "back at base", then you need to be analysing their roles and goals to see how mobile technology could improve their lives.

- **Do you have roles in your organisation that are deskbound when they should be mobile?**

You can spot these more easily by asking whether an employee would perform their role better if they could function in the field rather than at base. Reliance on corporate systems such as CRM may be distorting the way you deploy your people

- **Which roles and goals in your organisation are most sensitive to timely interaction with external parties?**

In other words, where are you habitually losing out due to unavailability of information when dealing with a customer or partner? Those occasions where fingertip information makes the difference are mobile technology's big opportunities.

- **Have you defined the events to be mobilised?**

These are transformed into the actual service elements which will be implemented on the mobile device: information updates, orders, status reports, instructions...

- **Do you know the costs associated with the existing process?** These are rarely available off-the-shelf, but you should be able to model the costs realistically from corporate data and observation.

Do you know the opportunity value of the mobilised process?

Key elements can be added to your business case by completing the mobile business task assessment outlined in this section. Your business case may include elements of the following:

- Productivity improvements
- Variable cost savings such as improved inventory
- Reduced communication costs
- Increased revenue.

6. Touchstones for Mobilisation

Mobile technology has arrived, and it grows daily in power and reach.

Its benefits for business are clear, compelling, and implementable today. Mobile business applications add true value to your organisation and can generate business cases that stand up.

Cost savings, revenue enhancements and process improvements can all be made to flow from the thoughtful application of these technologies to the information sticking-points in our enterprises.

Now you can fill the data gaps that halt, divert and undermine your business goals, smoothing the path of your organisation's daily mission and getting it in better shape for successful evolution.

As mobile technology continues to create change in the business landscape, we offer five key messages to act as touchstones in your journey to mobilisation:

- Mobile technology has a clear role to play in business where it is readily exploitable and rapidly justifiable;
- Use the perspective afforded by mobile technology to spotlight inefficiencies and opportunities in your business processes;
- Use the process modelling phase to improve the structure and flow of work;
- Design task-oriented mobile applications that get jobs done;
- Focus on mobile applications that generate proactive customer responsiveness, so that you improve your market competitiveness as well as corporate efficiency.

7. Siemens Mobile Business Solutions

Siemens Advanced Customer Solutions is the specialist CRM and Mobile Business group within Siemens Communications.

Siemens understand the inherent differences between the wired and wireless environments and have created best practices to deliver the most appropriate mobile business solutions to compliment your existing e-business infrastructure, process and culture.

Our approach combines our market leading expertise, extensive partnerships with best of breed solutions providers and a comprehensive suite of professional services.

Siemens mobile business architecture and methodology enables us to implement solutions in a phased and rational manner in line with short project timescales.

Our philosophy allows us to develop a highly personalised mobile business solution around your business, focussing on:

- Creating a "task" based environment that allows business processes to be as hands off as possible
- Providing users with more flexible access to information, overcoming the constraints of multiple information databases
- Supporting a two way flow of information with mobile users; either in real-time or offline
- Utilising the most appropriate devices and access solutions for a secure working environment.

We drive the future of business communications.

Siemens Communications Limited, one of the UK's leading telecommunications suppliers, offers a full choice of technology solutions from simple telephony through to full network outsourcing. The company operates centres of competence for research, development, manufacturing and support throughout the UK and in a number of international markets. It has a turnover in excess of £250 million and is part of Siemens Information and Communication Networks, the global leader in business communications.



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