

## Mobile Business - Strategic considerations in Positioning for the Mobility Wave

The Internet wave that swept through business will be seen as a ripple in a pond compared to the changes which are likely to result from the adoption of mobile business<sup>1</sup>. Although some businesses are starting to offer mobile services and others are preparing for mobility, many businesses are still formulating the strategies and coming to grips with the necessary processes and infrastructure changes to support mobile business. Irrespective of business or industry sector, some common challenges are seen.

“Adoption of mobility by the business for the business will drive the necessary ICT.”

### 1 Driven by Business for Business

The integration of mobile business into business, including the delivery of services to mobile devices, is a business operation and not an Information Communication Technology (ICT) activity. Unlike the initial adoption of the Internet and Web sites that were often driven by ICT, the strategic businesses are driving the adoption of mobility by the business for the business. The fact that changes in ICT are required is a consequence of the process and ICT is NOT the driver of the mobile enablement process.

Like the adoption of the Internet into business, the extent of services that need to be mobile enabled is approximately the same as those that were in need of Web enabling.

Similar to the adoption of the Internet, the integration of mobile business will probably follow a phased implementation according to pragmatic business need, the ability of the business to manage

“The small screen of the mobile device drives efficiency in information management and workflow.”

<sup>1</sup> Mobile business is about the adoption of mobile computing into business, the conducting of business with mobile devices and the provision of services and support on mobile devices.

the change and the time it takes to optimise ICT necessary to support mobility.

Similar to the use of the Internet within business, mobile business can be used to provide services on behalf of the business to external parties as well as optimising operations within a business. Whilst different strategies and priorities are required to meet varying mobile business needs, there are some core elements that are required for effective and efficient service delivery on mobile devices.

### 2 Mobile Business Strategy

Like the initiation of any other services and business changes, an effective strategy with a clear business case and well-defined expectations and outcomes is required. For external customers a phased approach of alerts and messaging may be the services provided first. Then additional services for simple transaction processing and validation can be made available next. A focus on the provision of business critical information may also be a priority. As the capability of the business to provide and support mobile business grows, more complex processes can be progressively supplied.

For internal needs, access to contact details on any device anywhere anytime may be the initial requirement; followed by the capabilities of ordering, purchasing and invoicing. Messaging alerts and information access may come next, with support for advanced transaction processing provided subsequently. The need for collaboration and the power of the mobile device in business collaboration whether it is between employees and/or with channel partners will also come to the fore.

Irrespective of the business, best results are likely to be seen for mobile business through the adoption of a pragmatic business approach with a proven business case to lower costs or grow revenue. Business can avoid the excesses and mistakes seen in the Dot Com era.

### 3 Screen Size

A key feature of the mobile device is the current screen size. Whilst the screen of a mobile device is often less palatial than that of the desktop, this is actually an advantage to business and screen size should not be seen as a barrier to the provision of mobile business services.

The small screen of the mobile device makes it difficult for people to manage information on the device, i.e. the information needs to be sorted and organised before it can be delivered to the mobile device. The large screens of the desktop perpetuate the need for people to have advanced skills in information management (versions, locations, formats and applications) to complete their job when there is no need for it to be that way.

The small screen of the mobile device also drives a greater adoption of standardised process. By presenting the right information at the right stage in the process to achieve an outcome, users on mobile devices are delivering results and not spending their time searching and trying to define and remember processes as occurs at the desktop. Again, the large screens of the desktop often perpetuate inefficiency.

For a user to work effectively on a mobile device, the rendering of data needs to be in the context and tightly integrated with work-flow.

The small screen of the mobile device will also drive more effective design in applications and user interfaces. Ultimately one common interface shall exist on both the mobile device and the desktop with all of the advantages this brings the user.

Realising the changes necessary for mobile business may take some time and some innovative thinking, but overall, it is likely to drive significant business improvement as well as creating mobile business opportunities.

### 4 Location

Beyond the needs already existing in business, mobile devices bring an extra dimension to

mobile business that of location. The power and convenience of mobile business is often seen to lie in the absence of a dependency upon location, i.e. people do not have to be physically in the office to conduct business.

When it comes to the provision of information however, location is very important because location is part of the information and service context. It can be very annoying to tell people in one city that there is a discount on products in another city. The location context is not just a matter of personal preference but also of device location.

The significance of location in the provision of service and context for the service needs to be included within mobile business strategies and implementation plans.

### 5 Process Changes

Aligned with the screen size of the mobile device are the changes to processes necessary to support mobile business. The changes brought by mobile business occur in how the business operates, in the processes to support mobile business and also in the detail of the business processes and the transaction operations itself, i.e. mobile business redefines the knowledge worker assembly line.

When mobile enabling a process, inefficiencies within current business processes may be highlighted and need to be changed as well as altering the process to span mobile devices.

When changing processes to operate on mobile devices, the following issues needed to be addressed:

- How will this process work on a stand alone device?
- How will this process continue if connection to the network is lost?
- How will this process resume when connection to the network is established?

Proven business experience shows that these issues need to be addressed from a business, a process and a technological perspective if mobile business is to be effective. Resolution of process impacts upon the solutions implemented, the mobile business offering, the cost and time to market.

"Ultimately one common interface shall exist across both the mobile device and desktop."

"SMS is suitable for alerts and messaging but is not preferred for transaction authentication."

## 6 Authentication

Although authentication (user access) may appear as a slightly more technical issue, the definition of mobile business services to be provided will significantly impact upon the authentication solution used.

"Any effective mobile business strategy and implementation would include a standardisation of the mobile device."

For financial transactions and payments a higher level of authentication and security is often required. Effective authentication may include:

- User entering a user name and password for a service, e.g. banking.
- User is then called on the listed mobile device to advise that access is required (IVR solutions).
- User is then prompted to key in a PIN in real time that is validated before approval is provided. The PIN is known only to the user and is NOT sent as an SMS at time of login.

In addition to mitigating risk (need user name and password, the listed mobile device and a PIN), this approach provides a level of security not achieved through SMS. SMS is suitable for alerts and messaging but is not preferred for transaction authentication.

Authentication at the transaction level, the application level, the device level and the network level may well be required.

Resolution of authentication is key to solution design with an impact upon cost, offering and time to market.

## 7 Mobile Device Management

Management of the mobile device has several business impacts that need to be addressed for the effective provision of mobile business services.

When providing services to external customers, a business has little control over the mobile devices used and supporting multiple devices, multiple systems and multiple applications is just the cost of doing business.

"Mobile business requires the use of 'no data storage on mobile device' and 'single sourcing of data from virtual consolidated repositories' approach"

For services within an organisation, all of the advantages from a standardisation of the mobile device can be

realised. Such a standardisation lowers the cost of deployment, maintenance, support and administration of the device, the services provided, the applications used and the support provided around the mobile business services. Any effective mobile business strategy would include a standardisation of the mobile device and where required, a standardisation of the desktop environment with all of the resulting impacts upon ICT.

Realising mobile business shall see the deployment of effective solutions (technology and processes) for:

- Asset Management – The mobile device is an asset of an organisation and like any other asset, its existence, occurrence and value need to be tracked and managed.
- Device Tracking – Mobile devices are by nature prone to being lost and/or taken out of an organisation. Some form of device tracking solution is required<sup>2</sup>.
- Device Administration – Solutions are needed for the administration of the mobile device including its initial and ongoing configuration, operating system and application deployments, and upgrades and updates.
- Stand Alone Operation – Issues around a mobile device working as a stand alone as well as getting updates when connected to the network need to be addressed.
- Data Synchronisation – Solutions for the synchronisation of data between the mobile device and the original data source are required. This is to include versioning, shared access and concurrent usage.

## 8 Data Management

Although the significance of screen size on a mobile device in impacting data management requirements has already been noted (through the need to get data organised with work-flow before rendering to a mobile device), there are other

<sup>2</sup> This is not the same as tracking the user of the device with all of the privacy issues involved.

aspects of data management that impact directly on any mobile business implementation.

**Device Storage** – Current mobile devices are less than suitable for long term data storage. Whilst the capacity to store data on a mobile device is likely to increase, any good mobile business strategy and implementation should assume that extended data storage on the mobile device shall NOT occur. Some short-term storage is obviously needed but a “no data storage on mobile device” strategy is the preferred approach.

The business importance of “no data storage on mobile device” is further seen when all of the issues of trapping and the isolation of data on the desktop and the resulting business issues are considered.

**Consolidated Repositories** – Effective and efficient mobile business requires that data are single sourced from virtual consolidated repositories. The use of “virtual consolidated data repositories” compliments the “no data storage on mobile device” solution.

These two aforementioned fundamental principles are key to any mobile business strategy with subsequent impacts upon processes, services, deployment times and costs.

**Storage Demand** – The demands of mobile business will further drive the ever increasing demand for disk space storage. The use of virtual consolidated repositories for single sourcing data and the need to record many of the transactions and messages being sent to and from any device anywhere anytime are key elements of the demand.

Other significant demand will come from data streaming, video conferencing and messaging, and images and file sharing - all driven by the needs of mobile business.

**Data Synchronisation** – The synchronisation of data between mobile devices and repositories poses several issues in conducting mobile business and resolution of synchronisation is key to services that require a “write element”.

“The need for a consolidated messaging environment impacts upon mobile business in terms of cost, time to market and services that can be provided.”

Since data synchronisation is less of an issue for broadcast and query services, many mobile business strategies and implementations would probably see broadcast and query type services provided first.

All of these data management issues impact upon the decisions for mobile business on what services to provide, at what cost, and in what time frame?

## 9 Messaging Environment

As increasing demands are made of mobile business, the need for a consolidated messaging environment that guarantees service delivery across the channels comes to the fore. The model for this environment is the FedEx model. FedEx guarantees the delivery of parcels (packages) and mail (messages) as follows:

- There is a quality of hand-off to FedEx and without this quality of hand-off, the parcel is not taken, i.e. responsibility is at source and exception processing returns the package to source.
- FedEx has a scalable, reliable, industrial strength solution for the transfer of packets between defined points.
- There is a quality of hand-off from FedEx back to the customer for acceptance of the package.
- FedEx separates the acceptance, moving, storage and hand-off of the package. FedEx then has systems for error handling, reporting and archive of information.
- The environment and operations are standardised.

Whilst the parallel between the FedEx model and what is required of a consolidated messaging environment is self-evident, it is often the absence of a consolidated messaging environment that impacts upon mobile business in terms of cost, time to market and services that can be provided.

## 10 Applications

Whilst many core business applications have now been successfully Web enabled, mobile

“Mobile business, applications need to be process driven and not feature driven.”

business enablement will bring some additional challenges. The importance of the mobile device screen size in changing the user interface has already been noted and the demands of the user interface will be one of the key issues in determining how quickly services can be brought to market.

“The inability of ICT to deliver the knowledge worker assembly line may be a significant barrier to what mobile business can be readily realised?”

In addition, many applications have been written from a features perspective assuming the palatial screen size of the desktop. Conversely, the user of the mobile device does not have the time or the screen size to use features and the focus is on processes to achieve an outcome.

For effective and efficient mobile business, applications will need to move from being feature rich to process driven. Again, this change impacts upon what mobile business services can be offered to cost and timeframe.

## 11 Security

The security issues around mobile business and mobile devices just add to the already complex security needs seen within business. Suffice it to say that, mobile business services can only be provided once they are secure. This impacts upon cost, service offering and time to market.

## 12 Audit & Compliance

The audit and compliance needs for business vary but in some instances, it will be necessary to record and keep a copy of the messages and authentications used for mobile business for a period of time. In addition to the design considerations and disk space demands, mobile business can raise various privacy issues. All of these issues impact upon what mobile business services are offered, at what cost, in what timeframe?

## 13 Enterprise Architecture

From all of the elements (screen size, process, authentication, device management, data management, messaging, applications, security and audit and compliance) can come an assessment of the ability of an enterprise, its architecture and its ICT

“An assessment of ICTs ability to deliver is key to mobile business planning.”

infrastructure to deliver mobile business. This assessment will in turn impact upon the business decisions for mobile business.

If the infrastructure and solutions provided by ICT is highly standardised and is currently an effective assembly line for knowledge workers, then your business has a competitive advantage and can readily adopt mobile business. The inability of ICT to deliver the knowledge worker assembly line may be a significant barrier to mobile business achievements.

## 14 Business Integration

Just as it is with Web enablement and the deployment of any new ICT solution, it is all about the business integration and business change. Mobile business will be no different. Common elements include:

- Optimisation of process – Resolution of the new processes and how business will operate.
- Business logic – Resolution of the business logic required to ensure the functioning of mobile business.
- Data management – Addressing the data management issues necessary.
- Training – Training of all relevant parties.
- Support – The support infrastructure provided to staff and customers to support mobile business.
- Performance – Realising the promised cost savings or revenue opportunities.
- Communication – Communication to all relevant parties on what is happening, how it is happening, the benefits and how to do things.

## 15 Moving Forward

Like the Web enabling of business, mobile enablement will provide business with many challenges and significant rewards. Just as the Internet is now integral to business, so will it be with mobile business. The main driver in the adoption of mobile business is likely to be the benefits derived

from routine transaction processing accompanied by the need to support an ever increasingly mobile workforce collaborating in virtual teams.

The adoption of mobile business is likely to occur incrementally with set outcomes being delivered and realised, which will then drive a greater adoption of mobile business and the provision of more services in a self-sustaining process.

Once a strategy and vision for an organisation has been set, key projects are likely to be initiated that shall drive out the issues associated with mobile business and lay down key infrastructure that other projects can leverage.

Any mobile business strategy needs to tightly integrate data with work-flow and use the “no data storage on mobile device” and “virtual consolidated data repositories” approach.

For best results, mobile business shall be driven by the business for the business and in the process, realise much needed change in the way ICT is implemented, managed and adopted by the business.

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