

Mobile Enterprise Applications in Australia

By: Andrew Milroy

Introduction

Today's technology allows an increasing proportion of mobile functions and processes to be supported and enabled by wireless solutions. Indeed, mobile devices can now house a wide variety of enterprise applications offering greater scope for innovation and process-specific functionality. Increasingly, organisations that fail to fully leverage mobile solutions will find themselves at a competitive disadvantage.

This paper will outline the development of the mobile enterprise applications market, discuss the benefits of using mobile applications, describe some mobile applications offerings and discuss the mobile applications ecosystem. Note that this paper focuses on the mobile enterprise application market which is largely made up of business to business and business to employee mobile applications.

Definition

Mobile applications are packaged or custom-built applications designed specifically for mobile devices.

There are many different types of mobile workers, and mobile solutions must be customised accordingly. Mobile knowledge workers include employees working from any number of locations, such as a home office, hotel, or client site. These workers tend to require mobile infrastructure and knowledge-based applications that enable them to work in the same way as they can work on-site. Laptop computers and mobile phones are commonplace amongst this worker group.

In contrast, other mobile workers, such as field service and sales workers spend a large portion of their working day on the road, moving from site-to-site or client-to-client. As such they can be literally anywhere to transact business. While most field workers are equipped with a mobile phone, it is still easy for them to feel disconnected, with only sporadic access to the organisation's data they need to effectively perform their roles.

Mobile applications allow workers to capture critical data from the field in real-time, ensuring data accuracy and completeness. They also provide the mobile workers with access to the critical data they need from back end applications that are either hosted or reside within the enterprise.

Mobile applications include:

Business to Employee (B2E)

- Task-based applications such as enterprise asset management, field force management and field service automation. These are collectively known as mobile resource management (MRM) applications
- Knowledge-based applications such as CRM, particularly sales force automation. This also includes industry specific applications such as point of care applications in the healthcare sector and wealth management applications in the financial services sector
- General and basic productivity applications such as email, Personal Information Management applications (PIM) and messaging.

Business to Consumer (B2C)

- Loyalty and brand promotion applications which extend an organisation's marketing reach onto the mobile devices of existing and prospective customers
- Customer service applications which deliver appointment reminders to mobile devices
- Mobile payment applications that enable transactions to be settled with immediacy, convenience and security.

Business to Business (B2B)

- Supply chain applications
- Mobile payment applications that enable transactions to be settled with immediacy, convenience and security.

Background

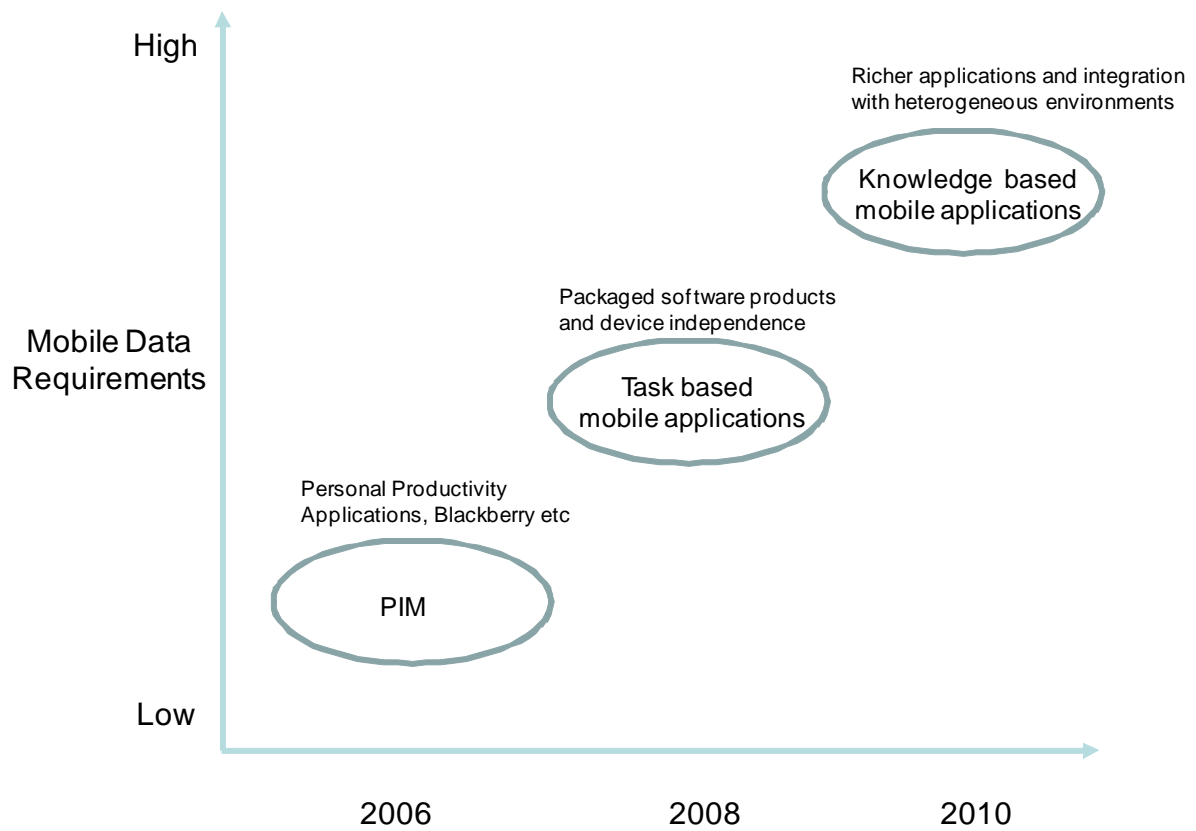
Today's enterprise mobility space continues to reflect developments in the personal computing industry of twenty years ago. PC adoption was driven by horizontal applications like word processing and spreadsheets. However, businesses saw the largest return on investment when they deployed industry-specific or line-of-business applications. The same is true of mobility. Much of the recent adoption of enterprise mobility solutions has been driven by personal information management (PIM) and wireless email applications, but the most dramatic benefits are expected to be achieved through vertical and business-specific applications.

The market for mobile applications is at its early stages. However, affordable line-of-business applications are now available and can be deployed on any platform as opposed to proprietary applications that are limited to one device and are complex to deploy. Additionally, increased wireless broadband speeds are allowing more data to be transmitted to and from mobile devices, massively increasing the functionality of mobile applications. Other drivers include the availability of GPS infrastructure and the availability of smarter devices that match specific job requirements. Greater interest from carriers and systems integrators along with smaller resellers is also creating the necessary ecosystem for growth of the mobile applications market.

So far, most innovation around line-of-business applications has been centred around task-oriented workers. This has occurred largely because the challenges in identifying and implementing solutions for knowledge-based workers are more complex than for task automation. Indeed, much technological development for knowledge-based work involves enabling access to office applications through the use of mobile devices rather than the development of discrete mobile applications. Additionally, it is easier to measure the ROI on task-based deployments because of immediate productivity improvements such as more jobs completed per shift. With knowledge-based applications, it is more difficult to quantify the benefits. This is changing as innovators identify opportunities in knowledge-based industries. One of the best examples is in the health care sector where mobile devices are being used to deliver care to patients that are located in the community. Over the next several years, innovators can be expected to take advantage of greater wireless broadband speeds in order to develop other applications that address the needs of knowledge-based workers.

Exhibit 1 illustrates the evolution of mobile applications.

Exhibit 1 - Mobile Application Evolution



As the mobile applications market evolves, increasingly rich applications will become available. Each evolution will offer greater productivity gains than the previous phase.

Against this background, Frost & Sullivan research indicates that:

- The benefits of mobile applications are becoming clear, especially as the Australian skills shortage forces companies to focus on ways of increasing productivity
- A mobile applications ecosystem is emerging which is addressing buyer needs for end to end mobile solutions comprising of software, services, mobile data and devices.

Benefits of Mobile Applications become Apparent

Frost & Sullivan research has identified the following key benefits that can be derived from mobile applications:

- Increased productivity
- Improved customer service
- Skills shortage
- Ability to transform business processes
- Improved work/life balance.

Increased Productivity

The use of mobile applications can increase productivity in many ways including:

- The elimination of manual paper-based activity. Many processes performed by mobile workers are highly dependent on paper-based manual processes. The introduction of mobile applications can eliminate the need for paper-based activities within some processes
- Increased revenues. Rapid information exchange can allow sales to be closed on the spot, shortening the sales cycle and converting a higher proportion of prospects into customers. Furthermore, from a task-based perspective, employees can redirect effort previously spent on paper work and refocus on activities that drive real revenue outcomes, such as more jobs completed per day
- Improved ROI. An investment into mobile applications can deliver a rapid ROI. The potential for both cost reduction and revenue increases ensure a fast return on investment
- A reduced need for petrol. With oil prices increasing, the efficient utilisation of vehicles is becoming more important to organisations. Mobile applications that allocate jobs to workers that are located closest to a customer site (using location based services) can assist in reducing fuel consumption. Reduced fuel consumption also allows organisations to reduce their carbon emissions. Legislation that is designed to reduced carbon emissions, together with carbon trading will further increase energy prices. This will lead to greater focus within organisations on the reduction of fuel consumption
- Fewer vans and people needed. Using mobile resource management (MRM) applications enables companies to get a greater return on their assets. This means a mobile workforce may be able to achieve more with fewer employees and fewer vehicles if MRM applications have been deployed. MRM applications also reduce the amount of administrative work that is required by an organisation and decrease the costs incurred by using contractors. Mobile applications can offer real time information exchange enabling tasks to be completed more accurately as well as ensuring the tasks are completed on schedule.

One example in Australia is a mobile application implementation undertaken by a manufacturing firm. The firm has 500 employees and required a sales force automation solution that could automate and mobilise the largely paper-based process used by its sales representatives. The company wanted to reduce the time spent on work assignments.

The company created an order entry system on mobile devices, to be used by the company's 15 sales staff. Instead of customers faxing in their orders, account managers use mobile devices to place orders for customers instantly. Critical information and customer orders are sent back to the office allowing sales representatives to cut down the time spent traveling to and from the office and to close sales more rapidly.

Improved Customer Service

Customers are increasingly demanding a commitment to service levels, response times, and more accurate arrival times. Organisations need to optimise their operations to achieve highly efficient and agile mobile workforce. From a task-based perspective, mobile applications can allow companies to be more responsive to activities in the field. For example, unscheduled maintenance can be handled more rapidly and efficiently using MRM applications. MRM applications can typically improve customer service significantly by delivering products or services on schedule and more reliably than is usually the case when such technology is not being used.

Skills Shortages

Australia's unemployment rate has fallen to a 33 year low of 4.0%. This is leading to a serious shortage of labour in the Australian economy and putting upward pressure on wages and inflation. Mobile applications, particularly in the MRM space can dramatically lower labour requirements by using existing labour more efficiently. In Australia, much demand for mobile applications is driven by a need to increase labour productivity. Additionally, companies that fail to deploy new technologies such as mobile applications risk being viewed as unattractive employers by younger workers. Indeed, enabling staff to complete some work functions without returning to offices offers greater flexibility and empowerment in carrying out roles.

Business Process Transformation

In recent decades, IT has played a major role in transforming business processes. For example, the successful deployment of Internet technology has enabled many retailers to use the Internet as a major channel to market. This has had a profound effect on supply chains, resulting in increased supply chain collaboration and disintermediated supply chains. Similarly, mobility will increasingly have a transformational effect on key business processes. Both mobile banking and mobile retail will become commonplace in the next few years, radically transforming existing business processes.

An example of business process transformation that is driven by mobile technology is the growth in 'point of care solutions' in the health care sector. Where possible, healthcare providers in Australia seek to

deliver care in the community rather than in hospitals. Care workers can now capture information on mobile devices and transmit it instantly to specialist centres enabling rapid diagnosis. A Western Australian community care organisation has implemented a point of care mobile solution. Its carers can now obtain patient details instantly via a mobile device. Assessment details can then be recorded in real time at the point of care. This mobile technology is facilitating the move away from acute care towards community care and transforms traditional healthcare processes.

Improved Work/Life Balance

An increasing proportion of today's workers undertake their work activities remotely. This is the case with both task-based and knowledge-based workers. Home working has become increasingly common as have flexible working hours. Mobile applications can facilitate and support this trend by allowing workers to focus on activity completion without the distraction of being fixed in one location. Some workers, particularly knowledge workers, may choose to complete certain activities outside traditional working hours and to undertake domestic or personal activities in traditional working hours. Mobile applications can enable this and allow workers to balance their domestic activities with their work activities in a way that suits them personally. Additionally, from a task-based perspective field service workers can use mobile applications to minimise 'dead time'. In other words, they can travel straight to a job from home rather than commuting to a depot and being given a list of jobs. Such workers will have less downtime and are able to maximise their billable hours.

Variation of Benefits by Industry

Innovation in the mobile applications industry is currently being driven by focusing on business processes that are inherently mobile. In other words, increasing productivity, increasing revenues, and improving customer service in sectors where a significant amount of work is conducted in the field offers the greatest opportunities for innovation with mobile applications. Industries such as utilities and telecommunications, transportation and logistics depend on the optimisation of business processes that are frequently undertaken in the field and where the benefits of mobile applications can clearly be demonstrated. For example, in the utilities sector, field workers are required to maintain equipment which creates a clear opportunity for mobile applications to increase the productivity of field maintenance engineers. Similarly, in the logistics and transportation sectors, mobile applications can increase productivity derived from fleets. In some knowledge based sectors such as healthcare, mobile applications can improve processes and increase productivity by giving care workers the ability to carry out their jobs effectively in the field through the provision of critical data in real-time.

Frost & Sullivan expects innovation to increasingly occur in knowledge-based industries as third party application developers identify processes that are inherently mobile such as loss adjustment in the insurance sector.

Mobile Applications Ecosystem

The market for mobile applications is currently highly fragmented. Smaller third party application developers are emerging that focus on specific business activities. Furthermore, the successful implementation of mobile applications requires not just the application itself but a broad ecosystem comprising of mobile devices, data carriage, and integration expertise. Indeed, mobility solutions require a range of software makers, device manufacturers, network carriers and professional services firms to get products and their capabilities to align seamlessly with business processes.

As the market for mobile applications matures, buyers will increasingly source their entire mobile solutions indirectly from a single organisation that can offer the necessary service levels for the successful operation of mobile applications. This will require the provision of appropriate devices, extended wireless network coverage and speed, and systems integration services. Indeed, end-to-end solutions providers will need to partner with all stakeholders within the mobile ecosystem.

Key Selection Criteria

When selecting an end to end mobile solutions supplier, buyers must consider the following factors:

Partnerships

The supplier must have developed partnerships with key players in the mobile applications ecosystem. It must have relationships with key mobile application developers, a carrier for wireless data, device manufacturers and systems integrators. It is important that the partner can act as a single point of contact offering the buyer all elements of the mobile applications ecosystem, thus minimizing the time and risk for the buyer.

Experience in the Mobile Applications Market

The supplier must have proven experience in implementing mobile applications. It is also important to ensure that the supplier is established in order that its support can be relied on in the future. In other words, it is important to select a supplier that is unlikely to go out of business.

Network Expertise

The most critical part of the mobile applications ecosystem is the wireless network. Increasing wireless broadband speed is the key driver of the mobile applications market. Therefore, it is essential to find a supplier which can offer the network expertise that ensures the optimal performance of mobile applications.

Ability to Offer a Choice of Mobile Solutions

Some mobile solutions are offered on a hosted basis and others are typically deployed on-site and allow greater customisation. It is therefore important to select a supplier that can offer a choice of solutions and offer the level of customisation that is required.

Types of End to End Mobile Solution Suppliers

A variety of suppliers are entering the market for the provision of end to end mobile solutions. Carriers such as Telstra, Optus and AAPT, and systems integrators such as Fujitsu and HP have all entered the market.

In Australia, Telstra has taken a 'first mover' position in the market for end to end mobile solutions. It has developed partnerships with key players in the mobile applications ecosystem including important mobile application developers such as Dexterra, Xora and Trimble (previously @Road). Due to its early shift into mobile solutions, it has more experience in the market than other providers and is able to offer network expertise. Furthermore, its strategy to partner with recognised best of breed application providers gives Telstra the ability to offer a choice of mobile solutions to prospective customers.

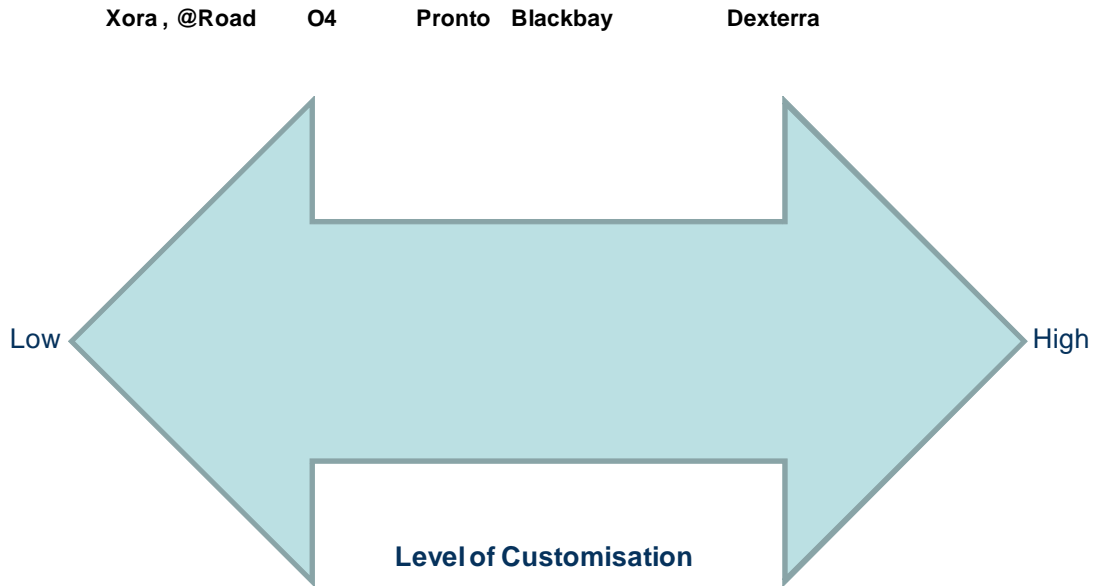
Mobile Application Developers

A range of niche or process-specific mobile application developers have entered the Australian market. A few of the key MRM suppliers established in Australia include Blackbay, O4, Dexterra, Trimble and Xora. While some of these players have chosen a direct sales model, most have chosen to partner with established carriers or re-sellers to take their solutions to market.

The MRM mobile application developers can be placed on a spectrum according to the level of customisation that is typically required around their products. Hosted offerings provide a more cost effective and lower risk option to customers and require little if any customisation. Customers typically pay for a hosted offering on a per-user / per-month basis and are particularly attractive to SMEs and departments within larger enterprises. On the other hand, more heavily customised offerings allow customers to ensure that an implementation meets very specific needs that may not be fully addressed by hosted offerings. Highly customised offerings usually involve perpetual licenses and annual maintenance fees being charged in conjunction with professional services. These offerings tend to be more attractive to larger enterprises or organisations with highly complex workflows.

Exhibit 2 positions mobile application developers according to the level of customisation that is typically required for deployments.

Exhibit 2 – Positioning of Mobile Application Developers



Conclusion

Today's mobile applications can offer immediate and measurable benefits around task based processes such as those found in logistics, inspections and maintenance activities. In many industries, such as utilities, logistics and transportation, organisations that do not deploy mobile applications will find themselves at a competitive disadvantage. Organisations that use mobile applications for MRM find that they are able to reap specific benefits including increasing the number of jobs completed per day with fixed resources and, responding more rapidly and efficiently to unplanned activities in the field.

Most activity in the mobile applications market is currently centred around task-based roles such as maintenance and inspections. However, innovation is currently taking place around knowledge-based roles such as care delivery in the health care sector. Given the complexity of demonstrating ROI in knowledge-based roles, innovation around using mobility to enhance and transform business processes has, so far, been slower than that around mobility in task-based roles.

In order to successfully deploy a mobile solution, buyers must additionally consider the mobile data requirements, device and other hardware needs, and the services required to deploy, operate and support the applications. For this reason, it is becoming increasingly important for buyers to work directly with companies that can offer all of the components of a mobile applications solution.

In essence, it is becoming critical for businesses to evaluate mobile applications. Failure to do this can make a firm become uncompetitive. Conversely, rapid adoption of mobile applications can offer a competitive advantage to companies.

Andrew Milroy is the Director of Frost & Sullivan's ANZ ICT Practice.

Contact

Andrew Milroy
Director, ICT Practice
Frost & Sullivan Australia
Tel 02 8247 8910
amilroy@frost.com

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