

WHITE PAPER

Business Benefits of Industry-Specific Mobile Applications

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IN THIS WHITE PAPER

Mobile applications still have a largely horizontal character, but new developments and capabilities are beginning to show how certain vertical markets can gain unique business benefits from mobility. The growth of mobility-enabled applications is driven essentially by the same factors that are driving IT and business process change, namely the need to be more responsive, optimize the efficiency of staff resources, and shorten the cycle time of key processes throughout their value chain. Another driver of industry-specific mobile application adoption is the evolution of the technology, including the development of platforms such as the Research In Motion (RIM) BlackBerry Enterprise Server, whose BlackBerry Mobile Data System (MDS) feature enables the extension of enterprise applications to mobile employees as well as improvements in security and the availability of applications from major ISVs.

Customer relationship management (CRM) packages have led this trend largely because of strong overlap between the needs of customer-facing employees and the strengths of mobile devices such as the BlackBerry. Although mobile applications have been, for the most part, about pushing information out into the field, less customer-centric applications such as enterprise resource planning (ERP) and supply chain management (SCM) will more likely promote process optimization — in areas such as production planning, inventory management, and logistics — by bringing in and incorporating information from the field faster. In both cases, the extension of enterprise applications via mobile devices has tightened processes, increased responsiveness, and improved decision making.

This white paper examines the rise of industry-specific mobile applications. It explores the industry-specific factors driving this rise and provides examples of how enterprises are using these applications to enhance — and in some cases, transform — their business processes. The document also presents a detailed case study of such a transformation.

METHODOLOGY

IDC analysts conducted interviews with eight companies that have implemented industry-specific wireless applications using RIM BlackBerry devices. One of these interviews was used as the basis for the case study presented in this white paper. All the companies interviewed are RIM customers, and RIM provided the contact names for the interviews.

DEFINING INDUSTRY MOBILE APPLICATIONS

The key distinction of industry mobile applications is that they facilitate one or more processes associated with a particular industry or vertical market. Under this definition, "pure" mobile communications applications — such as wireless email — do not qualify, even though they clearly deliver benefits such as improved productivity and increased customer satisfaction. Instead, the focus is on how core elements of specific processes, within specific industries, are fundamentally altered by mobile enablement. Given the nuances and similarities of business models across industries, subtlety is important in making this distinction. Take the example of "field services." Although it is a critical process for a range of businesses — from utilities and onsite printing service providers to insurance companies and IT support providers — each one has its own set of unique process elements that leverage mobility in different ways. Some have a transactional and order-entry component (e.g., ordering parts remotely to fix a broken printer), some require advanced content viewing (e.g., pipeline charts, technical diagrams for utility workers), and some require remote data entry (e.g., insurance assessments for adjusters). Thus, mobile applications clearly still have a largely horizontal character, but new developments and capabilities are beginning to show how certain vertical markets can gain unique business benefits from mobility.

VERTICAL MARKET DRIVERS OF MOBILITY

At a high level, the growth of mobility-enabled applications is driven by the same factors driving IT and business process change initiatives by companies, namely the need to:

- ☒ Be more responsive to their customers and to changes in their operating environments (related to their competitors, suppliers, partners, and customers)
- ☒ Optimize the efficiency of their staff resources (from headquarters to branches to the field)
- ☒ Shorten the cycle time of key processes throughout their value chains

Each of these factors, in turn, is driven by the increasing intensity of competition in nearly every industry and the importance of integrating processes and information to meet this competition. Another factor driving the adoption of industry-specific mobile applications is the evolution of the technology itself, which has laid the necessary groundwork for mobile enterprise applications to take off. At the infrastructure level, one such factor is the development of platforms such as RIM's BlackBerry Enterprise Server, whose Mobile Data System (MDS) feature enables the extension of enterprise applications to mobile employees. Another factor is the improvement of mobile application security, which had posed a barrier. Still another factor is the increasing availability of mobility-enabled applications from major ISVs such as SAP.

SURVEYING THE MOBILITY LANDSCAPE

With this foundation in place, mobile applications have become more prevalent across a number of vertical markets. The drivers and patterns of mobile application adoption vary across industries, but a common framework has begun to take shape that explains these activities. Put simply, organizations have started to apply mobile technology to those processes where the integration of real-time information can drastically improve process *quality*. Although the definition of process quality varies by industry, some general characteristics include the following:

- ☒ **Better decisions.** To many field employees, the value of information is situational — having the right materials in front of a sales prospect, knowing what parts will be needed to fix a remote problem, figuring out which products to cross-sell based on what the customer is using.
- ☒ **Faster decisions.** Not having information in the field can impede responsiveness to customer needs. Insurance adjusters can't adjudicate claims in the field, brokers can't provide "instant" price quotes based on credit scores, and financial planners can't view a customer's portfolio in real time.
- ☒ **Shortened cycles.** Bridging the gap between the field and the office can shorten core process cycles. Remote reporting of retail inventory can shorten replenishment, the ability to customize contracts in the field can shorten the sales cycle, and the ability to track logistics in real time enables manufacturers to shift their production plans more quickly.

Although mobile email made some inroads into these areas, the mobile enablement of enterprise applications represents a quantum shift in capabilities. CRM packages have arguably been the front line of this trend. One big reason is the strong overlap between the needs of customer-facing employees and the key strengths of mobile devices such as the BlackBerry, including customer-specific alerts and the ability to access and update customer records. Thus far, the main emphasis of application mobility has been getting information "out" into the hands of field personnel. Increasingly, however, this emphasis is shifting toward more "inwardly directed" (i.e., less customer-centric) applications such as ERP and SCM, in which the rapid incorporation of information from the field enables the optimization of such processes as production planning, inventory management, and logistics. In both cases, the extension of enterprise applications via mobile devices has tightened processes, increased responsiveness, and improved decision making. Examples of mobile applications in specific industries are outlined in Table 1.

TABLE 1

Industry Verticals

| | |
|--------------------------------|--|
| Government and public services | <p>Within the government sector, mobile applications are being used to support public safety, law enforcement, and municipal compliance activities. To improve its responsiveness to disasters, a state emergency response agency employs BlackBerry devices to update damage assessment databases remotely, thus enabling key decision makers to assess the situation on the ground and optimize cleanup and recovery efforts. One state's Office of the Attorney General is providing agents in the field with BlackBerry devices to access a central repository of data on suspects, cases, and other information to increase their effectiveness in arresting and prosecuting criminals. Faced with a construction boom, a Canadian municipality sought to improve the productivity of building inspectors by providing them with wireless access to the inspection system and a mobile printing solution to help them work more effectively at job sites and provide quicker updates to the building database. Government and public services institutions can be made more effective through the use of location-based services on mobile devices. One city government is using BlackBerry devices in conjunction with a GPS-based emergency management application to track dangerous spills.</p> |
| Financial services | <p>In the financial services sector, responsiveness — to both existing customer needs and new opportunities — is a critical competitive requirement. To this end, retail financial service providers are employing BlackBerry devices to give representatives in the field access to real-time data on their clients' portfolios during customer meetings. This access gives representatives the tools to respond to queries instantly and helps customers see opportunities faster. Financial services providers are also using BlackBerry devices to interact with their institutional customers, such as employee benefit brokers and group administrators, for both sales and performance reporting.</p> |
| Healthcare | <p>Healthcare providers have used BlackBerry devices to improve both quality control and efficiency in clinical care environments. One area of focus has been in streamlining the prescription management process, which often experiences delays because of illegible handwriting and undetected drug interaction issues. Time-consuming telephone calls are often required to resolve these problems. Recently, a large HMO began using BlackBerry devices for "eprescribing"; that is, doctors can issue prescriptions wirelessly as well as access electronic physician drug reference and patient-specific drug information. Early benefits of this initiative included a combined savings of two hours per day by the prescribing physician and the practice's office staff as well as a 76% drop in phone calls between pharmacies and practices to resolve problems. Another healthcare organization is using BlackBerry devices to improve the efficiency of its nursing staff, which had previously been required to fill out patient monitoring forms by hand. By using BlackBerry devices to input patient data and send it electronically, nurses save time and, perhaps more important, real-time patient data becomes instantly available.</p> |
| Manufacturing | <p>For manufacturers, one of the keys to improved efficiency is the tight integration of SCM and ERP, such that changes to the status of inbound material shipments (via SCM) can be closely linked to production and delivery commitments they make to customers (via ERP). This integration improves manufacturers' overall responsiveness by enabling them to rapidly adjust their production planning based on changes in their inbound supply chain. From a mobility standpoint, the major opportunity is to use devices such as the BlackBerry to speed the capture of this inbound supply chain data, thereby shortening the feedback loop between the supply chain and production planning. Similarly, BlackBerry devices represent a powerful tracking tool for on-hand inventories of supplies. By giving production planners a more granular and timely window into existing supply inventories on the factory floor, they gain more flexibility to optimize production schedules and lower inventory costs. Within the manufacturing process itself, the emerging opportunity is to use BlackBerry devices to monitor production-line activity and perform real-time quality control reporting.</p> |

TABLE 1**Industry Verticals**

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| <p>Transportation and logistics</p> | <p>In the transportation and logistics sector, the optimization of scheduling, dispatching, and route planning is a key driver of operational efficiency. To compete, providers need to minimize their costs and at the same time be flexible enough to respond quickly to customers' transportation needs. To achieve this goal, one provider of ground transportation and limousine services is using BlackBerry devices to give its drivers access to real-time dispatch data from its back-end systems. This functionality enables drivers to keep dispatchers up to date on their status and availability and allows drivers to proactively plan their routes or to react to any last-minute trip scheduling changes that may have occurred.</p> <p>In the logistics business, one of the key differentiators is the ability to keep customers notified about the status of their shipments in real time. One provider is using BlackBerry devices to track and manage on-time performance of deliveries in process and improve routing efficiencies for its Expedited Services customers. A key enabler is the ability to scan barcodes via BlackBerry devices and third-party peripherals, providing more information transparency at all phases of the delivery cycle.</p> |
| <p>Legal</p> | <p>One of the biggest initial drivers of BlackBerry device usage in the legal community, like other sectors, was its ability to support wireless email, a reflection of just how important it is for law firms to stay in constant touch with their clients. Put simply, being in court is no excuse. Law firms have begun to employ BlackBerry devices to provide ubiquitous access to information — such as case files and motions — from within their internal case management systems. Given the importance of staff productivity for law firms, the most significant ROI for BlackBerry usage has been the increase in billable hours enabled by its support for remote data access. One firm reported an increase in productivity of four hours per week/per lawyer, representing additional billings of \$40,000 per month. The ability for lawyers to input data directly into billing systems via their BlackBerry devices has also enabled significant administrative cost savings by lessening the need for traditional manual updating by clerical staff.</p> <p>More sophisticated law firms have found ways to leverage BlackBerry devices to efficiently log billable hours when lawyers are on calls or emailing with clients. One such firm, specializing in commercial law, is using an application built on its existing BlackBerry Enterprise Solution to automatically clock time spent on the phone or on email with clients and route it to the firm's accounting database. Other use cases exist as well. In another instance, a criminal defense firm is using a dictation solution that converts voice messages to text messages that are then routed into an inbox. Many lawyers also use their BlackBerry devices to conduct research by way of Internet searches.</p> |
| <p>Construction</p> | <p>Because the construction industry relies heavily on subcontracting in its business model, project management is one of its most important business processes. To optimize it, commercial construction companies are using BlackBerry devices to enable project managers to update project data at the work site, thus keeping clients up to date on project details. Real-time access to project data also enables project managers to solve problems onsite, thus reducing costly delays. Moreover, given the rigors of large-scale construction sites, the ability to employ a more compact device — instead of a laptop — provides the project manager with more flexibility.</p> <p>Mobile application access has also been important in the residential construction market, where mass production makes quality control and assurance critical functions. To improve it, one midsize homebuilder has outfitted its field supervisors with BlackBerry devices to directly access its quality control reporting system. The fact that supervisors directly input the data improved their efficiency and lowered the company's administrative costs. But more important, it resulted in a substantial improvement in quality because data on contractor performance was made more available for review by headquarters staff.</p> |

TABLE 1**Industry Verticals**

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|-------------------------|--|
| Onsite managed services | For providers of onsite managed services, such as printer or IT support and maintenance, the key challenges are to respond promptly to customer needs (e.g., outages) and to do so in an efficient and cost-effective manner. A key competency required to meet this challenge is fast and effective reporting from onsite field technicians. One company that sought to improve its reporting capability employed BlackBerry devices to provide technicians with access to its CRM system, which is used to store, track, and analyze customer metrics. By creating a wireless infrastructure for gathering and disseminating customer data to and from remote sites, the company made customer information more timely and useful. Through its analytical capabilities, the company was able to proactively determine areas that needed improvement. On-hand parts inventory levels were lowered by 15%, and emergency parts orders were reduced by 90%. Both reductions came about as a result of improved data gathering at the customer site. At the same time, the ability to access CRM data in the field improved the overall efficiency of field service personnel, resulting in a 10% increase in first-time problem resolution. |
| Education | A major driver for the use of BlackBerry devices in higher education is the resolution of scheduling conflicts. The difficulty for the staff lies in coordinating the schedules of faculty members who spend the majority of their time in lecture halls, research facilities, and, in the case of medical schools, hospital wards. The problem becomes even more acute with senior staff who travel frequently to conferences. One medical school overcame its scheduling difficulties by deploying BlackBerry devices for groupware access. Prior to the use of BlackBerry devices at the school, faculty members would often return to the office to find that their administrative assistants had scheduled appointments for them at the same time they had scheduled their own appointments while out of the office. Now faculty members are able to coordinate schedules in real time regardless of location. |
| Leisure and hospitality | Customer service is paramount in the leisure and hospitality sector. Workers in this sector who interface with clients while away from a workstation still need to be able to do a good job of servicing customers and quickly responding to whatever the situation requires. One adventure tour company has been able to save 15–20% on phone charges by enabling tour directors to simultaneously update each other at once with accident information. Less paperwork through the ability to send and receive attachments without having to send faxes makes it easier to keep up on reports and provide quicker feedback for faster decision making. The long battery life of BlackBerry devices supports the usage patterns of tour directors out in the field for extended periods of time. |
| Consulting | Consultants span many industries and disciplines, but as knowledge workers on the go, these mobile professionals rely on secure and dependable mobile solutions. An IT consultancy provides on-call IT services, including desktop support, networking, and Web site and developer skills. It developed an in-house solution for the BlackBerry for quickly dispatching trouble tickets to its team of mobile technicians over the BlackBerry Internet Service for improved customer responsiveness and more efficiency in understanding the detail of new trouble tickets. An HR consulting firm that provides onsite coaching, public speaking, and training services for large enterprises is leveraging the BlackBerry Internet Service to enable its consultants to respond quickly to clients, have the flexibility to balance work and life, and retire laptops in the organization. In another instance, an accounting consulting firm sets itself apart from other tax advisory firms by being able to immediately respond to customer questions. This has helped it to satisfy customers as its consultants are able to coordinate important documentation, better manage time, and, most important, grow the business by 30%. |
| Real estate | Real estate agents spend much of their time away from their desks. An independently owned commercial real estate firm with offices in more than 20 major business markets in North America is leveraging a purpose-built application to extend its in-house CRM system to real estate agents in the field using BlackBerry devices. This has resulted in a more agile sales force that is getting better results, is closer with customers, and is differentiated from its competitors. |

Source: IDC, 2008

CASE STUDY: SIKESTON DEPARTMENT OF PUBLIC SAFETY

Background

The Sikeston Department of Public Safety (www.sikeston.org/PublicSafety/PublicSafetyHome.htm) is responsible for managing police, fire department, SWAT, and emergency response for the 20-square-mile community of Sikeston, Missouri. The agency's 90 employees are cross trained for police, fire, and emergency response. One of the agency's most critical services is response to incidents involving hazardous materials (hazmat). With two major intersections and two major railways located in Sikeston, the area is susceptible to accidents involving freight trains or large trucks carrying hazardous materials. To combat this, the Sikeston Department of Public Safety's emergency teams rely on hazmat information provided by the U.S. Coast Guard, the U.S. Departments of Transportation and Energy, and the U.S. Centers for Disease Control. This information was available only in heavy, cumbersome manuals that had to be brought to the site for use while responding to a hazmat spill.

Challenges

Effective response to hazmat spills is entirely dependent on access to detailed information about the hazardous materials onsite. The emergency teams wanted to replace the unwieldy paper binders they were using with a simpler and faster way to access key information. When a spill occurred, the teams would have to find the right binders, flip through them to find the information they needed, and then share that information with each team member in order to take action. With the use of paper binders, time was wasted in situations where rapid response is critical. The teams needed a faster and more effective way to access vital information.

Solution: Mobility Provides Rapid Response for Public Safety

The Sikeston Department of Public Safety determined that using mobile devices with real-time wireless access to the multiple databases containing relevant, up-to-date information needed during a hazmat spill was the best solution. The team members involved in the project had determined that BlackBerry devices provided the ease of use and reliability so important in high-pressure emergency response situations and set out to find a BlackBerry application that would fulfill their needs. They discovered the Wallace Wireless solution WIC OREIS Mobile for BlackBerry. It eliminates paper manuals, supplies accurate and current hazmat information, increases the safety of the emergency teams, and helps the teams multitask to speed response time. Using a BlackBerry, the user launches the application to access online hazmat databases maintained by the U.S. Coast Guard (CHRIS database), U.S. Departments of Transportation and Energy (WMD database), and the U.S. Centers for Disease Control. By keying in the chemical, teams can see the chemical properties of whatever was spilled via direct access to the federal agency databases. Response teams can then make onsite decisions about how to respond, what equipment to wear, and how to ensure the safety of the people in the community and on the response teams. Information is always up to date. A serious concern for the Sikeston emergency response team is the possibility of a massive train

derailment. WIC OREIS provides access to a direct interface with the major railroad operators. A team member can key in the number of the railcar involved to obtain information about the contents of the railcar. Any information about hazardous material that might be on a railcar or tanker is instantly transferred to the BlackBerry. A lightweight BlackBerry now replaces several heavy manuals and even provides additional information about specific railcars that would normally have been handled through dispatch. Another advantage for the team is that each responder can look at different areas of the problem at the same time. One person can look at response suggestions, another can look at chemical properties, and another can determine an action plan. This further speeds response time through faster decision making.

The Sikeston emergency response team has since put the WIC OREIS solution to the test. The team was called in when a 114-car freight train carrying several hazardous materials derailed in Sikeston. Team members were able to use the WIC OREIS application on their BlackBerry devices to look up the chemical properties of the materials on board and determine what protective clothing to wear, how to give first aid response if needed, and what to do in the event of a fire. Response was rapid as the team quickly determined that several cars were carrying hazardous materials. Team members had ready access to the chemical properties of these substances and detailed information about how to safely deal with any spills. Fortunately, none of the hazardous materials had leaked and a crisis was avoided.

The Future

The WIC OREIS solution has proven to be an effective one for the Sikeston response team. It enables team members to have the right information at their fingertips so they can take immediate action and avoid crises. The Sikeston Department of Public Safety plans to put more BlackBerry devices in the hands of its staff and to add more public safety and law enforcement applications to leverage the BlackBerry platform on which the emergency teams already depend. The department is evaluating an application for police use. This solution would enable access to the Missouri Uniform Law Enforcement System (MULES) — a computer database for running warrants, criminal background checks, or any standard information checks. The solution would also link to the National Crime Information Center (NCIC) for federal records of drivers' licenses, license plates, and other pertinent information. The Sikeston Department of Public Safety is now on the path to mobilizing multiple applications across its police, fire, SWAT, and emergency response teams. By doing this, it will be able to take advantage of an extensible BlackBerry platform to realize efficiencies and improvements in team performance and overall public safety.

CHALLENGES

Although the use of mobile technology has clearly begun to take hold for industry-specific applications, vendors that seek to capitalize on it must overcome a series of challenges. The most fundamental challenge is a tendency among certain users to equate mobile devices with communication tools or, more specifically, platforms for wireless email. To succeed, vendors need to continue — indeed strengthen — their positioning of these devices as a gateway to enterprise resources. By adding enterprise functionality to their capabilities, end-user proponents will have a more potent business case for advocating the broader use of mobile devices

among employees. The other "human" challenge is cultural. For companies to extract the full benefit of mobile application access, like that of any technology, they must overcome any ingrained resistance to changes in business processes brought on by mobility-enabled applications. This is especially challenging for field-related processes, where "maverick" approaches are harder to rein in.

The long-term acceptance of mobile applications will also require the mitigation of various technical barriers. Most fundamentally, industry-specific mobile applications must be sufficiently available, and vendors will need to provide adequate support to ISVs to ensure that availability. To achieve widespread adoption, vendors and ISVs need to realize that complexity issues or excessive customization requirements in the deployment of mobile applications represent potential major hurdles that could dissuade many potential adopters. Because poor mobile application performance — due to bandwidth or other considerations — could have the same effect, vendors, application ISVs, and middleware vendors will need to coordinate their offerings to create easy-to-configure solutions.

CONCLUSION

- ☒ The value proposition for industry-specific mobile applications, and their truly defining trait, is their ability to enable the fundamental transformation of the business processes relying on them. The agents of this transformation include alert-based automation, improved data transparency throughout the process cycle, and improved efficiency.
- ☒ Among business processes, the "sweet spot" for mobility-enabled applications are defined as 1.) those where process time cycle reduction can bring major payoffs in terms of customer satisfaction, cost reduction, and efficiency and 2.) those where key data either resides outside of the enterprise (e.g., retail inventory levels) or is needed but inaccessible (e.g., sales presentations). By addressing these conditions, mobility-enabled applications make organizations more responsive, nimble, and competitive.
- ☒ The fact that CRM is leading the way in mobile enablement reflects the importance of coordinating field forces (e.g., sales) and centralizing resources (e.g., customer databases, marketing collateral). ERP and SCM also present significant opportunities for process optimization based on the incorporation of real-time data.
- ☒ Vendors and ISVs will need to overcome both lingering perception issues and technical barriers for application mobility to reach its full potential. The value proposition — improving responsiveness through shorter cycles and greater information transparency — must be effectively articulated to end users.

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