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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 Mobile Data Service (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 seven companies that have implemented industry-specific wireless applications using RIM Blackberrys. 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 Service (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 below.

Government

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 (see the Broward County Emergency Management case study). 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.

Financial Services

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.

Manufacturing

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.

Healthcare

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.

Transportation and Logistics

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.

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, providing more information transparency at all phases of the delivery cycle.

Legal

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 BlackBerrys has also enabled significant administrative cost savings by lessening the need for traditional manual updating by clerical staff.

Construction

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.

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.

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.

CASE STUDY: BROWARD COUNTY EMERGENCY MANAGEMENT

Background

Headquartered in Plantation, Florida, the Broward County Emergency Management Agency (**www.broward.org/disaster**) is charged with developing and implementing disaster planning, mitigation, and response for the county's 1.7 million citizens. The hazards the agency responds to range from natural (e.g., hurricanes) to man-made (e.g., chemical spills). Within the government as a whole, the agency acts as a conduit between Broward County's 30 cities and Florida's state and federal government resources, such as the Federal Emergency Management Agency. Internally, the agency's activities are coordinated within its operations center, which supports a large number of emergency personnel in the field.

Challenges

From an information standpoint, the agency faced two sets of challenges. At a broad level, it needed the means to respond as quickly and effectively as possible in the event of an emergency. This meant keeping key decision makers abreast of developments as they unfolded and having the information they needed to allocate supplies and other resources where they were most needed. The second set of challenges was how to provide staff in the field with the tools they needed to get the job done as efficiently and safely as possible. At the device level, there was a desire to avoid multiple devices, which presented field staff with needless complexity in an

already hazardous situation. By the same token, agency planners sought to simplify the process by which field staff could identify and contact people throughout the county government.

Solution: Speeding Relief Through Mobility

In the case of an emergency, the agency's strategy is to set up a geography-based grid that serves as the framework for assessing and reporting damage (e.g., wind, water). This information is then reported to public safety officials (e.g., police, fire) in each of the county's 30 cities, who can then apply their resources accordingly. That's where the technology comes in. At the core of this capability is a centralized database that housed emergency status information. Before adopting mobile technology, field staff needed to input the data at the command center or phone this information into center staff, who would then make the database entries. Lengthening the information-updating cycle inhibited the agency's overall responsiveness. Its goal was to reduce this cycle by empowering its field staff with the ability to report in real time from wherever they are in the emergency grid.

The agency considered a range of mobile device options. One of its key considerations was support for mobile applications. When the agency saw other state and local governments start moving, it was a signal that there already was a commitment by developers to develop applications for the public sector. The agency's strategy was to consolidate its devices on BlackBerry handhelds for field-based reporting. Using BlackBerrys, field staff can make database entries directly from emergency sites or, conversely, access status information to find out what is happening at a particular location. To improve the agency's reporting capabilities, the devices run geographic information system (GIS) software to show where resources need to be deployed, thus shortening the decision cycle.

Along with collecting site data more efficiently, the new solution also improved service quality by automating the tracking of agency relief efforts to ensure proper follow-through had been completed. This task "to-do" list, which may include cleanup, supply delivery, or other critical actions, is stored in a single, unified database — accessible via BlackBerry devices — which simplifies project management.

The Future

Having enabled mobile access to its mission-tracking database, the agency plans to make mobility a key part of its unfolding CRM initiative. Under the initiative, the agency will use CRM to better serve its "customers," Broward County citizens, by providing rapid feedback on the status of more mundane — yet important — task requirements, such as filling a pothole or replacing a broken street light. When a citizen calls in with a request, it will be logged in the CRM database and dispatched to the appropriate field staff. Mobility then enters the picture. Field staff, upon fixing the problem, can update the CRM database remotely using BlackBerry devices. Citizens, for their part, can track the project's status via the Web. In this way, the agency views mobility-enabled CRM as improving its responsiveness to its constituents' needs and, in so doing, bringing it closer to Broward County's vision of egovernment.

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.