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The mobile disruption:
The next enterprise IT shake-up

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By: Lisa Ellis /// Greg Gilbert

Mobility is poised to become the next major IT paradigm. This gravitational shift will bring an array of opportunities and challenges to the chief information officers in most enterprises.

The history of IT has been defined by a series of highly disruptive paradigm shifts that have fundamentally changed the IT landscape. Mainframes, mini-computing, personal computing, and the Internet have each led to major realignments for vendors and enterprises alike. The impact on enterprises has been to continually increase the relevance of IT to the business and generate new opportunities and challenges for CIOs.

> *Around 90% of the top 50 technology providers have recently announced mobility initiatives*

Mobility is now poised to be the next major disruption. Around 90 percent of the top 50 technology providers have communicated mobility initiatives over the past two years, with 138 announcements for significant merger, joint-venture, or product launch activities. Using history as a guide, the profit pools for the technology industry could shift by 50 percent, as they did during the two most recent realignments.

The forces behind mobility's steep adoption trajectory

In many ways, the mobility landscape is similar to that of the Internet in the late nineties – explosive growth, constant innovation, and an intuitive understanding of the value potential. Specific business cases are now just beginning to emerge. Mobility is being driven by a number of trends that will continue to accelerate its growth.

Consumerization. As with the Internet, consumers are early adopters of mobility – they use it extensively in their personal lives and are demanding it to facilitate their professional lives. This expectation often includes access to enterprise applications and content (e.g., e-mail) from personal devices. Around 56 percent of CIOs report a strong demand from employees to support a wide range of mobile devices, and 77 percent are planning to allow employees to use personal mobile devices to access company data and applications.

Verticalization. Vendors are beginning to develop mobile applications to meet specific vertical business needs. In healthcare, for example, health management applications are helping patients manage their diabetes by monitoring glucometer readings and automatically providing clinical guidance. This has the potential to fundamentally change how healthcare is delivered – a shift from a small number of doctor visits per year to continuous patient care.

New device categories. Mobile device innovations are being introduced at a frenetic pace, with new categories and subcategories emerging every few months (e.g., enterprise-focused tablets). Each innovation brings a new set of uses and opportunities. Tablets, for instance, are having a large and growing impact on both enterprises and traditional PC manufacturers. According to a recent McKinsey CIO survey, tablets could replace up to 30 percent of laptops in the coming years.

Cloud-based mobile applications. A broad set of cloud-based applications supports the mobile revolution, helping devices overcome many inherent limitations. Apple's iCloud, for instance, makes it possible for consumers to access their content, regardless of the device's storage capacity. Cloud-based enterprise applications (e.g., CRM) provide anywhere-access to critical enterprise resources.

Emerging M2M technologies. Machine-to-machine applications are increasing in sophistication and capability, driven by improved sensor technology (e.g., swallowable sensor pills or asset-tracking RFID tags) and battery life, the proliferation of telecommunications networks, and the growing ability to analyze the enormous quantities of data produced by M2M networks.

The mobile opportunity for enterprises

This is an exciting time for CIOs. Consumers (employees) and businesses alike are demanding mobile transformation – it drives improvements in business productivity and is changing how businesses interact with customers. CIOs have an opportunity to lead this change.

The forces stemming from the mobile trends detailed above are giving rise to five primary mobile enterprise uses.

Communication and collaboration. Mobile IT is enhancing the ways employees interact. Greater access to their e-mail and calendars along with voice, video, and messaging applications are facilitating employee-to-employee communication (e.g., spontaneous mobile video conferences).

Core-content productivity. Remote access to content and applications allows workers to take full advantage of their out-of-office time. Providing mobile access to ERP, CRM, and executive dashboards, for example, improves employee productivity in the enterprise's core areas of business.

Among other things, mobile IT connects "field-based" workers to office resources, enhancing productivity

For workers whose on-the-clock time is field-based by design (sales and field forces spend almost all working hours out of the office), mobile IT enhances their productivity by bringing the office assets to the field.

Administrative efficiency. Increasing the productivity of employees on the go applies to adjacent work activities as well. Expense reporting, for instance, can be handled before an employee even returns from a business trip based on the electronic submission of receipt images via mobile phones.

Machine-to-machine sensor networks. By building intelligent sensor networks (e.g., real-time asset management using RFID-tagged cases), enterprises are also improving productivity.

Mobile as a channel to the customer. Mobile IT isn't just good for productivity. It also provides solutions for customers. By increasing the number and depth of touch points, mobility innovations can allow businesses to engage their customers in fundamentally new ways. Examples include allowing commuters to shop virtual store shelves on subway platforms or turn tablets into interactive sales environments inhabited by physicians and pharmaceutical sales reps.

The challenge for enterprise CIOs

Mobile has the potential to greatly improve business performance, but it won't come without its share of challenges. The McKinsey survey of 250 CIOs on their mobility strategies has identified the primary challenges IT departments face.

First, security has been the primary barrier to broad mobile coverage within the enterprise. Unlike previous deployments, where risks could be managed by limiting device usage to specific enterprise applications, 75 percent of today's workers are using a single device for both personal and business uses. Despite recent improvements in mobile device management solutions and security, 45 percent of CIOs see this as a major challenge.

Next, deploying mobile applications is seen as technologically complex. Mobility not only introduces a new technology stack, but it requires modifications to a broad set of existing applications. Around 95 percent of CIOs expect to

> *Beyond costs, top CIO concerns include network security, technological complexity, and platform fragmentation*

deploy 25 or more mobile applications in the next two years. Comprising this complexity, CIOs see challenges in the integration of new mobile applications with current applications (41 percent), with collaboration infrastructures (41 percent), and with business intelligence systems (35 percent).

CIOs also cite cost (41 percent) as a critical mobility challenge. Many types of investment are needed, including devices/connectivity, mobile-enabling applications, and mobility infrastructure such as mobile device management and support.

Finally, fragmentation and the pace of change are major CIO concerns. Traditionally, IT departments have standardized on the basis of a core set of platforms that remain static over a number of years. Given such high volatility and uncertainty in the mobile landscape, 56 percent of CIOs anticipate deploying multiple platforms within the coming two years. They expect the uncertainty to continue over the next three to four years, with at least a 15 percent share held by the four largest device manufacturers.

Key success factors in deploying mobility

McKinsey has identified four key factors in the successful development and deployment of a mobility strategy.

Business value focus. The mobile-enabling of all users and applications would be prohibitively expensive for most organizations. Enterprises should identify and focus on the areas that create real value, rather than only reacting to employee demand, which is driven by a mix of consumer and business value factors. For this, many orga-nizations have used the approach of segmenting their employee base by need (e.g., focusing on salespeople and field service), then developing solutions that address the specific use cases and requirements for high-value segments.

IT architecture. Deploying mobility requires significant changes to the existing architecture as well as a number of new components (e.g., mobile device management). Successful strategies balance capabilities and costs, while maintaining the flexibility to adapt to future changes in the landscape. CIOs should, for example, assess which applications require mobile access and evaluate access methods (e.g., native apps versus Web access versus VDI) based on user requirements.

Governance. Mobility poses unique management challenges. It doesn't clearly fit into any conventional IT silo since it not only impacts infrastructure and application development but also operational and business processes. Mobility also necessitates a flexible strategy that can be regularly adapted to changes in the mobility landscape. An active, cross-functional governance structure is needed to address these challenges.

Security management. Employees have high mobility expectations and often react very negatively to any limitations. Complicating mobility strategy are the real security concerns associated with mobility. Balancing these competing interests requires a clear mobile strategy and associated policies, supported both by IT and by business leadership.

Implications for technology companies

Technology companies have the exciting opportunity to help CIOs shape their mobility strategies and establish strategic partnerships in a way that is difficult in more mature markets. To shape a CIO-relevant mobile strategy, four key areas need to be addressed.

Stay ahead of customers. Similar to the situation during the early days of the Internet, enterprises

> *Flexible and responsive technology providers will prove valuable partners as CIOs shape their mobility strategies*

are frequently ahead of their major solution providers with their mobility strategies. CIOs expect mobile-enabled versions of their applications – or at the very minimum, a clear mobile roadmap. In the absence of this, many are redesigning their systems. This can prove a real threat to incumbent solutions.

Plan for uncertainty. The end-state mobility architectures have not yet been established, and enterprises are experimenting. Each will have a unique approach and specific requirements. Technology providers that remain flexible and are capable of responding to market shifts will have the advantage. This may entail offering multiple deployment models (e.g., for mobile device management solutions), supporting multiple mobile-enablement options for applications (e.g., mobile-friendly HTML, mobile applications, APIs), and developing applications for all operating systems.

Deliver solutions. Mobility is leading enterprises to rethink their overall IT architecture – across all applications and infrastructure – creating an oppor-

tunity for technology companies that can become true mobility partners. To be an effective partner, companies will have to bring their customers a holistic mobility vision coupled with proven mobility capabilities. Systems integrators that can help enterprises define their mobility application needs and provide development expertise, for instance, will be particularly well positioned.

Focus on security. Security concerns are the primary barrier to increased mobile adoption within enterprises, and CIOs have difficulty objectively assessing the security risks. Technology companies should ensure that their products address all relevant security concerns and effectively communicate this to their customers, possibly by commissioning third-party assessments.

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Enterprise IT is on the brink of another dramatic shift on the scale of its most recent one – the Internet. Mobility is the new frontier, promising to boost business and employee performance by expanding office functionality beyond the walls of the enterprise. To fully reap the benefits of all that mobile IT has to offer, CIOs and technology companies will need to be mindful of the current challenges and concerns in order to deliver a set of secure and reliable services in an environment of constant change and complexity.

Lisa Ellis
is a Principal in McKinsey's Stamford office.
lisa_ellis@mckinsey.com

Greg Gilbert
is an Engagement Manager in McKinsey's New Jersey office.
greg_gilbert@mckinsey.com