Putting mobile first: best practices of mobile technology leaders

Findings from the IBM Global IT Study on Mobile Infrastructure

IBM

Putting mobile first: best practices of mobile technology leaders is an IBM study that investigates the approaches organizations are using to support the transformational shift to mobile. The information for the study came from a global survey of 361 IT executives from seven countries, conducted by IBM in early 2013.

Participants were randomly recruited and screened, resulting in a survey population consisting of IT executives who are responsible for or influence their organization's mobile IT strategy. Respondents represented enterprises of 1,000 or more employees, at least some of whom access company networks on mobile devices. Country, industry and participant titles are shown below.

We would like to thank all of the executives who participated in the survey for their valuable time and insight.

The data from the survey was imported into an IBM model designed to assess and categorize the maturity of each organization relative to mobile strategies and adoption of mobile technologies in the enterprise.

The study report defines the resulting Mobile Infrastructure Maturity Model and documents the best practices and characteristics of organizations that are leaders in order to help other organizations improve and advance. It was written by IBM and the following IDC analysts, who also contributed to the data analysis:

Stephen D. Drake, *Program Vice President*, Mobility and Telecom

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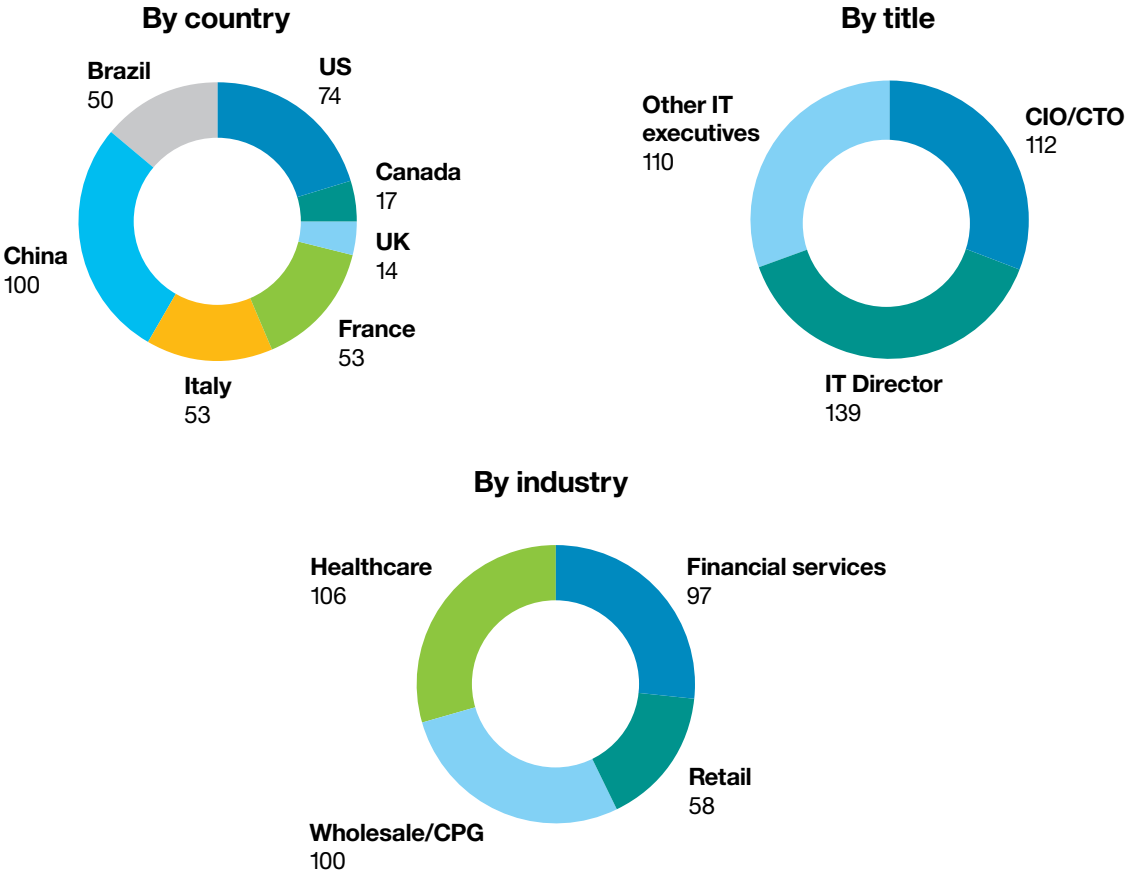

The IBM Global IT Study on Mobile Infrastructure surveyed 361 IT executives on their business and technology priorities for mobile.

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Introduction

A transformational shift is occurring in the IT landscape—one that happens every 15 to 20 years. Not unlike the shift to the Internet and e-business, the shift to mobile is dramatically changing the way people work and organizations conduct business. As in earlier shifts, IT departments are being challenged to effectively manage resources and infrastructure in support of the new, disruptive technology.

It is critical for IT organizations to embrace this disruption and address this challenge now—or face such risks as a reputation-damaging data breach, loss of market share to a mobile-savy rival, or an infrastructure overwhelmed by mobile traffic, transactions and unmanaged devices.

Today, end users are bringing their mobile devices to work in increasing numbers. IDC believes that by 2016, employee-owned smartphones, tablets and PCs in the workplace will grow from 2 billion to more than 5.25 billion. These users expect IT to support them in accessing corporate databases and applications seamlessly and securely. This is creating new demands on the corporate network and putting the company's customer and employee data and even its very brand at risk.

Business functions such as customer service, sales and marketing are leveraging mobile platforms to drive new initiatives and improve customer interaction. Mobile initiatives are crucial for the continued growth and evolution of those functions, and their business sponsors also expect IT to support them as the need for underlying infrastructure continues to grow. IT leaders must also make decisions quickly on how to best balance the extended access to information that mobile productivity and growth initiatives require with the very real threats to data and privacy that mobility can bring.

Mobile interactions and transactions are generating volumes of new, context specific data that organizations can use to extract insights that lead to better product and service offerings and better return on customer engagement. Mobile business transactions need to be enabled for virtually real-time response, anywhere, anytime. The volume and velocity of transactions require a robust IT infrastructure to support and secure the mobile enterprise.

The stakes are high. The strategy, integration and management of mobile IT infrastructure can have significant impact on the financial success or failure of the organization. In order to better understand best practice IT strategies and technologies that organizations are implementing to support mobile, IBM conducted a global quantitative study of 361 IT executives. The study revealed that the level of self-reported mobile IT maturity across organizations is quite low.

However, organizations that are both prioritizing mobile technology initiatives and implementing a mobile strategy—not just for IT but across the company—are more likely to experience revenue growth and improve IT effectiveness. They are in control of their end users' use of mobile devices, applications and company data while still enabling increased productivity. They are supportive of the critical initiatives of their marketing, sales, customer service and other departments with intent on increasing and improving the level and quality of interactions they can have with customers and partners via mobile.

These mobile savvy organizations, which we identify as Mobile Technology Leaders, greatly outperform their peers on a number of business metrics, including those directly related to mobility. Mobile Technology Leaders are two times more likely to have experienced both revenue growth and IT budget increases of at least 10% versus their industry peers. In addition, the study finds that Mobile Technology Leaders increase customer satisfaction and interaction, enhance employee productivity and increase sales due to their advanced use of mobile technologies. This paper will provide guidance to organizations seeking to increase their mobile maturity so that they too can realize the benefits mobile can bring.

Defining a Mobile Infrastructure Maturity Model

Despite the urgent need to address mobile in the enterprise, the IBM study of IT executives revealed that only 20% of companies globally are both prioritizing numerous mobile initiatives and treating mobile as a strategic imperative. As shown in Figure 1, IBM used this data to develop a Mobile Infrastructure Maturity Module based upon two dimensions: the degree to which key mobile technology projects are prioritized and underway within the organizations and the extent mobile is treated as a strategic initiative.

Organizations that rated themselves as significantly above average on both dimensions are referred to as Mobile Technology Leaders. They view mobility as both a highly strategic issue and a high priority for their companies. These organizations are pulling away from their competitors and gaining real business advantage as measured in increased revenues and business performance.

The four stages of mobile infrastructure maturity identified by IBM are:

Evaluators: These organizations are at the very early stage of mobile adoption. They do not have a clearly defined strategy on mobile, even at the departmental level. They take an ad hoc approach to their IT infrastructure supporting mobile and have only a few mobility technology initiatives underway, if any.

Piloters: Mobility is recognized as a priority and these organizations have initiated a number of mobility projects; however, they are taking a more measured approach to infrastructure to support mobile by implementing projects at the business unit or departmental level. These organizations have not integrated their IT requirements for mobile projects into a single enterprise mobile infrastructure strategy.

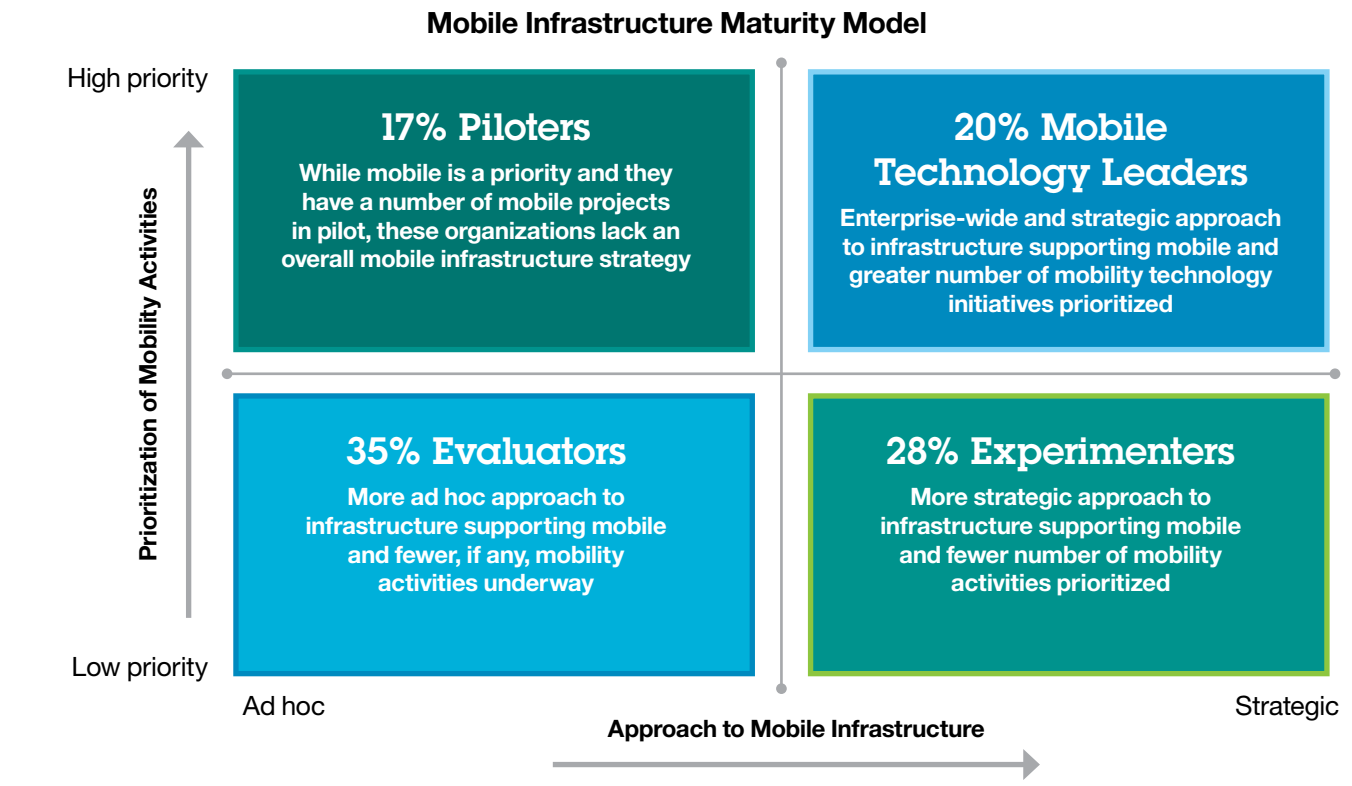


Figure 1. IBM defined a Mobile Infrastructure Maturity Model based on two dimensions: the degree to which mobile is viewed as a priority and the extent to which it is treated as a strategic initiative.

Experimenters: These organizations are evaluating or implementing a limited number mobility technology initiatives; they are likely to have mobile policies in place but are more conservative in their approach to implementing mobile technologies and services until a clear ROI can be demonstrated.

Mobile Technology Leaders: These organizations have an enterprise-wide and strategic approach to IT infrastructure supporting mobile and have a greater number of mobility technology initiatives underway. These initiatives are being well integrated across the organization.

What benefits are Mobile Technology Leaders realizing?

Today, nearly a third of Mobile Technology Leaders' employees conduct at least part of their work by accessing enterprise applications and data via mobile devices and almost half will be doing so significantly more than other groups over the next six months. As early adopters of mobile as a strategic initiative, Mobile Technology Leaders report much higher performance than their peers in key areas of service delivery, efficiency and overall business performance.

When asked how they would position themselves in their industry overall, Mobile Technology Leaders were more likely to view themselves as outperforming industry peers twice as often (see Figure 2). In addition, Mobile Technology Leaders are considerably more likely to rate their own organizations favorably as achieving key business objectives specifically related to mobile capabilities and services.

Twice as many Mobile Technology Leaders experienced an increase of 10 percent or more in their IT budget than other respondents, an indication that Mobile Technology Leaders understand and experience the value of information technology and continue to invest in it.

As shown in Figure 3, Mobile Technology Leaders have made the shift from mobile as largely a productivity tool to mobile as a platform for customer engagement and interaction. Four times as many Mobile Technologist Leaders than other respondents report achieving mobile objectives directly related to increasing and improving interaction with customers, and similar numbers report achieving objectives for increasing revenues, enhancing productivity, and improving customer service and customer satisfaction. Only very small percentages of other respondents, typically around 10 percent, achieved similar results from their mobile investments.

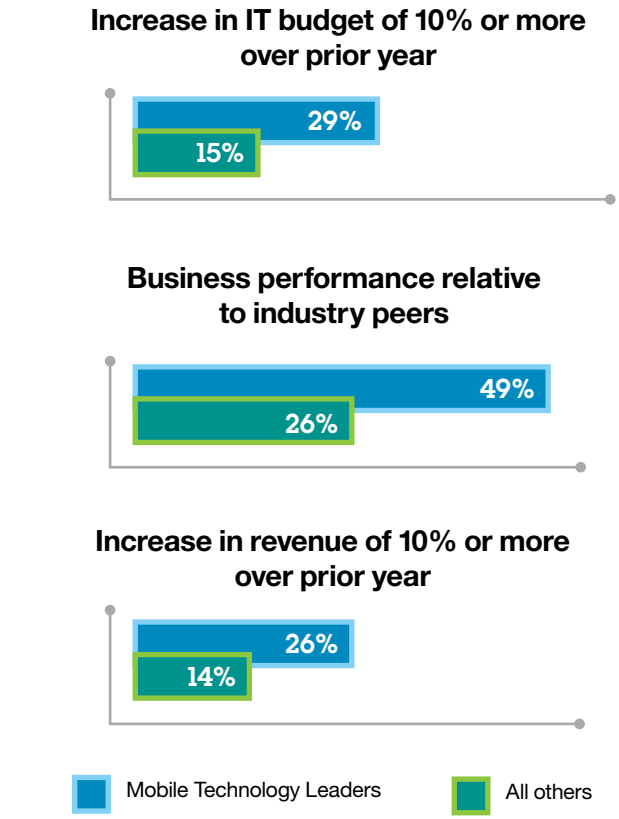


Figure 2. As early adopters of mobile as a strategic issue, Mobile Technology Leaders experience benefits significantly beyond their peers.

Strong return on investment—especially when customer service and customer interactions are improved—is a typical benefit that accrues to organizations that take an early strategic approach to deploying a mobile solution. Employees are engaged by better, often more exciting tools that deliver richer, more timely information and revolutionary ways to

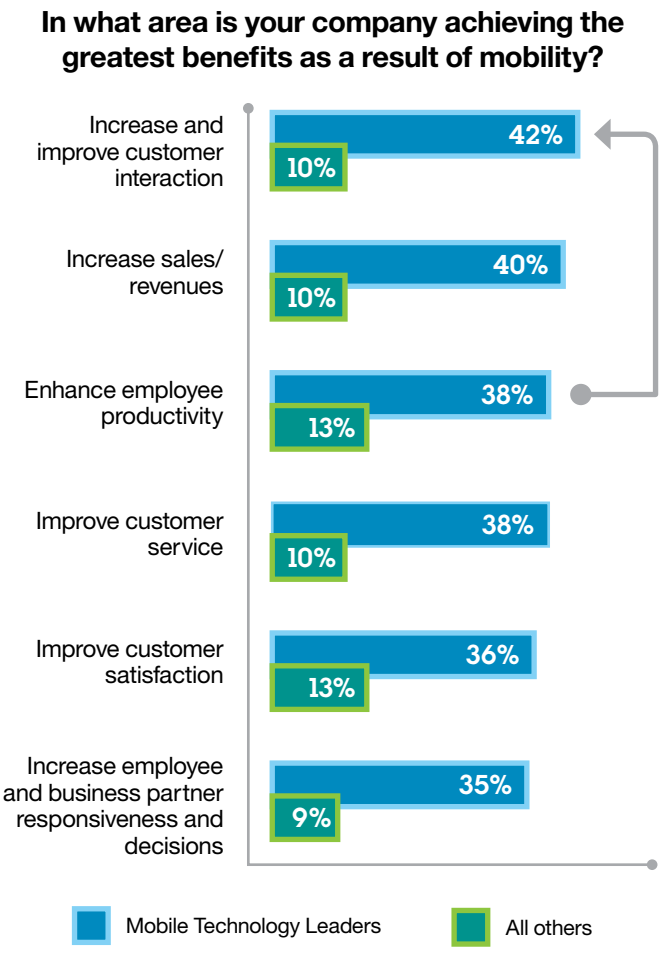


Figure 3. Mobile Technology Leader companies are the first to make the shift from mobility as a productivity tool to a system of engagement

communicate with their customers. Customer transactions are completed faster, with more detail and more accuracy, deepening the level of communication with the client or prospect.

What are the Mobile Technology Leaders doing differently?

Mobile Technology Leaders are much further along in rolling out mobile programs because they take a strategic approach to their planning, execution and management. Mobile Technology Leaders:

- **Plan** for mobile development and establish strategies and priorities. They prepare business cases for mobile, develop roadmaps and develop use cases.
- **Integrate** mobile across the enterprise, rather than treat it as a one-off project. They build linkages across critical applications including those that enable monetization of mobile initiatives and mobile channel opportunities.
- **Optimize** mobile infrastructure for access and performance. Mobile Technology Leaders architect or re-architect the network to support increased access, workloads, volume and velocity generated by the move to mobile.
- **Manage** mobile for security and efficiency. Whether driven by increased adoption of BYOD (bring your own device), compliance and policy management for new devices or accessing mobile applications, Mobile Technology Leaders are taking an active and balanced approach to governing and securing the mobile enterprise.

Best practice: plan for mobile development and establish strategies and policies

As shown in Figure 4, Mobile Technology Leaders are engaged in five key activities much more frequently than other responding companies when it comes to planning for mobile development and deployment. In particular:

- Mobile Technology Leaders are establishing mobile security policies at more than double the rate of other IT organizations. This often involves raising awareness among employees of the potential threats to themselves and the organization that can emanate from the inadvertent compromise of personal, customer or business data. It also involves developing policies for data backup, data access and even device monitoring that protect the organization but do not hamper the usability and performance benefits of mobile devices and applications. IDC research has shown that while many companies are adopting BYOD in response to employee requests, they are not putting specific policies in place for the secure use of these devices.

- Mobile Technology Leaders are five times more likely to be planning enhancements to the mobile infrastructure. Using tools like roadmaps and assessments, IT is building business cases and is actively engaged in the design and development of the rapidly evolving mobile infrastructure.

- Mobile Technology Leaders are almost four times more likely than other IT organizations to be developing and refining a mobile application strategy. What's more, they are developing mobile applications for their employees and customers at four to five times the rate of other IT organizations. They are going well beyond email and calendaring to extend key business processes like sales force automation, field service and point of sale to mobile employees. Mobile Technology Leaders are also connecting IT with marketing, sales and line of business leaders to develop and test applications that increase customer interaction and improve customer service.

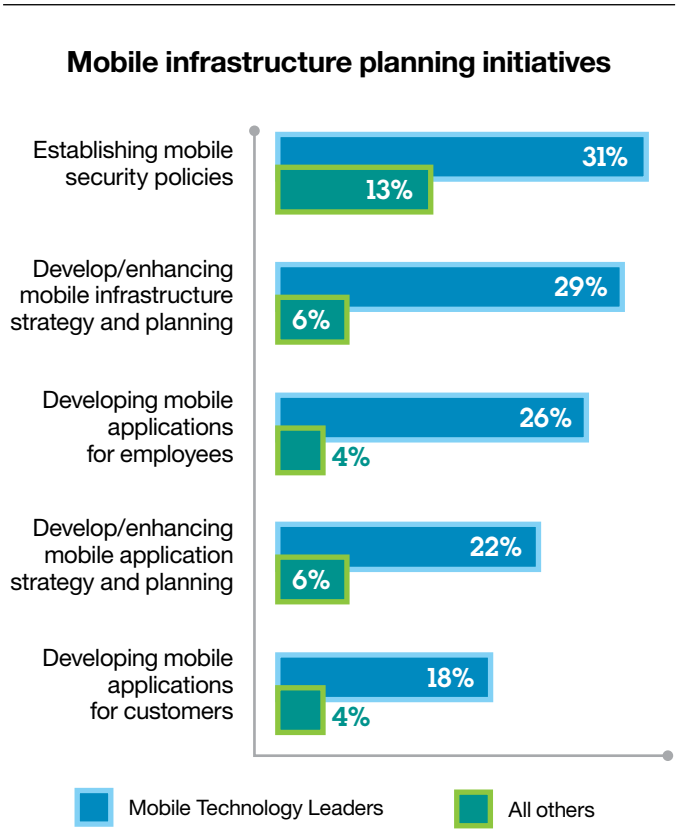


Figure 4. Mobile Technology Leaders are actively engaged in establishing policies, planning infrastructure improvements and developing applications.

Best practice: Integrate mobile across the enterprise

Mobile Technology Leaders are surpassing other IT organizations in the extent to which they are integrating mobile across the enterprise (see Figure 5). They are engaged in key activities which allow them to strategically connect mobile to other key IT systems, including the following:

- Well over a third of Mobile Technology Leaders are actively involved in integrating mobile applications with other applications or back-end systems, compared to just five percent of other IT organizations. These leaders are connecting and therefore enabling access to key functionality such as mobile commerce, business analytics, billing and payment systems as well as social platforms for collaboration. These initiatives drive key enterprise efficiency improvements by enabling employees and customers to interact with each other and with the organization from any place, at any time, using the device of their choosing.

"Our goal is to complete all loan signings via mobile (electronic signature) and the recording of those documents at court houses electronically."

– CIO/CTO, Retail Banking

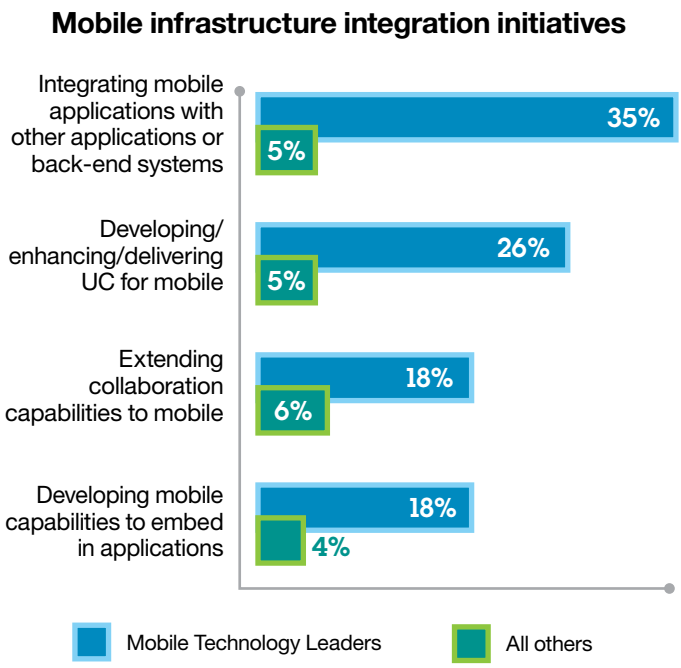


Figure 5. Integrating mobile across the enterprise—as opposed to one-off or siloed projects—is a distinguishing characteristic of Mobile Technology Leaders.

- Mobile Technology Leaders are five times more likely to be developing, delivering, and enhancing Unified Communications (UC) for mobile. This allows for high quality user access to a variety of communication and collaboration tools including instant messaging, presence and voice that are integrated with contacts, email, and other applications on mobile devices.

These activities allow the organizations supported by Mobile Technology Leaders to reap the significant business benefits obtained from mobility discussed in Figure 3. For example, applications like mobile self-service are increasing productivity by reducing help desk calls for insurance companies. Similarly, mobile field force applications are dramatically improving response time for utility and logistics companies.

Best practice: Optimize enterprise infrastructure for access and performance

Organizations will not be able to achieve their mobile goals if their enterprise networks can't keep up with the bandwidth demands of mobile employees, customers and partners. Securing and optimizing the network, virtualizing desktops and related applications in support of mobile users, and leveraging cloud delivery models—these are critical tasks and programs that will further the success of mobile initiatives by helping to reduce costs and increase the efficiency of IT and business processes.

Mobile Technology Leaders are significantly more engaged in key activities that will allow them to optimize existing infrastructure capable of supporting IT and business objectives, including:

- Over 40 percent of Mobile Technology Leaders are securing the network infrastructure compared to just 17 percent of other IT organizations. Mobile Technology Leaders are specifically addressing the challenge of providing secure wireless access to corporate networks while preventing unwanted intrusions.

- Mobile Technology Leaders are enhancing network infrastructure performance for mobile at over twice the rate of other IT organizations. They are doing the work of architecting and re-architecting the core network infrastructure to be able to handle the increased traffic volume coming from mobile employees, customers and partners.

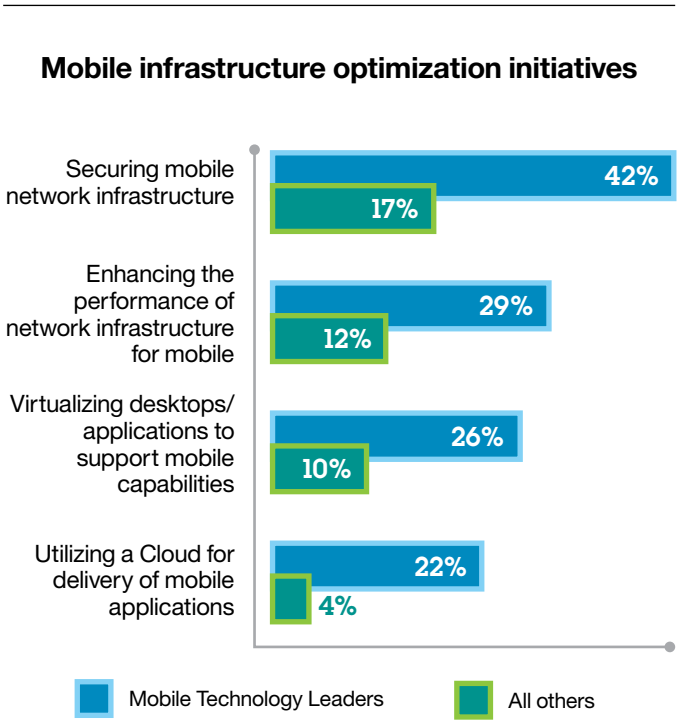


Figure 6. Mobile Technology Leaders are engaged in optimizing network security and performance while employing virtualization and cloud to optimize existing end-user applications for mobile users and speed development of new mobile capabilities.

- Mobile Technology Leaders are also virtualizing desktops and applications to support mobile users in much greater numbers and utilizing the cloud for delivery of mobile applications at five times the rate of other IT organizations. These leaders are finding that cloud and mobile go hand in hand. For example, cloud brings flexibility and on-demand scalability to workloads such as mobile commerce that can experience spikes in volume due to marketing initiatives or seasonal demand.

For mobile device and application management, cloud helps reduce the burden of deploying the new capabilities required to manage an influx of devices and applications. Cloud computing also provides a cost-effective, scalable environment for developing and deploying mobile applications that also reduces upfront investment. IDC research confirms a strong and growing trend towards the use of cloud platforms (PaaS) for mobile development, deployment, and testing.

Best practice: Manage the mobile environment for security and efficiency

Mobile Technology Leaders are much more actively involved in managing the end-to-end mobile environment for security and efficiency. They are involved in a host of initiatives to secure mobile data and strategically manage mobile devices, applications, platforms and telecom expenses (see Figure 7).

In all of these areas, Mobile Technology Leaders are frequently engaged in partnering with IT services firms. There is no doubt that while the benefits for employees, customers, partners and the business itself are huge, mobile dramatically increases complexity for the IT organization. Many organizations seek to enhance their capabilities by engaging external IT services firms who bring needed skills and speed to help better manage the mobile environment.

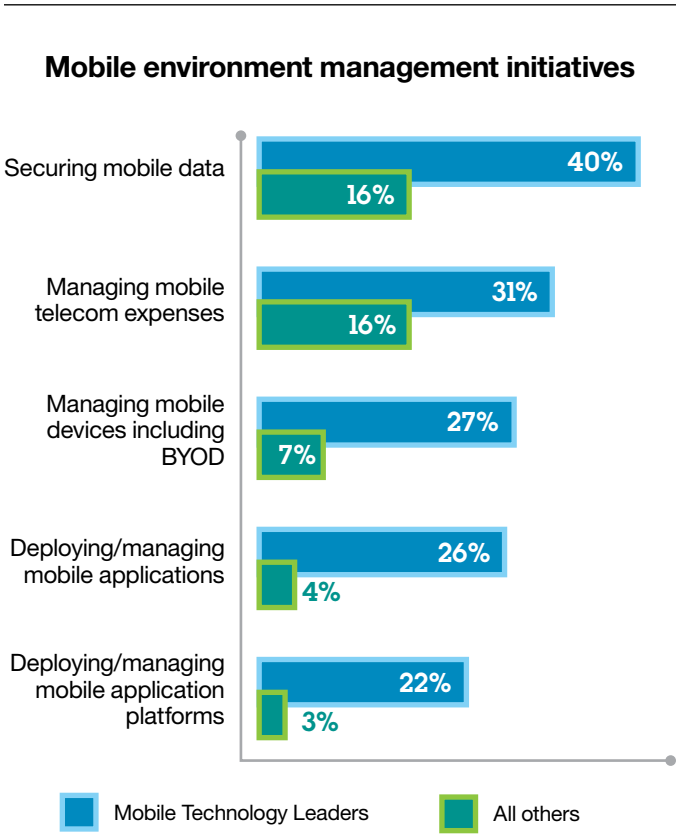


Figure 7. Taking an end-to-end approach to managing the mobile environment sets Mobile Technology Leaders apart from other IT organizations.

This study found that Mobile Technology Leaders engage external IT services firms more often than other respondents and that 86 percent believe that an external services partner can help them better achieve their mobility goals.

- Forty percent of Mobile Technology Leaders have initiatives in place to secure their mobile data, and over half are partnering with external IT services firms to do so. Ensuring the safety and security of employee and customer data as well as compliance with a host of industry and government standards, regulations and policies can be complicated and beyond the skill set of many IT organizations. Security on employee-owned devices is even more complex, requiring expertise in new techniques such as application wrapping and containerization to protect corporate applications, data and content while maintaining the end user's privacy and managing only the corporate assets.

- Study results indicate that 27 percent of Mobile Technology Leaders are managing mobile devices (including BYOD) versus only seven percent of other IT organizations. Mobile device management is another area in which all survey participants are getting some level of help from service providers. Mobile Technology Leaders are outsourcing mobile device management at a rate of 33 percent, with 17 percent of other IT organizations doing the same.

- Mobile Technology Leaders are leading other IT organizations in terms of deploying and managing mobile applications and mobile application platforms. This involves addressing the rapid pace of change in mobile operating systems and addressing robust security standards and supporting customer processes. About half of Mobile Technology Leaders are engaging with IT service providers to assist in a full lifecycle of mobile application management, from strategy and planning to developing, deploying and managing applications and application platforms.

Setting high expectations for IT service providers

With the majority of Mobile Technology Leaders believing that IT service providers can help them achieve their mobility goals, it is no surprise to learn that these leaders also have significantly higher expectations about the specific benefits that service providers should deliver. As shown in Figure 8, 65 percent expect services providers to help them improve security, as opposed to only 45 percent of other respondents.

> **"External partners have the breadth of experience and knowledge to speed entry for us."**
>
> – CTO, Operations, Travel and Transportation

More than half expect external providers to transfer knowledge to their internal staff, integrate mobile with other systems, and keep them up-to-date with rapidly evolving mobile technology as a highly sought benefit. More than half also expect that their external service provider will help them achieve a competitive advantage—a strong indicator that Mobile Technology Leaders see their investment in mobile as a way to hold on to and expand their industry-leading performance.

Study findings show that Mobile Technology Leaders also expect more from their partners in terms of the skills they bring to the table. They not only look for strong security

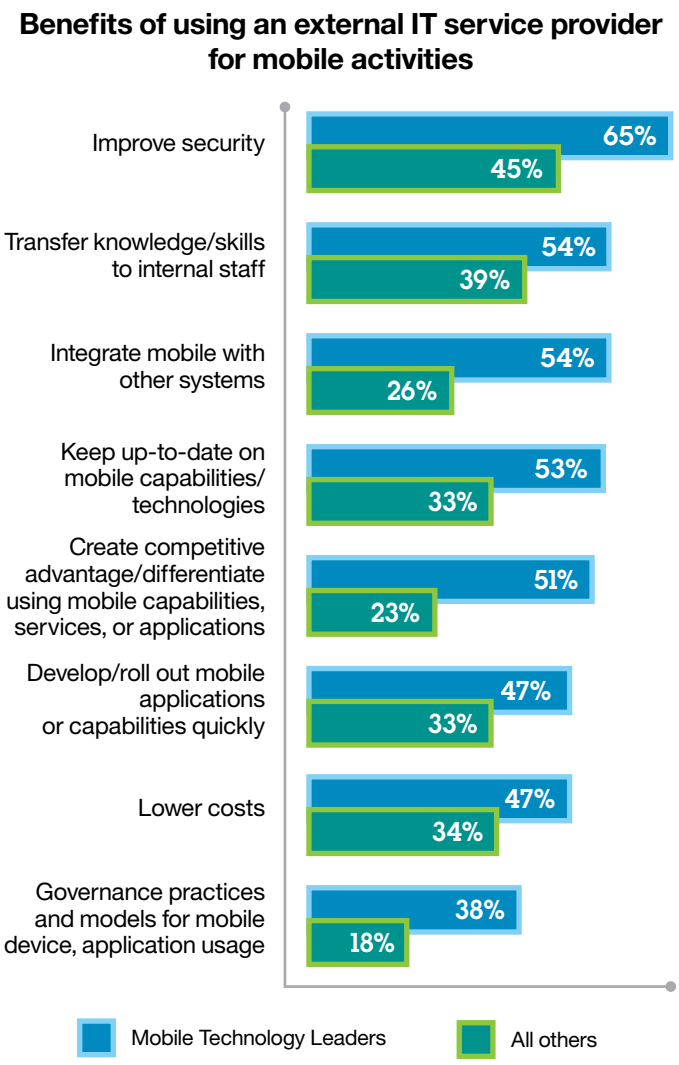


Figure 8. Mobile Technology Leaders have high expectations for the benefits they should realize from working with an external service provider.

experience but also highly value industry expertise, a factor important in developing customer-facing mobile applications to support a growth agenda. Service providers are also expected to have the skills required to integrate mobile with back-office systems, business analytics, online commerce and social platforms. The end result should be a consistent experience for employees and customers across all platforms, mobile and traditional.

While the majority of Mobile Technology Leaders are currently using two or more external service providers, 71 percent strongly believe in the importance of a single external provider being able to deliver the full range of mobile infrastructure services covered in the survey. Given the need to address and manage a host of mobile requirements, it is not surprising that Mobile Technology Leaders would prefer to work with one provider able to address all of their workplace, mobile application and mobile infrastructure needs. While it may be unrealistic to find one provider who can provide the best skills for everything from network infrastructure to voice services to industry-specific mobile applications, one key aggregator providing a single point of contact will reduce finger pointing and make life easier for IT leaders.

Summary and recommendations: Becoming a Mobile Technology Leader

Those IT organizations that both treat mobile as a high priority and a strategic issue are much more likely to experience the benefits that mobile can bring to an organization. They are able to effectively manage their end users' use of mobile devices, applications and company data while still enabling increased productivity. And they are supportive of the critical initiatives of their marketing, sales, customer service and other departments intent on increasing and improving interactions with customers and partners.

Mobile Technology Leaders have moved from using mobile as a productivity tool to mobile as a platform for customer engagement

Mobile Technology Leaders represent only 20 percent of the survey population, which leaves many IT organizations behind in the mobile evolution. The following steps can help Evaluator, Piloter or Experimenter organizations become Mobile Technology Leaders:

- Begin by assessing the requirements of the departments already using mobile. This will allow you to understand the needs of your organization as well as help identify where your company may need to apply more stringent security guidelines. Holding a one-day workshop with representatives of every constituency is a good way to get started and to gain some consensus on a strategic, unified approach to a mobile program.

- An initial assessment should give you a clear picture of who is using which devices for what purposes. Audit corporate-provided devices to determine if they are still in active use and whether or not there is a business justification keeping them on the corporate plan. Evaluate existing BYOD initiatives with a targeted focus on broadening your mobile population. Start with determining which devices and platforms to support. Then begin the process of building policies to ensure enforcement and the management and security of these devices. This is not a strategy, but rather the initial steps required to regain control and begin the process of building a strategy for future mobile application enablement.

- Conduct education as a critical first step to making sure all end users, line of business leaders and functional managers understand the threats as well as the benefits mobile can bring. For example, there are literally tens of thousands of mobile applications your end users could have on the same mobile device that accesses your enterprise networks. Most likely, these end users are completely unaware of the potential threats these applications can pose to the organization.

- Using an objective IT service provider to help with the initial assessment or run a workshop can engage employees and raise awareness of the range of mobile projects and activities going on around the company. External providers can bring needed skills as well as speed and focus to a mobile initiative. A good “prime contractor” can also bring in expertise to build and optimize the best infrastructure, develop and integrate the best applications, and even help with the change management and cultural shifts a successful mobile program requires.

How IBM can help

Today, IBM is helping companies around the world plan, integrate, optimize, and manage their mobile IT infrastructure so they can take advantage of the new business opportunities enabled by mobile technologies.

Supported by an integrated IBM MobileFirst solution portfolio, our clients are using advanced services and software to meet the requirements of their new, or growing, mobility initiatives. The portfolio leverages consulting, project-based and managed technology services for IT and communications network design, security, and device and application platform management.

Access to specialized mobile skills, IBM-managed technology resources and cloud computing environments can help get your mobile projects underway, and scaling, quickly. This allows you to efficiently create a more productive, connected workplace and to engage more effectively with your customers.

Enterprise mobility solutions are complex, with a lot of moving parts. You need a technology partner who can continue to support your growing mobility needs—particularly when you are faced with managing multi-vendor device platforms across multiple user types and geographies. Working with IBM can put you on the path to managing that complexity and help you become a Mobile Technology Leader.

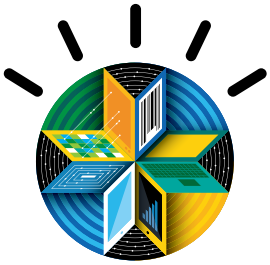
Is your strategy robust? Are your mobility projects well defined? Take our Mobile Infrastructure self assessment to determine how your organization compares to other organizations that are evaluating, and leading, mobile first priorities.

ibm.com/services/mobile-study

For more information

To learn how IBM can help your organization with your mobile IT infrastructure, please contact your IBM representative or visit the following website:

ibm.com/services/mobile-study



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