

## WHITE PAPER

# Mobility Solutions in Enterprise-Sized Businesses: Quantifying the Return on Investment

Sponsored by: Microsoft Corp.

Stephen D. Drake                      Randy Perry  
February 2008

## EXECUTIVE SUMMARY

The deployment of line-of-business (LOB) applications in large enterprises is happening in earnest today as organizations recognize strong business benefits in the deployment of such solutions. Recent IDC survey data demonstrates that 70% of all organizations have deployed at least one mobile enterprise application beyond email.

The purpose of this study was to assess the costs and benefits of delivering LOB applications to mobile users in large enterprises of over 1,000 employees. In this analysis, we focused on four application types — sales force automation (SFA), field force automation (FFA), customer relationship management (CRM), and industry-specific. Each of the seven participants in North America and Europe had deployed one or more of these applications. In the business value analysis, we wanted to understand how the combination of the application and a mobile platform impacted business operations. IDC found the following direct benefits in the companies interviewed (see Table 1):

- ☒ The average payback period for the implementation of a Windows Mobile solution in large businesses was 12 months.
- ☒ The average three-year ROI of a Windows Mobile solution for these companies was 309%.
- ☒ The companies invested an average of \$2,053 per user annually over three years to deploy the mobile solution and were able to achieve annual benefits that averaged \$888,536 per 100 users.

**TABLE 1**

ROI Analysis for Deploying Windows Mobile Solutions in Large Enterprises

Item	Average per 100 Users
Three-year cost of investment	\$615,922
Annual cost savings and increased revenue	\$888,536
Net present value of three-year savings	\$1,601,984
Payback period (months)	11.9
Three-year ROI	309%

Source: IDC, 2008

IDC organizes the overall benefits of Windows Mobile into four categories: user productivity, IT operations costs, business operations costs, and IT staff productivity. This study found the following benefits in each of these groups:

- ☒ User productivity benefits were the most significant of all of the benefits generated by Microsoft mobile LOB solutions in this study. On average, users were said to be 14% more productive through a combination of reducing the time spent in acquiring the information needed for their jobs and increasing their time and ability to provide information to their customers.
- ☒ IT operations cost reductions accounted for 20% of the total savings from Microsoft mobility. Changing the way mobile workers use IT eliminated or greatly reduced the requirements for the old IT infrastructure.
- ☒ The improvement in business operations accounted for 17% of the total benefits in this study. LOB operations are designed to automate business processes and increase information distribution and flow.
- ☒ Additional benefits were achieved from three areas in IT staff efficiencies: consolidation of mobile applications and communications onto one platform, reduction in the number of laptops, and RAS infrastructure.

## **INTRODUCTION**

Across North America, Europe, and the rest of the world, large organizations look at mobility as more strategic for their businesses and seek the deployment of LOB applications for a number of key benefits. Mobile solutions not only bring improvements to the mobile worker but also deliver key enhancements to the broader business processes. User productivity and improvement in business operations, as well as IT operation cost reductions and increased IT staff efficiencies, are key drivers for businesses deploying SFA, FFA, CRM, and other industry-specific applications across a growing number of lines of business.

The growth in adoption of mobile enterprise applications is consistent with the growth in the worldwide mobile worker population. The worldwide mobile worker population is set to increase from 758.6 million in 2006, accounting for 24.8% of the worldwide workforce, to 1.0 billion in 2011, accounting for 30.4% of the workforce. In the United States alone, more than 70% of all workers will have some level of mobility by 2011. In Western Europe, more than 50% of the worker population will be mobile by 2011.

## **QUANTIFYING THE BUSINESS BENEFITS OF MOBILITY**

To validate and quantify the business benefits of mobility solutions within large businesses, IDC conducted in-depth interviews with large customers of Microsoft Exchange and Windows Mobile. IDC asked detailed questions about the implementation costs in deploying the software and the cost savings and other benefits realized. IDC then applied our proprietary ROI methodology (see the Appendix) to the results to determine the average payback period and ROI realized by the surveyed companies.

## Study Methodology

For this study, IDC interviewed executives at seven large companies from various industries in Europe and North America (see Table 2). The companies all employed more than 1,000 employees. The company names and contacts were supplied by Microsoft.

From the results of the interviews, IDC determined the average ROI and payback period that the surveyed companies realized from deploying Windows Mobile solutions based on increased user and administrative staff productivity, improved operational efficiency, other cost savings, and higher revenue from increased sales.

**TABLE 2**

### Demographics

Average number of users	1,732
Average number of employees	7,364
Average number of IT staff	109
Average annual revenue	\$1.08 billion
Locations	North America/Europe

Source: IDC, 2008

## Benefits

IDC organized the benefits of the Windows Mobile implementation into four groups:

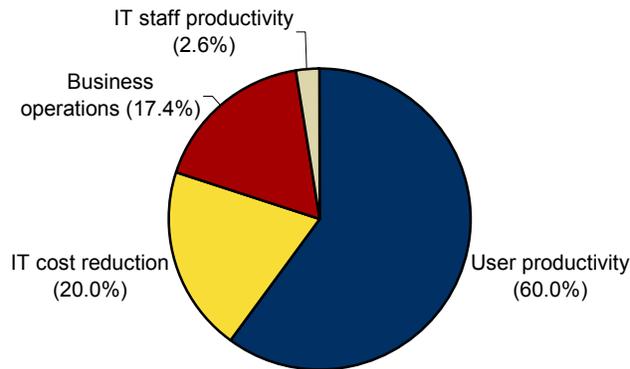
1. **User productivity:** The increased time that users have to perform business operations
2. **IT operations cost reductions:** IT budget capital and operations cost reductions
3. **Business operations cost reductions:** LOB cost reductions
4. **IT staff productivity:** The increased time that IT staff have for activities to support other business operations

### ***User Productivity***

User productivity benefits were the most significant of all of the benefits generated by Microsoft mobile LOB solutions in this study. User types were disparate due to the broad range of applications. On average, users were said to be 14% more productive through a combination of reducing the time spent in acquiring the information needed for their jobs and increasing their time and ability to provide information to their customers. Previously, they relied on receiving data through RAS systems or telephonically from administrative staff, or they had to travel to a central office to receive written guidance. Now the information is available without a time cost wherever they are, including the customer site. User productivity increases accounted for 60% of total benefits or \$533,339 per 100 users annually (see Figure 1).

**FIGURE 1**

Annual Benefits per 100 users



**Total = \$888,536**

Source: IDC, 2008

### ***IT Operations Cost Reductions***

Reducing IT operations costs accounts for 20% of the total savings from the Windows Mobile solution. Changing the way mobile workers use IT eliminated or greatly reduced the requirements for the old IT infrastructure. This included the RAS and telecommunications infrastructure and long distance services the IT staff needed to support that infrastructure and those users. On average, companies were able to reduce the number of laptops required by their mobile users by 67%. Salespeople no longer needed their laptops for CRM. Some field service organizations eliminated laptops altogether, instead using job-specific mobile devices. In addition, creating the mobile workplace in an all-Windows-compatible environment significantly reduced software costs. IT productivity increases accounted for \$177,575 per 100 users annually.

### ***Business Operations Cost Reductions***

The improvement in business operations accounted for 17% of the total benefits in this study. LOB operations are designed to automate business processes and increase information distribution and flow. Automating business processes reduced costs. Fewer administrative staff could support mobile users. Paperwork forms such as order forms and invoices and the cost to create, distribute, mail, and store were eliminated. Fewer mistakes were made, so there were fewer performance penalties. Reduced operations cost made up 53% of business operations benefits.

Not only were costs reduced, but revenues increased. Salespeople were able to get bids in quicker, increasing success rates. Production cycles were reduced and revenue recognition increased. The ability to monitor production facilities in the field, whether power production or agriculture production, lowered unplanned downtime and with it lost revenue. Combined, revenue increases and operations cost reductions contributed \$154,802 in benefits per 100 users annually.

### ***IT Staff Productivity***

The final 3% of the benefits in this analysis comes from three areas in IT staff efficiencies. IT staff productivity was enhanced by the consolidation of mobile applications and communications onto one platform, the reduction in the number of laptops, and RAS infrastructure. Fewer laptops lowered system support requirements. As laptops in the hands of mobile users are a major cause of service desk calls, fewer laptops reduced help desk calls by 33%. IT productivity increases accounted for \$22,800 per 100 users annually. In addition to the quantified benefits, the customers identified other business benefits.

---

## **Investment**

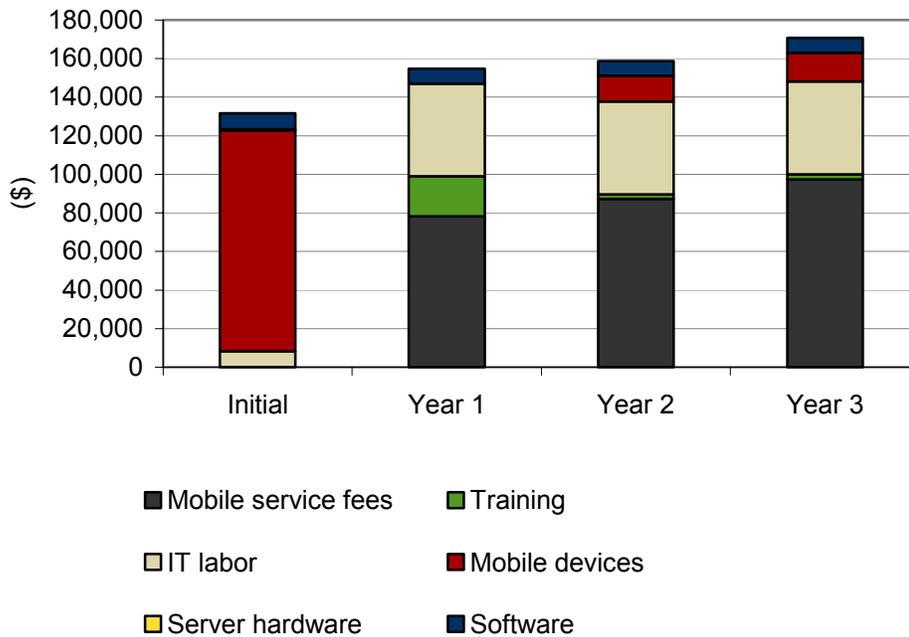
IDC sought to capture the benefits of the LOB application in the mobile environment, which meant we also had to understand the total costs associated with the total solution from initial planning and deployment to ongoing operations over a three-year period (see Figure 2). On average, companies spent \$2,053 per user annually.

- ☒ **Application and wireless software.** This includes initial costs to purchase and in some cases customize the application software to run in a mobile environment, plus annual licensing costs (5% of annual costs).
- ☒ **Server hardware.** This includes the costs of a dedicated server to run the mobile application. In some cases, customers did not have to purchase a dedicated server but merely had to support mobile users with the existing application servers. Even if they had to purchase dedicated servers, they could run their mobile application on one or two processor servers, and so server investment was very limited (<1% of annual costs).
- ☒ **Mobile devices.** This covers a wide variety of devices and price points from smart phones (\$180) to application-specific tablets (\$3,500) (22% of annual costs).

- ☒ **IT labor.** This includes the cost to deploy the initial solution and annual support and maintenance and also includes third-party consulting as a supplement to internal labor (27% of annual costs).
- ☒ **Training.** This includes primarily user training on the mobile applications but also includes IT training (4% of annual costs).
- ☒ **Wireless services.** The largest cost was for annual data and telecom services. In some cases, only data services were contracted (42% of annual costs).

**FIGURE 2**

Three-Year Costs per 100 users



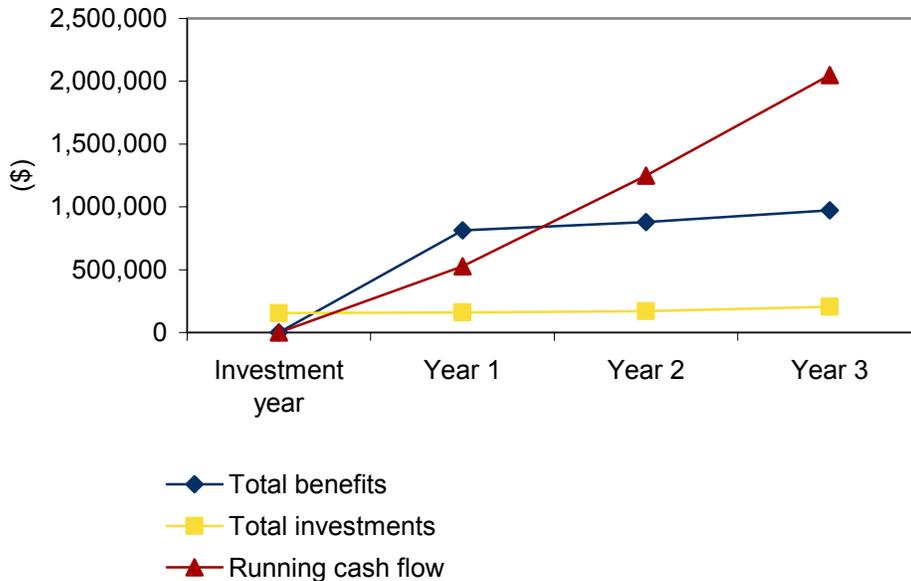
Source: IDC, 2008

## ROI Analysis

Figure 3 shows the investments, benefits, and running cash flow per 100 users over time. Unlike most technology investments where 50–60% of the total investment is made, up-front investments in mobility are largely driven by annual service and support costs.

**FIGURE 3**

Investments Versus Benefits over Time per 100 users



Source: IDC, 2008

## CASE STUDIES

### **Heineken: CRM — Improvement in Sales Force Efficiency**

Heineken Brewing Company began deploying Windows Mobile 5.0 in 2006 and has experienced significant business benefits. Heineken employs over 65,000 people around the world and had sales of \$15.6 billion in 2006. The organization's Caribbean region, the focus of this case study, has a 60% mobile usage rate among the sales force and expects the number of users to quadruple in the next year. The Caribbean region has 23 separate markets with different currencies and price points. Heineken restructured its database by aligning these currencies and pricing structures. This first step in the deployment was critical because it allows for consistent evaluation of the sales representatives and the company's CRM process across the region. Heineken then introduced its sales force to handhelds. The deployment lasted for six months and required one full-time equivalent (FTE) (50% technical, 50% business analyst). At present, Heineken is fully integrated in the Caribbean market.

#### ***Improved CRM***

Heineken used XSales software to develop customer surveys that assess regional distributors' sales targets and objectives. The results are stored in a database and reviewed once per month. Heineken management compares the results with sales data to determine whether or not the distributors are achieving their goals.

The distributors also provide feedback about the Heineken sales staff through the surveys. If the distributors are not achieving their goals, it may suggest that the sales staff is not performing its job well enough. The sales data combined with the customer feedback guide management in evaluating the sales representatives' performance. Windows Mobile has proven to be the cornerstone in the process that is intended to maintain a high level of sales and distribution support in the Caribbean market.

### ***Increase in Sales***

Heineken has improved account development by offering its sales representatives instant access to pricing, promotions, availability, and accounts receivable data. Windows Mobile led to an average sales increase of 12% for the first year after the deployment. A company manager estimates that the result is an annual sales increase of \$3.6 million for the 100-person sales staff.

The company's cash flow receives a boost because salespeople can print a bill directly from their handhelds while they are at a customer site instead of sending a bill from the regional office days later. This capability has reduced the average bill's time outstanding from 45 days to 39 days.

### ***Opportunity Assessment***

Heineken's customers make many requests for promotional materials. Mobile devices are used to record what materials are already in the customers' locations. Management assesses the customers' requests and needs and then develops customized plans to improve merchandising in those outlets. Windows Mobile also allows the field staff to gather and store consumer demand information. For instance, when a cruise ship arrives in port and the passengers go ashore, the sales representative interviews them about where they traveled, what food they ordered, and what brands of drinks they purchased. This is a quick but effective way to measure consumer opportunities in the market.

### ***Reducing Business Operations Costs***

Since much of the field representative's information is now in electronic format, Heineken has a reduced need for paper, envelopes, and postage. A manager estimates that the organization is saving 50% on these office supplies — totaling \$4,000 per year. Office staff productivity has increased because administrators avoid manually entering sales information. It is estimated that Windows Mobile is improving Heineken's back-office staff productivity by \$15,000 per year.

At Heineken, Windows Mobile has provided the foundation for an improved CRM system as well as enhanced sales force evaluation. The total estimated benefits for Heineken are \$10.8 million over three years.

---

## **Property Management Mobile Solution**

A property management company in the United Kingdom selected the Windows Mobile 5.0 solution to streamline diagnostics, resource management, and job costing processes and to make its field service force more responsive to customer needs. This organization has been using mobile for two years and expects the number of users to more than double in the next year.

The company wanted to "push services," and so it deployed a mobile field service solution to its field workers who were responsible for conducting building maintenance operations. To achieve the "push" capability, the mobile solution was based on the Windows Mobile 5.0 solution and the .NET applications. Symbol client devices were deployed. The whole of the costing and applications is run on a Microsoft Active Directory service farm maintained in its carrier's most secure site.

The deployment took approximately four months, requiring 35% of five technicians' time. The company also hired one outside contractor for two years to help develop the back-office infrastructure.

### ***Business Impact***

As a result of deploying the Microsoft mobile solution, the company was able to significantly improve the efficiency of key business processes and generate competitive advantages, which led to increased revenue.

### ***Employee Productivity***

The major benefit of the mobile solution has been the increased productivity of the company's field service force. Prior to using mobile, all field service workers would have to go to the office, wait in line until the supervisor arrived, and then review the day's workload (8–10 jobs). Then they would travel to central supply stores, pick up all of the equipment they estimated they would need, and then go to the job sites. With the mobile solution, they now log into the system from home and receive the specifications for only the first job of the day. This company uses a strategy it calls "just in time." Instead of giving the employees a list of their 10 jobs for the day, the home office uses mobile to send them one job at a time. As one job is completed, the home office sends the next via mobile. Managers save time since they do not have to develop a complex work plan, and employees feel less pressure since they do not have to waste time prioritizing their jobs. The company estimates that its field service workers have realized an 83% improvement in productivity. Based on a manager's estimates, each worker saves 2.5 hours per day and 5 miles of traveling per day because of the mobile service.

Prior to the mobile solution, payroll administrators in the back office managed employee time sheets manually. Back then, more time and people were needed to fulfill that task. With Windows Mobile, the processing time for each job has decreased from eight days to two days. Fewer administrators are reviewing information, and the remaining staff members spend their time on other assignments in the office, leading to a 20% increase in administrator productivity.

### ***Overhead Cost Reduction***

The company has also reduced costs by consolidating multiple applications and services. Prior to this mobile solution, the company had many applications, each with a different purpose. A manager estimates that the company is saving \$200,000 per year since replacing all those applications with Windows Mobile 5.0. The mobile solution also reduces the amount of paper used in the company. The savings are \$36,000 this year and are expected to double in the next year.

### ***Inventory Efficiency***

Windows Mobile increases inventory efficiency. Rather than managing stock on a daily basis through the home office, field service workers control their own "van stock" from their handhelds. The technology allows the employees to maintain their own "stores" on the van, and now they can plan their inventory up to two weeks in advance. This means that instead of picking up stock daily, field service workers need to travel to central supply stores only once a week or once every two weeks and can now identify what they need and contact stores from their vans, and stores will have already picked their replacement stock for them.

### ***Revenue Increase***

The company's services are delivered faster, and its employees use their time more efficiently. By the company's estimate, these factors have allowed it to add 16% more work since deploying the mobile solutions. This is an increase of \$6 million per year. To compare revenue benefits with cost reduction benefits, IDC recognizes only 10%, which allows for the additional cost generated to earn the revenue and includes the taxes paid on the revenue. Using this approach, the company would achieve \$600,000 in increased revenue benefits each year.

In total, the company realized \$17.7 million in benefits over three years or \$10,300 per mobile LOB user annually.

## **CHALLENGES AND OPPORTUNITIES**

Large enterprises today are realizing the strategic benefits to deploying mobile LOB applications such as SFA, FFA, CRM, and industry-specific applications. Key benefits for organizations that IDC interviewed in North America and Europe included user productivity (i.e., the increased time that users have to perform business operations), IT operations cost reductions, LOB cost reductions, and increased productivity of IT staff that allows them to support other business operations.

On average, organizations invested \$2,053 per user annually in deploying mobile LOB applications. This investment included application and wireless software (5%), server hardware (<1%), mobile devices (22%), IT labor (27%), training (4%), and mobile operator services (42%).

Lastly, on average, the customers in this study enjoyed payback on their investments in just under 12 months. They realized \$888,536 in benefits per year per 100 users and were rewarded with an ROI of 309%.

These quantitative benefits and returns on investment represent the growing momentum of organizations worldwide that are taking a more strategic stance toward enterprise mobility. Mobile enterprise deployments are a significant component of companies' business planning and represent key solutions for business process problem solving, worker and organizational efficiency improvement, and cost reductions. Initial rollouts of mobile LOB applications represent a starting point for savvy organizations that seek planned, widespread deployments of applications, over time, across divisions that extend back-end application and key functionality to a broader number of mobile workers within the company.

## APPENDIX

---

### IDC's ROI Methodology

IDC uses a three-step process to measure benefits and costs and calculate the ROI:

1. **Measure the impact of the solution on the organization.** IDC looked at the benefits generated by the mobile LOB application:
  - Reduction of IT costs: IT labor, telecommunications services and infrastructure, hardware and software
  - Increase in IT productivity: Ability to grow the environment without adding overhead
  - Increase in user productivity: Increase the time to do useful work
  - Increase in business benefits: Includes reducing administrative staff, user travel costs, paperwork costs, and downtime as well as increasing revenue realization
2. **Ascertain the investment.** IDC captured the initial and annual costs of the following:
  - Software — application and wireless
  - Hardware — back-end server and mobile device
  - IT labor — installation and annual management
  - Services — mobile data and telephone and consulting
  - Training — user and IT staff
3. **Project the investments and benefits over a three-year period and calculate the ROI and payback for the deployed solution.** IDC uses the discounted cash flow method to calculate the NPV, ROI, and payback period over three years. As a standard, IDC uses a 12% discount rate.

---

### Copyright Notice

External Publication of IDC Information and Data — Any IDC information that is to be used in advertising, press releases, or promotional materials requires prior written approval from the appropriate IDC Vice President or Country Manager. A draft of the proposed document should accompany any such request. IDC reserves the right to deny approval of external usage for any reason.

Copyright 2008 IDC. Reproduction without written permission is completely forbidden.