FIELDFLEX

Field Service Management: Improving the Work Cycle

Executive Summary

This document outlines best business practices that address these pressures, the challenges faced by workplace management organizations, and the benefits of adding mobile technologies to streamline existing business workflows. In conjunction with mobile technologies, deploying best practices within these solutions is discussed through FieldFLEX Mobile Workplace. This enables facilities technicians to reduce call response times and costs, increase first-time fix ratios, and ensure critical inspection and repair information are recorded at the point of activity.

Management of the workplace is changing. Workplace environments are growing more complex, combining traditional facilities and space management functions with project management, maintenance management, and lease and property management functions. Additionally, concerns of aging infrastructure, eco-conscious business practices, health and safety regulations and funding changes place new and added pressures on corporations and institutions to strive for higher levels of efficiency. Business practices such as, paper-based work orders and pedestrian knowledge are unsustainable in today's corporate workplace. Executives and managers demand timely access to facility information as well as accountability from the workers that provide work on assets, property and overall facility management functions. Due to this, workplace managers must incorporate new processes into the operational workflow creating a need for an integrated business model.
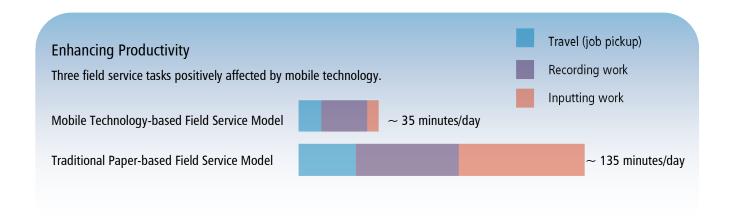
Introduction

Corporations, governments, health care providers, and educational institutions all face increasing financial pressures that force continual review and improvement of business processes. Organizations that provide repair, maintenance, and other field-based services are being held accountable for the management of critical facilities information and are seeking ways to improve efficiency for the bottom line. Many facilities and property organizations that service buildings, major equipment, and other fixed assets continue to rely on manual, outdated, or inefficient business processes for managing operations. Effective delivery of facilities maintenance and repair services depends on the coordination of many stakeholders within the facilities organization. Service Desk representatives, who log service calls and verify service level agreements, need a direct link to supervisors that review job requirements, establish priorities and plan/schedule resources. Strategic activities, such as asset condition assessments and inspections, involve coordinating yet a larger group of stakeholders including asset and building owners, field assessors, supply chain professionals and financial analysts.

The movement toward mobile management of workforces is being undertaken by many medium to large organizations. Work styles have changed to embrace the virtual office worker and offer remote workforce support.[1] This trend continues to make its way into facilities management organizations as well; particularly field services. By 2012, the percentage of technicians with wireless access to a formally packaged field service management (FSM) solution in a large enterprise will increase from 12% to 40%.[2]

When organizations examining areas for improvement, field service operations often provide the greatest opportunity for positive change. These organizations are now realizing returns on their investments in primary enterprise systems. However, the secondary solutions such as mobile technologies that tie into the primary systems to optimize productivity are secondary to other business technology expenditures. These types of solutions serve to reduce operational costs attributed to facility and property management organizations or any organization that seeks to lower productivity costs related to facilities operations.

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[1] Gartner, Inc. Magic Quadrant for Integrated Workplace Management Systems, July 2008
[2] Gartner, Inc. Magic Quadrant for Magic Quadrant for Field Service Management, April 2008

Enhancing Productivity

Three field service tasks positively affected by mobile technology.

- ■ Travel (job pickup)
- ■ Recording work
- ■ Inputting work

Mobile Technology-based Field Service Model ∼ 35 minutes/day

Traditional Paper-based Field Service Model ∼ 135 minutes/day

Challenges in the Workforce Today

Most medium to large companies employ some form of facilities or property management information technology. However, most business processes used with that technology do not optimize the mobile requirements the organization needs to respond efficiently or cost-effectively in facilities and property management activities. A range of duties from strategic planning to maintenance operations is a significant challenge for companies to incorporate into a mobile model. Most work practices still involve manual processes that prohibit balanced resource utilization as well as efficient delivery of services. These processes still cannot provide the required level of cost-effectiveness or efficiency, typically because they require redundant data entry and increase the likelihood of errors. Information gets lost because it is not instantly communicated and accountability cannot be enforced because the communications loop is not closed. Customer service, compliance with regulation, delayed resource planning, and most importantly, delivery of a company's core business is adversely affected.

The Solution

The shift toward workforce mobility must be accompanied with a formal review of business processes. Many of the daily pressures within a facilities operation can be lessened if the business process flow is optimized for mobility and automated to remove inefficiencies from the system.

To understand how a mobile solution can create better working practices for a company, the company must first outline the basic field services model and the technicians work process. Key questions to ask are:
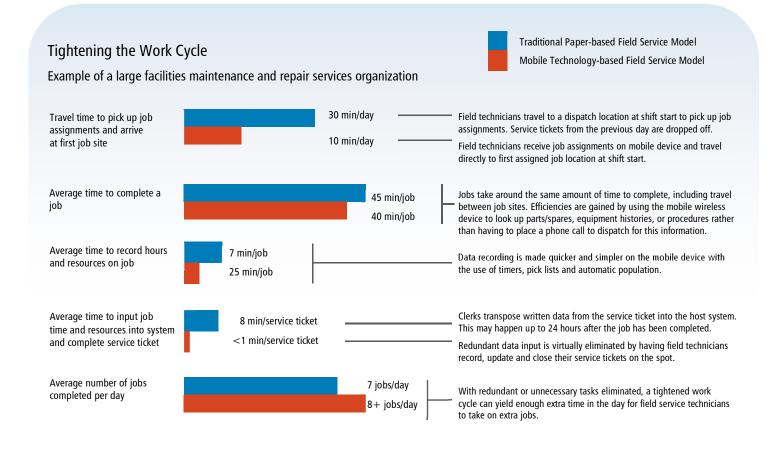
- What does the field technician need to do?

- When and where does the work need to be done?

- Who needs to provide the work?

- When does the work need to be completed?

These basic questions serve to help the underlying process in moving toward a mobile solution. They allow decision makers to understand how information is relayed to field services technicians and to provide a framework for developing an automated process that is transparent, timely, and reduces redundant data entry. However, it is important to understand that not all field services work can be automated with wireless devices. Mapping out the new business process will help to understand where automation can take place and where it is not appropriate.

The new process ensures accurate and timely flow of information to the field by replacing clipboards, paper and pens with mobile computing devices. Ideally organizations can introduce mobility to its facilities operations within the company's existing technology framework. Mobile devices, such as BlackBerry® smartphones equipped with FieldFLEX™ mobile software, can be deployed over existing internal wireless networks (Wi-Fi) or cellular networks that are available in most areas.

Field Service Management: Improving The Work Cycle

Tightening the Work Cycle

Example of a large facilities maintenance and repair services organization

■ Traditional Paper-based Field Service Model
■ Mobile Technology-based Field Service Model

Travel time to pick up job assignments and arrive at first job site

30 min/day
10 min/day

Field technicians travel to a dispatch location at shift start to pick up job assignments. Service tickets from the previous day are dropped off.

Field technicians receive job assignments on mobile device and travel directly to first assigned job location at shift start.

Average time to complete a job

45 min/job
40 min/job

Jobs take around the same amount of time to complete, including travel between job sites. Efficiencies are gained by using the mobile wireless device to look up parts/spares, equipment histories, or procedures rather than having to place a phone call to dispatch for this information.

Average time to record hours and resources on job

7 min/job
25 min/job

Data recording is made quicker and simpler on the mobile device with the use of timers, pick lists and automatic population.

Average time to input job time and resources into system and complete service ticket

8 min/service ticket
<1 min/service ticket

Clerks transpose written data from the service ticket into the host system. This may happen up to 24 hours after the job has been completed.

Redundant data input is virtually eliminated by having field technicians record, update and close their service tickets on the spot.

Average number of jobs completed per day

7 jobs/day
8+ jobs/day

With redundant or unnecessary tasks eliminated, a tightened work cycle can yield enough extra time in the day for field service technicians to take on extra jobs.

FieldFLEX for Tablets and Smartphones – Overview

FieldFLEX streamlines the flow of maintenance and facilities information throughout the organization by optimizing the collection, distribution and management of mission-critical data. When service requests are received by Service Desk representatives or planned work is due to be executed, tasks are assigned and dispatched to a field service technician's mobile device as work orders.

The easy-to-use FieldFLEX interface allows the field technician to acknowledge receipt of the work, log their time and other resources on the job, look up work histories or parts inventories, and record other pertinent information, such as photos, on the spot. Once the work has been completed the field technician updates the facilities system in real-time. Field technicians can open and close service calls remotely, essentially eliminating duplicate data handling and keeping accurate track of their time on ad-hoc work. With FieldFLEX you can help your facilities organization become more efficient, successfully build customer loyalty and your reputation for excellent customer service.

Key Benefits

Streamline and shorten the work lifecycle – enable quick response to service calls by receiving work orders or inspection orders directly on the mobile device. Automate processes to help eliminate manual tasks, redundant data entry, and unnecessary paperwork.

Adapt the mobile environment to the business needs – configure the software to use predefined business rules and forms. Connect to a variety of enterprise data sources through a seamless end-user interface.

Connect the facilities organization – strengthen the flow of vital facilities information between central operations and field technicians via mobile devices.

Capture pedestrian knowledge – build a knowledgebase by ensuring historical work information and know-how does not escape the organization as someone's personal data bank by recording all events and work tasks at the point of activity.

Shrink the footprint – support environmental sustainability by reducing paper product consumption and travel from the field to the central office to pick up work assignments.

FieldFLEX Solution Details

FieldFLEX is a mobile extension for Integrated Workplace Management Systems (IWMS) that enables field service technicians to receive and update work orders, create on-demand trouble tickets and record the condition and location of physical assets in the field using wireless devices such as BlackBerry® smartphones. Service and inspection requests are transmitted in real-time from the IWMS to the mobile devices over wireless LAN (Wi-Fi) or cellular networks. New information or updates produced in the field instantly update the IWMS. Field technicians can receive and transmit inspection and service requests anywhere there is wireless coverage. They can also choose to work offline and update IWMS when they log in, ensuring critical data is not lost or forgotten. This is a huge benefit to companies operating multiple facilities at various locations. The FieldFLEX suite of tools allows field technicians to perform all information recording tasks and alleviates the management of vast quantities of paperwork. These tools reduce the strain on Service Desk representatives, supervisors, and field technicians by communicating clear, concise and timely information.

Closing the Communication Loop

City of Hamilton reigns in unreported field service tickets.

Chris Phinney had a problem. Management with the City of Hamilton's Public Works Department wondered why their maintenance service ticket close out rate was so low. Chris is in charge of the municipality's ARCHIBUS™ workplace management system, which, among other things, manages their maintenance operations. The Public Works Department manages approximately 3.9 million square feet of floor space and issues over 10,000 service tickets annually to its maintenance technicians. So, why were only 50% of these service tickets being closed out?

After thorough analysis Chris found there were several possible factors affecting the low close rate. Too much paper was being generated printing service tickets, service tickets were changing hands too many times in the process and getting lost in the shuffle, and there was an absence of checks and balances in their workflow.

The department underwent a process review and invested $80,000 in FieldFLEX mobile technology and work order software to integrate with their ARCHIBUS™ system. In February 2007 BlackBerry Smartphones were deployed to the field technicians, complete with FieldFLEX software and service tickets started flowing directly to the techs' mobile devices. Improvements in productivity have yielded better than expected results. In the first year of using mobile, wireless technology there has been a measurable reduction in travel time, paper consumption, service ticket loss and data input errors.

Most notably, Chris and the management team noticed a marked improvement in service ticket close outs – up by 40% in the first 2 years since deploying the wireless devices and software. Reports from maintenance technicians for unscheduled service activities from the field have increased by 28% and the rate continues to climb.

The City of Hamilton's investment in FieldFLEX has yielded many operational efficiencies and productivity gains – time savings alone are equivalent to $295,000 in the first year, or a 460% return on their initial investment.

–Chris Phinney is a Systems Analyst with the City of Hamilton's Public Works Department

Building the business case

Companies are capitalizing on mobile technologies for field service management, particularly in areas of corporate asset, property, and facilities management. Investment in mobile technologies offers rapid payback by reducing costs, often within a year. However, the process of implementing a mobile field service solution requires attention that ensures companies optimize integration with their IT environments to realize maximum return on investment. Mobile field service technology deployment requires a strategy for success.

Strategies for successful mobile field service technology deployment

Use what you have first: Where possible leverage existing technology deployments in your organization. Often enterprise systems, such as IWMS platforms that have been in use for several years, are well-positioned to add mobile field service functionality. The rich data stored in these systems, such as work histories, equipment and parts inventories, and work procedures, make it much easier to put this information in the hands of field service technicians.

Understand your business process: Before deploying mobile technology examine existing business processes and workflows for deficiencies. Once these deficiencies have been identified, processes should be refined, altered or abandoned. The key is to understanding that technology alone will not fix a bad or inefficient process.

Measure for success: Be clear on your expected outcome. Use any "pain-points" identified in your current process to define your criteria for requirements and success before evaluating any mobile technology solution. Supporting ROI projections and the ability to justify an investment requires a baseline measurement of all steps in the business process prior to implementation as well as post implementation.

The compatibility factor: Technology compatibility is a key consideration when evaluating technology. It is imperative that the mobile technology solution fits within the IT landscape of your company without adding unnecessary integration or infrastructure costs. Today, most wireless mobile devices utilize WiFi or cellular networks decreasing the need to build any new network infrastructure. Additionally, most mobile software applications utilize the latest application architectures that integrate with enterprise systems without heavy system integration costs.

Summary

Companies managing their physical workplace are putting mobile and wireless technology in the hands of their field service technicians to maximize resource utilization, streamline communications and eliminate redundant work processes. Wireless technology allows field service technicians to be truly mobile and helps to reduce or eliminate travel time to pick up job assignments. The same technology can enable the mobile worker to record data in the field at the point-of-activity, eliminating the time consuming steps of reporting by phone or paper-based to another to input into the system. The time savings allow for data accuracy and gives management access to real-time data for planning and performance analysis.

A company looking to extend their IWMS applications into the field, FieldFLEX provides a mobile solution that offers a feature-rich set of tools for workplace management. FieldFLEX seamlessly integrates with the enterprise system, is easy to use, and includes functionality that tightens communications and improves overall field service work cycle.

About the Author

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Steve is a mobility expert & consultant specializing in Corporate Real Estate and Facilities Management technology. He has been instrumental in the design of software and market strategies for several mobile products.