



Measuring ROI on Field Service Management Software and Related Technology

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Today's field service organizations are faced with the challenge of transforming decades old business processes (such as call-taking, scheduling, dispatching, work order processing, asset management, contracts and warranty management, parts and inventory management, repair center management, invoicing, inspections, taking photographs, vehicle tracking and reporting) into efficient, cost effective and customer centric processes using the complete set of technological tools available today. This transformation, done correctly can provide a rapid, significant and sustainable Return on Investment to your company.

Identifying the Gaps that Hinder Efficiency

On one end, we have a group of tired business processes which have been managed forever in distinct and often isolated functional silos. Field technicians were sent to battle armed with clipboards, ball points pens, pads of three-copy paper forms, disconnected spreadsheet applications and later, maybe a single-purpose point solution that looked impressive, but lacked any meaningful functionality.

On the other end, we have an army of stakeholders (end-user customers, executive management, service managers, field technicians, administrative personnel and original equipment manufacturers) frustrated by their inability to increase service levels, to reduce or eliminate non-value added costs, to access critical data in a timely fashion, to streamline significant workflows and to grow revenues and increase company profitability. Service departments were looked upon as cost centers and rarely as a profit center.

The inability to execute in these critical business processes is what we refer to as the Field Force Execution Gap. Field Service Management Software and Related Technology enable us to bridge this execution gap between the needs of the stakeholders and limitations inherent in these legacy processes.

The Investment in Technology – Today's technology which will enable you to bridge this gap is typically configured with some combination of the following building blocks:

- **Enterprise Service Management System** – The keystone in any service management solution is the enterprise system. The service management component needs to have extraordinarily deep functionality capable of managing a broad array of service management functions including call center, quotation capabilities, work order management, depot repair, asset management, contracts management, warranty management, spare parts inventory control, service billing, inspection management and robust reporting capabilities.
- **Visual Scheduler** – The scheduler allows service orders to be created, assigned, dispatched, updated and re-assigned if needed based upon multiple business rules including technician skill sets, technician availability, customer priority codes, customer

location, asset type, parts availability and other relevant information. Most top scheduling packages have drag and drop functionality allowing service orders to be easily re-scheduled at another time or transferred from one technician to another. Multiple views allow schedulers and dispatchers to view all open orders by technician, by supervisor, by date range, by job type, by customer, by priority or any other attribute.

- **Mobile Application** – The mobile application automates the most common tasks performed by field workers; from repairs, installations and preventive maintenance to inspections, site surveys and assessments. The performance of these functions in the field is enhanced by the ability to capture signatures and photographs or even record a video of the service performed or issue encountered. Many applications are device neutral and can run on iPad, iPhone, Android and Windows mobile devices. Native applications can run with or without a connection.
- **Stakeholder Web Portals** – Stakeholder portals allow key stakeholders to access critical service data through a web portal without having to log-in or be a named user. Web portals can be used to allow customers to enter service requests and to view order status or to provide service technicians with web access to service information such as service manuals, parts guides, pictures and instructional videos. Stakeholders at all levels can create their own personal dashboards of key performance indicators.
- **Alerts and Escalation Workflows** – This technology helps you identify and act on important business information by telling your system what to watch for and how to respond to these conditions when they occur. Using advanced data capabilities you can identify precise conditions critical to the success of your business, alert preselected users of these conditions and kick-off reports containing the pertinent information.
- **GPS Technology** – Utilizing a GPS vehicle tracking solution with a highly functional visual scheduling product can dramatically improve your response times. Real time mapping shows you exactly where your technicians, vehicles and customers are located. You can also put Geo Fences around customers and or technician's territories helping you find the nearest technician to the job. Real-time alerts can let you know when a technician arrives on the jobsite or can notify you when technicians are running late, so in-turn you can notify your customer. The added accountability will also increase your technician's productivity.

The more of these building blocks you use in your solution and the tighter they are cemented together, the better your results and the more impressive Return on Investment you will realize.

Identifying the Corresponding Benefits – Determining the benefits that will drive your return on investment in this technology can generally be put into one of five categories:

1. Enhancements which will improve effectiveness – For example, first time fix rates can be increased by 25% or more with a Service Management Solution that provides in-depth service history on detailed asset records and identifies the right technician, the right equipment and the right parts for the job before dispatching a vehicle and a technician. Improved accountability over technician's time and truck inventories will reduce leakage.
 2. Enhancements which will increase utilization of service technicians, equipment and or inventory – Many companies realize increases in utilization of 15% or more with a Field Service Management Solution, including a robust scheduling application and GPS technology
 3. Enhancements which will increase productivity – Increases in productivity of 10% or more in the field and 50% or more in the back office are made possible when we add mobile technology to the solution.
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4. Enhancements which will increase revenues – Better management of service contracts, customer equipment, inventories and warranty work will improve your revenue per call. Likewise better accountability over time and materials will minimize the amount of unbilled labor, equipment and materials. The ability for technicians to identify additional service opportunities while still on-site and either quote them on the spot or refer them to sales with photographs of the deficiency will lead to dramatic increases in add-on work.
5. Enhancements which will increase customer satisfaction – While all of the above items are quantifiable in terms of cost reduction, cost avoidance or increased revenues; customer satisfaction is the most difficult to measure and may take the longest time to show measureable returns. However, increasing customer satisfaction is an extremely significant benefit resulting from your investment in technology and efforts should be made to calculate the resulting impact even if the assumptions are more subjective. Often times, improving the customer experience alone may more than justify your investment in the long run. Contract attrition rates will decrease as your customers see more and more value in your ability to consistently execute. Your technician's access to critical knowledge about your customer's sites, equipment and service history will clearly differentiate your company from the less informed competitor.

Measuring the Return on Investment - Measuring the return on investment requires a detailed review of process steps and an identification of opportunities to reduce or avoid costs, to increase revenues or to increase customer satisfaction. So first, you want to analyze each step in the process and determine where the opportunities exist. Then compare the existing process to the proposed process and quantify the estimated benefit of the enhanced process. To better illustrate this process let's look at an example:

ABC Company sells and services new and used aerial lift (bucket) trucks, boom trucks, cranes, pressure diggers and digger derricks. The company has 50 technicians in the field and about 20 more in two service centers (average fully burdened rate of \$55,000). The company's technicians deliver (install) new equipment and maintain, repair, rebuild and recondition existing equipment. In addition the technicians perform about 6,000 inspections per year on equipment in the field and at their two service centers. There are comprehensive annual inspections, OSHA and ANSI inspections, Department of Transportation inspections and a variety of specialty tests including structural, dielectric and oil spectroanalysis.

The company has a service manager and 3 dispatchers (average fully burdened rate of \$75,000) who schedule emergency service as well as preventive maintenance and annual inspections. In addition there are 10 administrative positions in accounting and customer service (average fully burdened rate of \$38,000) that take customer calls, review time and expense reports, enter data into the company's computer system, maintain service history records, prepare service quotes, generate customer invoices, complete inspection reports and maintain perpetual parts inventory records for vehicles and service centers.

The company has a combined utilization rate of about 60% for its service technicians. The company also has a first-time-fix rate of 70% and a customer retention rate of 80%. Inventory adjustments are running about 5% of purchases.

Let's examine the Return on Investment using a step-by-step activity basis:

	COST SAVINGS	REVENUE INCREASE	CUSTOMER EXPERIENCE
Call Taking/Scheduling/Dispatching			
The company was able to reduce the time necessary to take calls, pass information to dispatch, and record call information by 5 minutes per call (the company receives 10,000 service calls per year)	\$15,225		+
Having customer and asset service history available at your fingertips, along with a visual scheduler showing available techs and their skill sets shown on GPS map along with the customer location saved the company's dispatchers 5 minutes per job scheduled, and	\$22,035		+
Scheduled jobs automatically appear on the technician's mobile device eliminating the need for the dispatcher or an administrative employee to call the field technician with the information for the service call saving an additional 3 minutes per job scheduled	\$9,135		+
Having access to a complete service history and the ability to select technicians based upon skill as well as availability provides the right technician, equipment and parts are on the job. In addition technician access to manuals, diagrams, videos and other best practices aids all add up to increase first time fix rates by 5%. The average cost of a second trip is \$250	\$125,000		+++
Selecting the right technician the first time based upon all the relevant factors, including call priority, resource availability, technician skill set and location of technician and customer; and having the ability to adjust schedules for changes with all this information in front of you could result in a 5% or more increase in service tech utilization.		\$72,975	++
Preventive maintenance contracts and scheduled annual inspections are automatically placed in the scheduling queue saving 5 minutes per scheduled occurrence (about 6,000 per year)	\$18,030		+
Field Work			
Performing inspections (with as many as 70 inspection points) on the mobile device saves as much as 10 minutes per inspection. Customer information is pre-loaded, drop-down menus provide a complete list of acceptable answers, pictures taken on the mobile device are automatically attached to the inspection record, previous inspections can be accessed and updated, etc.	\$26,440		+
Using the mobile device vs. using paper forms for reporting time, equipment usage, parts and expenses saves the technician about 10 minutes per job (including time spent to fax or scan and email forms to the home office - triple this amount for those technicians who still insist on personally picking up and dropping off their paperwork)	\$44,070		+
Having parts inventories on trucks in real-time helps ensure that parts removed from truck inventories get applied to jobs and billed to customers. Reducing leakage from 5% to 2% results in additional parts revenue		\$138,600	

	COST SAVINGS	REVENUE INCREASE	CUSTOMER EXPERIENCE
Better accountability and control over technicians time with mobile time reporting and GPS tracking will have a similar impact on unbilled time. Reducing unbilled/unaccounted for time from 5% to 2% will increase revenue accordingly		\$78,750	
Back Office			
Reduced administrative time to review and enter data from field reporting sheets expense reports and inspection reports. Back-office data entry is no longer needed 16,000 daily time sheets @ 5 minutes each 3,000 weekly expense reports @10 minutes each 6,000 inspection reports @ 15 minutes each	\$24,360 \$9,135 \$27,400		
Reduced administrative time to prepare customer quotations for service or repair from inspection reports. Top service management systems have quotation generation dynamically integrated with the electronic inspection. Assuming 50% of inspections result in a quotation and quotations take 30 minutes each.	\$27,400		+
Having knowledge of what is still covered by warranty down to the component level will help you maximize your warranty recoveries from the OEMs. Assume you can improve warranty recoveries by as much as 5%		\$50,000	+
Improved Cash Flow			
Automating this process can result in service technicians having everything ready for invoicing same day, cutting as much as two weeks out of the billing cycle. The result is an additional 14 days cash reducing interest on line of credit	\$26,850		
Customer Retention			
Improved first-time-fix rates, a more streamlined customer call taking process and a more efficient field service experience all lead to better customer retention. Better management of service contracts and recurring inspections will minimize missed opportunities. Assuming you can get a 1% revenue bump from these improvements you will increase company revenues by		\$105,000	+++
Total Annual CostSavings	\$375,080		
Total Annual Revenue Increases		\$445,325	
Total Annual Benefits			820,405
Total Annual Software License Costs (85 users)		\$71,400	
Total One-time Costs (Configuration, Data Conversion, Implementation, Training)	\$60,000		
Amortized One-Time Costs (5 years)		\$12,000	
Total Annual Costs			\$83,400
Annual Return on Investment			983.7%

While the above example is based on 85 users, your license cost and corresponding benefits should scale accordingly with your actual number of users.

There are also other benefits to consider that aren't as easily quantifiable. For example the service management software will enable your company to establish service codes which enable you to track and report on all similar service tasks performed (by manufacturer, by product, by technician or other attribute). Developing standards in this manner will make scheduling of service calls more precise leading to better utilization and provide better budgets for technicians leading to better productivity. Let's assume again for this example that the customer experience is improved – when you differentiate yourself on service and make your customer's lives easier, price becomes less and less the issue and you should be able to see your margins improve.

Not every company will achieve results like we show in this example; the idea is to give you examples that help you identify and measure similar process enhancements in your business and to show you how incremental improvements in utilization, productivity and effectiveness will deliver significant benefits to your organization.