

EXECUTIVE INSIGHT

FIELD SERVICES

Mobile Enablement: Field Service Automation

Real-Time Scheduling and Routing, GPS Integrations Prove Popular

September 1, 2011

A Joint Research Paper from SAP and TSIA

Mobile Enablement: Field Service Automation

TSIA-EI-11 019

Table of Contents

| Executive Summary | 3 |
|--|------|
| Mobility Drives Adoption of Next-Generation Field Service Tools Figure 1: Adoption and Planned Spending for Key Field Service | |
| Components | 4 |
| SAP Solutions for Field Service | |
| Figure 3: SAP CRM Resource Planner Overview | 8 |
| Key Features for Field Service | 9 |
| SAP Field Service Mobile AppFigure 4: SAP Field Service Mobile App | . 10 |
| Key Features for Mobile App Mobile App Business Benefits | |
| SAP and TSIA RECOMMEND | . 11 |
| ENDNOTES | 11 |

Contact Information

SAP America, Inc. 3999 West Chester Pike Newtown Square, PA 19073 U.S.A. Tel.: 610-661-1000

Tel.: 610-661-100 info@sap.com www.sap.com

Technology Services Industry Association 17065 Camino San Bernardo Suite 200 San Diego, CA 92127 U.S.A.

Tel.: 858-674-5491 Fax: 858-674-6794 info@tsia.com www.tsia.com

EXECUTIVE SUMMARY

Of the 24 cross-discipline categories of technology covered by the TSIA 2010 Member Technology Survey, the number one top spending area was mobile enablement, with 34% of field service members having approved budget for increased mobility in 2010–2011. TSIA Research has identified three categories of mobile enablement impacting service organizations today: mobile knowledge and search tools, productivity applications, and the focus of this report, mobile field service automation. Mobile tools and applications can have a dramatic impact on your field technician productivity, operating expenses, customer satisfaction, and even revenue. In this report, the drivers behind the mobile revolution will be explained, along with an overview of innovative mobile devices and applications from TSIA's field service partners. Field service management should evaluate how adoption of next-generation mobile technology can streamline processes and information access for employees, with impacts to operational effectiveness and profit, including increased value-added service capabilities.

MOBILITY DRIVES ADOPTION OF NEXT-GENERATION FIELD SERVICE TOOLS

It is no surprise that spending on field service automation tools, like other areas of enterprise applications, has been down over the last two years due to shrinking budgets in the face of economic gloom. But as spending began again in 2009 and 2010, field service organizations are pulling the trigger on some overdue software upgrades: spending in all areas of field service technology tracked by the 2011 TSIA Member Technology Survey saw big budgets allocated for new tools, including mobile field service, which had the highest planned spending of any category tracked in the survey across service disciplines.

As seen in *Figure 1*, 38% of field service members report that they currently use some type of mobile field service tools, while two thirds, or 67%, have adopted parts logistics tools, and 60% have adopted field service scheduling applications. *Figure 1* also shows the percentage of member with approved budget for new technology in 2010–2011, and while scheduling and logistics tools showed a very large intent to purchase—19% of members for each—the real surprise came from mobile field service with a whopping 34% of members planning a purchase in the next year.

TSIA Member Adoption and Planned Spending

Mobile Field Service

Scheduling Optimization

Parts Logistics

19%

19%

60%

Flanned Spending

Planned Spending

Figure 1: Adoption and Planned Spending for Key Field Service Components

Source: TSIA 2011 Member Technology Survey

Mobile ROI: Three Primary Benefits

Enterprise application vendors began touting mobile capabilities a decade ago, with WAP (wireless access protocol) applications delivered by several CRM vendors as early as the late 1990s. The user interfaces (UIs) were clunky, the functionality thin, but it was true innovation to have sales and service employees suddenly able to complete transactions in real time from their car or at a customer site. Many analysts, including this one, touted mobile access to enterprise content as "the next big thing," but years passed with little adoption and zero reference customers.

To drive greater adoption, mobile field service tools had to evolve beyond just putting applications on smartphone browsers; some actual improvements to processes, productivity, and operating costs were required. When building the business case for mobile enablement, look for return on investment (ROI) in these three areas:

Productivity improvements. The first report in this mobile series discussed how mobile
access to enterprise content and knowledge is changing service organizations, and this is as
true for field service as it is for technical support and professional services. With mobile
access to enterprise content and knowledgebases, field technicians can check part inventory

in real time, access knowledgebases and online diagnostics while at the customer site, and even collaborate with a global team using discussion forums or other social media channels to solve complex problems. The cost savings from these "knowledge anywhere" capabilities include less customer downtime, shorter onsite appointments, and more issues resolved on the first visit.

- Improvements to accuracy. Traditionally, field technicians will log all of the work performed that day from memory or notes taken throughout the shift. Mobile applications provide a more accurate audit trail by recording exactly what time a technician arrives onsite or when a repair is completed, as well as more accurate recording of parts, labor utilization. and travel and expense records (T&E). This accuracy can come in very handy when reporting on adherence to service-level agreements (SLAs) for response time or resolution time, as well as for accurate billing and inventory management, requiring integration to back-office/enterprise resource planning (ERP) systems.
- Push vs. pull scheduling. Today, most field service agents receive their appointment schedule at the beginning of the day, i.e., the schedule is "pushed" to them at the start of their shift. With a wireless enabled workforce, schedules can be changed throughout the day, so as technicians finish one job, the next appointment can be dynamically determined based on any number of criteria: current location, skill set, customer value, parts availability, etc. If an emergency situation arises with a priority customer, the next available field technician can be dispatched to that customer without contacting every field person to juggle schedules. Appointment schedules may evolve throughout the day and technicians can "pull" assignments in real time.
- Intelligent routing. One of the hottest features in mobile field service technology is leveraging global positioning system (GPS) integration. The GPS location software, using either a tracking device mounted to a field vehicle or even using the GPS tracking feature in a smartphone, can identify the current location of a field agent and provide updated driving directions, identify the closest agent for an appointment, or factor in current location when scheduling the next service appointment. Additionally, routing instructions can use current traffic conditions to help field techs make it to the next appointment as quickly as possible.²
- Revenue generation. TSIA's survey of consumer home services found that field service
 agents can sell extremely well. As seen in *Figure 2*, consumers using in-home installation
 services for their home office purchase accepted upsell and cross-sell offers for additional
 products, services, and extended warranties from the onsite technician a high percentage of
 the time, often 100% of the time.

Home Office Upsell/Cross-Sell 37% 37% 40% 33% 35% 30% 27% 27% 27% 27% 23% 25% 20% 17%17% 13% 15% 10% Offer Extends 5% Offer Accepts 0%

Figure 2: Offer Extensions and Accept Rates for Home Office/Home Theatre

Source: TSIA Consumer In-Home Services Survey

A full 100% of in-home service customers accepted an offer for preventive maintenance and extended warranties. And, customers requested additional software and software upgrades without prompting. The lowest accept rate, slightly less than 50% for offers concerning additional computer peripherals, is still a significant portion, and is a much higher accept rate than is typically seen for inbound contact center or consumer technical support offers. One of the key barriers members identified to successful field service selling was an inability to close the deal in real time: collect an approval signature, accept payment onsite, and process the transaction immediately.

Wireless devices solve this problem, not only by allowing field technicians to finalize the deal and accept a signature and payment, but also by leveraging offer management software to identify selling opportunities. These systems allow unlimited offers to be stored and associated with particular products or known problems. Over time, the system "learns" when an offer is likely to be most effective, and will prompt the agent when an existing offer applies to an interaction, factoring in the products purchased, the reason for the call, and the customer's environment and purchase history, etc.

SAP SOLUTIONS FOR FIELD SERVICE

Field service is a complex process. The process does not start when the customer calls for service. Rather, it begins when the customer purchases the equipment, and then continues through installation, operations, and, finally, to its dismantling and replacement. SAP provides solutions for all the different phases of this process. The primary solutions consist of SAP CRM and SAP Field Service mobile app. They are described below.

SAP CRM Overview

The SAP Customer Relationship Management (SAP CRM) application maximizes the value of customers by keeping profitable customers loyal, decreasing service costs through greater efficiency, and increasing service revenue. With SAP CRM, customer service organizations have the information and tools they need to plan, execute, and analyze service processes. SAP CRM equips agents with the tools they need to resolve customer issues on first contact, boosting customer satisfaction. It tracks service contract entitlements to eliminate service leakage and achieve service-level performance metrics. The application helps field service professionals resolve problems in remote locations quickly. It provides 24x7 online customer self-service at a fraction of the price of regular phone support. With the application's service analytics functionality and SAP BusinessObjects™ business intelligence (BI) solutions, you can make smart business decisions about your service operations.

SAP CRM simplifies the process of dispatching field technicians to service calls. Using Gantt charts, geographic maps, and resource optimization functionality, you can organize, plan, and dispatch the most appropriate service technician to the job. You can accurately predict a time window for service delivery, and customers can rely on the technician having the right parts and skills to resolve the issue in one visit.

SAP Service Professional Share | Personalize | Help Center | System News | Log Off Saved Searches ▼ Inhouse repairs this week ▼ Go Advanced 👚 ☐ Back ▼ ☐ ▼ Resource Planner Overview Settings 🧳 😘 🧷 🖨 🔞 ▼ Resources III 🥖 Worklist ▼ Go 📆 Saved Searches: Service US 1 Result List: 4 Resources Found Show Search Fields E-Mail Inbox **□**7 Accounts & Products Account Management W24 2011 Resource Service Orders 20.06.2011 21.06.2011 22.06.2011 23.06.2011 24.06.2011 25.06.2011 26.06.2011 Mr. Andrew Nowal Internal Mr. Paul Wang Internal **Service Contracts** Mr. Lou Windham Internal 0000201732/10 / INFO / John Smith/Antioch/60002 ledge Article Search Mr. George Adams Internal LCD DISPLAY CHANGE Service Operations From 06/24/2011 To 06/24/2011 Change Functional Location Display Functional Location Display Bill of Material Service Dashboard ▼ Service Demands Unstaffed Orders ▼ Go 📆 Result List: 79 Service Demands Found Show Search Fields

Figure 3: SAP CRM Resource Planner Overview

Source: SAP

Key Features for Field Service

SAP's enterprise CRM solution includes the following features to drive productivity and quality of field service operations.

- **Service order management.** Manages and tracks all service orders, ensuring expedient execution, entitlement verification, and meeting SLAs.
- Service contract and warranty management. Manages service contracts sold to customers; enforces SLA of contracts and warranties when executing service orders.
- Installed-base management. Keeps track of products—from your company and third parties—installed at customers' sites.

- Appointment scheduling. Optimizes scheduling of service orders for maximum resource utilization, while meeting SLAs.
- Service debrief. Documents work performed and time spent on service orders for billings and future planning
- **Financial integration.** Provides built-in integration to financial capabilities for follow-on billings and P/L visibility.

Field Service Business Benefits

Implementing SAP's best-of-breed CRM technology for field service operations provides positive return on investment, including these business benefits.

- Improves first-contact resolution with on-the-spot information and resources needed to resolve issues.
- Increases customer retention by providing customer service representatives with the information and tools they need.
- Boosts field utilization through optimized resources and ready access to information.
- Enhances financial performance by accelerating the billing process with more accurate data from the field.

To learn more, go to www.sap.com/crm.

SAP Field Service Mobile App

The SAP® Field Service mobile app provides field engineers with anywhere, anytime access to relevant information from mobile devices, including tablet computers and smartphones. By bringing the right resources, knowledge, and information to the point of interaction, you can enhance the productivity of your field service engineers and improve the efficiency of service operations, while maximizing value from the SAP Customer Relationship Management (SAP CRM) application.

Figure 4: SAP Field Service mobile app



Source: SAP

Key Features for Mobile App

SAP's Field Service mobile app includes the following key features:

- Alerts. Sends assignment notifications that engineers can view and accept or reject.
- **Debrief.** Empowers engineers to debrief orders at the point of service.
- **Support for offline work**. Enables field engineers to work offline and, when online, have data refreshed automatically.
- Google Maps integration. Lets field technicians view assignments on a map so they can plan visits.
- **Dashboard.** Allows service orders to be viewed and monitored in real-time.
- Sybase® Unwired Platform. Provides a prebuilt solution to mobilize SAP applications.
- Built-in security. Improves security by centrally managing, securing, and deploying devices.

Mobile App Business Benefits

SAP's Field Service mobile app provides return on investment through the following business benefits:

- Raises customer satisfaction by meeting service-level agreements and resolving issues early.
- Increases productivity of field service engineers with real-time mobile access to information in SAP CRM.
- Lowers costs by better utilizing field engineers.
- Captures high-quality data with real-time data collection at customer sites.

To learn more, go to sap.com/solutions/mobility.

SAP AND TSIA RECOMMEND

Like any hot technology trend, when investing in mobile enablement it is important to prioritize projects based on potential return on investment, not "cool" factor. Consider these factors when designing your mobile strategy.

- Start by surveying. Be sure you have survey data to understand what mobile devices your customers and employees use and what use cases for information access (self-service, incident management, product roadmap) they need the most. This will help you decide not only what devices to support, but what functionality to enable first.
- Balance employee and customer-facing initiatives. Don't focus solely on mobile
 enablement for customers or employees, try to create both in incremental steps. If your
 current knowledge management and search vendors do not offer mobile versions, work with
 them to prioritize what features you need first.
- Go best-of-breed. As more field service vendors begin releasing mobile versions, companies
 with homegrown platforms wind up even further behind the industry. Wean yourself away from
 homegrown tools and adopt best-of-breed technology that offers support for emerging
 technologies and platforms at an accelerated pace.

ENDNOTES

_

¹ For more information on "knowledge anywhere," see the August 2010 Executive Insight, "Mobile Enablement: KM and Intelligent Search. Device Maturity and High Consumer Adoption Drive Mobile Innovations."

² For a case study on how GE Appliance Repair is using GPS integration to streamline field agent routing, see the SSPA Accelerator, "Best of Breed, End-to-End Field Service: The Merging of Enterprise Software, SaaS and Outsourced Services."