Five steps to building a business case for a digital field service management solution
Where are your people? What are they doing? Are they working efficiently?

Do they have the information and tools needed to complete the work in one trip?

These questions are critically important, and are fairly simple to answer in an office environment. For organizations with a team of field service people, though, it’s far more difficult. GPS technology makes tracking the geographic location of a service vehicle easy, but knowing where your field technicians are is only a very small piece of the productivity and efficiency puzzle.

How much of their on-site time is devoted to actual work? What is the status of the job in progress? When will they arrive at their next location? Answers to those questions would be invaluable to service managers, dispatchers and customers.

The answers to all of these questions and more are readily available to organizations that have implemented a digital field service management (FSM) system.
Let’s start with the basics.

Field service management (FSM) refers to an integrated set of technological systems or processes used to optimize employee productivity. In the context of field service technicians, FSM focuses particularly on effectively scheduling, dispatching and tracking worker status and location. Digital FSM systems rely extensively on the capture and utilization of electronic data related to technicians, the work performed, and the assets being serviced.

Here it’s important to differentiate between “digitization” and “digitalization.” Digitization involves the replacement of manual or paper-based data collection systems with digital systems. For example, instead of filling out a form on a clipboard, the technician types or swipes the data into an electronic device, whether that be a phone, tablet, or laptop. Digitalization involves changing the business model by capitalizing on that data through overall process automation. That can take the form of automated dispatching and scheduling, technician decision support, productivity-related analytics, service-process optimization and more.

The current generation of digital FSM systems is more likely than ever to be cloud-based, providing an additional advantage. The status of any work order or technician becomes available not only throughout the service provider’s organization but also to customers waiting for their service call. Additionally, cloud delivery can significantly reduce the cost of ownership of a digital FSM solution.

Bottom-line benefits of a cloud-based, digitalized FSM system include having visibility into the real-time status of individual work order progress, so as the work day progresses, the work can stay optimized resulting in more productivity.

While the benefits of a digital FSM are impressive and indisputable, the needs of every organization are different. Let’s explore this further.

In this paper, we explore the five key steps to building a business case and exploring options for FSM:

1. Understanding FSM and why it matters.
2. Assessing current capabilities and shortcomings.
3. Identifying and prioritizing areas for improvement.
4. Successfully implementing FSM and promoting adoption.
5. Measuring ROI and determining success of FSM.
Step 1
Understanding FSM and why it matters.

In all consumer-facing industries, the service function is now widely digitized. The ability to provide a high-quality customer service experience increasingly depends on a real-time stream of data from technicians as they progress through the day. By examining where challenges still exist in everyday operations, it’s easy to see the impact that the right mobile FSM solution can have.

Increased productivity and efficiency
The automation aspects of mobile FSM should be particularly interesting to organizations facing the costs of large customer service and dispatch functions while managing and maintaining geographically dispersed assets. Electric power transmission and distribution organizations as well as water/wastewater, oil, gas, and chemical processing facilities, and rail systems operators are all strong candidates.

Digitalization makes it possible for much of the routine back-office activity to be handled without human intervention. For instance, the dispatch function can largely be automated, allowing dispatchers to focus on exceptions rather than routine tasks. Technicians automatically receive prioritized work orders direct to their mobile device as they begin their shift. When integrated with GPS and a mapping application, work orders can even include turn-by-turn directions.

In many cases, “windshield time” – time spent traveling between assignments – is a huge productivity loss. A mobile FSM solution converts much of that lost time to productive time by scheduling and routing technicians more effectively. Having access to equipment manuals and references while in the field is an additional productivity booster because it eliminates the need to return to the service area.

Mobile FSM systems can also incorporate useful data such as historical traffic patterns (e.g., rush hour congestion) and real-time data on weather or other traffic disruptions. This makes it possible to modify technician assignments and travel “on the fly.” In fact, some mobile FSM systems include a self-select feature that lets technicians modify their work or schedule based on opportunities they identify. While onsite, they may notice a need that can be quickly and immediately addressed, eliminating a future trip.

Enhanced data acquisition and quality
This is the era of big data, but insights are only attainable when based on complete, reliable data – two traits often absent in the data collected by service technicians. Organizations eager to capitalize on the power of big data need to start by enabling enhanced, digital field data collection.

Today’s data typically consists of notes on work orders. Technicians often only check the required boxes and then quickly scribble comments. Hopefully those notes (assuming they are readable) are later transcribed and collected digitally... but many of those work orders are simply filed as-is or scanned and stored as images. Either way, little is done with that data because it’s not in digital form.

With a digital mobile FSM solution, data capture is greatly streamlined and automated. Lost data and transcription errors are minimized or even eliminated. Some systems capitalize on voice-to-text technology: Technicians simply dictate information about the work and it is converted to digital data. A much-talked-about, near-future technology is wearable data-capture systems, where technician data is captured automatically by the wearable item, with voice-to-text built into the apparel or equipment.

Regulated industries are frequently required to measure actual tool time. A mobile FSM solution can be configured to document arrival and departure time, as well as the time for pre-work setup, safety checks, actual production, and completion and cleanup. With this data and the proper analytics, operators can identify outliers, whether it’s the high performers whose techniques should be modeled or the lower performers who may need coaching or support. These analytics provide feedback to create new, more efficient work models that can be presented to technicians via FSM-delivered process checklists.

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Reduced IT system costs
Most organizations have some type of workforce management system in place. These are typically either home-grown solutions (tailor-made, but expensive to maintain in the long term) or out-of-the-box systems (less expensive at the beginning, but may not meet the organizations actual needs).

Either way, the existing systems usually operate on-premise. This entails significant capital expense and the operational costs of an IT support group. For this reason, in almost every industry that relies heavily on data and communication (and what modern industry doesn’t?) system managers are increasingly interested in moving their applications to the cloud and relying on providers of software-as-a-service (SaaS).

Cloud-based solutions eliminate the need for on-site infrastructure and system maintenance, and the related manpower. It ensures the applications are always up to date and reflect the latest security measures, features and capabilities, all delivered automatically. The low initial cost and lower total cost of ownership of cloud-based solutions is making mobile FSM solutions increasingly more affordable, even for small- to medium-sized organizations unable to afford the more costly on-premises solution.

Elevated customer service
In traditional businesses, higher-quality service provides a competitive advantage. In regulated industries or geographies, meeting or exceeding established customer service metrics avoids penalties and fines. And no business wants to see themselves pilloried on social media for poor customer service. For organizations that need to elevate customer service, a mobile FSM solution can be the answer. Be sure to look for solutions that offer time management triggers in order to deal with scheduling exceptions. Integration with call-ahead systems provides much-appreciated alerts for customers, and ensures the on-time arrival of additional parties at the work site.

Improved safety
An often-unexpected benefit of mobile FSM is that it creates a safer work environment. Digitalization enables organizations to require technicians to complete safety procedures prior to initiating work. Checklists on a mobile device can guide them through the appropriate pre-work safety checks and require confirmation before proceeding. This capability can also be used to ensure that only qualified technicians perform specific tasks, and that they are aware of and have available the required tools. A mobile FSM solution can also deliver the outline for a tailgate pre-work briefing customized to each task, with signature capture for all attendees. If this is key to your organization make sure that the system you choose has the ability to stop the technician from beginning any work until it’s safe to do so.
A surprising number of organizations including large utilities, rely on spreadsheets as their primary FSM tool. A whiteboard in the dispatch area is often used to communicate the status of the day’s jobs. And while many organizations have digitized some of their maintenance activities, most scheduling and dispatching is manual. These organizations are typically eager for the benefits of a mobile FSM system but are still concerned about the cost and effort to get there.

Mobile FSM solutions rely on data about field assets and their locations, customer locations or work sites, technicians and their skills, and many other data feeds such as real-time traffic updates. This means maintenance managers need to look beyond their own area when considering existing capabilities. Digitalization requires involvement and investment across the organization to access and interact with the required data. The entire end-to-end workflow has to be digital to realize the full benefits of digital mobile FSM.

It’s essential to realize that a mobile FSM is neither the system of record nor a data repository; it interacts with an organization’s upstream systems such as customer information, asset management, and other network management systems. A mobile FSM solution therefore needs two-way data flow with these systems.

Organizations interested in deploying a mobile FSM need to consider the systems of record they have in place to ensure it’s possible to access and integrate with them. It may be necessary to update current systems and host applications to interact with the mobile FSM solution, and it’s likely that as part of the implementation, there will be other system changes or legacy system retirements.

To understand the total investment, organizations need to consider the implications for, and requirements on, other systems throughout the organization when evaluating the ROI.
Step 3

Identifying and prioritizing opportunities for improvement.

Field service management digitalization is a transformative endeavor that substantially alters the way work is performed. For that reason, the critical first step is to develop a clear future vision of the way an organization wants its service operation to work, and what improvement opportunities present the greatest potential benefit.

Technician productivity

In general, any organization with a large field service team has the potential for technician productivity gain improvement of up to 25% and should make mobile FSM a top priority.

Asset health information

Of special interest to asset-intensive organizations is the ability to collect asset health data. Having a history of the services conducted on each asset makes it possible to implement appropriate future maintenance programs and schedules, and better plan for upgrades or replacements.

Customer service

While not yet widely deployed among organizations that service customer equipment, digital FSM systems present customer service benefits that merit increased adoption. One such benefit is the ability to provide accurate, up-to-the-minute predictions of technician arrival. As technician service behavior is captured and analyzed the system can calculate how long an assignment should take, how close to completion the technician is, and how soon he or she will appear at the next job. This information can help set accurate customer expectations and identify opportunities for performance management.

The key factors in earning high customer service marks are on-time arrival and completion. Effective digital FSM systems help organizations improve service levels for routine work orders as well as better manage exceptions like outages and damaged equipment that would otherwise leave a planned work schedule in tatters.

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Own it!
Organization-wide transformation demands clear and strong executive sponsorship. It’s essential to identify a “champion” for the digital FSM implementation; someone with the ability to successfully engage with leadership across multiple departments and remain actively involved.

Under that project champion, there must be a dedicated project manager leading a clearly-defined, multi-disciplinary project team including representation from IT and operations, as well as the solution provider. A systems integrator is also important for identifying required system interactions and deploying the needed adapters or interfaces.

Build confidence in the system
A major reason for underperforming deployments is lack of confidence in the system. Every organization has experienced and skilled dispatchers and it can be difficult to turn that decision making over to an automated system. Apprehension can be reduced through trials, but ultimately it requires a leap of faith. This is an area where a strong champion and project manager can help shape expectations and coach skeptical users through the transition period.

Choose wisely
Considering the organizational implications of a digital FSM selection, it’s important to conduct due diligence on all prospective system providers. Some solutions are exclusive to an industry while others have broader appeal.

Digital FSM features and functions are, in general, universal across all industries. Still, it is typically unwise to be the test case for deployment in a new industry. Experienced analysts such as Gartner or IDC can help establish the system requirements and then identify potential digital FSM providers.

Pilot to prove the system
A benefit of relying on a cloud-based digital FSM system is that pilot projects are relatively easy to conduct. This should be the first stage of any implementation, but can also be used as a lightweight “proof of value” test prior to committing to a system.

The simplest activity to pilot is mobile enablement of basic orders, and sending assignments to technicians’ mobile devices. Another good evaluation activity is to configure digital forms for a few business processes and pilot them with a small number of users. It’s natural to include true believers and advocates who are confident in the system in the pilot, but it’s also valuable to include doubters who will eagerly point out potential pitfalls – their input will provide an opportunity to iron out issues before a broader implementation.

Count on the cloud
Cloud-based digital FSM implementations eliminate a host of potential problems from the outset. The digital FSM provider will (or certainly should) have extensive experience with rollouts and a bug-free infrastructure supporting the system.

The typical implementation schedule for an on-premise system is 6 to 12 months, while a cloud solution can be up and running in just 2-4 months because all the technology is on the supplier’s side. Cloud-based deployments may take longer if the user is integrating many systems on their side.

Potential lack of connectivity – field technicians being unable to access the system due to no mobile coverage – is the Achilles’ heel of cloud-based systems but is also an issue for on-premise systems. A capable digital FSM system can overcome this problem by downloading the day’s jobs, enabling the technician to work offline all day, if needed. When they do connect, even briefly, data can be exchanged between their mobile device and the network.

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Step 5
Evaluating the ROI on your new workforce management system.

The financial threshold for deploying a cloud-based FSM system is relatively low. A more significant concern than cost should be how the deployment will affect the organization. Still, there is a significant investment required, but that investment will be repaid in many ways.

Measurable productivity improvements
With benchmark data, either from the organization or industry standards, it is easy to conduct a top-line before-and-after productivity comparison. The best test is to determine how many jobs can be completed per technician before and after the deployment. Ultimately, the goal is to have technicians complete the most work in the shortest amount of time at the least cost.

In addition to the productivity benefits, digital FSM enables “drip-feeding” work orders to technicians, another productivity booster. Dispatchers typically give technicians a stack of orders at the beginning of their work day and, invariably, the work will expand to fill the day. Drip-feeding looks ahead to the next job or two. As technicians complete an order, the next one appears. This approach also enables constant adjustments to schedules and work.

Experience has shown that typical productivity – actual “wrench time” – for field service technicians ranges between 30 and 40%. Post-FSM deployment productivity increases to as much as 55%. In the back office, it increases the number of technicians a dispatcher can manage from a maximum of 20 to as many as 40 or 50.

The best way to capture the data in order to complete a concise ROI calculation is to determine your key performance indicators and measure those for comparison, before and after the implementation. This may be challenging where processes are analogue, however, without a basis in fact, ROI can only be considered speculative.
Data-driven decision-making
Receiving activity data throughout the day combined with workforce optimization analytics presents management with an entirely new perspective on service operations. Management can rely on those analytics to make better decisions, not only about the service activities but also about the assets being serviced.

Reduce downtime and extend asset life
The service record for each asset is a strong indicator of its health and expected longevity. This data is especially valuable for organizations like utilities with large fleets of critical assets, but every organization can benefit from a better understanding of their assets’ health. It enables a smarter, more predictive service approach, with maintenance customized to the asset’s needs. That, in turn, results in reduced downtime and longer asset life.

Digitalized FSM is typically used to dispatch crews to address current equipment issues, but a largely overlooked opportunity is to use these systems to better manage routine maintenance and inspection activities.

Facilities like substations and gas or water stations all require routine inspections. A capable digital FSM system can present technicians with a multi-task inspection checklist to guide them through the process, batched as a single work order. This feature improves consistency of these inspections and ensures increased uptime for these critical facilities. Decreased maintenance issues and fewer unplanned outages are strong contributors to the digital FSM ROI.

Total cost of ownership
ROI happens more quickly with a cloud-based solution because there is no large cash outlay at the beginning for software, hardware or infrastructure. And the ongoing cost – mainly the license and maintenance agreement – is likely comparable to the IT operational costs of supporting an on-premises system.

Customer satisfaction
Just as valuable but more difficult to measure is the increased ability to elevate customer satisfaction. Digital FSM improves response times and on-time arrivals, and expedites issue resolution. These benefits become tangible quickly for regulated industries that face penalties for failing to meet required service metrics.
In the not-so-distant future, workforce management systems are likely to become a standard element of almost every organization with remote assets. Only the smallest companies today operate without the benefit of applications like electronic accounting. In the same way, only the smallest service organizations will continue to operate without digital FSM of some sort.

Today’s digital FSM applications offer impressive feature sets that enable vastly better service delivery. New functionality and technology continue to be developed and incorporated in these already-highly-capable applications. And with SaaS deployment, new functions are added automatically. Given the minimal barriers to deploying a cloud-based FSM solution, the time is right to consider a pilot project for service operations.

The first step should be to start a dialogue with a consulting organization or vendor with demonstrated knowledge and skills in the digital FSM arena. Working with them, discuss the desired service delivery changes and how digital FSM might enable those changes, and at what costs.

In every service-related organization there will always be more than enough work to be done. Analyze the business case for your organization to determine whether a digital FSM will enable your organization to not only better manage that work, but also maximize asset uptime and life while better meeting customer expectations.