Ten tips for field service organizations getting started with AI

Embracing automation, algorithms, and insights to improve efficiency and the customer experience

AI

ARTIFICIAL INTELLIGENCE

Service**Power**

From rule-based automation to algorithms that predict outcomes, Artificial intelligence (AI) is ushering in a new era of business processes, one that is hyper-focused on increased efficiency and improved customer experiences. For field service organizations (FSOs), AI's transformative impact is still being defined, with companies scrambling to understand potential use cases and form alliances with technology vendors who can guide the way forward. Despite clear benefits of AI technology, this transition period is one requiring guarded optimism and cautious moves.

The current state of AI adoption

AI is very much on the minds of technology leaders, including those in the field service industry. A 2023 survey found that 70% of organizational leaders believe the benefits of AI outweigh the risks – but only 15% of them feel prepared for the demands ahead of them, especially concerning generative AI. The report poses the classic question, "Just because we can, should we?" as it foreshadows debates around AI ethics.

The good news.

In its various forms, subsets, and applications, AI is gaining adoption, building momentum, and scoring points for bringing opportunities and insights to masses. Oxford University's Future of Humanity Institute predicts AI will have a staggering impact on the global economy that could reach $15.7 trillion by 2030. It has the potential to influence vastly important topics, like curbing world hunger, reducing carbon emissions, improving diagnoses of illnesses, and developing affordable cures and treatments.

On an industry level, benefits for service-centric organizations focus on cost savings and improving the customer and worker experiences. Data insights can be used by field service workers to speed call resolution and maintain quality control. As some advocates say, organizations are "reaping the benefits of AI capabilities through higher production yields and improved ROI." It brings "a consistent approach to repetitive tasks."

But wait.

The industry buzz is also filled with myths, over-hyped promises, and doom-and-gloom dystopian fears, making it difficult to obtain a realistic picture of AI's current merit. Some vendors are blurring the lines between automation and augmentation. Some may even misrepresent if their solutions "learn" from situations or simply apply existing knowledge. Organizations need to be alert to misinformation and trust only reliable sources for advice. If an offering seems too good to be true, it probably is.

Types of AI technology: Some basics to know

It pays to have a basic understanding of the common types of AI so you can make well-informed decisions about the use of AI in your field service organization and have conversations with peers and vendors feeling confident. Here are some of the terms you will likely encounter:

Robotic process automation (RPA). This type of application is used for repetitive and labor-intensive back-office workflows like filling in forms, searching for information, or sorting invoices, explains AWS. Natural language processing (NLP) and optical character recognition (OCR) are often part of the process.

Intelligent automation (IA). Sometimes also called cognitive automation, IA streamlines and scales decision-making. It continuously collects, processes, and analyzes data for you, flagging abnormalities or situations requiring further study, such as a service request that has not yet been assigned to a field worker.

Rule-based automation. It has been used for decades to automate simple processes such as data entry and accounting reconciliation. It can process a myriad of rules at once, far faster than a human and with greater accuracy, since the system is immune to human weaknesses like being tired, bored, or distracted. As one expert explains, "The main idea of a rule-based system is to capture the knowledge of a human expert in a specialized domain and embody it within a computer system… Knowledge is encoded as rules." Rule-based automation is highly effective and reliable, especially in situations where the rules, or conditions, can be clearly defined—like factors influencing route optimization or warranty claim validation.

Machine learning (ML). AWS explains that machine learning uses the science of statistical models and algorithms to predict outcomes and perform related tasks, as assigned by humans. ML algorithms use large volumes of historical data to train the system on inputs and outputs. Over time, as more data is collected, predictions become more accurate.

Generative AI. Generative AI can produce various types of content, including text, imagery, audio, and synthetic data, explains Tech Target. This is the hot topic today as chatbots, like ChatGPT, are being promoted as able to write new, original content based on prompts and style preferences. Two additional advances have played a critical part in generative AI going mainstream: Transformers allow researchers to train ever-larger models, such as billions of pages of text. And large language models (LLMs) allow models with billions or even trillions of parameters. When the text used to train the solution, though, is copyright protected, ethical and legal issues ensue. This topic is one to watch.

Keeping pace with change means adopting AI

FSOs need to understand the current state of AI capabilities so they can form realistic expectations based on facts, not fear, and take strategic actions. To remain relevant and competitive, FSOs must take advantage of all resources available to them, including AI. Putting off adoption puts the organization at risk of appearing unresponsive to customer expectations and slow to adapt to evolving best practices. Customers notice when service is slow, inconsistent, and inefficient.

AI adoption is steadily gaining momentum. Forbes says around 44% of companies are interested in investing seriously in AI. If you are not currently aligned with a strategy for AI adoption, you risk falling behind.

Common applications today include:

- Chatbots answer customer online queries, flagging critical inquiries for escalation

- Digital assistants, like Alexa and Siri, answer questions and provide directions

- Accounting programs calculate labor costs and generate invoices

- Field service solutions maintain real-time views of customer purchases, warranties, and service requests

- Schedule optimization assigns service requests to the appropriate technician or other field worker, based on several factors, from the field worker's location to skill level and experience with the brand needing service

There are many more use cases today and innovation continues to uncover more opportunities to apply AI.

"44% of companies are interested in investing seriously in AI."

Some pitfalls requiring caution

Data quality.

Data quality needs to be a top priority for the organization, starting with training employees to be alert to situations that risk data integrity. Feeding the system biased or incomplete data will, of course, yield faulty results, putting a layer of doubt on all reports and conclusions. Bad data is a real threat to AI. A principal analyst recently said, "Data quality is crucial in artificial intelligence because it directly impacts the performance, accuracy, and reliability of AI models. High-quality data enables models to make better predictions and produce more reliable outcomes, fostering trust and confidence among users." A recent survey further reinforced the sentiment, showing:

76% of data experts say poor data quality **interferes with pursuing market opportunities**

72% cite that data quality **impedes customer engagement** and positive customer experience

68% say poor data quality **interferes with the ability compete**

Reliability.

Recently AI has taken some hits for possibly overstepping boundaries and generating unreliable outcomes. For example, articles written by generative AI still need human modification. "AI-powered tools like ChatGPT have mesmerized us with their ability to produce authoritative, human-sounding responses to seemingly any prompt. But as more people turn to this buzzy technology for things like homework help, workplace research, or health inquiries, one of its biggest pitfalls is becoming increasingly apparent: AI models often just make things up," says CNN. AI tools can generate plausible but factually inaccurate or unrelated outputs, sometimes called hallucinations or confabulations. Humans need to monitor and verify questionable assumptions.

Bias.

Skeptics suggest that analytics can make decisions based on inappropriate, irrelevant criteria, or bias that is unintentionally built in when the system is trained. For example, when evaluating technician performance, is the technician that resolves the most service orders the one to be rewarded or the one who tackles the most complex jobs? Bias also becomes a possible factor if the tool wrongly "assumes" a factor like gender or race influences the ability to perform a task well.

An article in Wired states addressing AI bias is not just a matter of social responsibility, but it's also commercially imperative. If a company is found to be using biased tools, the consequences can be severe. "The biggest risk is that our customers lose trust," says Alison Kay, Managing Partner at professional services firm EY. "It doesn't take much these days to lose faith, especially with social media and with regulatory frameworks being heightened."

What's realistic to expect of AI in field service?

FSOs need to understand AI capabilities and set realistic expectations. AI is not magic, nor will it replace all humans, or solve all business problems overnight. It is a process of adapting and learning. As service-centric companies seek to improve thin margins and build loyalty among today's highly demanding customers, every technology advantage is important. But the applications need to be practical, reliable, and easy to execute.

Some realistic use cases for AI can be seen today. AI can be seen as a workforce supplement, helping employees with tedious data entry or mundane tasks. The day-to-day operations of many FSOs is clogged with tedious tasks, from ordering and tracking inventory of spare parts to logging miles traveled, updating warranty claims, and making sure each service vehicle is stocked with appropriate parts and tools. AI will help automate those steps.

It will also help workers find data they need. The Digital Worker Experience Survey from Gartner found that 47% of digital workers struggle to find the information or data needed to effectively perform their jobs. In the service industry, technicians often need to access information about model numbers, compatible parts, suitable replacements, and service history on a particular unit. AI capabilities will help push this type of useful information to the field worker—before the worker initiates a search. This saves time and helps workers follow best practices.

Don't worry. Jobs will not be eradicated overnight. Gartner projects that businesses, including those that focus on service, will see surges in AI adoption as well as periods of pausing and reflecting as the hype settles. "Organizations are scrambling to determine how much cash to pour into generative AI solutions, which products are worth the investment, when to get started and how to mitigate the risks that come with this emerging technology," a Gartner report says. In fact, some headwinds may be ahead. Initial enthusiasm may give way to more rigorous analysis of risks and implementation challenges in the future. "Organizations will likely encounter trust, risk, security, privacy, and ethical questions as they start to develop and deploy generative AI," the report adds.

So, although the future will be impacted by AI, most experts agree technology won't be completely replacing humans in the workplace anytime soon. FSOs will still rely on call center agents to give customers personalized attention. Dispatchers will still need to review optimized schedules and handle exceptions. Technicians will still need to travel on-site to make repairs.

EY explains it well, saying, "This deeper integration of AI into the world of work doesn't mean a wholesale replacement of people because of AI. AI might present a first draft of a piece of work, but it's well-trained and trusted people who make final decisions. People are then freed to focus on higher-value tasks, fueled by innovation and creativity."

Field service organizations face intense pressures

Companies that perform field service are especially vulnerable to today's market pressures, giving them extra motivation for considering AI applications. From a shortage of skilled technicians and other field workers to thin margins, high fuel costs, and highly demanding customers, FSOs are facing economic and competitive pressures as well as ones from evolving customer perceptions. These pressures make AI look very promising.

The pressures aren't going away soon. According to a recent survey, customers expect a proactive service experience from service providers. "Nearly three quarters of those surveyed (73%) see a direct link between customer service and business performance, with two thirds (64%) estimating that customer service has a positive impact on business growth. The opportunity is not simply to deliver a single solution-based interaction with the consumer, but to use that point of engagement as an opportunity to deepen the relationship." These findings reinforce that service companies need to focus emphasis on delivering proactive customer service and improving first-time fix rates (FTFRs). Modern technologies will help organizations up-level their performance. Additional facts highlighting the importance of top-notch service operations include:

2/3
Nearly two-thirds of consumers will immediately **stop doing business with a brand** once they receive poor customer service.
(Microsoft)

76%
After more than one bad experience, around 76% of consumers say they would rather **do business with a competitor.**
(Zendesk)

1 in 6
shoppers **walk a way from a purchase** due to bad customer experience.
(Emplifi)

Concluding thoughts and take-aways

The topic of AI is complex, with many factors to consider. Plus, functionality and use cases continually evolve, with new applications rapidly emerging. These factors make it more difficult for organizations to stay informed and aligned with the market landscape. But, perseverance is important. To remain competitive, field service organizations must stay attuned to customer and employee expectations and available tools for improving operations. Today, cautiously adopting AI capabilities is your best route for modernizing and improving efficiency. AI, in its various forms, provides the insights you need to be future-ready.
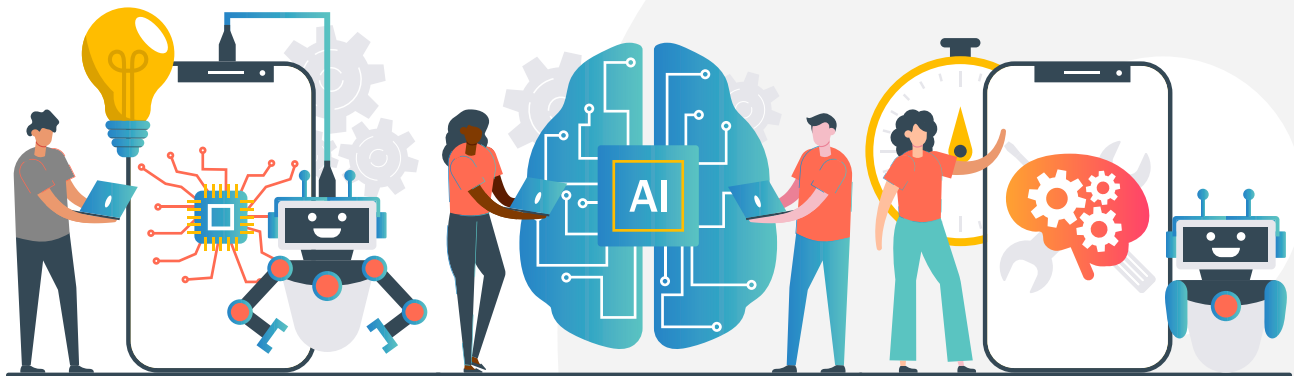
10 ways to get started with

field service AI & Automation

The hype is nonstop. But you have a job to do – and reality to deal with. So when thinking about AI and automation in the real world that you deal with every day, how do you attack the challenges?

Our quick guide provides 10 tips to help you deal with AI, automation...and reality.

1 Start with specific projects

Start small. Choose an initiative that is easy to enact with high pay off, like schedule optimization.

Special projects ✓

2 Ensure data accuracy

Bad data will yield bad results. So, you'll likely need to do a data cleanup before you undertake AI initiatives. Data needs to be accurate, accessible, and able to be searched and organized in meaningful ways.

3 Integrate AI into existing workflows

Automate key processes across business units and focus on practical applications, like giving customers a very narrow arrival window, based on projected travel times.

9 in 10

organizations back AI to give them a competitive edge over rivals

(MIT Sloan Management)

Only 10% of data is considered to be "structured" **(Forbes)**

AI

4 Trust an industry partner

Let a trusted vendor be your guide and let it focus on research during your AI learning curve, so you can focus on your day-to-day operations—and what you do best.

4 in 5
Around 4 in 5 companies deem AI to be top priority in their business strategy **(Forbes)**

6 Automate processes

Streamline workflows and processes, removing unnecessary steps, redundancies, manual data entry, and time-consuming calculations. Rule-based automation is one of the most reliable, low-risk AI capabilities.

5 Strive for continuous improvement

Focus on use cases with immediate, achievable goals that you can continue to refine as you make improvements and apply insight. Allow for a gradual ramp up and controlled expansion. Measure results and make incremental gains.
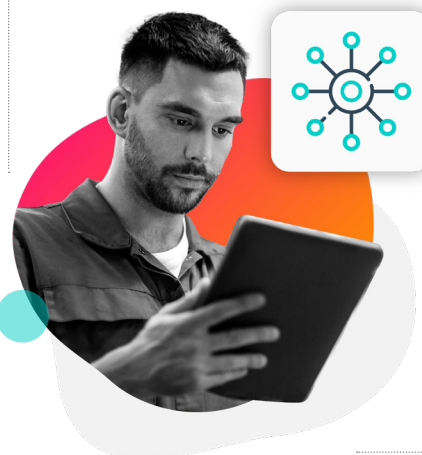
35% of businesses have adopted AI

(Authority Hacker)

82%
of business leaders believe that AI enhances job satisfaction and performance

7 Empower employees

Give employees, from call center agents to dispatchers and technicians, access to real-time data and tools to help them make well-informed decisions based on insights and rule-based recommendations. Train employees on when and how to trust AI tools.

8 Focus on the customer experience

When choosing AI-driven initiatives to deploy, be sure to focus on ones that improve the customer experience. Shortening call-to-dispatch times and improving first call resolution rates are two important key performance indicators (KPIs) that will impact customer satisfaction.

9 Identify risks and noncompliance

A modern field service solution with built-in intelligence will help you monitor for exceptions that need a closer look. Data that falls outside of the guardrails you set will be escalated to appropriate managers for review.

10 Focus on savings and achieving return on investment (ROI)

Achieving ROI on your AI investment requires due diligence on reporting and tracking achievements. Sometimes the ROI isn't obvious. Improving workforce productivity will boost efficiency, meaning a technician may be able to complete more service calls per day. This can lead to more revenue. Reducing extra trips to the customer's location can save on fuel costs. Over time, these savings will help cover your investment.

40%
AI is expected to improve employee productivity by 40% **(PwC)**

80%
of retail executives expect their businesses to adopt AI automation by 2025 **(Analytics Insight)**

As a global leader in field service management, our solutions are designed and built with a focus on providing your customers with an exceptional experience, while delivering operational efficiencies and digital transformation capabilities. Our secure and flexible solutions provide organizations with the ability to optimally manage their workforces, while increasing revenue, improving the customer experience, and reducing costs.

"ServicePower has been a game changer for us through the years. Its automated AI-powered scheduling improves our workforce productivity and customer satisfaction daily, with every customer interaction, resulting in increased profitability for Siemens."

- Pre-Job Process Owner, Siemens

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