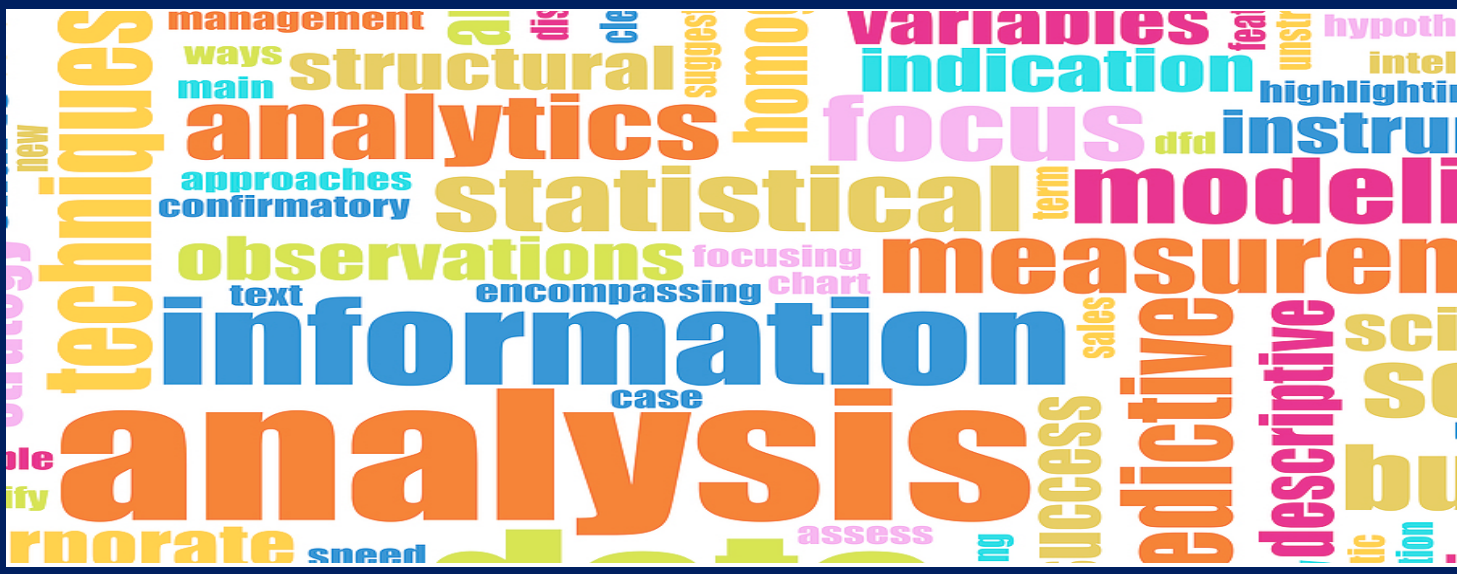
An *SFG℠* Analysts Take



How the Internet of Things (IoT) Is Transforming Field Service

The IoT Is Both Disruptive and Pervasive – So How Come Not All FSOs Are Using It Yet?

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A Special *SFG℠* Analysts Take
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A. The IoT Is Transforming the Field Service – But, at What Pace?

The Internet of Things (IoT) is transforming the field service industry in ways that most analysts – and practitioners – could not have foreseen just a few years ago. While most of us were focusing on machine-to-machine (i.e., m2m) communications and the prospects for utilizing Augmented Reality (AR), the IoT was already beginning to be leveraged into smart systems and Connected Field Service (CFS) solutions among the more progressive services organizations in the global marketspace.

Even as we speak, while some companies are just beginning to evaluate the benefits of integrating Augmented Reality into their services operations, AR is already morphing into Mixed, or Merged, Reality (MR) through the combined deployment along with Virtual Reality (VR) applications. And this advanced trend is not only not going to stop; it is much more likely to accelerate right before our eyes.

The growing recognition that Artificial Intelligence (AI) and Machine Learning (ML) applications are ultimately poised to make the difference between those services organizations that are destined to be the market leaders *versus* everyone else (i.e., the followers, and laggards) is also picking up steam, and will likely join the mainstream of market adoption shortly (*albeit*, the inner working of AI and ML are both much more complicated than the IoT – especially with respect to AI).

The IoT is not just for m2m anymore. It is the tool that can make any services (or other) process "smart", if applied effectively. It can (and will) take services organizations to places they never dreamed possible just a short time ago – and it will be responsible for cutting the costs of delivering services along the way.

At what pace? Basically, if you merely blink, you may find yourself quickly falling behind your more progressive competitors! Many of them are already there!

B: The IoT Transformation Will Typically Be High Impact

The highest-impact factors in field service transformation will be the normalization of the playing field across all industry segments, by vertical market, size, type, geographic coverage and any other "demographic" segments you can think of. Field Service Management (FSM) is not only for the large enterprise organizations, but for services organizations of all types, regardless of size or market coverage.

The proliferation of Cloud-based FSM solutions has also moved many organizations from the historical perpetual license pricing model to a much more manageable subscription basis pricing model. This also is having a significant impact on facilitating the entry of smaller and medium-sized organizations into the world of the IoT and smart solutions.

The integration of AR, VR and/or MR platforms into services operations will also normalize the playing field even more, thereby empowering services organizations of all types and sizes, etc., to compete head-to-head against each other (as well as the market leaders) with essentially the same levels of system capabilities. It will also lead to quicker customer equipment "fixes", at reduced costs (to the services organization), and with far fewer visits required to the customer site to perform the repair.

C: The Top Benefits from the IoT to FSOs Will Be Many

The top benefits to field service organizations, as cited in ***Strategies For Growth℠***'s (**SFG℠**'s) *2017 Field Service Management Benchmark Survey*, are (1) the ability to run a more efficient field service operation by eliminating silos, etc. (cited by 44% of respondents as one of the top three benefits); (2) improved customer satisfaction (cited by 39%); (3) the ability to provide customers with an end-to-end engagement relationship (cited by 35%); (4) the ability to establish a competitive advantage (cited by 30%); and (5) improved field technician utilization and productivity (cited by 26%).

Other top benefits include (6) reduced Total Cost of Operations (TCO) (cited by 25%); (7) reduced ongoing/recurring costs of operations (cited by 19%); (8) improved service delivery time (cited by 16%); (9) fostering enhanced inter-departmental collaboration (cited by 15%); and (10) ability to complete the automation of all field service operations (cited by 12%).

However, as more and more services organizations ramp up with respect to IoT-powered technologies and applications, there will likely be even more potential benefits identified within the global services organization community.

D: Leveraging All of the Data You Gather from the IoT May Be Problematic

Many reports have been written about services organizations (and businesses of all types) "drowning in data lakes". However, the key to success is to establish early on what data is needed to effectively run the services operations, and hone in on specifically those types of data when collecting and processing the reams and reams of data generated from your IoT-based systems. Too much data is … well, too much data, if you don't have a plan to harvest it effectively.

Services organizations also need to be able to identify which data is "need to know" *vs.* which data is only "nice-to-know". Nice-to-know data is ultimately way too expensive to collect, process, analyze, monitor and distribute; however, need-to-know data is not only invaluable – but critical to ensuring the well-being of the services organization.

You don't go to work wearing 12 watches; you don't buy 48 oz. of steaks, per person, to put on the grill for a summer barbecue; so, why would you pay for more data than you will ever need when you can harvest just what you need for now (plus whatever else looks like you may need in the future)?

Think of your data repository as a storage space for all of the data you will need today, tomorrow and in the future. If large enough, put it in a data lake – but make sure you don't use Lake Superior for what a smaller data lake can do for you more efficiently.

E: There Are Still Some Barriers to Full-Scale Adoption of the IoT – But They Can Be Overcome

The greatest barrier in taking full advantage of the IoT is typically senior management resistance at the top of the organization structure. Coupled with a general lack of understanding of exactly what the IoT is, and exactly what it can do for the organization, these two factors can too often become "momentum-killers" within the organization.

This is why making sure that all participants comprising services management are kept up-to-date with (1) advances in IoT-based technologies, (2) the introduction of new applications and mobile tools to support field technicians (and to transfer some of their historical on-site responsibilities to more remote-based scenarios), and (3) evolutions in FSM solution capabilities, etc., is so important.

With subscription-based pricing, cost should no longer be as critical an issue to the prospects for moving forward with the desired FSM solution – however, do your CFO and Purchasing teams understand that? Or are they still entrenched in the traditional perpetual license mindset?

Attending field services trade shows and IoT-focused conferences should "shake off the cobwebs" for most of the non-believers or nay-sayers in the organization. Collect as much information as you can, schedule some demos, and invite management to witness the benefits (i.e., the outcomes) of an IoT-powered FSM solution first-hand. This will definitely sway most of the non-believers!

F: Monetizing the Benefits of the IoT Will Not Always Be Easy

The ability to monetize the IoT in field services is another variation on a theme of what has dogged the field services industry for decades! Every time there are advances in technology, the more progressive – and aggressive – Field Services Organizations (FSOs) adopt the technology to streamline their processes, reduce their internal costs, and improve their service delivery capabilities. However, customers, for the most part, see the adoption of this technology as being (1) strictly for the benefit (i.e., cost-benefit) of the services organization itself, and not them; and (2) a means that should reduce overall costs for both the services organization and its customers (i.e., themselves).

The mistake that many services organizations make is trying to sell the same services to customers, at reduced costs to themselves, but increased costs to their customers. Customers will typically see this apparent disparity and question their services providers as to why they should have to pay more for something that costs their vendors less!

What basically needs to happen is for the services organizations to move away from traditional Service Level Agreement (SLS) pricing, to an outcome-based pricing model, such as "power by the hour", "airplanes in the air" or "x levels of output", rather than "y hours of service coverage". Remember the "bullion" pricing model (i.e., Platinum, Gold, Silver, Bronze)? It bit the dust (in most cases) years ago. So, too, will traditional Service Level Agreements (SLAs) as they are replaced by outcome-based services agreements.

The best current examples of this are, as noted, selling "uptime as a service", rather than merely "throwing hours of support" at customers – a rifle shot, rather than a scattergun approach to selling services.

G: The IoT Will Also Have a Great Impact on Service Lifecycle Management (SLM)

Many services organizations say they offer total Service Lifecycle Management (SLM) support, but many still only offer Field Service Management (FSM) solutions in terms of field service and support, preventive maintenance, and meager parts and inventory management.

However, the IoT, in some cases for the first time, now empowers FSOs to provide "true" Lifecycle Management for their services customers – essentially "cradle to grave" support for all of their systems and devices, throughout all of their day-to-day usage and applications.

How does the IoT do this? Basically, by automating the entire services management process, end-to-end, from data collection, through device monitoring, problem identification and resolution, routine and *ad hoc* maintenance services, predictive and pre-emptive maintenance, parts/inventory management – and even "end-of-life" product support! SLM is more than FSM – and the IoT can support all of the organization's SLM services processes.

H: The IoT Will Change How Companies Package and Deliver Their Services

The IoT is more likely to change the way in which services organizations deliver their services, first; and the way they package them, second.

By that, I mean that, first, the IoT will allow services organizations to perform more maintenance and repair service remotely, rather than on-site – and the growing use of predictive diagnostics will continue to reduce the need for on-site services (in some cases, at all) over time. As a result, many services customers may not even know that their systems or equipment have been serviced, as everything that was needed was either performed remotely – or did not need to be performed at all (i.e., through routine monitoring and minor calibrations or maintenance "tweaks", etc.).

Through the use of a customer portal, customers can typically gain full visibility of exactly what types of maintenance have been performed, on which systems, at what times, and with what results. However, those customers not electing to utilize their customer portals (or if their services provider does not offer that capability) will have virtually no visibility as to the extent of the maintenance that has been performed. This ultimately becomes problematic for some services organizations that must then report what they have done for the customer – and try to convince them that by doing so, there was added value provided.

Packaging the "new" way of providing services through an IoT-powered FSM, or SLM, involves an entirely new way of delivering services to customers. For example, instead of providing a certain number of hours of support, within a designated time window, and providing a "guaranteed" uptime percent (i.e., or you don't have to pay your services contract fee that month), some organizations are now selling uptime – period.

Instead of throwing service contract hours at an aviation customer, they now provide “airplanes in the air” to this segment. Similarly, instead of selling a standard SLA to a wind farm customer, they are selling “power by the hour”. Instead of selling standard SLAs for extermination services, they’re selling a “rodent-free” environment. And so on.

However, this ”new” way of packaging services will be difficult for some services organizations to deliver – and for many customers to acclimate to. It will take time, and it will not be an easy conversion for some. But, it is the way of the present already, in many cases – let alone for the future.

I: Some Recommended Steps that FSOs Can Take Now in Order to Ride this Transformation

For some organizations in certain segments (e.g., aviation, energy, factory automation, medical devices, etc.), if they haven’t already embraced and incorporated the IoT into their services operations, they are already a step or two behind the market leaders. For those that are still examining the potential value of Virtual Reality, there are others that are already looking to implement Artificial Intelligence and Machine Learning.

The time is now for reading up on all things IoT, attending IoT conferences, viewing vendor demos, establishing “long lists” and reducing them to “short lists” for vendor consideration, etc. Gaining management buy-in is also a must – in fact, it is basically a must for all things services management anyway – but, especially with respect to the IoT.

Prepare a plan for embarking on the road to an IoT-powered FSM or SLM solution scenario – do it now, because many of your competitors have already done so, and many of your customers (and prospects) are already at least somewhat familiar with what the IoT can do for them. When the services management marketplace is more fully transformed, you will need to have made the transformation as well. The market leaders are already several steps ahead of you; you can’t afford to fall even further behind.

J: Where Will the Greatest Disruption Come from? Startups, Midmarket, Enterprises, or a Combination?

The expected disruption to the global services industry will be manifested as a combination of all types, sizes and categories of “new” entries to the competitive landscape. Most (if not all) of the enterprise services providers are already offering true Services Lifecycle Management solutions (or, at least, enhanced Field Service Management solutions). They “get it”, and they’re doing something about it.

Over the past several years, we’ve seen many of the large Enterprise Resource Planning (ERP) companies (e.g., SAP, Oracle, etc.) acquire their FSM solution capabilities. For example, Oracle acquired TOA Technologies, IFS acquired Metrix, Microsoft acquired FieldOne, and so on. Some larger companies have also elected to go more organically, such as Salesforce that created its “new” Field Service Lightning solution based on ClickSoftware technology. ClickSoftware went private again, but still operates in the marketplace itself, while also licensing some of its software apps to other organizations.

The midmarket is only a step or two behind the enterprise services providers in terms of embracing and incorporating the IoT into their FSM and SLM solution offerings. However, where the most "confusion" and uncertainty lies in is the landscape populated by start-ups – and what I call the upstarts!

In addition to the ongoing spate of mergers, acquisitions and alliances, and organic development, there has also been a significant increase in the numbers of "new" entries into the FSM solution marketplace. In fact, probably more of this type of activity has occurred in this segment recently than in the past many years – or decades!

These "new" start-ups can essentially be divided into two main categories: (1) FSM Start-ups, that are trying earnestly to find a way to enter – and penetrate – the FSM market, by leveraging new technologies, experienced leadership, deep (enough) pockets, investment capital and a bit of luck into a services growth segment where they believe they can actually make a difference.

However, it is the FSM Upstarts, that are basically trying to ride the Cloud-based, or SaaS, solution wave into a "new" market (to them), in order to make a quick buck when they ultimately plan to sell out to a larger organization in another year or two. As such, it is truly a "buyer beware" market, as there are a great number of "new" upstart FSM solution providers that will not be around for very long.

Hopefully, this *Analysts Take* paper has helped you to better understand the ways in which the services management market is changing – both rapidly and pervasively. Blame it on the IoT for this rapid evolution; however, blame yourself if you're not keeping up with the advances in services management technology!

About The Author

Bill Pollock is President & Principal Consulting Analyst at ***Strategies For Growth℠*** (***SFG℠***), the independent research analyst and services consulting firm he founded in 1992.

Previously, Bill served as President & Chief Research Officer (CRO) at The Service Council; Vice President & Principal Analyst, heading up Aberdeen Group's Service Management Practice; and Managing Analyst, Services Industry at Gartner.

In 2015/16/17, Bill was named "One of the Twenty Most Influential People in Field Service" by *Field Service News* (UK); one of the "Top 10 People Every Field Service Pro Should Follow" by *Field Service Digital*; one of Capterra's "20 Excellent Field Service Twitter Accounts"; and one of Coresystems' "Top 10 Field Service Influencers to Follow".

Bill has also had more than 350 articles, columns and features published on topics including Field Service Management (FSM), Service Lifecycle Management (SLM), Customer Relationship Management (CRM), Warranty Chain Management (WCM), Reverse Logistics, Augmented Reality (AR), the Internet of Things (IoT) and others for leading international services publications.

He writes monthly feature articles for *Field Service News*, *Field Service Digital*, and *Field Technologies Online*, and is a regular contributor to *Warranty Week* and other services-related publications.

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