



POV

Field Service Transformation Strategy for Industrial Original Equipment Manufacturers (OEMs)

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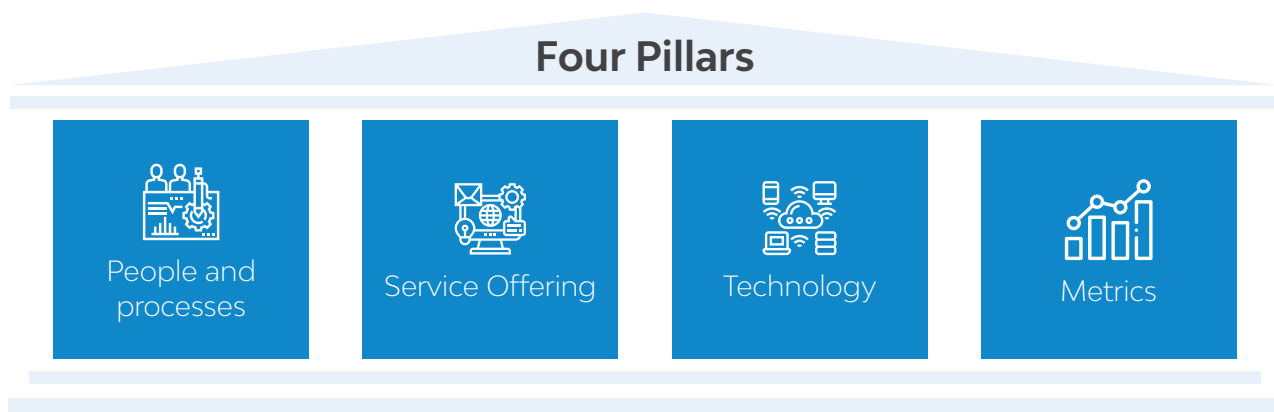
Executive Summary

A paradigm shift from new equipment sales to service sales

With the growth of new equipment sales slowing down across different sectors, **after market sales have become a new revenue stream for OEMs**. In addition, the convergence of technologies such as cloud, data, and IoT has opened new value propositions in aftermarket services.

Aftermarket services are an attractive business proposition. McKinsey analysis across 30 industries showed that the average earnings-before-interest-and-taxes (EBIT) margin for aftermarket services was 25 percent, compared to 10 percent for new equipment sales^[1]. Compared to new equipment sales, setting up aftermarket services is less capital intensive and has a shorter breakeven period. The turnover from services is stable with higher margins compared to that of new equipment. In a downturn, businesses are more likely to put off major capital investment than cancel support for critical services. Finally, transitioning into a strategic value-added relationship with the customer improves customer experience and promotes stickiness.

This paradigm shift has changed the way aftermarket services and field services are perceived across industrial OEMs. Field services are being identified as a revenue source and a strategic differentiator that will help shape the customer experience. To transform their field services offerings, industrial OEMs need to align their four pillars: people and processes, technology, service offerings, and metrics. **This paper aims to explore how industrial OEMs can re-imagine their field service strategy to transform their business model.**



People and processes: Transforming roles and processes to suit the new business model

A change in business model and technology translates to a change in roles and processes. In this section, we talk about two key personas and how their roles and processes need to be aligned for successful field service transformation.

Field technicians are the face of the brand

Traditionally, the field technician had a transactional relationship with the customer. He was expected to carry out obligatory new installations of products in the customer premises. He was a generalist with expertise across a wide range of products and had a tenure-based contract with the OEM.

In a services model, the field technician's role becomes more strategic as the business provides differentiated value-added services. Through field technician's close interaction with the client during periodic maintenance and trainings, he grows to become a trusted advisor and the face of the brand. He becomes a highly skilled employee, conversant in leveraging technology with a keen insight into the customer's needs. OEMs should try to leverage such interactions to cross-sell and upsell to their clients.

Once the field technician receives job alerts on his mobile device, he uses the GPS based routing tool to navigate to different job locations. His performance, efficiency, and productivity are now tracked as it directly contributes to the profitability of the field operations. Consequently, his compensation moves from tenure-based to performance and quality-based. His metrics are as diverse as install success rate, post-install device performance and support, customer satisfaction, number of repeat visits, sales enablement, and mean time to repair (MTTR). He constantly gets upskilled or re-skilled with a data and analytics-based training curriculum to improve his proficiency. While this attributes to the organizational focus on the employee experience, that also translates to shaping the customer experience.

Current Role	Future Role
<ul style="list-style-type: none"> ▶ Transactional, one-off relationship. ▶ Skillset: Generalist. ▶ Compensation: Tenure-based. ▶ Cost Center. ▶ Service only. 	<ul style="list-style-type: none"> ▶ Strategic, value added relationship; Trusted advisor to the client; face of the brand. ▶ Skillset: Specialist, constantly upgraded. ▶ Compensation: Performance based. ▶ Revenue center. ▶ Service and Sales.

Figure 1. Role transformation of the field technician

Dynamic dispatching places dispatchers at the center of operations

Dispatchers were traditionally relegated to a back-office role. With the advent of advanced tools, dispatchers find themselves at the front and center of operations. The customer-facing dispatchers are expected to be more proactive in managing the flow of work orders by leveraging a gamut of tools. In many cases, they respond to alerts from IoT devices and reach out to customers with both information and solutions. In case of break-fixes, they create priority work orders, carry out schedule board optimization, dispatch such work orders on priority, and work with customers and field technicians to inform and assist until the job is complete.

Going further, they also serve as the voice of the customer to better guide the technicians and supervisors using data at their disposal. As firsthand recipients of customer feedback, they are well-positioned to train the field operations team on what went well and what failed as far as the customer is concerned. In certain cases, they provide an assessment of field service performance to management at a regular interval.

Technology as a key enabler

Optimizations, simulations, and forecasting can help improve business efficiency

One study estimates that field technicians may be spending up to three hours a day idle and an additional one hour on unnecessary driving. This is an evidence of waste that can be avoided with the help of optimization and forecasting tools. These tools can further save hours spent by dispatchers optimizing the schedule manually.

Advanced optimization and resource scheduling tools can be run weekly, daily, or towards the end of the day as new high-priority work orders come in or as scheduled work orders get delayed. Such schedulers work on optimization goals (for example, to improve productivity, to reduce travel time etc.) while considering constraints (working hours, skills etc.) to reduce the idle hours in the technician's calendar. It can even be tasked to automatically adjust the schedule board. Automatic scheduling is especially helpful when a large number of technicians and work orders need to be managed dynamically while considering skills, locations, job requirements, routes, and job timings concurrently. This proves cumbersome for dispatchers to handle without any assistance.

Simulations can help organizations try out different scenarios and compare the benefits. It can also be of help while venturing into newer markets or creating resourcing estimates during expansion or contraction of the services business. Similarly, forecasting can help in resource planning for different time horizons and future markets. Forecasting tools analyze various demand drivers such as historical trends, upcoming events etc. They can also analyze external and internal data sources to help the organization accurately plan workforce and contingency measures such as engaging contractors or on-demand workforce.

Mobility, Augmented Reality (AR), and Virtual Reality (VR) technologies can improve technician's performance and productivity

In the past, field technicians received work order information from their supervisors, completed the job with inventory reconciliation and customer signature, and created timesheets on paper. Field technicians today have all the required information on their mobile devices - whether it be is basic information such as schedules, work orders, tasks, and parts details, or advanced information such as remote monitoring diagnostics and knowledge articles. They have access to experts via AR/VR devices at their disposal. AR solutions can be set up instantaneously or come pre-packaged out of the box. Such solutions can help lesser skilled technicians take on complex task, skill up faster, or improve first time fix rates. With skilled technicians hard to find and the need for a younger workforce to be re-skilled at a faster rate to meet the needs of an expanding services business, AR/VR technologies can leverage the expertise of the most skilled assets.



Figure 3: AR & VR technology in use on the field

In certain industries such as power utilities which are in remote areas, clients usually have an onsite maintenance workforce. However, they may need OEM expertise to solve complex issues. AR/VR technologies help assist in faster resolution without OEMs having to dispatch experts over. This also creates a unique value proposition where utilities can maintain a leaner workforce knowing that OEM expertise is just a call away, while OEMs can maintain long-term service contracts to assist using such technologies.

Leverage IoT, data, and analytics to sell value-added services

While optimizations and metrics can improve efficiency and productivity to reduce costs, IoT enabled technologies can help OEMs come up with unique value propositions for clients around services and entirely new business models such as asset performance management. Embedding sensors to collect data from installed equipment, and setting up an analytics team to analyze the data with the help of AI and ML algorithms can create insights that can be leveraged to create value for clients and OEM alike. A simple analysis of device failures over time can reveal 20% of issues that cause majority of the failures. Similarly, a correlation between factors and failures can point to symptoms and causes. Such analysis can be used to facilitate predictive maintenance by generating alerts even before equipment failure takes place.

At LTIMindtree, we have helped our clients leverage the power of connected products to create businesses built around predictive maintenance and informed repairs. This has helped our clients reduce turnaround time (TAT), improve technician productivity, reduce call center traffic, and improve their clients' equipment uptime. Leveraging Mosaic data pipelines and Azure IoT, we have developed real-time streaming and analytics solutions to deliver tangible business intelligence.

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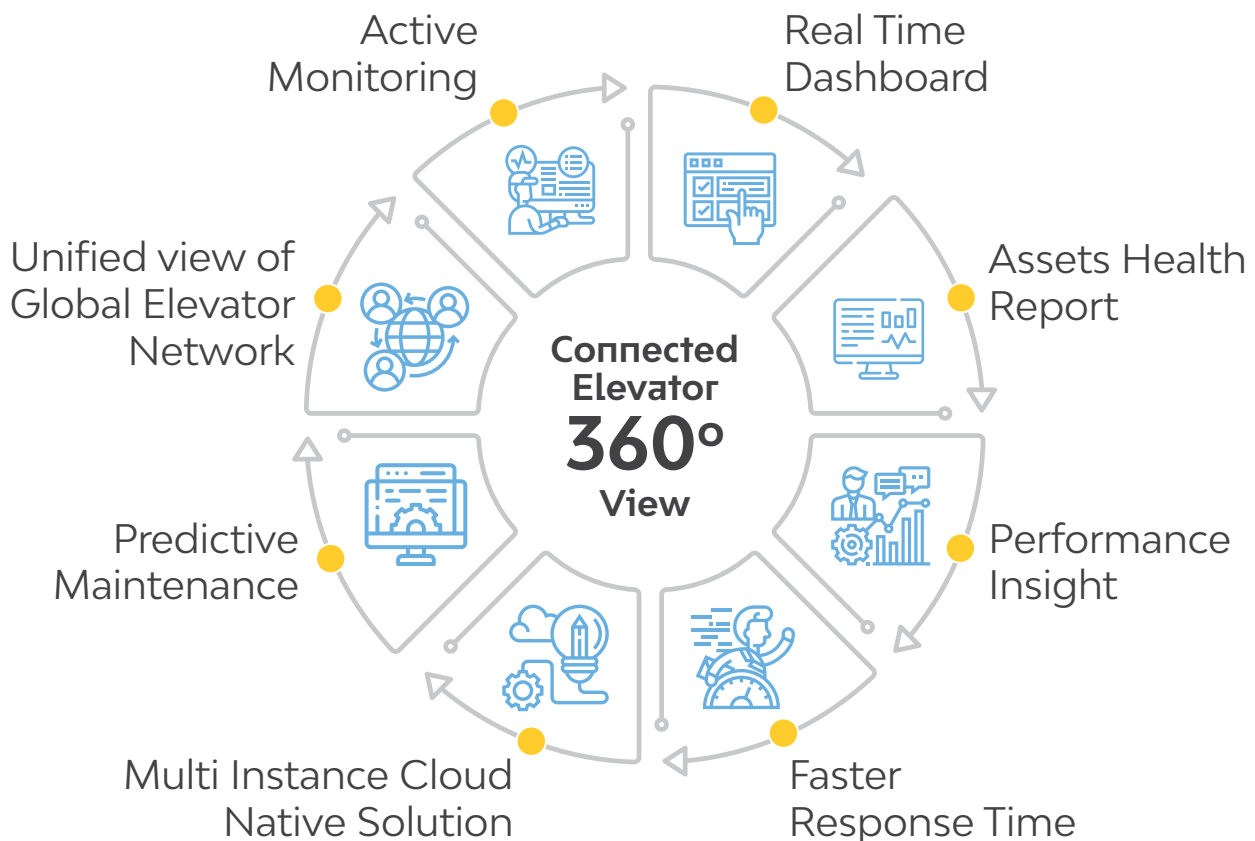
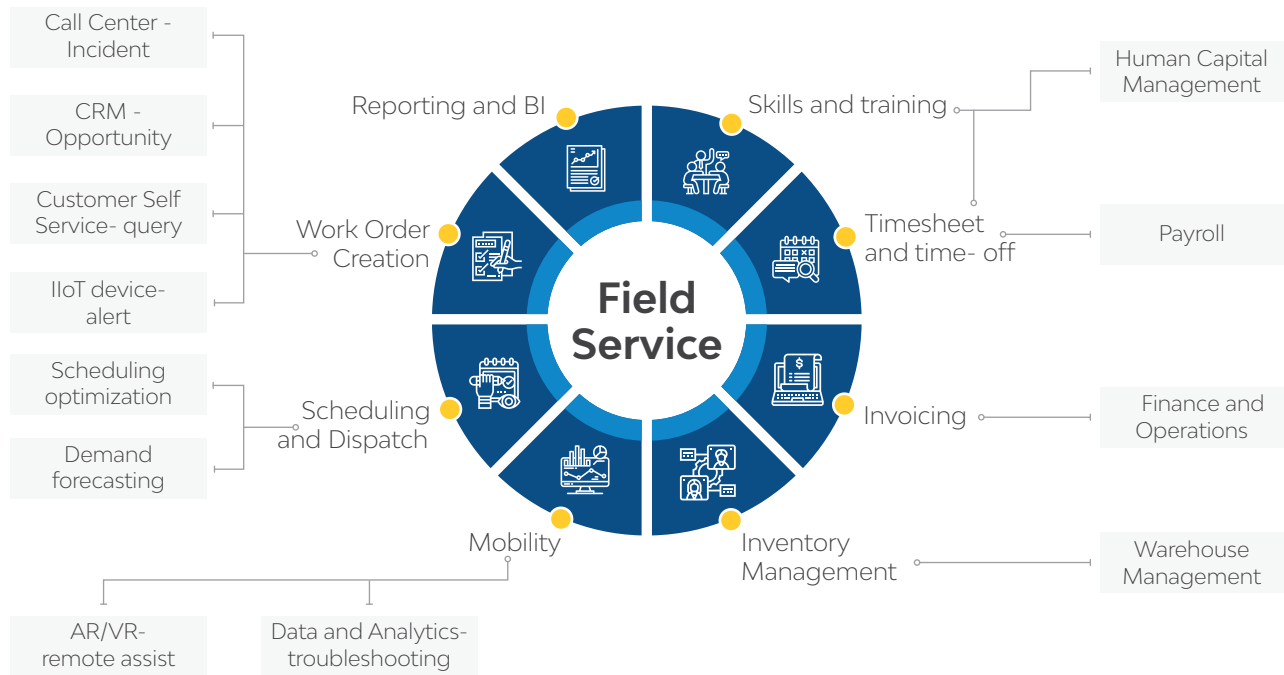


Figure 4: LTIMindtree's connected elevator solution^[2]

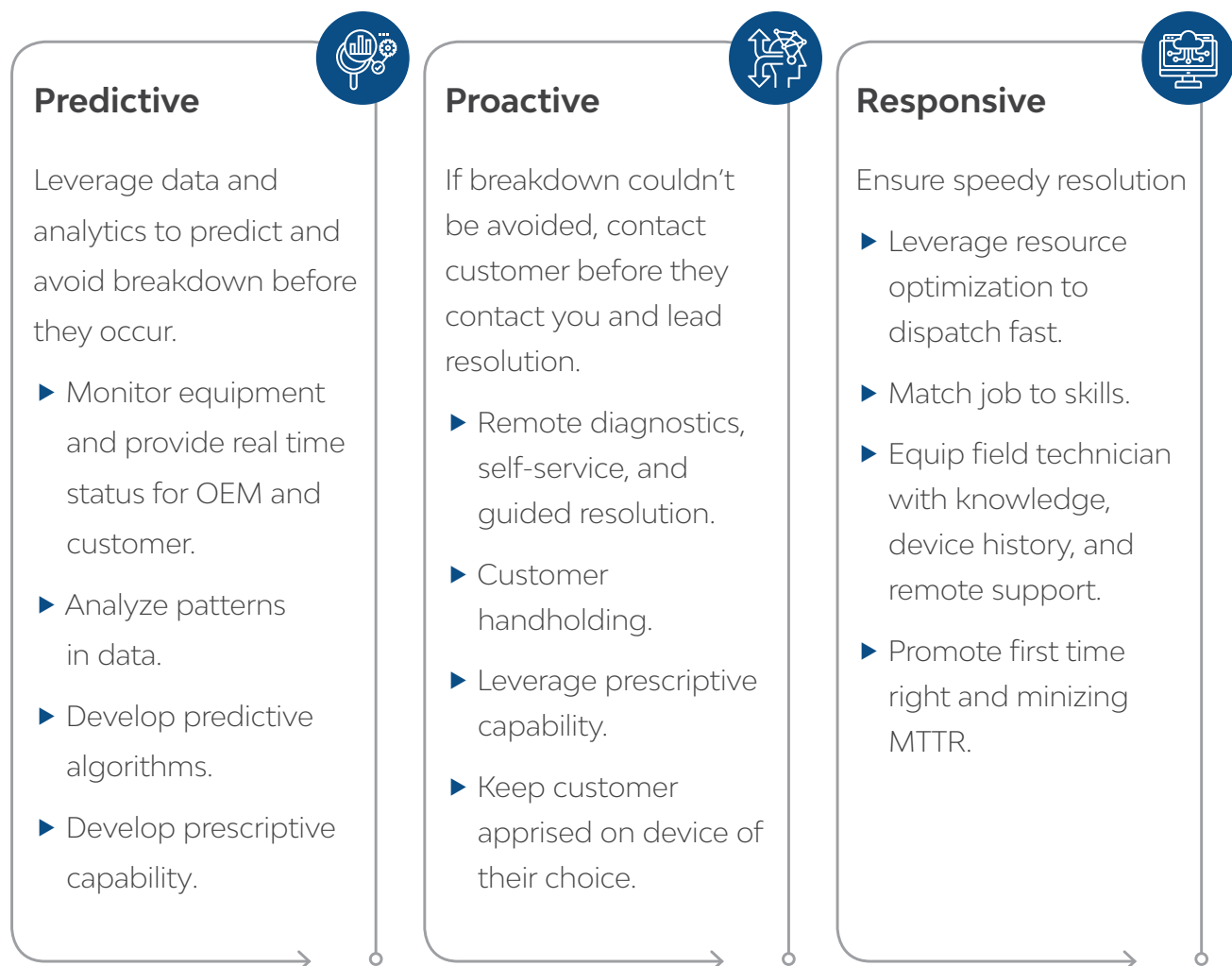
Integrate your field service platform with other apps in the ecosystem

Functionally, the field service operations cannot work in a silo; neither should the platform that supports it. They are expected to be integrated with call center platforms for incident management, HCM platform for skilling, and payroll and inventory management platforms, as well. However, it needs to further integrate with other systems to ensure seamless transfer of workflow and information. New work orders or jobs may be created from a multitude of avenues such as Customer Relationship Management (CRM), customer self-service portals, and, even, IoT devices. Similarly, the field service technicians might create opportunities that need to be tracked by the sales representatives. Connected IoT devices generate a wealth of business intelligence that can be delivered to the customer portals to educate field technicians in their mobile apps about the current status of equipment and the best possible ways to fix it. All of these won't be possible if the field service solution worked in a silo.



Service Offering: Provide predictive, proactive, and responsive service

In the context of customer operations, McKinsey recommends building low-cost, high satisfaction service offerings around predictive analytics, proactive support, and responsive service^[3]. Drawing on equipment, customer, and external data, OEMs can predict equipment failure. Proactive action can save significant time and money for businesses by preventing forced shutdowns, outages, and expensive damages. Finally, alignment of service offerings with business processes and technology can help OEMs provide responsive service to reduce the cost of these outages to the customers. Irrespective of service offerings, services built around a predictive, proactive, and responsive service will resonate well with the customer and provide real value in the long-term.



Metrics: Align Key Performance Indicators (KPIs) and metrics to strategic objectives

Once the strategic objectives have been decided, the right set of metrics or KPIs needs to be defined for each role such as field technician, supervisor and dispatcher and aligned to the service offering. Standard metrics used to measure technician performance such as utilization and availability can be combined with job or work order specific metrics such as efficiency (actual time taken by estimated time). The work orders themselves need to be standardized as far as possible. Segregated into granular tasks or activities, each of the work orders is standardized and benchmarked. Further, these metrics can be used to determine skill level of technicians and training needs.

Another set of metrics could be time spent on planned versus unplanned tasks or productive versus non-productive hours. Similarly, a comparison of the hours spent in the first visit versus subsequent visit for a break-fix can show the additional efforts of not getting a fix right the first time. Progress can be measured from financial indicators such as how fuel expenses or shift allowances have changed after a scheduling optimization.



Conclusion: Constantly pursue business model innovation

Finally, it is imperative that OEMs constantly pursue business model innovation. The beauty of services is the level of innovation that can be facilitated by leveraging technology, customer know-how, and creativity. For example, outcome-based service is one of the newer business models being pursued by OEMs. Instead of responding to break fixes, OEMs are providing services that help improve day-to-day operations and meet the business goals of their customers.

Outcome based services draw a lot from the technological innovations discussed earlier. While not a lot of OEMs are providing such services today, customers will eventually demand such services from their vendors as well. It, therefore, makes sense for OEMs to constantly pursue such business model innovations to add value to their customers.

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About the Author



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Sinjan has 10+ years of delivery and consulting experience in the Manufacturing and Utilities domain and is currently engaged in delivering data driven business outcomes for global brands across sales, services, and supply chain. He holds an MBA from IIM Indore.

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