WHITEPAPER

Evolving to the future of Field Services

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Abstract

In today's world of shorter product cycles, increasing automation and rising O&M (Operations and Maintenance) costs, field service has begun to play a highly significant role across business areas. Be it the case of ensuring new sustainable revenue streams, ensuring competitive advantage through differentiation, using these to upsell/ cross-sell products and reducing customer acquisition costs, the aftermarket has emerged as an area of high return long term investment.

However, setting up and delivering high impact field service depends on the products that will be catered to, the ability to penetrate the lifetime of these products, and the ability to leverage next-gen technologies to deliver increased productivity and memorable customer experiences. Maximizing the lifetime penetration of an organization's product portfolio requires continuous monitoring of assets post-sales to identify maintenance or upgrade requirements. The use of IoT in such condition monitoring in concert with AI-ML to put in place a predictive maintenance framework helps anticipate parts requirements well ahead of any unscheduled equipment downtimes. Consolidating planned/ unplanned downtime and maintenance tasks helps in overall workforce capacity planning, scheduling and workforce routing optimization. Empowering field technicians with simulation-driven training as well as on-the-field access to knowledge repositories and remote assistance (via head mounted devices) help deliver exemplary customer experiences that can be validated by a variety of metrics.

Organizations evolving their field services might often start off with a focus on key KPIs such as field service travel time, team size optimization, service time reduction, elimination of errors/ rework and increased first-time-fix rates. However, it might be overwhelming to proceed with a large-scale transformation without a clear idea of which features, technologies and focus areas provide the best return on the organization's investment. A key factor that needs to be considered in such strategy is the ability of the organization to digest the field services transformation as well as the functional/ technological maturity of its field service relative to its target. Consequently, adopting an assessment-led approach that provides an initial point of view and roadmap definition can significantly help sharpen the implementation process. Organizations that formulate their strategy around the above factors will be able to maximize profitability while being well-placed to provide resilient, high-quality customer experiences in the long-term.

Industry Context

Field Services' Critical Role in Organizational Growth

In today's post-COVID, digitalized and automated world, products are experiencing shorter market cycles and longer asset lives (often extending beyond 10 years in certain industry segments). Whether it is rescuing equipment from unplanned downtime (accounting for considerable O&M costs) or the case of niche equipment requiring customized fixes, field service contributes to organizational growth in several important ways:

Strong Revenue Stream

Field services provides for a low-risk revenue stream over a long period of time. From a product life-cycle perspective, 80% of a product's costs are determined during the design phase, with the remainder spread across production, sales and to a relatively minor extent after-sales. This initial investment can be further leveraged in the customer support phase, which spans the longest part of a product's life- thereby providing a great ROI.

Based on the industry, the aftermarket lifetime value of a product can range from equaling the price of the initial product itself to a high of 3-5 times the product's initial price.

In the context of today's competitive markets, the COVID-19 pandemic and accompanying tight cost constraints, a robust digital field service solution that drives customer retention, extends revenue streams and reduces costs has become an essential part of organizations' aftermarket strategy.

Reduced Customer Costs

Generating additional sales of parts and service-related products is more cost-efficient than acquiring new customers, especially in highly competitive industries with longer sales cycles. Further, the potential that technology offers today to optimize field services helps free up liquidity that can be used for other strategic and operational areas within the organization.

New Upsell/ Cross-sell Opportunities

With many assets and equipment being manufactured to have a longer asset life than the 'rated design life', this helps open upsell and cross-sell opportunities for allied or new products/ services to existing customers.

Competitive Advantage and Differentiation

The wide prevalence of manufacturing standards, use of contract manufacturers, and clustering of geographic manufacturing locations have led to reduced differentiation in products and equipment. This has increased the spotlight on field service as a significant differentiating factor beyond product features, pricing or quality.

Source: HBR, McKinsey, Secondary Sources, Hexaware Inputs

Solution Considerations

Key Aspects | Delivering High-impact Field Service

Field Service revenue and profitability maximization mainly depends on the lifetime of the products being serviced, the proportion of this lifetime that can be penetrated and the ability of the organization to competitively convert this into revenue.

Product Portfolio Analysis

Companies differ in terms of their product portfolios and it is important to analyze which of these products and product lines are conducive to being supported by field service.. This is influenced by the sales of current and previous product lines and the number of customers across locations who continue to use older generation assets (such as in the case of heavy vehicles and equipment, electrical and electronic assets and hardware).

Service Locations

Providing field service requires planning for the deployment of parts, people and equipment at more locations than is required for manufacturing.

Product Coverage

A strong field service setup should support all the equipment/ products a company has sold in the past as well as those currently manufactured. Given the evolution of such products over time, each generation typically involves different parts and vendors, resulting in field service needing to cater to nearly 20 times the number of SKUs dealt with by the manufacturing function. This also means that engineers and technicians need to be capable of handling both legacy as well as current products.

Maximizing Product Lifetime Penetration

Once the organization has identified the scope of coverage of its field services, it is important to maximize the opportunities captured across the lifetime of these products (often extending well beyond the designed lifetime). This requires a combination of monitoring these products/ assets, anticipating field service requirements in advance and preparing for the same in terms of workforce planning and necessary data.

Monitoring and Tracking Assets

Assets on the field are typically monitored on a periodic basis as part of planned downtime and maintenance schedules. However, significant disruptions can occur due to unplanned downtime-related maintenance requirements, spare parts management and workforce management issues, etc., especially if the periodicity of maintenance cycles is low.

IoT, Predictive and Preventive Maintenance

Using a network of sensors and IoT infrastructure to detect parameters specific to assets such as temperature, pressure, RPM, production rates etc. in combination with historical data can help set up an analytics model for these data. This can be used to put in place a predictive and preventive maintenance framework that can help anticipate and identify field service requirements in either real or near real time.

Anticipating and Preparing for Future Requirements

Based on data received from tracked assets, field service activities need to be planned and scheduled into readily visible sets of periodic and non-periodic work orders. Inputs need to be drawn from existing contract and warranty systems to plan for renewals and upgrade-related checks. All of the above planning needs be supported by a strong knowledge management system that can not only help in predictive analysis of client requirements but also provide contextual support technicians on the field.

Source: HBR, McKinsey, Secondary Sources, Hexaware Inputs

Field Service Impacts Stakeholders Across the Value Chain

Workforce Management

Careful and efficient planning of workforce capacity is essential to ensure that field service teams and sufficient bandwidth are available during both non-peak and peak operational hours. This needs to be supported by a strong knowledge management system that can provide a set of not just historically evolved best practices, but also enable training of employees. Virtual Reality (VR) can enable a simulated realistic environment for knowledge sharing and training of technicians, either on the field or remotely.

Seamless Delivery via Next-Gen Technologies

Intelligent Parts Management

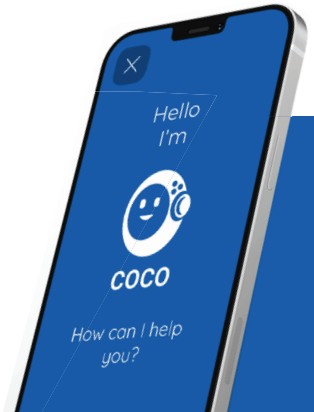
In field service parts planning, ordering and estimation as well as forecasts for spare parts appear as probability distributions rather than specific volume estimates because asset breakdowns can't always be anticipated. Therefore, the end goal of forecasting evolves from scheduling to a larger goal of risk mitigation.

Technician Self-service

Technicians can realize a significant increase in effectiveness and productivity when they are able to readily access information such as service history, work order, customer and technician asset details through voice/ chat bots. Apart from reducing delays in information access, voice-enabled requests also allow technicians to pull up manuals, guidelines or other job-related data without any interruption to ongoing field service tasks (for ex: COCO[1]).

Remote Assistance

The use of HMDs (Head Mounted Devices) in combination with mobile devices can enable field technicians to obtain on-field support and guidance through augmented reality (AR) driven conferencing and readily accessible manuals on HMD screens. AR via HMDs can also be used to document work-task status and record notes via voice commands, without interruption of the task on hand.



Source: HBR, McKinsey, Secondary Sources, Hexaware Inputs

1. COCO is a Microsoft Teams unified bot which can be used by employees straight from their Microsoft Teams app on desktop or mobile devices, to access information and undertake transactions with key business functions through a unified, simple, and conversational interface. COCO seamlessly integrates with all existing disparate IT backend systems or platforms like ERP, CRM, Service Desk or any other enterprise systems to boost employee productivity and engagement.

Areas Impacted and Value Created

A field service implementation that takes into consideration the factors above often has to prioritize among several key KPIs considering the organization's short and long-term strategy:

- Frequency and distance of travel by field service agents, as impacted by planning and work order management aspects: this assumes importance as not every incident may require a customer site visit, or a parts replacement.
- Due diligence cost per incident impacted by existing knowledge repositories and ease of access to the same: this further impacts service costs in terms of whether an expert technician might be required for a particular incident, in case of limited data and no historical precedents.
- Percentage of machine uptime (or reduction in downtime) impacted by intelligent parts management and predictive asset maintenance
- Time required to service equipment as impacted by access to remote assistance and technology such as mobility, head mounted devices and AR/ VR
- Sales costs in retaining existing customers as impacted by first time fix rates and customer self-service access
- Average workforce capacity required by the organization (across incidents) available either in the field or remotely to manage current and upcoming contracts and warranty claims
- Reduction in errors/ rework as impacted by workforce readiness and next-gen training access via mobility or virtual simulations

Most solutions today focus on achieving the above largely by specializing or aligning to four main themes- impact on customer service, their differentiation in terms of a technology focus, the business value/ impact and the time to value offered.

Growing at the Right Pace - Maturity & Readiness

The complexity of field service transformation can be overwhelming for organizations irrespective of size, based on their specific needs and priorities at that particular point of time. It might be risky to proceed with defining a roadmap with a limited view of data available, which only reduces the long-term impact of the field service investment.

An organization may not be ready for an implementation of an end-to-end field service system due to its internally assessed maturity, budget priorities, integration challenges, limited visibility into future customer needs, and technology readiness factors. Consequently, success in field service transformation becomes dependent not just on implementation effectiveness but also on the feasibility of acceptance and digestion by the company.

A few questions that might help organizations self-evaluate and formulate an appropriate roadmap include:

01 Are we clear on how field service transformation can help us achieve our strategic objectives?

02 What are the key areas we would like to focus on as we evolve our field services?

03 How do we evaluate and measure our internal maturity and readiness for transformation?

04 What is the short and long-term cost benefit and ROI that we can expect from our investment?

Source: Gartner, Secondary Sources, Hexaware Inputs

Addressing the Gap - An Assessment-led Approach

Field service transformation is most effective if organizations have a clear idea of where they are currently positioned in the overall industry landscape, both from an internal maturity and external industry perspective. In this context, it helps to start with a detailed assessment that can help develop a point of view (PoV), translating in turn to a strategic transformation roadmap.

01 STEP

Analysis

During this stage, current field service data is collected with respect to where the organization stands in terms of maturity of various field service modules such as planning and scheduling, work order management, parts planning and ordering etc.

Additional details regarding the organization's spend on field services, team size and composition and key focus metrics are also collated as preparation for a detailed assessment.

02 STEP

Assessment & PoV

The collected inputs are sliced-and-diced and triangulated to develop a point of view. This is used to gain insights into the organization's field service landscape and its maturity in comparison to industry peers, extent of investment required to implement the transformation and potential ROI achievable.

The analysis is also used to understand the organization's relative industry positioning on key metrics such as First Time Fix Rate, percentage of tasks requiring an expert technician, percentage of time involved in field service travel etc.

03 STEP

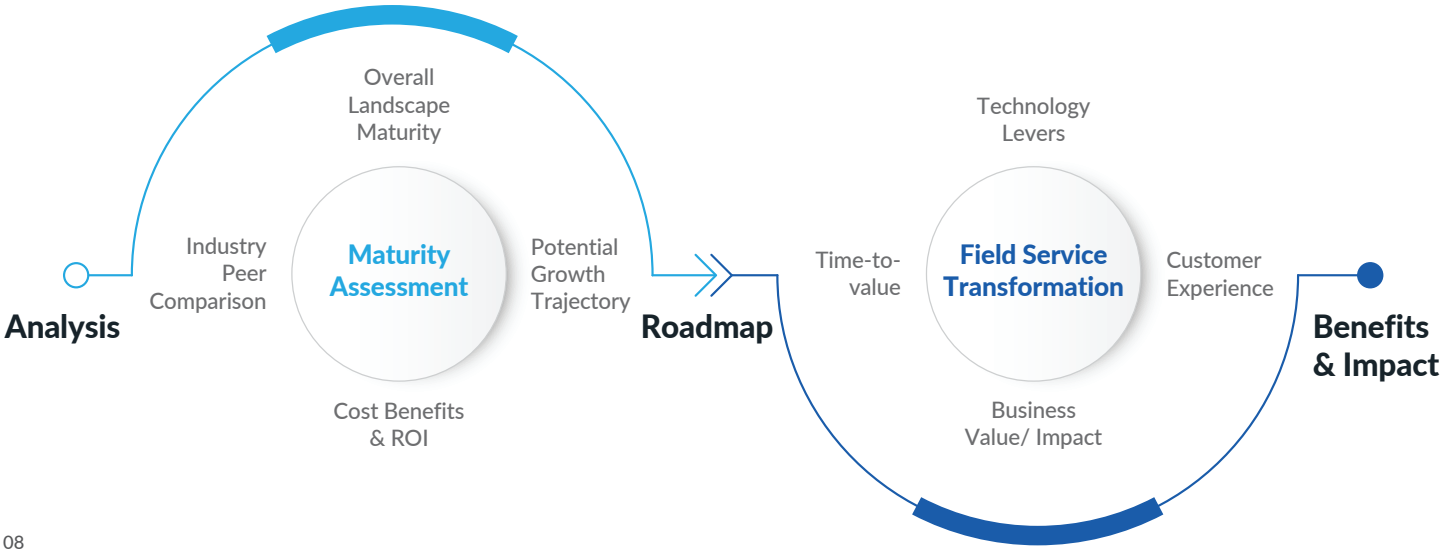
Roadmap

The clarity that is obtained from the assessment sets the foundation for developing a roadmap that covers solution design priorities, module selection, technology investments and knowledge management policies and desired time-to-value.

This helps plan a path towards a disruption-free implementation across locations, employees and customers.

Following an integrated maturity assessment – transformation approach as outlined in the schematic below, can significantly help in structuring and phasing out overall objectives, balance budgetary constraints while managing risks and uncertainties.

Assessment-led Field Service Transformation



Field Services at Hexaware

Hexaware offers a comprehensive field service solution, Field360 that comprises essential as well as specialized features designed to cater to diverse organizational needs. Our maturity assessment-led transformation approach integrates best practices in solution design and implementation to help achieve significant business value and cost benefits.

Maturity Assessment

Provides comprehensive insights into current organizational maturity, potential areas that can be modernized, typical ROI and benefits that can be expected from a transformation and an industry peer comparison view on key metrics.

Standard: Automated field planning and scheduling, work order management, planned/scheduled maintenance, parts management and returns, billing and invoicing, workforce planning, warranty, contracts, mobility, analytics

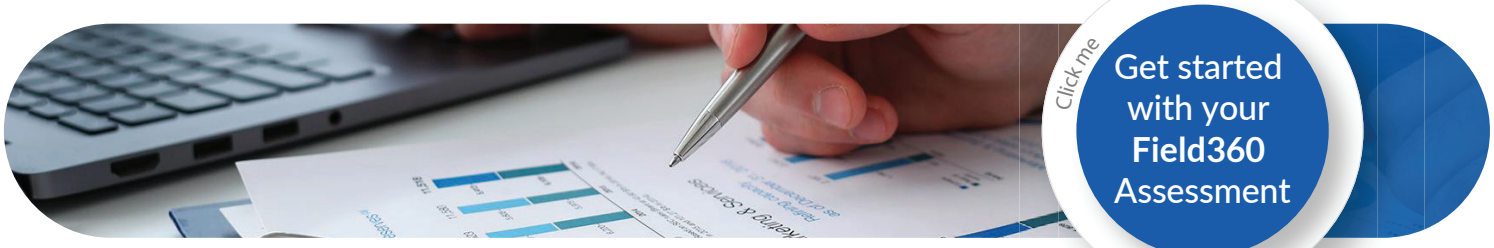
Technician Self Service powered through voice/chat bot; knowledge management integrated with HMD's

Remote Assistance including remote field technician assistance, remote customer assistance, guided work order execution

Virtual Training - Simulation based on-field technical training

Asset Visibility & Maintenance Including Remote asset performance monitoring and Predictive maintenance

Intelligent Parts Management including Real-time parts visibility , Optimal parts scheduling, Parts status / ordering through chatbot



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About Hexaware

Hexaware is the fastest growing next-generation provider of IT, BPO and consulting services. Our focus lies on taking a leadership position in helping our clients attain customer intimacy as their competitive advantage. Our digital offerings have helped our clients achieve operational excellence and customer delight by 'Powering Man Machine Collaboration.' We are now on a journey of metamorphosing the experiences of our customer's customers by leveraging our industry-leading delivery and execution model, built around the strategy— 'Automate Everything™, Cloudify Everything™, Transform Customer Experiences™.'

We serve customers in Banking, Financial Services, Capital Markets, Healthcare, Insurance, Manufacturing, Retail, Education, Telecom, Professional Services (Tax, Audit, Accounting and Legal), Travel, Transportation and Logistics. We deliver highly evolved services in Rapid Application prototyping, development and deployment; Build, Migrate and Run cloud solutions; Automation-based Application support; Enterprise Solutions for digitizing the back-office; Customer Experience Transformation; Business Intelligence & Analytics; Digital Assurance (Testing); Infrastructure Management Services; and Business Process Services.

Hexaware services customers in over two dozen languages, from every major time zone and every major regulatory zone. Our goal is to be the first IT services company in the world to have a 50% digital workforce.

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