



Your Dirty Data Secrets: Getting Actionable Insights From Your Data Mess

Squeeze out actionable service insights
from hidden data

E-BOOK

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INTRODUCTION

From disparate and siloed CRM and ERP data, to desk drawers full of handwritten notes, to a retiring workforce that is taking their extensive expertise with them, service organizations have a serious data problem. Valuable business and customer data, considered too challenging to integrate and mine, is going unused. But when accessed and analyzed, this forgotten data holds the key to solving some of your most critical business challenges.

THE DATA YOU AREN'T USING IS COSTING THE ENTERPRISE A LOT OF MONEY.

Big Data's promise to transform businesses by interpreting hidden information, uncovering patterns, and ultimately using that information to drive highly relevant suggestions and predictions is a promise that is coming to fruition much slower than expected. While Amazon and Netflix have figured out how to interpret relatively small, personal data sets to make consumer suggestions, the enterprise has lagged. The results are staggering. [IBM](#) estimates that bad data costs the US \$3.1 trillion a year [1].

Part of the problem is the vast amount of information being generated every day. The global datasphere will grow from 33 zettabytes in 2018 to 175 by 2025 according to a 2018 study by IDC [2]. The search for the needle in the haystack of useful data becomes even more challenging.

While most enterprises have a data strategy in place, the industry has not scaled operations or technology to keep up with the sheer amount of information. In addition to losing money, lack of data-driven insight is hampering productivity, operational efficiency, and customer experiences.

The misuse or underuse of data has a ripple effect on the service industry. For some industries, it minimizes the impact of strategic, customer-focused transformation

projects. For businesses that depend on the servitization of assets, lack of insight into critical data leads to longer asset downtime. [Aberdeen research](#) [3] shows the average cost of downtime hovers around \$260,000 an hour. Globally, the total loss attributed to downtime is [\\$647 billion](#) annually [4].

The best way for service enterprises to overcome the big data analysis gap is to crack the code on data that already exists in the organization. The enterprise has a treasure trove of information that was not accessible in the past but can be culled and analyzed today.

With machine learning and Artificial Intelligence (AI) tools, it's possible to dig deep and analyze historical and real-time data. This includes structured data, as in clearly defined data types that are organized into databases, and free text like emails, technician and call center agent comments, or even notes from the user about previous problems. It even includes tribal knowledge, valuable expertise from expert team members that is often inconsistently captured and leveraged, and is at high risk of being lost once these experts leave the organization. Here's how to use all that disparate and untapped data to optimize critical business decisions, increase efficiency, and drive greater customer satisfaction.

LEARN HOW TO BETTER HARNESS DATA

Service organizations have more data than they know what to do with. Because of the diversity of systems, including CRM, ERP, asset management, part management, dispatch, and mobile, the information is traditionally siloed in databases that don't easily communicate, meaning it's hard to obtain a holistic view. In addition, there are handwritten notes and other uncategorized data, too. The structured data and free text data that sit in databases and desk drawers are as diverse as customer tickets, machine-generated error messages, parts information and field service technician notes.

Unfortunately, this data isn't typically leveraged in meaningful ways because it's thought to be too difficult to merge the information. But once you overcome the technical challenges of integrating this information, it will reveal past patterns and lead to actionable insights that make a big impact. Applying machine learning (the process of computers improving responses with experience) and AI on top of this organized data will detail likely resolution scenarios, estimate probable time-of-repair, provide insight into part recommendations, and can even help your organization to assess risk of future failures.

**PUTTING
HISTORICAL DATA
TO USE IS THE KEY
TO PREDICTING
LIKELY OUTCOMES**



GET AHEAD OF THE PARTS PROBLEM

Every service organization struggles with delivering the right parts at the right time. In 20 years, IoT systems may solve this problem. Right now only a fraction of assets in any organization are connected and transmitting data. The solution is to use other historical information to analyze the problem and accurately predict the required parts.

All service organizations face a similar problem once a product needs service—why did it break? Is it as simple as a paper jam in a printer? Did a part malfunction? If so, which one? But equipment-generated error messages aren't always specific, and the person reporting the issue may use terms that are unfamiliar to the call center. Even more problematic is if multiple people all report the same problem, they each might describe it in different ways.

Which all leads back to the common question: which part should the technician bring to solve the issue on the first visit? Today, we can use data from across the entire repair process to better inform the tech before they arrive on site. Here's how. Call center reps can leverage technology that prompts them to go through a series of triage questions that are auto-generated based on historical data. These questions are unique to each organization and machine, and will help predict the problem and its resolution, or at least narrow down the issue so the tech is best informed before arriving at the job.

Once organizations reach high accuracy rate in predicting the parts question, the other issues involved in the decision, such as who is closest, who has the required skills, and who is most efficient at repairing this problem, can be solved quickly.

PUT THE RIGHT PARTS IN THE HANDS OF THE RIGHT TECHNICIANS TO IMPROVE FIRST-TIME FIX RATES.

As a leading manufacturer of appliances for commercial kitchens, RATIONAL AG works with multiple third party service organizations to repair and replace their equipment. This dispersed partner ecosystem presented challenges when it came to consistency and efficiency of customer complaint resolution. Relevant customer and product data lived in silos across teams, companies, and systems. RATIONAL needed a way to unlock those silos, and ensure that their technicians had the insights they needed to fix issues on the first visit.

The Aquant service intelligence platform pulled together RATIONAL's free text data and analyzed it through machine learning techniques, delivering data-driven insights and predictions. By leveraging Aquant's intelligence triage, the Rational customer service team has data-driven insights at their fingertips, enabling them to quickly identify the most likely resolution for customer challenges. As a result of implementing Aquant, Rational has experienced a 17% improvement in first time fix rate, and a 30% reduction in parts per job.

17% LIFT IN FIRST TIME FIX RATE

30% REDUCTION IN PARTS PER JOB



MAKE COST-EFFECTIVE DECISIONS

Doubt leads to slower productivity and higher service costs. Take away the field service technician's uncertainty about the underlying issue and empower your service team with access to the knowledge to make the best decision—not hunches.

Similar to the parts availability issue, the difficulty in sending the right team with the right equipment is due to a lack of insight into the problem. The way too many organizations handle it today is to force technicians to go into a site blind and spend too much time trying to figure out the root cause of complex issues. It's then up to each individual to confirm the call center's initial findings. In cases when it's not obvious as soon as you open up the equipment, that might mean troubleshooting the problem by replacing parts and making random decisions on the likely solutions.

In addition to being inefficient and frustrating, it also means the tech is tasked with making decisions that have a bigger impact on customer downtime and service costs. Will the tech choose the simplest solution? What about a solution that is less likely but less work-intensive? Or will the tech choose the most-cost effective one?

To truly transform a service organization, you need to provide tools that enable technicians in the field to execute on the most likely and cost-effective methods available to them. How?



TAKE THE GUESSWORK OUT OF SERVICE CALLS.

Provide your service technician with a knowledge tool so they can most accurately continue the triage process where the call center left off. This is where historical data, including parts information and past service notes, will greatly improve knowledge.

Sort the optional solutions in the most cost-effective way to solve the problem. For example, if there are two or three likely fix scenarios, you can provide the service technician with an ordered list of how to attempt the repair based on ease, cost, and most likely solution.

Give expert team members a voice to share best practices. Remember, service engineers love to talk about how they figured out complicated problems. Capture their tribal knowledge to optimize best practices and knowledge tools for the rest of the organization.

IMPROVE JOB DURATION ESTIMATES

While many of the above issues impact equipment downtime, customer satisfaction, and service organization performance, the question about job duration is a major issue for organizations trying to balance costs while providing the best available service.

Unfortunately, field teams face situations where they are allocated too much time or too little time to complete the job on the first visit. The problem isn't new. Historically, job duration times were created by using averages based on a jumble of data that wasn't always accurate. This led to a variety of problems including over-allotting time and resources, under-scheduling resources, and paying for unnecessary overtime. In addition, it keeps customers waiting when they shouldn't be, and ultimately leads to a poor customer experience.

How can you make this change? Leverage all the available structured data, free text, and tribal knowledge to apply machine learning to more accurately predict job duration. This will help you understand scenarios like location, machine age, history, and even environment, including factors such as temperature and the type of use (or abuse) the machine experiences.



PREDICT FAILURES BEFORE THEY OCCUR

In addition to making use of historical data, it's becoming more important for service organizations to have a real-time data strategy. Best practices urge companies to implement IoT technology. The most successful organizations are embedding more sensors in new equipment to monitor machines, find anomalies and predict faults before they happen.

The technology that makes IoT possible is evolving to become cheaper, faster and more ubiquitous. Analysts predict that more than 20 billion devices will be connected to the internet by 2020 [5]. However, most service organizations are still years away from embracing the full potential of connected devices to provide deeper insights in real time.

Many organizations that have adopted IoT technology are receiving more connected device alerts than they are equipped to handle. Sending technicians to sites to respond to false alarms and non-critical issues are driving up their labor costs--far from the increased efficiency that the IoT movement promised. And the cost of ignoring connected device alerts might be much higher. In 2013, Target suffered a security breach and information from 40 million credit cards was stolen. An investigation unveiled the fact that Target received alerts about the infiltration of their payment systems by hackers, but the alarms were ignored in the deluge of other alerts. Enterprises need to develop strategies for collecting, analyzing and acting on this unprecedented flow of data.

Service organizations need to put processes and tools in place to triage connected device alerts and predict the best courses of action for mitigating risks, allocating resources, and resolving challenges. With the right real-time data strategies in place, they can realize the power and potential of connected devices.

Service organizations that can crack big data's code and extract the hidden wisdom from structured data, free text information and employee network experience are poised to leverage all that data as a competitive differentiator. With the right information, they can optimize critical business decisions, transform the service experience, achieve higher uptimes, and more easily satisfy clients. The secret to those insights are hidden within the vast amounts of historical and real-time data, both structured data and free text. Effectively mining that information was a challenge in the past, but is achievable today with resources like Aquant's service intelligence platform.



References

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About Aquant

Aquant's service intelligence platform helps you use your existing data to provide differentiated service. The platform unlocks insights from data that is scattered across different systems, hidden in free text, and locked in the minds of your most experienced people. It empowers teams to use that data to improve first time resolution, optimize service team performance, assess risk, and drive exceptional customer experiences.



Put our technology to the test, with no cost or commitment.

Sign up for the 7 Day Challenge at www.aquant.io.