A Guide to **Modern IT Service Management With AIOps**

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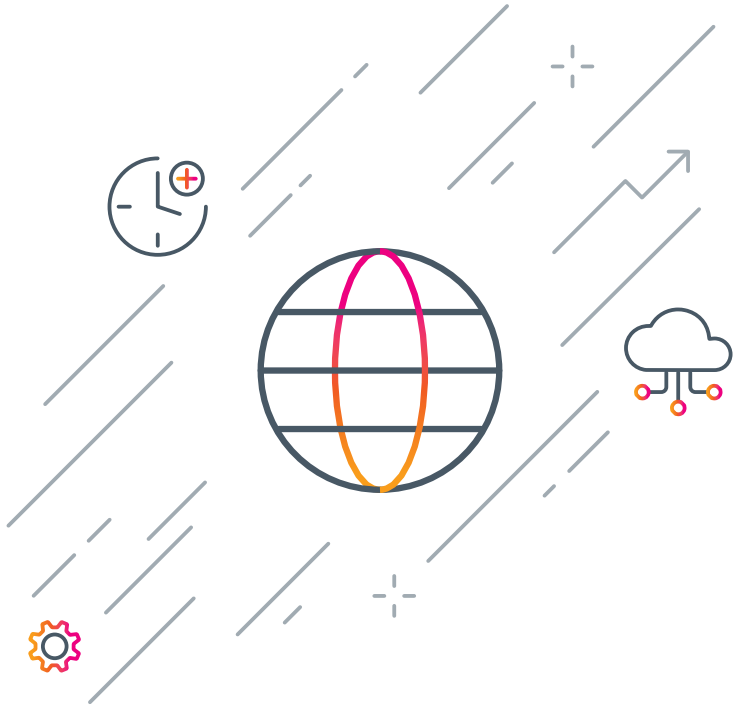


Situation:

The New Digital Normal

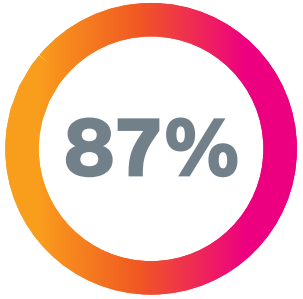
Investments in digital transformation initiatives have skyrocketed since COVID-19 turned the world upside down. The impacts of the pandemic — lockdowns, employees working from home, economic downturn — have accelerated the need for digital services. Organizations in retail, food service, public sector and hospitality have had to quickly pivot to entirely new business models to support flexibility, efficiency and cost control. Few organizations have worked through 2020 without significant changes, but those that are thriving in spite of the unprecedented conditions are those that have embraced a digital service mindset.

A digital service is an online function or capability that fulfills a need for a customer, a digital partner, citizen or internal consumer. Common digital services include centralized inventories, customer account management and payment processing. Today, such services are critical for organizations to effectively deliver the experiences their stakeholders want and expect.

Organizations are digitizing their most mission-critical services, whether by engaging customers online via e-commerce, offering distance learning, delivering medical care through telemedicine services or operating a complex supply chain with enterprise resource planning (ERP) systems. In order to deliver them efficiently, organizations are adopting new technologies like cloud services, microservices, serverless functions and technology platforms driven by AI and machine learning (ML). Deloitte reports that 87% of global IT decision makers agree the pandemic will cause organizations to accelerate their migration to the cloud, anticipating a decline in on-premises workloads by 2025.

As new digital services are delivered through on-premises, cloud-based or hybrid applications, service owners feel the burden of an increasingly diverse ecosystem. This has increased the complexity in operating environments and unpredictability about how applications and systems will perform — at a time where the penalty costs for any service interruption have never been higher.

47% of large enterprises see cloud complexity as the biggest risk to their ROI.



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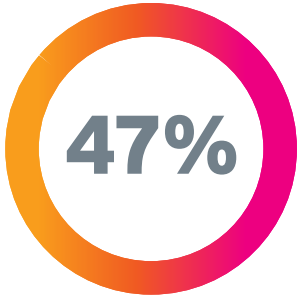


of large enterprises see cloud complexity as the biggest risk to their ROI.

Challenges

Growing demand for digital services introduces higher expectations for reliability and performance. These services present novel challenges and risks when teams and tools aren't adequately built to support them. Operationally, teams struggle with siloed data and processes, especially as more services are adopted or built in environments outside of their management control. Poor visibility combined with ineffective management tools lead to inefficient cross-functional communications and slow remediation times. From an organizational standpoint, outages and performance degradation present risks of regulatory failure, lost revenue, poor customer experience and damage to brand reputation.

Operational challenges

Misaligned, siloed teams

Teams responsible for service delivery typically track different metrics than IT or developer teams. Because of this, organizational, developer and IT objectives are often disconnected from each other, with reporting built for each specific team. When these siloed groups must collaborate to resolve an issue, each representative comes with their own data and monitoring tools, and relies on manually cross-checking across data silos. This leads to ineffective cross-team communication and collaboration.

Fragmented visibility

With such silos, teams struggle to understand how a service is actually performing from the end-user perspective. This fragmented visibility prevents them from gaining insights to take appropriate action when problems do arise.

When a customer experiences an issue with a digital service, technical teams can only provide information into how their systems are performing. They have little to no visibility into how the digital service actually impacts the business. The lack of sufficient full-stack visibility also impacts service owners, who are unable to understand and report that impact to their leaders. This is an ineffective mode of working, and directly conflicts with organizations' increased prioritization on end-user experience.

Slow remediation times

Complex environments and distributed knowledge sources hinder quick and effective responses to incidents. Responders end up spending valuable time searching for critical information to locate the source of the issue instead of actively recovering from the incident. When only a few staff members have broader system knowledge and access, the problem worsens, leaving most responders with only a narrow view of the system they are tasked to manage. Service owners are even less informed, often only receiving notifications that a service is either on or off. When all responsible teams have a grossly unequal knowledge of a digital service's health, remediation times will inevitably be slow and fail to meet service-level objectives.

Organizational consequences

Poor customer and citizen experience

Businesses know that consumer choice has risen with the digital economy, and customers expect reliable and consistent service. With digital services now the foundation of every business, customer satisfaction depends on highly available services that are up and running 24/7. When slow is the new down, companies must be two steps ahead when responding to any issue in order to maintain customer confidence and trust.

Pandemics, natural disasters and public safety crises all place extreme demands on public sector agencies. To deliver life-saving services and protect the public from local and global health threats, public sector agencies must be prepared to collect, interpret and optimize a wide variety of data. State and local agencies must deliver these mission-critical digital services reliably and securely — or potentially risk permanent damage to citizen well-being, safety and public trust.

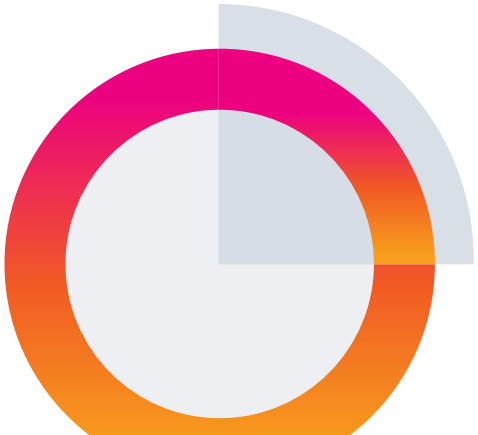
Compromised brand and reputation

Any issue that impacts customer experience is a potential risk to company brand and reputation. Customers are quick to turn to social media to vent when they feel their experience is poor, often attracting media attention in the process.

These types of media storms and poor customer experience testimonials can lead to customer churn and long-standing consequences to company reputation. Any issue can have an exponential impact on the business that lasts far longer than the incident itself.

Examples in the news:

- Bots and Scalpers Are Making Finding PS5 And Xbox Series X Stock A Nightmare
- YouTube Down: Twitter Turns Into A Meme Field After Website Stopped Working
- AWS Cloud Outage Causing Service Disruptions Across the Web



Risk to revenue

For companies relying on digital services, any amount of downtime or slowdown puts revenue at risk. Industries with the highest risk to revenue include financial services, retail and healthcare. One 2016 study found that the average cost of downtime in these industries was between $300k to $5 million per hour.

Today's digital deployments are large and complex, with business services built on extremely dynamic environments. Without the right strategy and technology in place, operational challenges lead to negative business consequences. Teams must ensure 100% service availability in order to protect brand reputation. Organizations must break down silos and visibility gaps across teams to provide a holistic service approach to protect end-user experience and revenue.

In the news: Outages that impacted company revenue

- App Store Downtime Cost Apple $25M in Sales
- Delta: 5-Hour Computer Outage Cost Us $150 Million
- Facebook's Catastrophic Blackout Could Cost $90 Million in Lost Revenue
- Target's Pre-Father's Day Register Outage Cost the Retailer $50 Million, Analyst Says

Solution:

Splunk for Digital Service Management

To effectively deliver an always-on digital service — and to eliminate silos and fragmented visibility — companies need a proactive, holistic approach to their technology and processes. Leaders should also align teams to the same customer-centric key performance indicators (KPIs) to ensure all stakeholders are working from a consistent data source; this way they'll better understand how their work impacts the business.

So how do you make it happen?

Service owners may be further ahead in reaching their goals than they realize — or, at least, may already have the right tools to reach those goals. Splunk is widely adopted worldwide (91% of Fortune 100 companies are Splunk customers), yet too often service owners are unaware that it is much more than a logging tool for IT teams. Splunk can help enterprises to maximize their digital service delivery and improve customer experiences.

As IT organizations face increasing pressure to demonstrate their value to their business leaders, Splunk's capacity to align technical teams with business objectives is even more relevant.

Splunk's integrated data platform, built-in machine learning and KPI-driven dashboards deliver the capabilities needed to ensure service performance, prevent costly outages, accelerate remediation times and deliver end-to-end visibility to technical and business teams alike.

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Requirements

Correlated data strategy and platform

Today's environments produce data from increasingly diverse sources, including containerized workloads, microservices and unique SaaS-provider APIs. Applications themselves are now highly distributed, with every transaction producing its own digital exhaust, making it even more difficult to collect and analyze incoming data. Modern organizations need a correlated, integrated data strategy.

Splunk correlates vital data, including metrics, traces and logs

- **Metrics** are regular, numerical snapshots of how a system is performing. They're useful for real-time detection and alerting, particularly in large-scale environments. They serve as the foundation for predictive analytics.
- **Traces** show where an issue arises. They provide critical context around the error, down to the line of code where the failure takes place. Tracing supports troubleshooting service dependencies to pinpoint where something went wrong more quickly.
- **Logs** provide context to understand why a problem is happening, thereby accelerating root cause analysis so teams can prevent similar problems from happening again.

An integrated data strategy rejects point-solution monitoring that creates silos and fragmented visibility. It's built on the ability to ingest and correlate data from any source, in any format. Because teams don't have to worry about where data is coming from and what format it's in, they can support digital services no matter what environment those services live in, successfully support the organization in its current state and scale for future growth.

Implementing a successful integrated strategy requires an integrated data platform that can ingest any type of data, from any source, living on-premises, in cloud or in hybrid environments. According to a report from Nucleus Research, 85% of respondents said they maintain hybrid environments consisting of private and public cloud components, and existing on-premises assets.

Splunk's platform has a large integration ecosystem — including both out-of-the-box and custom solutions — to ingest all of your data. By correlating metric, log and trace data in one system, Splunk delivers full-stack visibility, along with the context and detail needed to fully understand the behavior of complex environments and their unknown failure conditions.

Many solutions can't handle data at scale, using aggregate sums to power their algorithms and outlier alerts. Splunk's integrated data platform correlates all data at full fidelity — not just a sampled subset — so no anomaly goes undetected.

Machine learning and AI-enabled technology

Aggregating and correlating all data is vital to protecting service availability, but only if you have the tools to make it actionable. Machine learning gives teams that ability, delivering insight from an expansive dataset not only to identify historical trends but also to predict future behaviors. Artificial intelligence, driven by machine learning, is the foundation for intelligent alerting and analysis for predictive analytics. Lots of solutions promise machine learning and AI, but they rarely deliver.

Splunk provides the following advanced analytics capabilities:

- **Adaptive thresholding** continuously defines and updates normal service thresholds with observed behavior to reduce alert noise and prevent analysis from going stale.
- **Anomaly detection** tracks behavior on a single key performance indicator or multiple KPIs simultaneously to spot trending early indicators and minimize impact on performance.
- **Intelligent alert correlation** automatically groups events and prioritizes incidents based on how severely KPIs are affected.
- **Predictive analytics** uses historical behavioral patterns to alert on a future outlier/anomaly so that teams can resolve potential service issues before they actually reach the customer or end user.
- **Intelligent incident response** delivers suggested actions to those best able to respond.

KPI-driven dashboards and visualization

KPI-driven dashboards are views that align data to business metrics such as payments delivery, web store revenue and service-level agreement (SLA) performance, versus technical performance like CPU usage and network uptime. With dashboards that showcase data of shared, company-wide objectives, Splunk empowers teams to monitor actual business performance, not just individual metrics and systems.

With Splunk's dashboards you'll be able to:

- **Capture** the service elements and end-to-end workflows with visualizations that showcase business KPIs and connect dependent infrastructure. This allows teams to understand their impact and how technical performance impacts business objectives.
- **Customize** dashboards for business and technical teams, without the need for an analyst to build and maintain them. Splunk provides the flexibility to create views for business owners and technical teams while pulling from the same dataset, so everyone is working from the same source.
- **Derive** actionable insights from data. Dashboards should support decision-making processes, not just monitoring. With machine learning and correlated data, Splunk instills trust and empowers teams to prioritize and identify issues effectively.

Intelligent, integrated incident response tools

Splunk provides teams a closed-loop solution for incident management, which streamlines responses and reduces friction across teams. You can:

- **Monitor** critical service health and drill down to investigate underlying infrastructure in real time, all from one dashboard.
- **Prioritize** and triage incidents by severity of service impact with integrated event and incident management views. Create a ticket, run a script or alert a team from the same view.
- **Notify** response teams with smart routing and suggested responders using Splunk's intelligent on-call solution.
- **Unlock** orchestration and self-remediation with more than 70 automation playbooks and apps for IT operations.

Benefits

Using correlated big data, machine learning and AI, KPI-driven dashboards and intelligent incident response tools, Splunk customers realize both operational and business-oriented benefits.

End-to-end visibility, aligned teams and outcomes

Understand how the business is actually performing, from the infrastructure to the end-user perspective. Align objectives, processes and metrics to customer experience and break down communication barriers with every team referring to the same integrated data. By aligning IT, development and security teams to business objectives through common information sharing, teams immediately elevate their position to partner, instead of utility.

Faster remediation times and better prioritization

By applying advanced analytics and automation to response and management, teams can focus on more strategic initiatives and optimizing cross-team business processes that prioritize the end user. These efficient workflows can help augment limited staff resources and accelerate remediation times. Splunk's ML-directed solution promotes standardized and democratized approaches, so all teams can resolve an issue effectively and collaboratively.

Prevent downtime before it impacts revenue

Through data and tool consolidation and use of predictive analytics and anomaly detection, teams are alerted to address an issue before it impacts the customer, protecting revenue and end-user experience.

7 Steps to Successful Digital Service Management

How do teams modernize their approach to digital service management? What are the critical steps to take to begin this journey? Here are seven a team should consider to manage digital services successfully.

1. Understand your organization's cloud strategy

What critical services are moving to the cloud or adopting a digital strategy? Certain initiatives have accelerated cloud adoption (telehealth, remote work monitoring, etc.) with the shift to digital services. By understanding the organization's cloud strategy and what service initiatives are, or in the process of, being digitized, your team can identify what parts of the business are undertaking such efforts and which stakeholders are ready to implement a modern, customer-centric approach to service management.

2. Identify your top critical services that matter most to the organization

Analyze major customer-facing incidents for clues about possible pain points and impacted services. Are there services that executive leadership consistently follows? Identify critical stakeholders in operations, development, security and business who are held accountable for P1 service outages and incidents. Then, identify executive stakeholders who are driving transformation strategy initiatives and their reasons behind this change.

This applies to service owners and technical teams alike. Some business reasons for transformation include new market pressures, cost reduction and risk mitigation. From the technical side, modernization of legacy infrastructure or new technical expertise and workforce demand may drive these initiatives.

3. Identify KPIs for one layer of your business

IT operations teams can begin monitoring KPIs for a certain type of infrastructure (e.g., database performance). Service delivery and assurance teams can start by monitoring business activity trends and volumes.

4. Collaborate with stakeholders across multiple teams

Partner with service stakeholders from IT operations or developer teams to establish shared objectives and goals. More than ever, CIOs and IT teams are looking to demonstrate IT's business value. With software delivery and heightened dependence on applications to drive revenue, developer teams are increasingly responsible for protecting business performance.

Bring business and tech stakeholders together to define shared KPIs first, and gather the proper metrics to support the KPIs. Then, create a unified data repository from across various systems to collect the metrics for multiple users to view. Go beyond basic reporting templates to include KPI definitions and map technology metrics to the KPIs they support.

5. Capture business architecture and KPIs across one service

Using the stakeholder intelligence from the previous step, document business and technical KPIs that are related to a single service. Then, capture the entire business service architecture and map its components to associated business and technical metrics (i.e., the end-to-end business workflow and supported infrastructure). Finally, build dashboards that visualize business and technical KPIs, and support root cause analysis for a service degradation.

6. Establish predictive insights for a service

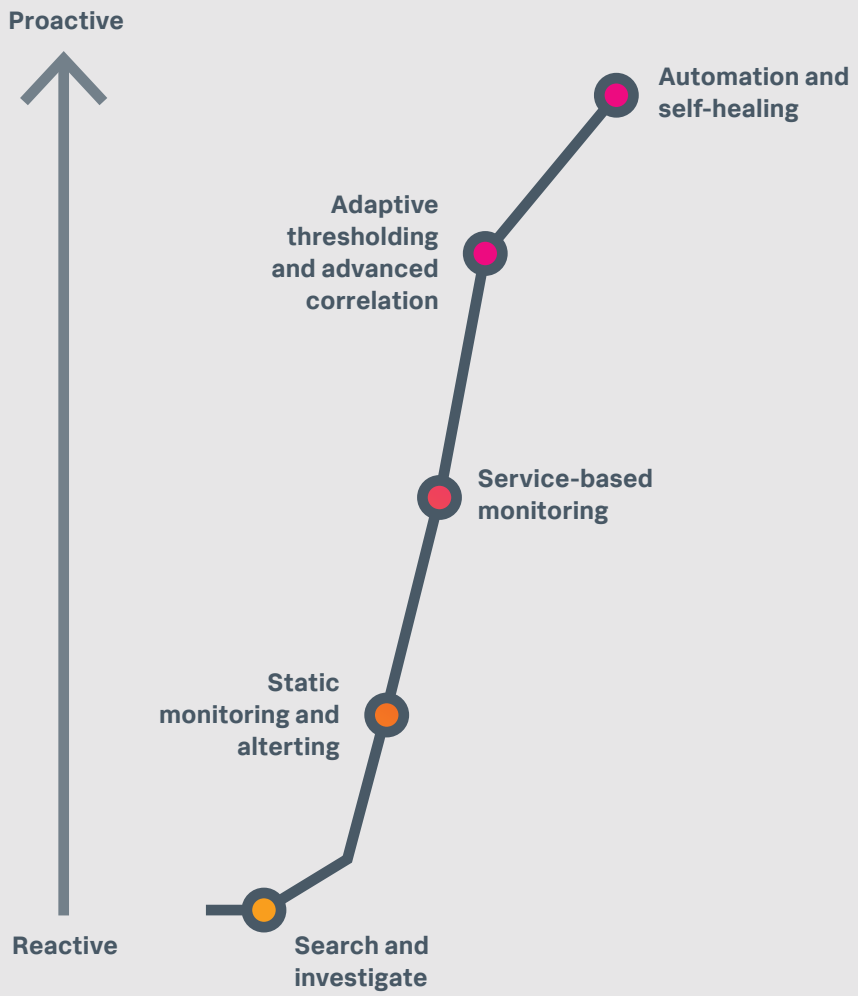
With the ability to visualize and monitor a service end to end, the next step is to set up and train algorithms to generate predictive intelligence for a service. Start by piloting various advanced algorithms on a service. Do not implement alerting or response until this has been validated. Then train machine learning algorithms on KPI health. These vary by industry, but examples include mobile payments performance, citizen services and claims processing.

7. Create a center of excellence for data

Expand the monitoring strategy and holistic framework to more teams, and advocate the benefits of correlating more data into one place. As more teams adopt this holistic monitoring strategy, buy-in will get easier. One approach to convey the value is for teams to see their data in the new proposed approach. Offer to create a dashboard for them using your dashboard framework and platform. When an issue arises, you can use your intelligence to communicate what went wrong with their systems.

Finally, enable automation and orchestration across processes to predict more outages and reduce remediation times. Include accountability mechanisms that use data and analytics to drive efficient workflows and more automated processes.

Capability maturity model



6 Practical Applications of Modern Digital Services

Healthcare

Healthcare organizations are investing in digital telemedicine services to deliver care to patients and improve collaboration between distributed healthcare centers. Service availability and performance can sometimes mean the difference between life and death.

Use case: Claims processing, quality patient care

Molina Healthcare is a Fortune 500 healthcare organization that serves 4.2 million individuals nationwide. When their phenomenal growth and business acceleration brought technical debt and limited budget, their enterprise services team adopted big data analytics and KPI-driven monitoring to understand how best to serve their members.

Key challenges

With 100,000 data sources, 190 billion events and 40,000 source types, Molina Healthcare needed to ensure uptime for its revenue-critical services, including its claims processing engine and call center. Molina had expensive and disparate monitoring tools, and they lacked real-time visibility of their services and systems.

Key results

Molina Healthcare migrated to a machine data platform with integrated AI and machine learning to ingest, correlate and display all of their data. They also implemented a modern monitoring strategy using KPI-driven dashboards to engage with business users and their customers, to understand at that moment what was important. They prioritized their critical services and key business processes to provide visual representation of where the money flows to demonstrate business value.

By improving the stability of their systems and services, Molina Healthcare reduced their number of outages, incidents and downtime by 80%. With 360-degree visibility across the business, the enterprise team can now approach executives and have a contextual conversation without having to translate between technical and business terms.

> **"Splunk gives us the ability to engage with our business users [and] engage with our customers by being able to correlate the data from their respective systems with the operational data we have."**
>
> — AVP Operations, Molina Healthcare

Telecommunications and media

COVID-19 and 5G have accelerated the adoption of new business models in telecommunications (telco) to meet "new normal" customer requirements like remote work, and protect existing revenue and future investments. To support the upcoming wave of 5G-based services, telcos are transforming their linear workflows to an integrated, service-oriented architecture, bringing technology and business teams together to accelerate innovation and eliminate manual processes.

Use case: Broadband and mobile services, customer satisfaction

Belong is a Melbourne-based, digital telecommunications company providing broadband and mobile services across Australia. As a Telstra-owned brand, Belong had a unique opportunity to drive different business models and experiment with innovative telco services to create a seamless customer experience. Using Splunk, Belong has gleaned insights that have yielded improvements across the business, including reducing customer-facing errors by a staggering 75%.

Key challenges

Belong needed to improve customer retention, but they lacked visibility into real-time data that would help them address and prioritize issues across the organization. With their 5G network rollout, Belong also needed to better monitor the health of their cell towers to understand which were becoming unreliable and prevent downtime.

Belong's continued success meant that the company soon outgrew its legacy system. Prior to the Splunk platform deployment, Belong lacked the full breadth of visibility needed from its data and business intelligence. The organization relied on a system that had inadequate search functionalities, provided limited insight and was rarely used by staff. The lack of real-time analytics created challenges in Belong's product environment, and without the ability to respond quickly to customer issues, Belong felt the need to do better to deliver its desired customer experience.

Key results

Belong leveraged Splunk's real-time visibility and wide breadth of coverage to improve customer satisfaction, business outcomes and IT operations. Using KPI-driven reports, dashboards and alerts, the team identified issues faster and saw where problems existed within their systems, allowing them to develop business cases that focused on addressing the right issues. By empowering staff with Splunk's flexible, reliable platform, Belong has accelerated and simplified product development while enabling the team to detect, monitor and resolve issues much faster. Splunk's ability to clearly illustrate data through dashboards and visualizations has allowed the team to act on complex log data and develop a traffic light performance analytics tool that streamlines customer interactions.

Belong created a better experience for both customers and employees by reducing customer-facing errors by 75% and reducing mean time to recovery (MTTR) by 50%.

> **"We've been able to empower our product development teams with access to our organization's data through real-time visualizations. … This contributes to a customer-centric culture, which is an integral pillar to achieving sustainable transformation and business performance."**
>
> — Chief Digital Officer, Belong

Manufacturing and supply chain

Customer behaviors and expectations are changing dramatically, challenging the established supply chain and operations setups of industrial companies. Supply chains are increasingly facing major disruptions, in particular because of just-in-time (JIT) inventory practices, which aren't as reliable during a global pandemic. To succeed in this marketplace, companies need to transform traditional supply chains processes into end-to-end connected, analytics-driven supply chain ecosystems.

Modern organizations are already ahead of the curve. In a PwC survey to supply chain executives and decision makers, 63% of forward-thinking companies reported that they had already implemented an AI and advanced analytics platform, and another 24% said they were piloting such software to transform their manufacturing processes to be more flexible and transparent.

Use case: Process optimization, manufacturing data analysis

From kitchen appliances and garden tools to automotive parts and heating systems, Bosch plays an important role in everyday life. Though Bosch is a well-known brand for a wide range of products, its Manufacturing Solutions Division of 2,000 employees across nine locations provides factory equipment, technology and services for industrial businesses.

Key challenges

While data was already available to the Bosch team, they were unable to derive meaningful insights and turn data into action for critical processes like manufacturing Bosch's lambda sensors. Invented by Bosch, these sensors are a vital element in a car's emissions system, ensuring that the fuel mixture has the right amount of oxygen for efficient, environmentally friendly combustion.

Manufacturing for Bosch's advanced lambda sensors required up to three weeks lead time and many different data formats that had to be manually correlated using complex SQL queries and huge Excel spreadsheets.

Key results

To determine how to best optimize the manufacturing process for these lambda sensors, Bosch turned to the Splunk platform. Previously, Bosch customers had to perform time-consuming searches in Microsoft Excel to find information on how factory equipment was performing. Now every customer can run those reports, and the queries are much quicker: Splunk reduced the average time from 15 minutes to as little as 20 seconds.

This quick data access allowed the team to identify the machines or workpiece carriers on the shop floor that created the highest percentage of faulty parts and service them immediately. It also freed up time for the team. No longer do they have to spend all day running Excel macros — now they perform more complex data analysis and come up with suggestions for how to improve business processes.

With Splunk, Bosch manufactures products with efficiency, slashing core-analysis time from 15 minutes to 20–90 seconds while allowing every staff member — not just technologists — to complete their own queries.

> **"Thanks to Splunk, we get deep insight into our processes. This transparency assures the team uses data to make all their decisions for further improvement."**
>
> — Industry 4.0 Innovation and Product Manager, Bosch Manufacturing Solutions

Financial services

As banks and other financial institutions rely less on brick-and-mortar branch offices and offer savings, loan and payments services entirely online, the availability and performance of these digital financial services is more critical than ever.

Use case: Customer volume and transactions, customer experience

With a global presence in more than 30 countries and territories, TransUnion helps businesses manage risk while also helping consumers manage their credit, personal information and identity. Behind the scenes, the company promotes reliable consumer transactions by consistently ensuring the stability of TransUnion's information technology systems.

Key challenges

To streamline operations and improve customer experience, TransUnion needed to better track anomalies while visualizing and combining machine data from multiple applications. The enterprise monitoring department looked for ways to improve performance monitoring for external customer traffic and customer volume transactions. Upon discovering Splunk, the team was excited to utilize machine learning to establish a customer activity baseline and monitor application performance.

Key results

TransUnion experiences variable traffic cycles on its website, with higher transaction volumes at certain times of the day and week. With automation and machine learning algorithms in place, the company has a new way to monitor these traffic cycles and transactions. With Splunk, TransUnion now has full visibility into its end-to-end transaction flow, allowing the organization to alert on anomalies and keep customers secure.

> **"Understanding customer volume patterns is important for the business. If traffic falls outside of a certain range, an alert is created. Splunk allows us to investigate early to ensure a seamless customer experience."**
>
> — Lead Splunk Developer, TransUnion

Retail and e-commerce

As shoppers seek more contactless payment and delivery options and cut back on in-store visits, retailers are investing in digitally-forward services and an omnichannel model to retain customers. They're prioritizing new investments in technology and transforming their business model by breaking down channel-specific functions and aligning the organization to the consumer rather than the infrastructure.

Use case: Order processing, customer experience

One of the reasons Domino's has become the world's No. 1 pizza company is their commitment to simplifying each step of the ordering process, providing customers with digital options that are convenient, quick and easy. To that end, Domino's now has more than 15 different digital ordering channels — including smart TVs, Amazon Echo and Google Home devices, mobile phone apps, Slack, social media and smart watches — that collectively generate 65% of sales in the United States. To maintain customer focus at scale, Domino's uses Splunk to ensure an exceptional user experience.

Key challenges

Domino's saw the value of digital transformation well before its competitors and set out around ten years ago to reposition itself as an "e-commerce company that happens to sell pizza." Their key challenge was to shift focus to digital channels and emerging technologies without surrendering the personal touch.

Key results

Domino's data-first approach gives them a complete understanding of their behind-the-scenes IT and security operations, business operations, as well as every real-time customer transaction — including orders, services, website and applications. They're able to proactively identify external security threats, mitigate them faster, ensure internal system health and protect customer data.

> **"Splunk helps us with every real-time transaction. We can understand what's happening with our orders, services, website and applications. When we have all that data together, we can improve processes both internationally and domestically."**
>
> — Operational Intelligence Architect, Domino's

Public sector

Under pressure to match private sector service experiences and manage costs, public sector agencies were already shifting from in-person to digital citizen services. Then, the COVID-19 pandemic locked down government offices, and a remote workforce was charged with adapting to an escalating need for services that citizens could access digitally.

Use case: Citizen services

Once every 10 years, the U.S. Census Bureau sets out to provide a complete, accurate count of the population and housing in the entire country. That means counting every person once, and in the right place, to provide the federal government with data to better understand and serve the American people.

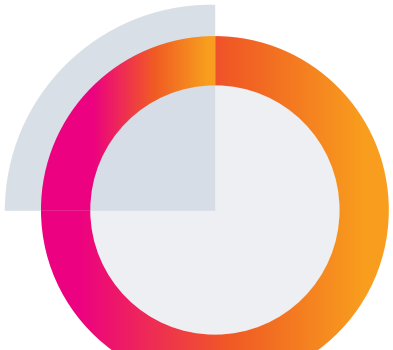
Key challenges

From 1950 to 2010, census self-response rates steadily declined, revealing a population with new expectations, preferences and communication methods. The Census Bureau knew it had to catch up. In 2020, the U.S. Census Bureau embarked on a new venture: the first-ever digital decennial census. To navigate this new digital territory, the Census Bureau chose Splunk to take a data-forward approach to measuring America.

Key results

Digitizing the U.S. Census Bureau has made the organization leaner, faster and more secure. All 52 of its systems are encrypted. Automated monitoring enables the Census Bureau to find and fix vulnerabilities before they jeopardize vital information. Splunk's single-pane visualizations make it easier than ever to detect and prevent fraud. Speed, ease, security, visibility. Why do they matter so much? Because the data gathered by the U.S. Census Bureau is what drives decisions about funding for federal, state and local agencies. It determines representation in Congress. It informs how legislative districts are mapped and how communities are served and engaged. A digital 2020 census, powered by Splunk, lets citizens interact with their government in new, intuitive ways, and it will impact the services those citizens receive in the decade to come.

> **"By providing an easier way to access and analyze the Bureau's data, Splunk allows teams across the organization to harness these insights for more informed decisions and better outcomes."**
>
> — Assistant Division Chief of Address and Database and Middleware Services, U.S. Census Bureau



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