

Supply chain management impacts everything from cost to quality and safety across clinical and operational workflows. The cloud offers healthcare organizations a means of scaling value across supply chains to improve outcomes and infuse organizational resiliency.

Healthcare Supply Chain Management in the Cloud

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Written by: Mutas Shegawi, Research Director, Worldwide Provider IT Transformation Strategies

Introduction

Healthcare faces a wide range of mounting challenges in the digital era. Challenges include aging populations, more chronic conditions, the shift to value-based care, impacts of the COVID-19 pandemic, and razor-thin profit margins. Talent shortages and other challenges — such as the rise of consumerism, data proliferation, and cyberthreats — also impact healthcare. As a result, health IT innovation and digital transformation (DX) are being unleashed to improve patient costs, care quality, and patient access and safety as well as experiences.

Supply chains have long been known to be a significant driver of cost and waste in healthcare, and supply chain management (SCM) solutions have generated more interest recently. According to IDC, 64% of health IT leaders called their cloud-based SCM applications "business critical" (i.e., business would stop without it). The impact of cloud on SCM is attracting attention as more organizations move their ERP solutions to the cloud. Leaders continue to contend with a barrage of digital-era opportunities and stress tests. However, the financial losses for most providers due to the impact of the pandemic sparked a new impetus to reduce costs further, optimize revenue, and scale service capabilities. SCM solutions designed to drive continual innovation and transform SCM from end to end via intelligent workflows, process automation, improved mobility, and real-time visibility offer a way forward to satisfy healthcare needs.

The Cloud

At the heart of health IT innovation is the move to the cloud. Cloud computing offers healthcare organizations compelling ways to source new services, modernize infrastructure, and drive digital transformation. Legacy systems absorb as much as 64% of IT budgets, and many healthcare organizations can no longer afford to do everything on premises in their own datacenter. The cloud offers a way forward to realize benefits such as scalability, elasticity, and on-demand services. As healthcare ecosystems expand, so do the opportunities for organizations to benefit from distributed innovation and platform thinking through shared data, insight, operations, and expertise. In this manner, the cloud could be considered key for not only differentiation but also survival, sustainability, and future readiness.

AT A GLANCE

KEY TAKEAWAYS

- » Supply chain management solutions have been attracting increased interest from health IT leaders as a way forward for organizations to survive and thrive as they evolve into future enterprises.
- » Solutions that drive continual innovation and transform supply chain management from end to end via intelligent workflows, process automation, improved mobility, and real-time visibility offer a way forward to satisfy healthcare needs.

The once notorious levels of apprehension about making a move to the cloud quickly dissipated as cloud-based solutions have proven to be as secure as or more secure than on-premises systems. IDC data shows that 28.5% of healthcare organizations see improved IT security as the greatest benefit in their cloud journey while 58.4% now use the cloud to support their workloads and services. Historically, the cloud was about the efficiencies gained when software and hardware came to the end of life. Since then, developers have used the cloud to deploy new and scalable resources, services, and capabilities to healthcare with increased levels of security. As a result, many health IT leaders find the cloud facilitative for system consolidation in post-merger or post-acquisition scenarios or to comply with regulatory drivers that ramp up security and data portability.

Successful cloud-based solution adoption strongly correlates to vendor capabilities, particularly when considering technical and industry expertise, security, and compliance. Healthcare models are becoming more integrated, convenient to use, and proximately situated to the care-seeking consumer (e.g., home, retail, urgent, and virtual care). The cloud is vital to eliminate the guesswork from common scenarios such as end-user growth, application upgrades, data migrations, business continuity, consolidations, and the alignment of operations with outcomes. Clinically, the cloud has been used to do everything from scale EHR implementations to optimize clinical documentation workflows, reinvent patient experience strategies, and drive interoperability. From an IT standpoint, the cloud is an enabler of IT modernization strategies to replace applications coming to the end of life or legacy systems that are more costly and inefficient to maintain. From a business standpoint, the cloud offers data infrastructure that can translate into the efficiencies, resilience, and innovation needed for an organization to differentiate over time. For these reasons, more and more health IT solutions are being introduced through cloud-based offerings that cater to healthcare needs.

Supply Chain Management in Healthcare

SCM in healthcare is complex and involves not only the movement of supplies but also the optimization of labor and cost across multiple stakeholders and teams in different units, departments, facilities and, at times, systems. Healthcare supply chains for provider organizations become even more complex when considering the role of payers, governmental institutions, and regulatory authorities. Before COVID-19, SCM was already a top 3 area of healthcare IT spend for providers. According to IDC survey data, 62.2% of U.S. hospitals increased their spending on SCM applications and spent 23.9% of IT budgets on SCM consulting and systems integration in the lead-up to the pandemic. The primary goal of such expenditure was to deliver supplies on time. With that, SCM solutions played a vital role in the pandemic and will continue to contribute to the resiliency needed, considering the mounting pressures the industry faces and potential for future disruptions, such as other unforeseen public health crises.

The COVID-19 pandemic exposed previously known weaknesses in healthcare SCM, especially regarding the industry's overreliance on global supply chains. Providers, payers, life science companies, and governments alike were all caught off guard by the impact of the pandemic, especially on the distribution of medical and pharmaceutical products, personal protective equipment, and ventilators, for example. COVID-19 shortages alarmed supply chain leaders and catalyzed the need for digital transformation. According to an IDC survey conducted during the initial wave of the pandemic, 85% of respondents indicated that COVID-19 was either already impacting or expected to impact their supply chain severely. Since then, global distribution of vaccines has further emphasized the ongoing impact of the pandemic and the need for a renewed focus on SCM.

Healthcare organizations have already taken initial measures or are well underway in digitally transforming their supply chains. According to IDC, the top areas driving SCM since the initial wave of the pandemic include the following:

- » Need for new supply chain technologies (38.2%)
- » Improving product quality (32.7%)
- » Improving resiliency and responsiveness (31.2%)

Healthcare will rely now, more than ever, on new technologies such as IoT/sensors, advanced analytics, and AI being embedded in supply chains. According to IDC, by 2022, healthcare will increase AI and advanced analytics investments by 50% to avoid future supply chain disruptions. Provider organizations, such as hospitals and large healthcare systems, are already ramping up their ability to view up-to-date inventory levels in real time to predict short-term and medium-term demand and then coordinate responses from suppliers. For suppliers, prescriptive analytics, AI and, increasingly, digital twins are used to evaluate SCM decisions, such as switching to alternative supply sources from less critical destinations to accelerate delivery. However, decision makers need to be more informed about the value of the cloud in healthcare SCM to navigate the changing context better.

The Value of the Cloud in Healthcare Supply Chain Management

The value of the cloud in healthcare SCM results from these solutions enabling organizations to:

- » **Take control of more areas of spend** through strategic sourcing.
- » **Ensure access to critical supplies** by rethinking "just in time" approaches.
- » **Achieve greater resiliency** through better insight, communication, and demand planning.
- » **Undertake proactive measures against future disruptive events** by managing supplier risk.
- » **Improve readiness levels and response through data** by advancing supply chain analytics.

Healthcare organizations cannot afford to struggle with supply shortages and costly delays that impact staff and patient experiences because of weak SCM processes. One of the best ways to appreciate the value of the cloud in healthcare SCM is to understand risk factors related to outdated and inefficient supply chain approaches, technologies, and capabilities typically associated with legacy systems (i.e., lack of resilience, visibility, optimization, automation, and transparency).

Legacy systems tend not to offer the ability (or offer only a limited ability) to leverage actionable, non-siloed, and real-time data for SCM. Fragmented SCM processes result in supply chains that are inefficient and prone to generating waste due to the likelihood of supply/demand shocks, excess inventory on hand, and expired products. AI, machine learning, and RPA show much promise in alleviating human error, burnout, product contamination, and damage. According to an IDC survey, 88% of respondents identified AI as a critical technology for supply chains in the next three years. In addition to the areas addressed, healthcare supply chains also rely on high levels of clarity and collaboration between supply chain, clinical, IT, and business professionals to ensure that operational efficiencies contribute seamlessly to better outcomes for patients and better experiences for all stakeholders.

Benefits

Key stakeholder benefits of cloud-based healthcare SCM solutions include:

1. **For patients:** Improved outcomes, such as those that impact patient safety and experience
2. **For clinicians:** Improved clinical performance and staff experience through workflow optimization
3. **For operations:** Reduced costs as well as streamlined and tighter collaboration, teamwork, and communication
4. **For IT:** Standardized processes, protocols, architecture, environments, and governance enterprisewide
5. **For business:** Alignment with strategic processes that support organizational agility and service excellence

Yet not all SCM solutions are created equal. Key capabilities to look for in cloud-based solutions for healthcare include:

- » **Visibility:** Unified view of supplies, financials, and people-related functions and tasks
- » **Mobility:** Native mobile application and the ability to support remote work processes
- » **Intelligence:** AI/ML built into the solution to constantly improve efficiencies and predictive capabilities
- » **Relevance:** Continual updates and ongoing innovation that deliver value
- » **Availability:** Strong and straightforward SLA to ensure uptime, continuity, and availability of solution
- » **Scalability:** Ability to support high volumes of transactions without compromising data
- » **Openness:** Modern technology designed to interoperate and connect with the broader ecosystem
- » **Comprehensiveness:** End-to-end, source-to-pay solution with diverse functionality and touch points
- » **Reputation:** Proven successes in healthcare organizations, especially during the pandemic

Key Trends

» Accelerated Disruption — Crisis, Resilience, and Opportunity

The pandemic redefined disruption. Survival of the fittest is linked not to size or strength but to resilience and the ability to change. Uncertain economic norms, political instability, climate effects, and disruptive innovations cannot be ignored, but these challenges have been overshadowed by the immediate impacts of the global pandemic. Organizations must make rapid pivots toward new models or quickly adjust their supply chains. The primary imperative is to manage costs while balancing strategic investments that support organizational resilience and the speed of operations and innovation. Past economic crises and pandemics have proven to be inflection points for organizations that later thrive during the next positive cycle.

» Intelligence Everywhere — Data Drives Action

A real-time continuum of applications and data from IoT, mobile devices, and more — combined with historical data, enterprise systems, and global information — stretches from edge to network and core. This continuum continually "senses" the environment and puts it into new contexts. AI and machine learning "compute" and spread intelligence to turn data into "action" and action into value. Automation extends beyond autonomous operations, resilient decision making, and optimization into life-and-death dependencies. Transforming data into actionable insight is an increasingly dynamic and complex process. But as automation and augmentation increase, so do the ethical issues and opportunities for misuse, surveillance, invasions of privacy, and more.

» Rethinking Globalization — Disruptions Challenge Resilience

Globalization, already suffering from trade wars and the aftereffects of the financial crisis, was dealt another blow by COVID-19. The world economy is at a critical inflection point in which fears about dependence on others create a move toward self-reliance. The flow of people, trade, and capital has slowed because of interruptions in both supply and demand. Supply chains are disrupted and misused. With shifts in both the costs and the risks of global operations, organizations need to decide where to compete along the value chain, consider new service offerings, and evaluate hybrid supply chains.

Recommendations

In consideration of current trends and to become future ready, healthcare organizations should:

- » Ramp up resilience with a modern solution that can act in real time to optimize clinical and operational workflows. In addition, they should integrate trends and insights from patient services that inform the solution to take action, such as to increase the level of supplies or change their priority level.
- » Choose a cloud-based technology that can manage, analyze, and scale with the growing amount of data proliferation from multiple sources driven by diversification and expansion in healthcare supply chains.
- » Safeguard uninterrupted supplies of critical items and products to provide appropriate clinical care through an intelligent, end-to-end SCM solution that focuses on downstream shortages and alternate suppliers.

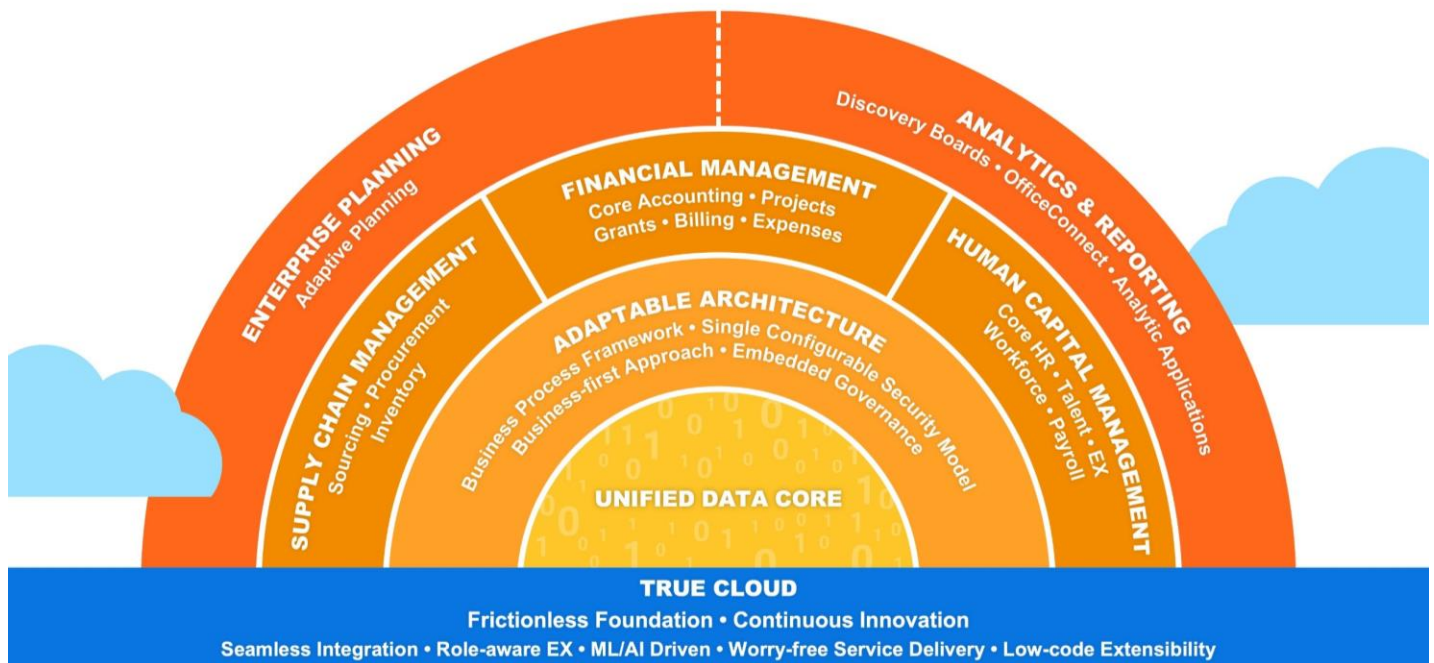
Considering Workday

Workday, headquartered in Pleasanton, California, is a cloud-based provider of financial management, human capital management, and supply chain management solutions. Since its founding in 2005, Workday has grown into a multibillion-dollar business with more than 13,000 employees worldwide. Workday initially went to market in 2006 with Workday Human Capital Management and released its Financial Management solution in 2007. After going public, Workday introduced an end-to-end recruiting solution (Workday Recruiting) as well as a cloud application for supply chain management for healthcare. In 2017, the company made its first move into the PaaS market with Workday Extend. Workday recently acquired Peakon, an employee success platform that converts feedback into actionable insights. The vendor also acquired Adaptive Insights to establish a go-to planning solution for its customers (Workday Adaptive Planning) and Scout RFP (Workday Strategic Sourcing) to enable customers with a source-to-pay solution to expand how they plan for, execute, and analyze spending.

Workday offers a multitenant cloud-based platform called Workday Enterprise Management Cloud (see Figure 1). The platform is designed to provide a frictionless foundation of cloud computing and continuous innovation for customers through seamless integration, role-aware experiences, AI/ML-driven capabilities, and low-code extensibility. A unified data core supports Workday Supply Chain Management alongside Financial Management and Human Capital Management. The solutions are collectively accessible via APIs and designed to quickly deliver high-performance service levels as well as planning, analytics, and reporting capabilities.

FIGURE 1: *Workday Enterprise Management Cloud*

Workday Enterprise Management Cloud for Healthcare



Source: Workday, 2021

Workday employs fully verticalized industry teams and has a dedicated healthcare team. Key healthcare customers include Bon Secours Mercy Health, Dayton Children's Hospital, Nebraska Medicine, Ohio State University, Prisma Health, and Spectrum Health. Workday has gained much momentum in healthcare since it launched. The number of organizations that have gone live with Workday SCM has doubled in the past year alone. Furthermore, since acquiring Scout RFP, Workday has built a comprehensive source-to-pay solution covering a broad spectrum of SCM functions and capabilities.

Workday's successes in the human capital and financial management spaces have tended to overshadow the company's capabilities in ERP. Furthermore, SCM in healthcare is often considered solely an operational area, but it is a broader strategic function of relevance to clinical workflows and outcomes. For example, patient safety is affected in the case of inadequate surgical supplies, and quality of care can be improved when integrating clinical and supply chain data to analyze clinical utilization, reassess care pathways, or analyze how episodes of care are delivered in terms of supply chain purchasing and cost trends. However, the pandemic has elevated SCM to a strategic function for most healthcare organizations. Therefore, the market stands to benefit from knowing what SCM solutions are available and that Workday developed capabilities over the years that tie SCM into its wider Enterprise Management Cloud, making it a solution to watch.

Customer Case Study: Mary Washington Healthcare

Overview

Based in Fredericksburg, Virginia, Mary Washington Healthcare (MWH) is a not-for-profit regional system of two hospitals (571 beds), three emergency departments, and over 50 healthcare facilities and wellness services. MWH implemented Workday Financial Management, Workday Human Capital Management, and Workday Supply Chain Management. MWH was seeking a new ERP system to replace its prior ERP solution alongside implementing Epic EHR, which led the organization to consider Workday. The key drivers included accessing data, manipulating data, and generating real-time (and near-real-time) reporting. The group responsible for decision making represented a variety of roles, including the CIO, the CEO, the CFO, and executives from other functional areas. The committee undertook an extensive discovery process to find market-leading technologies. Factors that mattered most in the final selection of the solution were value and functionality.

Deployment

MWH selected and deployed Workday. Benefits included more straightforward access to documents and information, ease of use (e.g., when looking up compensation or benefits information), broad visibility into supply chain data (including stock on hand and approval status), and the ability to quickly address transactional details for requisitions, purchase orders, invoices, and more. The internal team consisted of supply chain, HR, and finance personnel. MWH had planned to deploy Workday within 12 months but had to extend the timeline to 15 months due to COVID-19. Despite the additional three months of work, the company was still able to complete the cloud-based implementation more quickly than a traditional ERP implementation.

Results/Benefits

MWH added some staff to take advantage of the Workday implementation and have new access to data. Still, the advantage was that they could use their data to do advanced reporting and analytics without needing to refer such tasks to the IS department or the BI department. The supply chain team continuously discovers new things it can do with the solution and benefits from the Workday Community. Success was realized by effectively managing timelines, costs, and man-hours; having a well-defined budget; and meeting expectations.

The changing healthcare industry will push for more innovation in supply chain management solutions that enable decision makers to take timely and appropriate actions that impact the health of organizations and patients alike.

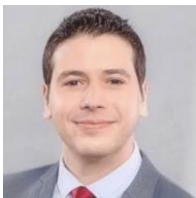
Best Practices/Lessons Learned

MWH felt that Workday offered a robust testing methodology, which helped call out failed processes and gaps before going live. Also, Workday brought subject matter experts to the table, such as a business consultant with extensive experience. MWH emphasized the need to "understand your needs" and to have a robust framework of questions to understand all functionality. In terms of outlook, MWH felt that cloud-based platforms are where the industry is headed, in addition to providing advanced analytics to pull clinical information for benchmarking and clinical research (e.g., graduate programs). Further, a cloud platform provides improved security against cyberattacks.

Conclusion

Healthcare SCM in the cloud offers a compelling way for supply chain leaders to contend with present-day and future challenges. The product and pace of innovation in SCM will be propelled through advancements in the cloud that can democratize capabilities, such as AI, which deliver benefits across both clinical and operational domains. The industry learned a lot from the pandemic and still has much to learn. Best practices and lessons learned show that the cloud can deliver benefits for SCM, such as intelligent demand, scenario, and contingency planning to minimize and offset supply chain risk. The changing healthcare industry will push for more innovation in SCM solutions that enable decision makers to take timely and appropriate actions that impact organizations and patients alike. Healthcare SCM in the cloud will likely see further progress in virtually centralizing SCM capabilities for large organizations and driving supply chain-related ecosystem expansion and innovation across the industry.

About the Analyst



Mutaz Shegewi, Research Director, Worldwide Provider IT Transformation Strategies

Mutaz Shegewi leads the provider research practice at IDC Health Insights covering topics of most relevance to healthcare provider organizations looking to digitally transform and become more digitally native than their competition.

MESSAGE FROM THE SPONSOR

About Workday

Today, more than ever, reducing supply chain costs while improving inventory control is a high priority for healthcare providers. It's critical to have the solutions and processes in place that allow you to source, buy, and replenish with ease. With tools designed specifically for healthcare, Workday helps create a supply chain free of weak links to support seamless operations. By automating the source-to-pay process, Workday helps you run more efficiently and reduce costs.

Workday combines financial management, HCM, supply chain management, analytics, and planning in a single cloud-based system, delivering comprehensive supply chain management to healthcare providers. You can manage your supply chain, answer key strategic questions, collaborate on planning and sourcing, standardize processes, and develop a high functioning team — all from your desktop or mobile device, at any time.

To learn more, please visit <https://www.workday.com/en-us/solutions/industries/healthcare/supply-chain-management-for-healthcare.html>



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IDC Research, Inc.
140 Kendrick Street
Building B
Needham, MA 02494, USA
T 508.872.8200
F 508.935.4015
Twitter @IDC
idc-insights-community.com
www.idc.com

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