Supply Chain Panel Discussion
Tips Sheet

WHAT IS THE SUPPLY CHAIN & HOW HAS IT EVOLVED TO IMPACT HEALTH SYSTEMS?

Supply Chain: Simply stated, supply chain is the management of upstream and downstream relationships with suppliers and customers to deliver superior value at less cost. The challenge for hospitals is to align supply chain to the care delivery model (James Spann).

Supply Chain:

- The advance development of semi-trucks and the use of optical scanners in warehouses in 1950 advanced logistics in supply chain.
- Greater Mechanization: Medical supplies were being transported cross-country and stored at warehouses, improving hospital inventories.
- Greater Efficiencies and Computerization: The introduction of Enterprise Resource Planning (ERP) systems in the 2000s made it easier to electronically track goods and shipments, including hospital supplies.
- Global Supply Chains: Artificial Intelligence (AI) and Machine Learning combined with predictive and prescriptive analytics have provided better forecasting, enhanced order management, and more.
- Pre-1900s: Prior to industrial revolution in the U.S. and Europe, most supply chains were local and typically restricted to small regions.
- 1900s – 1920s: Improvements to Tracking and Warehouses.
- 1930s – 1940s: Growth of manufacturing to produce military hardware and supplies during World War II was critical. Logistics became important for getting supplies and support to troops abroad quickly.
- 1950s: The beginning of commercial air travel helped patient experiences by allowing physicians to travel more easily for unique treatments and surgeries.
- 1960s – 1970s: Transporting goods shifted from railroads toward trucks due to the continued evolution of pallets, containerization, and handling equipment. In 1967, IBM developed the first automated inventory management and forecasting system.
- 1980s – 1990s: Standardization and the introduction of Containerization.
- 2000s: Asian massive growth of manufacturing with China, Japan, South Korea, and India becoming major suppliers and exporters of goods to modern global supply chains.
- Technology Revolution:

COVID-19 IMPACT ON SUPPLY CHAINS: WHAT THE FUTURE COULD LOOK LIKE

The supply chain industry has seen one of the largest effects from COVID in global business, and most critically in health systems and medical supplies. China is the largest distributor globally, contributing to 20% of the world GDP as a result of COVID-19. This has increased dramatically from their impact on the SARS supply chain in 2003, where their impact was ~4% of the world GDP. Demand for ventilators in 2020 increased exponentially (~700 in 2019 to 7000 in 2020). Similarly, mask demand has doubled in China over the 2019-2020 year, with global mask demand per month at 89 million in 2020. Glove and goggle demand also increased significantly globally in 2020 as a result of the COVID-19 impact.

Two challenges: Lack of vendor diversification & critical supply stock

- Health Systems need to de-risk sourcing portfolio
  - Diversification of vendors for critical items with a focus on domestic vendors will help when global impact has impact similar to COVID-19 and other global pandemics
- Health Systems need to assess current stock and critical supply needs
  - Where possible consider higher on-hand stock for critical supplies based on what the health system has required in the last several pandemics with logistics to mobilize those across the health network

CHALLENGES IN HEALTHCARE SUPPLY CHAIN: INDUSTRIAL ENGINEERING SOLUTIONS

Hospitals are allocating and restricting certain areas to patients that have COVID symptoms to separate them from patients with non-COVID needs. Not only has this helped with keeping patients safe, but it also helps the overall safety of frontline hospital workers by preventing the spread of COVID from movement of workers and supplies around hospitals.

Health systems are investing in Telemedicine to provide safe physical distancing for patients, nurses, and doctors while also maintaining quality processes for providing healthcare.

There has been a shift in processes for manufacturers that utilize raw materials to provide Personal Protective Equipment (PPE) and essential supplies and products (i.e. ventilators). Due to the emergency of producing these required medical items, Industrial Engineering principles in waste reduction have become more prevalent for raw materials.

Companies are focusing on the following:

1. Tracking product flow from source to finish product to identify any risks around COVID safety and/or national/global travel restrictions
2. Improving scheduling agility around COVID safety and precautionary measure in the case of additional outbreaks/spikes in COVID cases
3. Investing in new technologies such as Artificial Intelligence, Internet of Things (IoT), robotics, etc. to improve overall end-to-end supply chains
Critical Tips for Success:

- Need to mobilize more Industrial Engineers into the Healthcare space. There are significant synergies between health care supply chain and manufacturing and can leverage that skill set to mobilize supply chain efficiencies
- Collaboration is key:
  - Mitigation of intellectual barriers by creating a collaborative culture with providers, quality specialists and engineers to tie analytics and outcomes to reduce cost can be very powerful and have cascading impacts that improve trust between physician partners, clinical best practice, and financial metrics
  - Leveraging analytics to create transparency to the supply chain will assist in making processes with supplier more transparent. Vendors and healthcare supply chain leaders need to assess how to support clinical operations with improved processes by working with multi-disciplinary teams to improve contracts.

PANELIST INFORMATION

Marisa Farabaugh (marisa.farabaugh@adventhealth.com): Marisa is Senior Vice President and Chief Supply Chain Officer for AdventHealth. In this role, she is responsible for all aspects of supply chain within the system, including contracting, field operations, data and analytics, value analysis, affiliates program, corporate pharmacy and RxPlus, and corporate construction management. Prior to this, Farabaugh held the role of Chief Supply Chain Officer for Wake Forest Baptist Medical Center in Winston-Salem, NC.

Dan Coburn (Daniel.Coburn@bannerhealth.com): Dan is a Process Engineering Director for Banner Health, which operates one of the top ranked healthcare supply chains. He has been leading process improvement with Banner’s supply chain for 2 years now. Prior to Banner, he learned the in’s and out’s of supply chain from his 5 years with Honeywell Aerospace. He prepared litigation cases for supplier claims as a project manager and led global contract manufacturing and R&O operations as a product line leader.

Cory Turner (Cory.Turner@tecsys.com): Cory leads Healthcare Strategy for Tecsys, one of the largest supply chain IT organizations in the healthcare industry. He has two decades of experience in healthcare supply chain operations and solutioning, having earned his credentials at Greenville Health System (now PRISMA Health) the largest IDN in South Carolina. He has since built his career with experience in Infor, Omnicell and Workday solutions. Cory’s insights are informed by his tenure as an operator and provider of SCE software.

WEBINAR RECORDING AND UPCOMING EVENTS

Here is the link to the replay video for you to access at your convenience => Access to Webinar Replay

As you enjoy this content and we hope to see you at our SHS Annual Conference in Orland Florida February 24-26, 2021.

APPENDIX

Appendix 1: Four Focus Areas of a Clinically integrated Supply Chain

Appendix 2: Top 10 Reasons Why You Need a Healthcare Consolidated Service Center
Four Focus Areas of a Clinically Integrated Supply Chain
Why Improve Your Clinical Supply Chain?

The Triple Aim — better patient experience, improved outcomes and lower costs — is the Holy Grail that healthcare organizations seek as they optimize health system performance. Many also extend their focus to the Quadruple Aim, adding staff experience to the mix. Bolstering staff working conditions prevent burnout and dissatisfaction, which lead to poorer outcomes and lower patient satisfaction.

A primary avenue for meeting these goals is improving operational efficiency, particularly within the supply chain. A Moody’s Investor Services report found that growth in expenses (7.2%) in hospitals is outpacing revenue gains (6%). Streamlining supply chain operations has the potential to reduce hospital expenses by 17.4%, according to Navigant. The best opportunities are found in procedural areas. While these areas currently provide 42% of the revenue, they represent the second largest area of supply spend. At the same time, operational improvements enhance patient and staff experience and improve outcomes.

The clinically integrated supply chain (CISC) is emerging as a key strategy for mining these opportunities. The Association for Healthcare Resource and Materials Management (AHRMM) defines CISC as an interdisciplinary approach for delivering patient care with the highest value in terms of achieving quality outcomes while reducing waste and lowering costs. A CISC coordinates clinical and supply chain knowledge, data and leadership toward care across the continuum that is safe, timely, evidence based, efficient, equitable and patient focused.

The following insights are key elements to focus on to achieve a clinically integrated supply chain.
Encourage data-driven collaboration

Misunderstandings between supply chain and clinical staff are unfortunately quite common and lead to inventory management and purchasing issues.

Without an understanding of how the supply chain works, clinicians may fear that a surgeon won’t have a specific product when needed and thus hoard or hide supplies. Without visibility into all inventory, supply chain staff struggle to determine what products have been consumed, set accurate par levels, perform resource forecasting and make accurate purchasing decisions. Poor communication and the inability to exchange data between the different groups create laborious and time-consuming processes to manage, track, capture and analyze inventory.

By creating cross-functional teams that include clinicians and supply chain experts, healthcare organizations can improve communication to better identify opportunities to enhance supply chain performance. Collaborative processes lead to greater engagement and trust among stakeholders, enabling them to develop more effective solutions to inventory management and operational logistics.

Healthcare organizations can facilitate cross-functional collaboration by including all stakeholders — the supply chain, physicians/clinical teams and leadership. As the largest consumers of supplies in a hospital, physicians and clinicians are essential participants. Senior leaders can jumpstart the collaborative process by bringing the necessary parties to the table, set an example and facilitate the adoption of new processes. To get buy-in from senior leadership, ensure that they understand that the supply chain is a strategic asset for the organization. Also key to success is leveraging data to measure progress, gauge performance and facilitate ongoing improvements.
2.

Gain visibility across systems and processes

Many healthcare organizations lack the data necessary to optimize supply chain processes as well as improve clinical and financial results. The enterprise resource planning (ERP) systems are primarily used for purchasing and human resources activities. ERPs typically fall short of providing the appropriate level of inventory management, demand forecasting, tracking and tracing, and point-of-care functionality needed to meet the advanced supply chain requirements of today’s health systems, in addition to the various clinical inventory needs of every department. As an example, ERPs are not designed to track critical specialty products (such as tissue implants) as they travel from the loading docks through stockrooms to the OR, and ultimately into the patient. On the other end, the electronic health record (EHR) systems used in procedural areas for supply documentation are error-prone, cumbersome and disruptive to clinical workflows, resulting in low compliance and revenue leakage.

The ERP and EHR systems lack the capabilities to manage the entire end-to-end product flow— from ordering to utilization on a patient— and address the specific needs of the products in the varied environments inside the hospital.

This mixture of siloed applications and manual processes leads to inaccurate data and prevents end-to-end visibility, thus making these systems ineffective for the supply chain team and clinical staff.

Healthcare organizations that collect product data and track product movement electronically can improve supply chain accuracy. Providing visibility across supply chain processes that span the ERP and EHR requires a common data foundation. This goes a long way toward building an integration between clinicians and materials managers to better manage item-level traceability to the patient and the hospital’s inventory. For example, a healthcare organization can gain a complete history of a product by tracking the Unique Device Identification (UDI) right down to when and where the item was procured, when and where it was received, moved and stored to a department, and the encounter where the item was used in the patient and on which surgical case.

How Lack of Visibility Impacts Supply Chain Stakeholders

Supply chain issues
- Inability to optimize preference cards.
- Multiple products for the same purpose drive higher inventory carrying costs.
- Incomplete understanding of product utilization.
- Gaps in the chain of custody.

Clinical issues
- Expired products remain in circulation.
- Inability to trace and recall products.
- Risk that stockouts or missing supplies can cause delays/cancellations.

Financial issues
- High investment in inventory.
- Lost charge capture.
- Inability to link inventory consumption with specific procedures to quantify the true cost of care.
Automate and integrate clinical and supply chain workflows

As illustrated in the previous section, healthcare inventory workflows today consist of highly disconnected and manual processes. Improving supply chain efficiency requires a supply chain management process that’s automated from end-to-end. Yet most hospitals are not looking to replace the ERP and EHR systems they already have. Rather, they need to plug the gaps in their existing systems.

The answer is a solution that integrates seamlessly with installed ERPs and EHRs to automate manual supply chain processes while integrating clinical inventory requirements.

Using RFID, barcode and mobile technologies within advanced supply chain workflows, healthcare organizations can automatically track and capture all relevant information about each product (e.g. UDIs, serial/lot numbers and expiration dates as well as more specialized data like temperature for tissue implants) and correctly document product movement from the hospital dock to storage in the department to patient consumption. This helps to digitize and improve case preparation and simplify the process of picking items from preference cards. Clinicians can automatically scan each supply or implant used on a case, capture the UDI effortlessly without double-entry, and use the UDI to track which patient and procedure it was used for. Alerts during case consumption should prevent use of recalled products, improving patient safety. Comprehensive product data tracking gives clinical and supply chain teams visibility into inventory across the supply chain, enabling them to easily retrieve recalled products stored in the facility or precisely identify any patients in which it was implanted.

Fully automated inventory management processes deliver numerous benefits. They reduce the burden of manual data entry on frontline and back office staff, leading to greater engagement and reducing burnout. Supply chain staff become empowered to automate requisition and PO generation, simplify invoice recognition, improve inventory reconciliation with suppliers and gain visibility into the inventory vendors store in the facility and what products clinical staff used on cases as trials and one-time usage items.

Automation and clinical integration results in reliable information and accurate data captured at point of care which can be used to forecast purchasing, optimize productivity and improve patient safety.
6.

Connect supplies and products with analytics

Most healthcare organizations agree that analytics play a key role in addressing healthcare supply chain challenges. In a recent survey by Sage Growth Partners, 63% of respondents said there is clear ROI for supply chain analytics, with 98% claiming such analytics can positively impact hospital margins. Yet many healthcare organizations have immature or no analytics; 27% said their hospital has not used supply chain management data analytics to identify ways to improve quality.

Organizations need a supply chain solution that supports advanced analytics of data captured at the point of care. A few examples of how healthcare organizations can benefit from analytics include:

True Case Costing
By fully tracking the actual costs of all products associated with each procedure, healthcare organizations can compare different physicians performing the same procedures. Ultimately, this case costing data can be used to highlight comparative effectiveness on products’ utilization and help a healthcare provider understand costs relative to outcomes.

Greater Standardization
By reviewing product performance data on an ongoing basis, clinicians gain evidence that enables informed decisions on PPI standardization and supplier consolidation. Standardization and consolidation cut costs by reducing inventory levels, providing leverage in contract negotiations to obtain better pricing and reducing the overhead costs associated with working with multiple suppliers.

Optimized Preference Cards
Hospitals need data to determine whether preference cards are accurate or clinicians are adding items after the fact or leaving items unused. By ensuring that all supplies are ready for each procedure at the right place and time, accurate preference cards minimize the time necessary to prepare OR cases or return unused items, eliminate the need for clinicians to chase after supplies that were not picked and cut rush charges to ship missing items.

Better Inventory Forecasts
By analyzing historical trends, organizations can create better forecasts for optimal inventory levels of each product, reduce spending on specialty products with product standardization and identify bulk buying opportunities.
Conclusion

As healthcare organizations struggle to survive and thrive, they’re increasingly focused on pursuing the Quadruple Aim of enhancing patient and staff experience and improving outcomes while lowering costs.

A clinically integrated supply chain supports their efforts to meet all these goals. A CISC helps supply chain and clinical stakeholders cooperate to come up with the best solutions. It provides accurate data and visibility to better track products across the supply chain. It delivers the automation necessary to streamline manual clinical supply chain processes and improve patient safety in the event of recalls. At the same time, analytics enable healthcare organizations to reduce costs while maintaining high quality through greater standardization, better inventory forecasts and optimized preference cards.

Speak to a Hospital Supply Chain Expert
Sources


Top 10 Reasons Why You Need a Healthcare Consolidated Service Center

By Cory Turner
If you are re-examining your healthcare supply chain management strategy, here are the top 10 reasons to consider a consolidated service center.

Healthcare systems are increasingly squeezed between the high pressures of operating expenses and reimbursement levels. The industry has struggled to find ways to provide high-quality care that produces desired outcomes at a sustainable cost. Many healthcare systems fall short of reaching their goals on Cost, Quality and Outcomes (CQO) because they lack control of their own supply chains.

The highest expense category for healthcare providers, after people, is supplies.

If a healthcare system does not have control of its supplies, then it does not have a meaningful way to manage the true cost of quality care. That is why more than 70 health systems have made the wise decision to implement a consolidated service center (CSC), also known in Canada as a shared services organization (SSO). It’s a proven pathway to manage the sourcing, procurement, receipt, processing, packaging, shipment, distribution and delivery of its supplies rather than rely solely on third-party service providers or distributors.

The COVID-19 pandemic pushed the role of supply chain management into new territory. To ensure success amid the changing market landscape, healthcare leaders will need to further elevate the importance of data, analytics and technology to control their supply chains.
A consolidated service center is the epicenter for supplies throughout the system to increase both effectiveness and efficiency.

A self-managed delivery network provides the ability to store, manage and distribute supplies within the healthcare network as well as outside, such as specimen transfers to labs. Everything does not necessarily have to flow through a CSC. Some items can still come directly from manufacturers, GPOs or distributors to hospital facilities, but the CSC generally controls the most commonly used and frequently requested items. A CSC gives health systems the necessary infrastructure so that they can buy and store perioperative high-value items and reduce costs of some consignment items.

By having a consolidated service center, a healthcare provider has complete visibility of supplies within its network and any need-to-know partners.

Most CSCs utilize an inventory ordering system so supply requests are placed through the CSC and combined into shipments. Trucks or vans pickup and deliver shipments across delivery routes that include multiple hospitals, clinics, pharmacies or other types of facilities. Clinicians can easily check the availability of items across the entire network and have the confidence the supplies will be delivered when needed. This helps prevent the likelihood that individual floors, departments, clinics and hospital storerooms hoard “just in case” amounts of items. As a result, this reduces inventory holding costs and obsolescence waste.

Additionally, when each supply transaction is visible throughout the system, it is far easier to follow chain of custody and flag any supplies or devices that are incorrect for a procedure, out-of-date or have been recalled. A consolidated service center supports an efficient process of pickup and replacement with minimal effort required by personnel at each facility. This risk and time reduction benefit alone has generated considerable savings for CSCs.

“It allows us to personalize our supply chain applications to our specific unique needs and makes our organization a lot more efficient and productive. Seeing the visibility from our CSC right to the point of use has been very important to us.”

Donna Van Vlerah
Senior Vice President of Support Services
Parkview Health
Achieve standardization

Health systems are continually seeking ways to standardize on supplies to improve the quality and consistency of care, reduce patient risk, increase efficiency and reduce costs. By its very nature, a CSC supports inventory standardization efforts across the organization.

Not all products are equal in the clinical setting, but also not all products should be replenished as they have been historically. A CSC shines a spotlight on true product consumption vs. ordering. Most organizations implementing a CSC begin by standardizing on their higher volume products that are widely used across the system. Proven, data-driven success on standardizing those supplies leads to evaluating and prioritizing the next group of products that should be centralized.

A CSC doesn’t (and typically shouldn’t) provide every item needed by the health system. It was noted in the “Health System Supply Chain Insights 2018” from Jamie C. Kowalski Consulting and Performance Supply Chain, “Health systems reported that on average 40% of their SKUs are run through the CSC.” The most likely items to provide a high level of payback along with better fill rates are day-to-day consumable supplies with relatively predictable use levels – medical/surgical supplies, medical devices, lab supplies, radiology supplies, medication and capital equipment. All items may not pass through the CSC, but a centralized IT system can manage the process of receiving devices and other supplies directly from manufacturers or distributors to the individual facilities and provide the system-wide visibility that is necessary for controlling costs and enhancing quality care.

Items to provide a high level of payback along with better fill rates:

- Medical/surgical supplies
- Medical devices
- Lab supplies
- Radiology supplies
- Medication
- Capital equipment
Enable collaboration

The connections between hospital operating rooms and supply chains are not widely appreciated.

A consolidated service center serves as the central repository of transactions from across the entire network of hospitals, clinics and departments. The analytics from a CSC should be shared across the organization in order to achieve the best quality of care at the lowest cost. Without having real-time data of supplies being used and purchased, the insights are far more hidden and cannot be easily leveraged across the system.

Improve flexibility

Health systems using CSCs find this self-managed model empowers them with control that is hard to get when relying on distributors, wholesalers and other third parties.

There is an increase for flexibility of how types and amounts of supplies can be efficiently distributed throughout the hospital system while maintaining higher, bulk-buying levels of purchases. This will translate into cost savings across the system. The increased availability of data leads to a greater understanding of product usage and clinical effectiveness that can guide purchasing decisions. Clinical teams have the flexibility to either follow a data-driven standard or adopt supply flow amounts and formats that match the needs of their procedures. The visible levels of inventory across the system and control over transportation resources now supports the ability to easily shift supplies from facility to facility as needs change.

“Collaboration between supply chain and the OR is not a one-time thing – it is a day to day interaction that allows you to appreciate what the other person is doing and be thoughtful of the changes you might make and the downstream impact on others.”

Matthew Mentel
CEO and strategic partner of Strategic Optimization and Innovation Partners
Understand total cost of ownership (TCO)

The ability to identify the costs behind utilization, internal distribution, special deliveries and inventory holding will not only yield savings, but will improve clinician and patient satisfaction.

CSCs reduce overall logistics and handling costs by enabling a delivery and pickup routing network that can be efficiently managed by the health system. Thus, wasteful expediting is reduced. The self-managed fleet of vehicles can flexibly perform multiple pickup and drop-off tasks, like mail/package routing, interfacility transfers and lab sample pickup and delivery.

Enhance clinical processes

An often-overlooked benefit of high-visibility CSC-driven systems is the ability to rethink processes and enhance clinical workflows, which allows care providers to focus on applying their skills far more efficiently.

This was emphasized by 25-year veteran, Donna Van Vlerah, senior vice president of supply and support services at Parkview Healthcare, when the healthcare system embarked on its CSC journey. Van Vlerah stated the clear objective for implementing the CSC strategy was, “To transform Parkview’s supply chain to deliver safe, high-quality, patient-centered service that seamlessly supports clinicians in the direct care of patients. I wanted to significantly drive down the level and cost of our inventory and improve support to our clinicians.” Parkview Health further emphasized these benefits by noting the potential gross revenue for expensed items per year could exceed $17 million. The provider reduced manual work by 50%, reduced non-catalog items by 8% and minimized obsolescence with a potential savings of more than $8 million per year.
8. Expand control beyond med-surg

Mature CSCs oftentimes expand operations to provide highly responsive services for the entire network, such as printing/signage, records storage, kitting, case carts, sterilization, linen/laundry, pharmacy compounding/dosing, mail/packages and even food services.

Anything taking up space at each facility can often be centrally stored and delivered from a CSC during daily or weekly delivery/pickup runs.

9. Size doesn’t matter

It is a common misunderstanding to believe only a large integrated delivery network (IDN) can support a consolidated service center. These days that is simply not the case, particularly when you consider all the other kinds of interfacility interactions with contracted partners who share control or responsibilities.

There are very small hospital systems that have successfully implemented a CSC.

In the previously mentioned “Health System Supply Chain Insights 2018,” the report surveyed CSCs with 3-40 acute hospitals, plus a network of 0-412 outpatient facilities, with total revenues of $1 billion to $12 billion dollars. The report said, “The number and variety of sites of care has exploded, with even single hospitals having double-digit locations for providing a variety of care.” The growth of ambulatory surgical centers and other types of facilities provides a growing level of complexity that justifies the centralization concept and requires a greater level of visibility and control among facilities.
During the COVID-19 pandemic, supply chain professionals across the globe were competing to source critical medical products from suppliers, mostly based in China. That situation was compounded by distributors rationing supplies and not giving hospitals the products to care for patients. Naturally, panic ensued at many healthcare facilities – except those with a consolidated service center.

Health systems with the infrastructure of a consolidated service center (CSC) have the supply chain resiliency to rapidly respond to and recover from supply demand during all types of hazards. Staff at a CSC understands how to plan, source, receive and warehouse bulk buys internationally then move those products to various facilities throughout the organization.

As previously stated, the supply chain is the second highest cost in a health system and, if not properly managed, offers the largest opportunity for costs avoidance and cost savings. The principles of self-distribution and a CSC are key to a well-managed supply chain for a health system. Providers with an excellent supply chain management strategy are in a better position to acquire other health systems because they can immediately achieve the synergy of savings by integrating additional hospitals into their processes.
Get on the path to a CSC

Starting and continuously growing a CSC is a necessary step toward taking greater control over your healthcare system’s destiny.

Healthcare providers who have invested in a CSC have shown payback in less than three years. As Switzer of NMHS said, “The ROI we prepared projected a five-year payback, but the actual results will be just over two years.” Although the return on investment is clear, there are many additional benefits that are qualitative. CSCs have demonstrated an ability to improve clinical results with high quality care and produce supply chain cost savings.

Speak to an expert to find out your ROI on implementing a consolidated service center
About Tecsys

Since our founding in 1983, so much has changed in supply chain technology. But one thing has remained consistent across industries, geographies and decades — by transforming their supply chains, good organizations can become great.

Our solutions and services create clarity from operational complexity with end-to-end supply chain visibility. Our customers reduce operating costs, improve customer service and uncover optimization opportunities.

We believe that visionary organizations should have the opportunity to thrive. And they should not have to sacrifice their core values and principles as they grow. Our approach to supply chain transformation enables growing organizations to realize their aspirations.