Information Builders

Key Considerations for Moving From a Linear to a Digital Supply-Chain Network

Information Builders provides the industry's most scalable software solutions for data management and analytics. With one smart platform for integration, data quality and analytics, we help companies manage their data, generate insights, take action, and deliver impact.
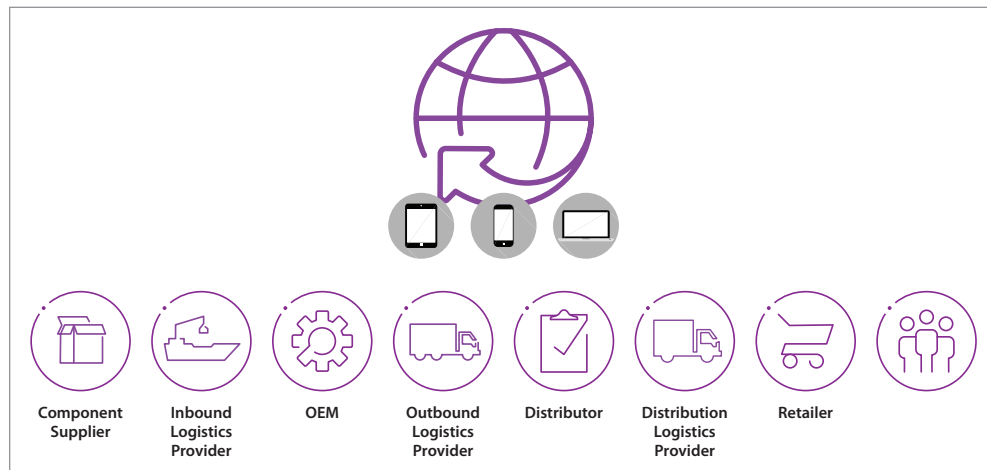
WebFOCUS   iWay Software   Omni

Table of Contents

Introduction

"Supply chains and operations are undergoing radical restructuring as they meet the challenge of improving performance in a world of unprecedented complexity and opportunity," according to EY Advisory.[1] "They must balance increasing needs for agility and responsiveness against driving down costs and improving cash."

The key to supply-chain optimization in this era of digitization is information. Disjointed, decentralized data and processes must be unified, to enable end-to-end visibility into all associated activities and their stakeholders. Those who oversee the supply chain must be able to instantly see what is happening, where it is happening, and why – each and every step of the way. This means monitoring, managing, and visualizing the entire supply network, from the demand generated at the consumer level, to the retailers and distributors, and through the manufacturers and the suppliers who provide the components used in production and assembly.

| Component Supplier | Inbound Logistics Provider | OEM | Outbound Logistics Provider | Distributor | Distribution Logistics Provider | Retailer |

Ensuring that the right volumes are at the right place at the right time is critical. Organizations must have the "right" inventories at the start of a chain of actions. Vendor managed inventory and replenishment and inventory health play a vital role here.

But siloed systems and fragmented information assets pose significant challenges when it comes to supply-chain visualization. In fact, in a GEODIS 2017 Supply Chain Survey, only six percent of respondents could claim full visibility into their supply-chain operations.[2]

In this white paper, we'll discuss the obstacles created by information and process fragmentation and how they can be overcome to achieve the end-to-end visualization that is so critical to supply-chain optimization. We'll also highlight some real-world successes, demonstrating how organizations have strategically leveraged information to streamline and enhance their supply chains.

[1] Albrigtsen, Eirik. "Supply Chain and Operations," EY Advisory, 2018.
[2] "GEODIS Unveils its 2017 Supply Chain Worldwide Survey," GEODIS, May 2017.

Information Builders

The Importance of End-to-End Visualization and Management in the Digital Supply Chain

According to Deloitte, "Supply chains traditionally are linear in nature, with a discrete progression of design, plan, source, make, and deliver. Today, however, many supply chains are transforming from a staid sequence to a dynamic, interconnected system that can more readily incorporate ecosystem partners and evolve to a more optimal state over time."[3]

The inability to effectively manage the digital supply chain, however, can be rather costly. Fragmented data and processes, combined with lack of insight into end-to-end operations, can result in:

- Millions of dollars in lost sales opportunities, due to inaccurate forecasting and demand planning
- Inventory overages and outages caused by poor visibility into inventory levels and movement
- Materials waste, such as when components used in manufacturing are overstocked, or delivery delays result in spoiling of perishable goods
- Decreased productivity and excessive costs due to task redundancy, poor planning, and lack of communication and collaboration across various supply-chain touchpoints
- Bottlenecks and delivery delays that will result in poor customer satisfaction and an inability to meet SLAs

On the other hand, true optimization – achieved through a comprehensive, unified view of operations spanning from demand generation at the consumer level, to the distributor, manufacturer, and all the way to the suppliers of components used in production – can increase efficiency and profitability across the entire supply value chain. It can also improve collaboration and communication, and make planning and problem detection and resolution more actionable.

[3] "The Rise of the Digital Supply Chain Network," Deloitte University Press, Deloitte Consulting LLP, 2016.

Siloed, Fragmented Information: The Main Obstacle to Supply-Chain Visibility

The biggest hindrance to the optimization of the digital supply chain is the fragmented nature of supply-chain information. Critical supply-chain data resides in numerous places, including systems for materials management, forecasting and demand planning, production, inventory, sales, supply chain management, transportation management, and more.

Furthermore, many organizations choose to outsource certain functions within their supply chain, such as shipping and distribution, to focus on the more strategic aspects of supply-chain planning. This adds another layer of complexity, as some important information will reside in systems managed by logistics service providers, suppliers, and other third-party partners.

Data from the Internet of Things (IoT) also plays a critical role in the digital supply chain. Manufacturers, transportation companies, and other supply-chain contributors are investing heavily in IoT technologies to gather data about all facets of production and distribution. These devices capture details about everything from the operational performance of manufacturing equipment (quality, yield, speed, temperature) and energy consumption, to the location and movement of each piece of inventory and current state of delivery trucks (GPS location, temperature, tracking).

Business processes and human involvement are also decentralized. For example, many manufacturers often assemble and store components in different geographic regions in order to reduce costs by sourcing the cheapest parts and labor. Additionally, warehouses are frequently scattered across the globe, to keep shipping costs at a minimum.

All this fragmentation makes it difficult to track the global production and movement of products and materials in real time. Often, the data is not sufficiently unified, making it nearly impossible for stakeholders to achieve a comprehensive view of the supply chain, from the manufacturer up to the suppliers. As a result, companies spend more time reacting to disruptions, rather than proactively looking for opportunities to streamline the end-to-end process.

Mitigating the Risks of Fragmented Supply Chains

The risks associated with fragmented, disjointed, decentralized supply chains are tremendous. But those risks can be avoided with a strategy for bringing processes, people, and most importantly, data together in a cohesive fashion. Information must be gathered from all available sources, including IoT devices and systems managed by third parties, and governed in a way that maintains accuracy, timeliness, and completeness. It must also be instantly delivered to stakeholders in an easily-consumable way.

> *In Supply Chain 4.0, operations must be "well-integrated, from suppliers through to customers, with decisions on cost, inventory, and customer service made from an end-to-end perspective rather than by each function in isolation."[4]*
>
> *McKinsey&Company*

Eliminating fragmentation of supply-chain data, and empowering all those involved in supply-chain operations to visualize it will:

- Enable rapid flow of timely, complete, accurate information across the entire supply chain, including third-party partners
- Improve visibility up and down the supply chain, from suppliers to end consumers, to enhance collaboration and communication
- Support more data-driven, short- and long-term supply-chain planning
- Promote real-time monitoring across all supply-chain touch points, to immediately uncover and rectify problems, identify opportunities to increase productivity or reduce costs

The benefits of this approach include improved cost containment, reduced logistics lead times, and shorter time-to-market for new products. Supply-chain visualization will also create more collaborative and open relationships, making it easier to manage the performance of partners, reduce the risk of working with suppliers, and improve sourcing. Most importantly, a streamlined supply chain – made possible through visualization of end-to-end activities – will increase customer satisfaction, loyalty, and retention.

[4] Alicke, Knut; Rexhausen, Daniel; Seyfert, Andreas. "Supply Chain 4.0 in Consumer Goods," McKinsey&Company, April 2017.

Utz Quality Foods

This leading snack food company is going through a major transformation, striving to become more data driven by not only measuring what was done in the past, but also determining where they are going in the future. That's where visualization of clean, comprehensive supply-chain data comes in.

Many operational business units at Utz are visualizing supply-chain data to increase efficiency, drive profitability, and improve customer relationships. For example, an InfoApp™ (an interactive analytic app that allows business users to get quick answers to critical questions) called SnackBoard provides fast and clear information related to sales. Regional managers use this self-service BI environment to make daily decisions about inventory, sales, and trends. For example, they might compare last week's sales results to results from the same week a year earlier, drilling down to isolate areas of interest. They can also root out problems, such as when sales are lagging in a particular region or store.

SnackBoard allows regional sales managers to monitor the operation and determine how closely they are meeting projections related to sales, labor, product inventory, and other variables. The managers can now easily sort all the data by category, brand, customer, and channel.

Another InfoApp allows the transportation management team to analyze data from an iMaint transportation repair management system. The success of SnackBoard has also encouraged Utz to create similar InfoApps for finance, manufacturing, and executive-level decision-making.

Cascades

Machinery sensors help this packaging and tissue products manufacturer to gather statistics, identify variables in production processes, and monitor physical conditions in the plant, such as temperature, humidity, and other operating conditions that affect the quality of the finished products. At the same time, new SAP applications are being deployed. These systems must run in conjunction with legacy systems that manage payroll, execute plant floor processes, and other vital business functions.

This fragmented data environment was unified by setting up integration interfaces to transfer messages, synchronize legacy applications, and trigger actions among multiple systems. This provides stakeholders at Cascades with real-time data about the operation and complete visibility into production, distribution, finance, and more.

This newfound visibility offers many benefits and keeps operations running smoothly. For example, it ensures that IoT-enabled production equipment is functioning optimally, while allowing managers to monitor the quality of goods coming off the production line, improve forecasting, and identify ways to remove waste from the supply chain.

Vermeer

Like many successful manufacturers, Vermeer leverages lean production principles and methods to remove waste from its supply chain. When Excel spreadsheets and standard reports weren't providing the needed visibility into supply-chain operations, the company implemented advanced analytics and visualization technologies. These new solutions deliver useful insights to decision-makers to support Vermeer's culture of continuous improvement.

Fragmented data has been unified to empower key members of the business community to monitor critical business activity related to customer satisfaction, pricing, product penetration, warranty claims, and sales forecasting. For example, stakeholders can inspect the quality of metal work on the shop floor, measure revenue from newly introduced models, or monitor the performance of dealers and the enterprise as a whole.

Greater visibility into the supply chain accelerates the identification and resolution of issues, eliminates time-consuming manual reporting processes, and frees business professionals to gain important insights instantly.

Coty

Several years ago, Coty embarked on a series of strategic acquisitions, aimed at facilitating rapid expansion. While this activity created many new opportunities for the company, it also posed major challenges – particularly when it came to simplifying and unifying IT environments to ensure unhindered supply-chain collaboration.

To make information flow freely between Coty's systems and those maintained by acquired companies, the company sought out a powerful, yet flexible and cost-effective integration middleware platform that would enable it to bring together back-end operations – and a diverse mix of related systems – across its own enterprise, as well as among any acquired entities. Coty also needed to connect its environment with systems maintained by its partners, to whom the company outsources many logistics and supply-chain processes.

This strategic approach to integration streamlines and automates operations, helping Coty maintain efficient, cohesive supply-chain activities and other operations across its entire organization.

Conclusion

Global markets, new technologies, and other factors have added a new level of complexity to traditional linear supply-chain models. As a result, people, processes, and information are more fragmented and decentralized than ever before. This can reduce efficiency, hinder profitability, and damage customer relationships. As organizations strive to digitize their supply-chain operations, integration and visualization are increasingly critical.

Strategic use of information can foster supply-chain optimization and streamline the move to digital supply-chain networks. Organizations like Coty, Utz Quality Foods, Vermeer, and Cascades are deriving greater value from their supply chains by unifying siloed and fragmented information assets to empower stakeholders to visualize end-to-end processes – from the consumer right up through the supplier.

To learn more about how these, and other Information Builders customers, leverage information to streamline and enhance their supply chain, visit our website at **informationbuilders.com/ customers**.

Worldwide Offices

Corporate Headquarters

Two Penn Plaza
New York, NY 10121-2898
(212) 736-4433
(800) 969-4636

United States

Atlanta, GA* (770) 395-9913
Boston, MA* (781) 224-7660
Channels (770) 677-9923
Chicago, IL* (630) 971-6700
Cincinnati, OH* (513) 891-2338
Dallas, TX* (972) 398-4100
Denver, CO* (303) 770-4440
Detroit, MI* (248) 641-8820
Federal Systems, D.C.* (703) 276-9006
Florham Park, NJ (973) 593-0022
Houston, TX* (713) 952-4800
Los Angeles, CA* (310) 615-0735
Minneapolis, MN* (651) 602-9100
New York, NY* (212) 736-4433
Philadelphia, PA* (610) 940-0790
Pittsburgh, PA (412) 494-9699
San Jose, CA* (408) 453-7600
Seattle, WA (206) 624-9055
St. Louis, MO* (636) 519-1411, ext. 321
Washington, D.C.* (703) 276-9006

International

Australia*
Melbourne 61-3-9631-7900
Sydney 61-2-8223-0600

Austria Raffeisen Informatik Consulting GmbH
Wien 43-1-211-36-3344

Brazil
São Paulo 55-11-3372-0300

Canada
Calgary (403) 718-9828
Montreal* (514) 421-1555
Toronto* (416) 364-2760
Vancouver (604) 688-2499

China Peacom, Inc.
Fuzhou 86-15-8800-93995

Czech Republic InfoBuild Software CE s.r.o.
Praha 420-234-234-773

Estonia InfoBuild Estonia ÖÜ
Tallinn 372-618-1585

Finland InfoBuild Oy
Espoo 358-207-580-840

France*
Suresnes +33 (0)1-49-00-66-00
▪ Luxembourg

Germany
Eschborn* 49-6196-775-76-0

Greece Applied Science Ltd.
Athens 30-210-699-8225

Guatemala IDS de Centroamerica
Guatemala City (502) 2412-4212

India* InfoBuild India
Chennai 91-44-42177082

Israel Team Software Ltd.
Petah-Tikva 972-54-799-1799

Italy
Agrate Brianza 39-039-59-66-200

Japan KK Ashisuto
Tokyo 81-3-5276-5863

Latvia InfoBuild Lithuania, UAB
Vilnius 370-5-268-3327

Lithuania InfoBuild Lithuania, UAB
Vilnius 370-5-268-3327

Mexico
Mexico City 52-55-5062-0660

Middle East Anel Arabia Ltd. Co.
Riyadh 966-11-483-0016
▪ Bahrain ▪ Kuwait ▪ Oman ▪ Qatar
▪ Saudi Arabia ▪ United Arab Emirates (UAE)

Netherlands*
Amstelveen 31 (0)20-4563333
▪ Belgium

Nigeria InfoBuild Nigeria
Garki-Abuja 234-9-290-2621

Norway InfoBuild Norge AS c/o Okonor
Tynset 358-0-207-580-840

Portugal
Lisboa 351-217-217-400

Singapore Automatic Identification Technology Ltd.
Singapore 65-69080191/92

South Africa InfoBuild (Pty) Ltd.
Johannesburg 27-11-064-5668

South Korea
Dfocus Co., Ltd.
Seoul 02-3452-3900

UVANSYS, Inc.
Seoul 82-2-832-0705

Southeast Asia Information Builders SEAsia Pte. Ltd.
Singapore 60-172980912
▪ Bangladesh ▪ Brunei ▪ Burma ▪ Cambodia
▪ Indonesia ▪ Malaysia ▪ Papua New Guinea
▪ Thailand ▪ The Philippines ▪ Vietnam

Spain
Barcelona 34-93-452-63-85
Bilbao 34-94-400-88-05
Madrid* 34-91-710-22-75

Sweden
Stockholm 46-8-76-46-000

Switzerland
Brugg 41-44-839-49-49

Taiwan
Galaxy Software Services, Inc.
Taipei 886-2-2586-7890, ext. 114

Tunisia North Africa Business Consulting
Bizerte 215-22-86-85-79

Turkey Paladin Bilisim Danismanlik A.S.
Istanbul 90-532-111-32-82

United Kingdom*
Uxbridge Middlesex 44-20-7107-4000

Venezuela InfoServices Consulting
Caracas 58-212-261-5663

West Africa InfoBuild FSA
Abidjan 225-01-17-61-15

* Training facilities are located at these offices.

Find Out More

We can help you succeed. Talk to your local Information Builders representative to learn how. Visit us at **informationbuilders.com**,
e-mail **askinfo@informationbuilders.com**, or call **(800) 969-4636** in the U.S. and Canada. To improve your skills, visit **education.ibi.com**.

Corporate Headquarters
Two Penn Plaza, New York, NY 10121-2898 (212) 736-4433; Fax (212) 967-6406

DN7508949.0818