Qlik

A Supply Chain Leader's Guide:

Managing disruption with modern supply chain analytics

Introduction

Over the past 24 months we've seen a perfect storm blowing through supply chains across the world.

Freezing temperatures and fires have shut down semiconductor factories in the US and Japan – adding to an already chronic global shortage. The impacts have been felt from consumer electronics to car production and beyond.

The pandemic caused havoc to global trade, container costs soared as demand rose, and one-off incidents like the March 2021 Ever Given container ship grounding in the Suez Canal compounded the issue.

The ripple effects of the war in Ukraine have impacted prices across the board, created wide-reaching inflationary pressures and, once again, highlighted issues of today's interdependent economics and global supply chains.

According to a recent survey by The Economist Intelligence Unit, these disruptions have incurred substantial financial costs, averaging up to 10% of annual revenues for large companies, as well as reputational costs – in terms of customer complaints and damage to brand reputation[1].

Managing disruption of any kind has become the #1 priority in supply chain operations. But, as leaders know, adapting to change is rarely a simple task and requires a fresh look at existing processes in planning and sourcing, inventory management, warehousing and distribution and more.

Let's examine how a new approach to data and analytics can help supply chain leaders take informed action 'in the moment' as you look to as you look to create resilience and optimize operations.

1 "The Business Costs of Supply Chain Disruption," The Economist Unitelligence Unit sponsored by GEP. Copyright (c) 2021. https://impact.econ-asia.com/perspectives/sites/default/files/the_business_costs_of_supply_chain_disruption_gep_1.pdf

Avoiding breaks in the chain

Supply chain leaders are playing a central role in business strategy in promoting growth, innovation and driving competitive advantage. What happens in the supply chain has a direct impact on revenue, margin, time to market and customer retention, as well as impacting corporate social responsibility and Environmental, Social and Governance (ESC) goals.

Being accountable for the end-to-end supply chain is a huge task that starts with the reliable and cost-effective delivery of raw materials, components and products. Of course, it doesn't stop there.

The visibility issue

The need to know – to understand and have visibility of all the moving parts across the supply chain – is critical in supply chain operations. Whether that's gaining visibility across the supply chain to drive operational efficiencies and reduce cost, to avoid shortages or overstocking or to react to potential threats and disruptions, data is the premier currency of today's supply chain. Organizations have invested considerable human and financial resources in a range of digital and analytics tools to do optimize operations.

The challenge is that data takes many forms and is in many different formats: master data to enable business processes such as material and product specs; transactional data including purchasing inventory records and sales figures; unstructured data from IoT sensors and more[2].

There's a lot of it, and it's rarely in one place. Data sits in a variety of enterprise resource planning (ERP) and customer relationship management (CRM) applications, in warehouse management systems (WMS) and a variety of other back office and factory floor repositories.

Typically, these systems are siloed. They don't talk to one another. Which means bringing everything together to operationalize it and achieve end-to-end visibility is challenging. And that's before you begin your analysis. The bigger the organization, the bigger the challenge. So when it comes to getting insights, your teams are often looking for a needle in a haystack.

2 Drowning in data, but starting for insights, Deloitte, 2021

A passive approach to insight

While it is certainly true that most organizations will have a range of analytics engines and dashboards, these tend to be relatively passive. Which is to say that these are report-centric tools based on historical data.

Such systems use pre-configured data sets and often require manual data manipulation in spreadsheets from the users who need to know what they are looking for.

Even the more reactive visual discovery tools available tend to be based on limited, curated data. They will only query a limited number of datasets, while most won't allow natural conversations with the data. Which means they are difficult to use outside the data science teams, and the insights (such as they are) are unavailable to the majority of business users.

In short, conventional approaches simply don't offer simple access to the kind of in-depth, real-time picture that today's supply chain leaders and their teams need.

The art of predictive

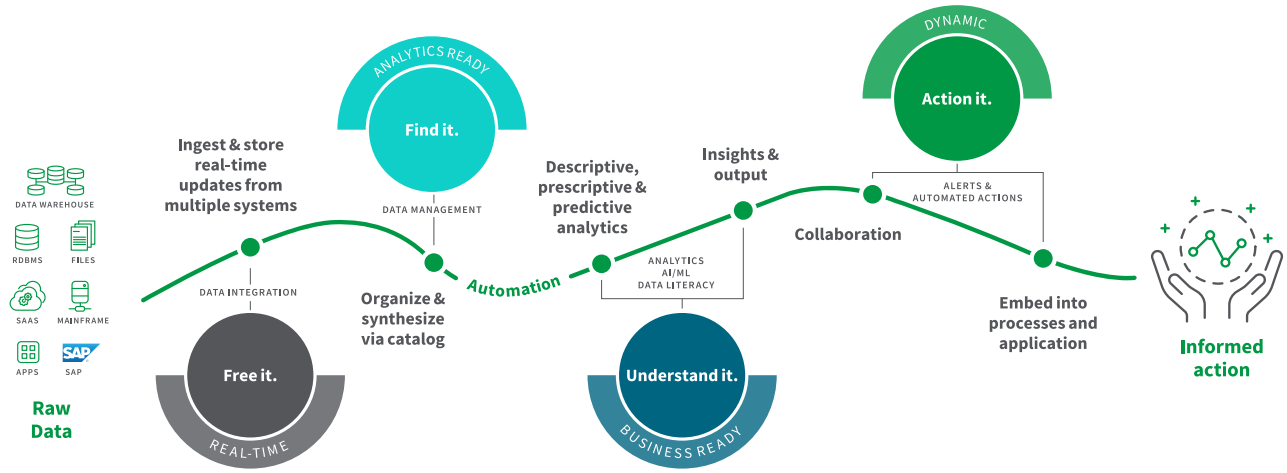
Eliminating points of friction and coping with the continual disruptions in today's supply chains demands a different approach: one that eliminates the silos, improves visibility in all areas and delivers real-time data dynamically for users to make immediate decisions in the business moment. More particularly, it requires that the data enables accurate predictions and based on these, compel clear and informed actions.

The answer lies in implementing an end-to-end analytics data pipeline that allows organizations to manage data from end-to-end, focusing on the entire pipeline as a strategy.

It begins with data integration to bring all the disparate sources together. The raw data is then transformed as it moves through the pipeline to deliver up-to-date information. That insight is then used to trigger immediate actions, in the moment. Here at Qlik® we call this informed action, which enables real-time alerting and decision making that sets us apart.

This is also where automation, artificial intelligence and machine learning come in. Not simply to eliminate the painstaking human analysis, but to provide the ability to highlight potential issues before they happen and raise pertinent questions (and answers) that haven't yet been considered.

The data pipeline



With this approach, intelligence becomes active. The data is executed moment to moment and embedded directly into supply chain and machine-driven processes. Not only do your teams know what is happening right now, they can understand what is likely to happen and they are alerted to take action when specific conditions are met.

Value of knowing in the supply chain

Anticipate and immediately respond to market trends and shifts within the supplier base to manage risk and proactively plan for disruption

Ensure the availability of raw materials, components and/or products to increase order fulfilment and revenue

Reshape operations and embed efficiencies through the chain to lower cost of goods sold (COGS) and achieve high gross margins

Reduce order fulfilment issues to enhance customer satisfaction and drive brand loyalty

Gain a complete view of the business, uncovering accurate and actionable insights in real-time planning, sourcing, logistics and warehousing and aftermarket

Enhance Environmental, Social & Governance (ESG) by unifying data across enterprise silos to make smarter and more transparent supplier decisions

The Qlik advantage

Leveraging this end-to-end approach to managing data offers an exciting range of opportunities across supply chain processes. These include:

Demand-driven inventory management

Predictive analytics and trend analysis using augmented insights allow teams to continually balance cost reduction, shifts in customer demand, sourcing strategy, and other external dynamics impacting inventory management.

Key benefits include:

- Efficient replenishment planning
- Greater production efficiencies
- Waste elimination

Fulfilment and warehousing

By leveraging automation and establishing proactive alerts, it becomes easier to streamline fulfillment and create a more customer centric and efficient supply chain – determining trade-offs in real time between channel availability, safety-stock levels, inventory carrying costs, delivery times and more.

Key benefits include:

- Efficient, omni-channel management
- Creation of a lean warehousing and distribution model
- Greater control of transportation and logistics costs

Mitigating supply chain disruption

By ensuring accurate, knowledge-based predictive insights into possible known and unknown supply chain disruptions, teams can get ahead of possible disruptions that threaten to affect or delay customer orders. Issues are identified early, and automated alerts will compel action.

Key benefits include:

- Clear understanding of the 'disruption' drivers
- Increase on-time in-full (OTIF) orders
- Achieve higher sales revenue
- Improve customer experience, and in turn loyalty
- mprove margins and lower COGS

Driving efficiencies, building reliance

In this era of distributed global supply chains, it is absolutely critical that all stakeholders are tightly coordinated to ensure flexibility, resiliency and rapid product or solution time-to-market.

Here, end-to-end visibility is key. The analytics data pipeline approach easily combines disparate data sources in real-time for in-depth multi-source analysis and AI-powered automation.

The result is the ability to identify and resolve supply disruptions farther upstream, monitor supplier performance on delivery, price, and service. And by knowing more, it's easier to strengthen negotiating positions and select the right partnerships to create a robust and competitive supply chain.

Taking a step towards building your analytics data pipeline with Qlik

Here at Qlik, we're committed to helping supply chain leaders and their teams close the gap between data and action. This requires a deliberate approach — one that addresses the flow and integration throughout the analytics data pipeline.

The good news is that we have done the hard work for you. Qlik makes it simpler for organizations to build an end-to-end analytics data pipeline – giving you all the data and analytics services you need to transform raw data into informed action.

On an operational level, we make it simple for your tech teams to integrate and manage – with cloud-agnostic and hybrid deployment options that offer maximum choice and flexibility in how and where you store and analyze data, across one or multiple clouds.

From the user perspective, the aim is just as straightforward: to free the data from silos, in real-time, and allow everyone in the supply chain team to find it, enrich it and create derivative data from it. Which helps as many people as possible understand and discover the insights they need.

To find out more, **visit Qlik.com**

Qlik

Qlik transforms complex data landscapes into actionable insights, driving strategic business outcomes. Serving over 40,000 global customers, our portfolio leverages advanced, enterprise-grade AI/ML and pervasive data quality. We excel in data integration and governance, offering comprehensive solutions that work with diverse data sources. Intuitive and real-time analytics from Qlik uncover hidden patterns, empowering teams to address complex challenges and seize new opportunities. Our AI/ML tools, both practical and scalable, lead to better decisions, faster. As strategic partners, our platform-agnostic technology and expertise make our customers more competitive.

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