Point of View
Supply Chain Analytics

Deloitte The Netherlands, 2016
Dear reader,

Deloitte maintains market-leading global Supply Chain and Analytics practices with extensive experience in Supply Chain Analytics, see our webpage. Based on our experience, we have insights in the latest (technological) developments, and understand the impact of these developments on your business.

In this point of view we want to demonstrate one of the latest developments in the Supply Chain landscape; data analytics.

We will elaborate on relevant Supply Chain trends and the rise of Digital Supply Networks, which increases both the need and the possibilities to use data analytics.

The possibilities for using data analytics are mapped on our Supply Chain Analytics framework, that covers all parts of the end-to-end Supply Chain. Examples are the use of machine learning to better predict demand and using data visualization to provide end-to-end insight in the supply and enable better decision-making.

We hope you enjoy reading our Point of View,

Robert Jan Huizing  
Deloitte NL - Supply Chain Strategy

Naser Bakhshi  
Deloitte NL - Analytics & Information Management

Guido Diepen  
Deloitte NL - Analytics & Information Management

Lantos Pin  
Deloitte NL - Supply Chain Strategy

Iris van der Heijden  
Deloitte NL - Supply Chain Strategy
Supply Chain trends

Digital Supply Networks

Supply Chain Analytics

Analytics approach

Our credentials

Why Deloitte?
Supply Chain trends

Two key trends currently impacting the Supply Chain are related to the rise of exponential technologies in our society.

### Increasing amount of data and powerful processing tools

- Use artificial intelligence to improve decision-making and interoperability throughout the Supply Chain
- Attract skilled talent to optimally use data and advanced analytics methods

### Accelerated influx of disrupting technologies

- Exploit ‘Internet of Things’ for integration and cost-reduction in transportation
- Use new technologies (e.g. 3D printing, robotics and self-driving cars) to streamline and/or change the Supply Chain

### More focus on transparency, quality and sustainability

- Provide insight in the origins of products using blockchain
- Optimize on sustainability metrics like CO₂ emissions

### Products brought to market via convergent business models

- Efficiently organize the reverse logistics process
- Digitalize and integrate processes to provide a ‘seamless’ experience

### Increasing globalization and continued (economic) volatility

- Gain insight in the biggest Supply Chain risks and mitigate them by calculating scenarios
- Optimally design cross-border Supply Chain networks
Supply Chain trends
The rise of exponential technologies has created a burning platform: disrupt or be disrupted

Exponential technology change... ...is disrupting Supply Chains across all industries

- $1,245 per Gbps
- $569 per GB
- $222 per million transistors
- Computing <$0.06
- Storage <$0.01
- Bandwidth <$10

Cost of Performance

1992

Today
Deloitte's Point of View on Supply Chain Analytics
Digital Supply Networks

In the 4th industrial revolution, leading companies are combining information technology and operations technology to create value in new and different ways.

- **Power Generation**
  - Steam engines and hydraulic power
  - Productivity and industrialization

- **Industrialization**
  - Electricity and assembly lines
  - Mass manufacturing and improved infrastructure

- **Electronics**
  - Automation
  - Computers and Internet Connectivity
  - Access to information and enhanced decision-making capability

- **Digital Supply Networks**
  - Vast network of cyber-physical systems
  - Connected products, customers and supply chain

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Optimize Traditional Objectives...

- Cost
- Innovation
- Quality

...and New Objectives...

- Service
- Safety
- Flexibility

...By Better Managing

- Revenue
- Visibility
- Volume

- Flexibility
- Velocity
Digital Supply Networks
It transforms the traditional, linear Supply Chain nodes into a set of dynamic networks, allowing dramatically increased differentiation

Traditional Supply Chain

Digital Supply Network

Deloitte's Point of View on Supply Chain Analytics
In such networks, a continuous flow of information, goods and services exists between the physical and digital world – a ‘digital mirror’ of the physical world.

1. **Physical to Digital**: Capture signals and data from the physical world to create a digital record.

2. **Digital to Digital**: Exchange and enrichment of information using advanced analytics, artificial intelligence, and machine learning to drive meaningful insights.

3. **Digital to Physical**: Deliver information in automated and more effective ways to generate actions and changes in the physical world.
Digital Supply Networks

One of the biggest opportunities for companies in preparing for the disruption by Digital Supply Networks lies in the usage of Supply Chain Analytics.

1. Supply Chain Analytics opportunities
   The digital ‘mirror’ that reflects the physical world creates enormous amounts of data, which must be safely stored, easily accessed and dynamically analyzed to gain new insights and improve (collective) decision-making across the network.

2. New workforce skills and capabilities
   New skills and capabilities are required to understand and engage with all aspects of Digital Supply Networks. These are skillsets which are already in short supply and you will face a new host of competitors in the talent acquisition process.

3. Cyber security risk
   The interconnectedness of Digital Supply Networks creates exposure to data breaches, which can be detrimental (possibly catastrophic) to operations and create a negative brand association.

4. Reliance on ecosystem of Supply Chain and technology partners
   Creating Digital Supply Networks requires reliance on a broader set of collaborators and technologies, which increases value opportunities but also complexity within the supply ecosystems.

5. Agile systems development & deployment
   Many companies have organizations and processes in place for implementing technology systems. These processes are often robust, as they include a long timeline of designing, testing, building an on premise solution.
Digital Supply Networks

To accommodate the flow of information between both worlds, an integrated Digital Stack architecture is required.

Digital Stack components:

- **Insights & Strategy**: Business insights, AI, and analytics to better sense, predict and anticipate supply chain issues.
- **Decision Support**: Modeling, and scenario analytics to support better decisions for business units.
- **Visibility**: Aggregate data for end-to-end visibility that enables prioritized actions.
- **Business Process**: Automated processes for standardized processes and simple, relatable data; retire multiple applications.
- **Data Integration & Connectivity**: Integrated nodes to create a single point of connectivity to the supply network; flexibility to add and switch suppliers.
- **Network Data Synchronization**: Synchronized data gathering to reduce cost for storage and improve data availability through Enterprise wide data warehouse access.
Digital Supply Networks
Which is characterized by an advanced technology infrastructure (Digital Core) that enables the usage of Supply Chain Analytics to improve decision-making.
Supply Chain Analytics

Deloitte's Point of View on Supply Chain Analytics
Supply Chain Analytics

Deloitte has vast data analytics experience in the Supply Chain landscape – shown in our Supply Chain Analytics framework.

- Delivery Lane Analysis
- Network Design
- Data-based Warehouse Design
- Advanced Transport Optimization
- Logistics Outsourcing
- Cost-to-Serve analysis
- Returns prediction and tracking

- Integrated Business Planning
- Advanced inventory planning
- SKU analysis and rationalization
- Demand sensing

- Advanced Production Scheduling

- OTIF analysis
- Scenario Modelling for Strategic Sourcing
- Procure to Pay Optimization
- Source Cost Analysis
- Optimization of order allocation

- Supply Chain Diagnostics
- Supply Chain Visualization
- Supply Chain Risk Analysis

Note: A selection of Deloitte’s credentials in these areas of Supply Chain Analytics are listed in the ‘Our credentials’ section, page 17.
Supply Chain trends
Digital Supply Networks
Supply Chain Analytics
Analytics approach
Our credentials
Why Deloitte?

Analytics approach

Deloitte's Point of View on Supply Chain Analytics
Analytics approach

Deloitte’s comprehensive and flexible methodology for analytics projects ensures we can deliver business critical insights within time and budget.

A typical analytic Insights project takes 8 to 12 weeks following three main phases connected to our approach:

- **Understand**: 2-3 weeks
- **Analyze**: 4-6 weeks
- **Insights**: 2-3 weeks

**Approach**

Our structured approach has been built up from our experience in analytical engagements. It comprises of six steps to maximize project oversight. Each step allows looping back to previous steps to apply the insights gained in subsequent steps.

1. **Assess Current Situation**
2. **Acquire & Understand Data**
3. **Prepare & Structure Data**
4. **Analyze & Model**
5. **Evaluate & Interpret**
6. **Report & Implement**

**Critical success factors**

To ensure maximal knowledge transfer in both ways we would need to work closely with key experts in client’s business and IT departments. Rapid access to potentially disparate source data and support in understanding the data is essential in order to build up the data structures required for the analytical models.
Supply Chain Analytics

Deloitte has vast data analytics experience in the Supply Chain landscape – a selection of our experience shown on the next pages.

- Delivery Lane Analysis (page 31)
- Network Design (32)
- Data-based Warehouse Design (33)
- Advanced Transport Optimization (34)
- Logistics Outsourcing (35)
- Cost-to-Serve analysis (36)
- Returns prediction and tracking (37)
- Integrated Business Planning (19)
- Advanced inventory planning
- SKU analysis and rationalization
- Demand sensing
- Supply Chain Diagnostics (20)
- Supply Chain Visualization (21; 22)
- Supply Chain Risk Analysis (23)
- OTIF analysis (26)
- Scenario Modelling for Strategic Sourcing (27)
- Procure to Pay Optimization (28)
- Source Cost Analysis (29)
- Optimization of order allocation
- Supply Chain Sustainability (24)
- Supply Chain Analytics Roadmap (25)
- Supply Chain of the Future Workshop
Our credentials – Integrated Business Planning

Enabling a Supply Chain to operate at low, stable inventory levels and potential for optimizing shift patterns and labor utilization

Challenge

The world’s leading premium drinks business experienced that sell-in based target peaks drive volatility and inefficiencies in the end-to-end Supply Chain, resulting in high inventory held in market and inefficient use of labor due to manufacturing cycles optimized to support peak shipments. The challenge was to identify and design a set of interventions, both short and long term, which will reduce artificial sales volatility, creating cost savings and an increased focus and investment in sales execution and growth.

Approach

The scope included several business units, covering all Western European and Central Eastern European operations including warehouses in the UK, Belgium, Russia, Turkey and Spain. Based on initial data gathering, the current distribution network was modeled (baseline situation) using the modeling tool Llamasoft. The parameters for the future network model were defined and modeling outcomes compared to the baseline situation to get insight in the most robust and efficient future distribution network.

Results

The analysis led to the development of a manufacturing strategy which - combined with interventions to smoothen demand and reduce volatility - enables the Supply Chain to operate at low, stable inventory levels, reduced costs and increased effective trade spend. Subsequently, the analysis provided guidance for further optimization of shift patterns and labor utilization.
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Our credentials – Supply Chain Diagnostics

Development of a Business Intelligence dashboard to gain insight in operational performance

Challenge

One of Europe's largest agricultural companies, owned by approx. 30,000 farmers with more than $8B in sales and presence in 25 countries, wanted to structurally optimize their operation. The client wanted to gain more insight in the performance of their operation by implementing a Business Intelligence dashboard.

Approach

Deloitte supported in formulating consistent definitions and mapped the business needs required to spot improvement opportunities, measure improvements made, and actively monitor the operation/ performance of the client's Supply Chain.

Results

A full design of the Business Intelligence dashboard, including most relevant KPIs, lay-out and dimensions, was delivered for implementation by the clients' IT department. The dashboard enables the ability to steer on KPIs and help to develop company-wide insight in the client's performance and understanding of functional contribution. It also increased insight of people into Supply Chain drivers and the impact of their actions on the organization as a whole.
Our credentials – Supply Chain Visualization

Gaining insights into the digital order pipeline to improve order fulfillment and speed of delivery

**Challenge**

Over the last years, online sales channels have become more and more important for companies. With the online supply increase, however, customers have become more demanding in terms of delivery time and service. Reliability is therefore extremely important, even more so than speed. Therefore a large retail company asked Deloitte to create a clear picture of the Direct-to-consumers online purchase order submission process through the different systems and increase the reliability of this process.

**Approach**

Of the 70,000 total submissions, roughly 70% was completed within the allowed time. 22% was completed at around roughly twice the maximum amount of time, 7% within about 6 times the maximum and 1% took even longer. The analysis was focused on the group that was completed in twice the maximum time (22%) which held the largest opportunity to identify the delay drivers. Timestamps were created for different stages in the order submission process combined from multiple sourced systems. A clustering on deviation from the reference per time stamp was performed.

**Results**

The analysis led to the identification of several steps within the process that could be improved with low effort for a relatively high gain. In total more than 20 improvements were made based on the analysis results, leading not only to a more reliable order submission process, but also to an average time reduction per order of 50%. As a result, customer satisfaction and loyalty increases.
Our credentials – Supply Chain Visualization

Gaining insight in the number of products offered to retailers and rationalize store inventory

**Challenge**
A large retail brand distributes thousands of different products to their retailers on a seasonal basis. The higher the number of different products, the more complex the manufacturing and logistic processes are which brings more costs. An additional challenge is creating the inventories for each store. On the one hand you want customer to have enough choice, on the other hand you want to provide the least amount of items possible so that the costs stay low. We were asked to rationalize the number of different items.

**Approach**
For our analysis, we took two different angles. One from a store point of view and one from a product category point of view. For the product point of view we identified the number of products that were necessary to still give the customer enough choice, and on the other hand retain the revenue. For the store point of view we clustered the stores in order to determine with which amount of unique items a store would still be successful.

**Results**
From our analysis it turned out that it was not necessary to create unique inventories for each retailer, but that many different retailers could be grouped in a small number of cluster with similar inventory. In addition, we determined that the number of different products offered was higher than necessary many products were unsuccessful and the number of products could be reduced dramatically.
Our credentials – Supply Chain Risk analysis

Developing a dashboard to identify procurement risks and mitigating actions

Challenge

Risk management is becoming an increasingly important issue for procurement leaders. With many different suppliers, CPOs struggle to get the overview, see where issues are and to prioritize actions. To address this problem, several companies have developed different IT offerings that help CPOs and their team in monitoring supplier performance. However, there isn’t any solution offering that provides a consolidated risk and performance management model and visualization based risk mitigation strategy in a single platform.

Approach

To develop the required platform, a set of procurement KPIs (including WC reduction, on time and in full, Invoice compliance) was identified. Thresholds were set to quantify whether a certain scenario can be defined as a performance issue or as a risk. The next step was to derive exclusive risk metrics viz. credit risk, reputational risk, etc. to identify whether a supplier is exposed to any of these. The final step was to identify suppliers who may fall into any of these scenario in future – by designing a future state model.

Results

The analysis and finding led to the design of three dashboards i.e. CPO dashboard, spend dashboard and supplier dashboard that help CPOs and their team to identify and mitigate risk before it attains critical proportion.
Our credentials – Supply Chain Sustainability

Providing Supply Chain sustainability insights in eight separate areas for over 35 key clients

**Challenge**

Sustainability has become an increasingly important metric for many companies. The availability of a large amount of data provides the opportunity for analytics solutions. These solutions should come in the form of a useful dashboard, infographic or data visualization tool which engages the client and provides sustainability insights at both the granular and aggregated level.

**Approach**

By providing sustainability solutions in eight separate areas, Deloitte has built expertise and distinguished itself in the marketplace. These areas are:

- Energy Diagnostic & Renewable Energy Strategy (1)
- Greenhouse Gas Inventory (2)
- Lifecycle Assessment (use product level data to map out environmental hotspots) (3)
- Water Risk Assessments (4)
- Climate Modeling (5)
- Food Waste & Food Supply Chain (6)
- Efficient Logistics – Renewable Fuels Strategy (7)
- Recycling – Plastics & Textiles (8)

**Results**

Amongst others, the following results have been achieved:

- A logistics company achieved 15% energy reduction by energy spend diagnostics (1)
- At a major food service company, over $5 mio in saving from employee engagement opportunities on energy, water and waste were identified (4)
- A global retail company achieved standardized customer-facing expiration date labeling on food packaging (6)
Our credentials – Supply Chain Analytics Roadmap

Developing a Supply Chain Analytics roadmap for a global healthcare company

Challenge

The project's predefined objective was the creation of a Supply Chain Analytics roadmap for a global healthcare company's Supply Chain within the Plan-Source-Make scope, with a focus on planning.

For each identified improvement initiative a high-level business case would be developed, with an indication of time and ease of implementation.

Approach

In the space of five weeks, a three-step approach was executed to translate the client's Supply Chain Analytics vision into an actionable roadmap. The Insight Driven Organization (IDO) framework was used as a basis to evaluate the analytics maturity level of the client.

Two interactive workshops were organized to facilitate the discussion on potential quick wins and improvement opportunities, supported by case examples, Deloitte-specific tools and experts' opinions.

Results

The roadmap is envisioned as a path to the realization of a Supply Chain control tower that makes use of visualizations, scenario planning, predictions, simulations, and prescriptive decision-making in order to orchestrate the Supply Chain. Within each of the five main control tower components (visibility, scenario planning, predictive, simulation, and prescriptive) a series of Supply Chain Analytics initiatives were identified. By plotting the 12 initiatives on the complexity and time axes of the roadmap, different visualization-related quick wins are identified.
Our credentials – On-Time-In-Full Analysis

Provide insight into key drivers of On Time In Full delivery and improving coverage throughout the Supply Chain

**Challenge**

In this particular retail company, millions of products are continuously being produced and shipped to distribution centers around the globe. In order to satisfy customer demand in time, it is necessary that the coverage is in order, i.e. the percentage of the products that arrives at the distribution centers on time and in full. In order to improve the coverages and meet the set targets, the company wanted insight into the drivers that most influence the coverage and eventually also the delivery in full and on time. Therefore they asked Deloitte to perform a detailed analysis on their data.

**Approach**

Collected the ‘15 week coverage rate’ for full year of orders. A clustering technique was used to cluster 26,000 coverage rates. This technique groups the coverage patterns in buckets of similar patterns, which then comprise a single cluster. Eight buckets of different coverage patterns were visualized and these buckets gave insight in the drivers of the coverage for the orders.

**Results**

Based on the analyses, insights were extracted with incremental business potential, e.g.:

- Carrier performance has the largest impact on the coverage
- Good coverage is usually caused by slack in factory performance
- Identified significant number of orders that were only slightly (1-7 days) late and could be quick wins
- Actionable insights to improve process and areas of the order pipeline, which improved the coverage by a significant margin
Our credentials – Scenario Modelling for Strategic Sourcing

Support a mature purchasing organization in gaining insights into the costs and options that existed to reduce cost through alternative specifications

**Challenge**

A mature purchasing organization experienced upward price pressure from rising commodity prices, supplier consolidation through mergers and acquisitions, constrained raw material and supplier manufacturing capacity, obscured supplier value chains, complex price strategies and a lack of collaboration across Supply Chains disciplines.

**Approach**

By developing linear, integer and non-linear programming models the company was able to develop scenarios with alternative supply sources and shifting volumes. The optimization needed to take into account cost through the value chain, looking at procurement cost, the effect on production, warehousing and transportation cost, and if applicable, effects on the price to the end customer.

**Results**

Using the developed programming models, the company gained greater insight into the costs, and the options that existed to reduce cost through alternative specifications.
Our credentials – Procure-to-Pay Optimization

Enabling Deloitte’s Process X-ray methodology to gain a 18% improvement on a multinational telecommunications company’s Procure-to-Pay processes

Challenge

The client requested Deloitte to get insights on the actual execution of their Procure-to-Pay (P2P) processes in their three main markets and help identifying improvement opportunities. They required fact-based insights in process compliance, efficiency and productivity across markets in order to make a sustainable change. Moreover, the client envisages to build a Continuous Improvement (CI) capability, supported by advanced analytics tools but was struggling on how to set it up and how to approach CI

Approach

The project is executed in three phases. First, the scope was defined: conduct a survey with process experts to support focus setting in the P2P processes to define improvement hypotheses. Second, the processes were analyzed by Process X-ray, a Deloitte in-house developed methodology to review actual process execution based on the ERP data, to establish a detailed baseline and analyze hypotheses. The findings were validated with experts. Finally, the business case was build, wherein improvement areas were defined and recommendations and a high-level implementation plan was presented

Results

Enabling Process X-ray showed the client concrete insights on how they could improve their P2P processes and gain a 18% productivity improvement on their end-to-end process by adapting the behavior of users. Furthermore, an action plan specified how CI could be embedded in the organization and the business case showed the impact of applying and embedding X-ray in their organization
Our credentials – Source Cost Analysis (bottom-up spend cube)

Realizing and executing sourcing synergies in a merger

Challenge
In an increasingly challenging competitive environment, a merger can be an important means of obtaining synergies and gaining significant competitive advantage. Deloitte was asked to assist in identifying sourcing synergies in an impending merger and recommend a global sourcing operating model that supported a highly local business model. The new organization consisted over 110 sites globally, therewith creating a new global leader in the market.

Approach
The bottom-up spend cube was essential to the estimation of the total synergy potential, as well as an important tool in identifying and executing first sourcing benefits in the new organization. It allowed Deloitte to analyze the overlap intensity of suppliers in order to identify potential quick win renegotiations and roll-outs of contracts. Further, the spend cube supported in identifying sourcing projects with significant synergy potential, which then were executed on a central and regional level.

Results
The analyses and recommendations provided the client with a fact-base list of concrete quick win renegotiation opportunities from Day 1, as well as a well-prepared sourcing plan to be executed during the merger integration. A shift in focus from data capturing to analysis and strategy development has also freed up valuable time for key resources, which can be spent on value-adding activities. The client has realized total sourcing savings of over €50M.
Our credentials – Production Scheduling

Optimizing the Order-to-Plant allocation enabled a 10% saving on annual production and distribution costs

**Challenge**
To optimize a client's animal feed and vitamins Supply Chain to reduce their overall Supply Chain cost, Deloitte defined five Supply Chain improvement initiatives. The most important initiative was to optimize their Order-to-Plant (OtP) allocation, i.e. determine which products should be produced at plants and which customers to serve from which plants in order to balance and optimize overall production and distribution costs.

**Approach**
The first step in the OtP allocation was to determine the optimal production footprint. Amongst others the following industry specific details has been taken into account: production speed and capacity, production capabilities (e.g. pellet size, crumbles, meal, etc.), type of animals (e.g. layer chicken, calves, etc.), feed type (e.g. full feed, supplements) and the availability of raw materials. In the end a standardized version of the model was handed over to the client, which enabled them to run periodic OtP updates in the future.

**Results**
The optimized OtP showed our client they should focus their production more local-for-local and therefore produce a wider range of recipes per plant. This resulted in a large decrease in plant-to-customer transportation cost; the total savings with the optimized footprint and OtP, were approximately 10% of total annual production and distribution cost. Furthermore, by gaining insights via demand and production data and the developed OtP model, several potential investment opportunities were evaluated and prioritized.
Our credentials – Delivery Lane Analysis

Delivering a robust and user friendly global transit planning tool at a global health care company

Challenge
To empower transportation personnel to more efficiently analyze ocean and air Supply Chain shipment data, a global health care company internally designed a Global Transit Planning (GTP) tool in Tableau. However, the tool did not achieve high user adoption, since analyses were not intuitive and high manual data updates were required.

The Deloitte team was asked to enhance the tool and incorporate a robust data blending process.

Approach
Enhancing the GTP dashboard and blending the data was achieved in four subsequent phases consisting of: research, visioning, prototyping and iterating.

In the prototyping phase, the team built and refined the dashboards and wrote a Python script which indicates how the various data sources should feed into the unified view of data.

Results
The existing GTP tool was adjusted to provide maximum flexibility, automation and collaboration. The user flow allows users to interact in one cohesive interface, while providing tailored information to their specific role.

The redesigned GTP tool is now well adopted within the organization and used on monthly basis to enable more effective inventory planning decisions, resulting in the gradual and continuous reduction of in-transit inventory.
Our credentials – Network Design
Developing a future network structure to support business growth in Europe

Challenge
To realize the growth targets and facilitate a large retail company's strategic initiatives, it needed to review its European network strategy and distribution capabilities. The objective was to deliver an European network design that considers multiple 2020 visions to differentiate, profitably grow, and manage the complexity of the businesses, including multi-channel delivery for its customers.

Approach
The scope included several business units, covering all Western European and Central Eastern European operations including warehouses in the UK, Belgium, Russia, Turkey and Spain. Based on initial data gathering, the current distribution network was modeled (baseline situation) using the modeling tool Llamasoft. The parameters for the future network model were defined and modeling outcomes compared to the baseline situation to get insight in the most robust and efficient future distribution network.

Results
Based on both quantitative and qualitative findings, Deloitte provided conclusions, recommendations, business case and a transition roadmap to work towards the optimal future network structure to support business growth across Europe.
Supply Chain Analytics aids to improve decision-making in the design process of a distribution center

Challenge

In designing a warehouse, challenges arise about how the layout of the location should be configured. Reliable data analysis and visualization can vastly improve decision-making on this matter.

Approach

The tool Alteryx Designer and custom build modules by Deloitte are used to support the design process of a distribution center. The custom build modules allow an easy preparation of required data from multiple sources. After the data preparation, the analysis can be made based on standard workflows for distribution center design. The workflows can be intuitively adapted to best fit specific project requirements. The analysis is visualized by a custom build module and Tableau to gain insights in potential layout solutions.

Results

The tool in combination with the custom build modules enable modeling information with a very high level of accuracy as well as repeatability of result, and visualize potential layout solutions for a distribution center. Enabling this tool improves the decision-making in the design process of a distribution center.
Our credentials – Advanced Transport Optimization

Developing a transportation strategy for the world’s largest maker of construction and mining equipment, gas engines, and industrial gas turbines

**Challenge**

The world’s largest maker of construction and mining equipment, diesel and natural gas engines, and industrial gas turbines with over $60 billion revenue experienced that in Russia and the CIS region (Eurasia), high organic growth rate and expansion through acquisitions put constant pressure on corporate transportation to serve new locations and increased volumes of freight with consistent on-time delivery and lowest possible cost. Deloitte’s objective was to support the client in developing its transportation strategy and identify/ enhance partnerships with global and local logistics providers.

**Approach**

The first step in the project was to define the current transportation network for all inter and intra Eurasia flows across all divisions. Second, all networks flows were reconstructed and a comprehensive data model was build. The current internal transportation management capabilities were assessed and aligned with the Voice of the Customer. Finally, the full Eurasian logistics environment was asse from both an infrastructure and Logistics market perspective and compared with the 2020 business outlook and Logistics trends in Eurasia.

**Results**

Based on the assessment, key factors of influence for the company in Eurasia were determined and an overview of all infrastructural and logistic trends in Eurasia was created. A SWOT analyses and an action plan could then be drafted to cope with the future challenges. The comprehensive As-Is assessment led to the identification of key challenges to be addressed in the next phase.
A global sourcing project to realize annual logistics cost savings and improve Supply Chain visibility and control

**Challenge**

The profitability of our client – a leading seating and sleeping manufacturing company – considerably declined over the past years, increasing the urgency to focus on providing better service against lower costs. Logistics represents a key focus area since it is one of the major spend categories, its importance to serve customers through reliable lead times, and the current scattered logistics service provider landscape. The objective was to reduce logistics costs, in combination with improving Supply Chain visibility and control.

**Approach**

The first step in the project was to optimize the clients' current warehousing and distribution network, leading to a more efficient network model. Second, a global RFP was used to refine rate structures and consolidate LSPs leading to reduced rates. Finally, to increase Supply Chain control, the RFP process strongly focused on LSP’s technical capabilities in data connectivity and an integrated logistics planning. A future operating model was developed to support increased Supply Chain control and support LSP (data) integration.

**Results**

Based on Deloitte’s approach, the global sourcing project resulted in annual logistics cost savings for European road freight, warehousing and global deep-sea shipping of more than 30%, amounting to more than NOK 50M annual cost reduction. Moreover, the future operating model enables increased Supply Chain control allowing for further improvement in the years to come.
Our credentials – Cost-to-Serve Analysis

Supply Chain optimization assessment at a leading agricultural company

Challenge
To improve the operating margins of one of Europe's largest agricultural companies, Deloitte was asked to identify improvement opportunities in the Supply Chain operations. Despite of larger volumes, the operating margins of the focus area animal feed production, are heavily under pressure.

Approach
A tailored end-to-end Supply Chain model was developed to assess its strategic, operational and supporting processes for each Supply Chain area. To get insight in the client's operational costs, cost drivers and Supply Chain performance, an order-line detailed Supply Chain cost-to-serve analysis (using >200,000 orders) was performed. Quantitative performance analysis were combined with in-depth operational understanding through site visits, workshops and interviews across the organization.

Results
The assessment identified 21 improvement areas in their operations, which were grouped to eight opportunities, with estimated Supply Chain cost savings of 10-20%. After presenting these results, Deloitte was asked to support the implementation program and realize the estimated cost savings. The cost-to-serve analysis provided detailed insights in the cost of supplying each customer and product and to determine and benchmark key cost areas and performance.
Our credentials – Returns Prediction and Tracking
Reducing costs on reverse logistics by analyzing the end-to-end process

**Challenge**
A global technology firm struggled with high costs on their service logistics. The scope of service logistics consisted of shipping parts to client sites and taking care of returning the defective parts to global re-manufacturing sites. Clients were served with premium service levels (i.e. <4 hour recovery). Deloitte was asked to make a fact based assessment of the service logistics process and advice how costs could be reduced.

**Approach**
During the process the reasons why customers contacted the service desk were analyzed. It turned out that 80% of the problems could be resolved by online support. From the remaining 20%, 80% of the problems could be resolved by the second line support. For the 4% that could not be resolved this way, a replacement needed to be sent. After inspection, it turned out that half of these returned units actually did not have any malfunctions.

**Results**
The result of the analysis was that the main opportunity for savings was not in the cost for logistics (driven by the stringent service levels and unpredictable failure rates), but was found in avoiding cost (i.e. reducing the number of replaced products that turned out to be non-defective). This savings should be realized by continuously improving online information and the customer services departments.
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Digital Supply Networks
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Analytics approach
Our credentials

Why Deloitte?
Why Deloitte?

We are globally recognized as the market leader in Supply Chain consulting services.

Our Supply Chain practice at-a-glance

- Approximately 2,400 practitioners with deep experience in 40+ locations globally
- #1 leader in Supply Chain Management Consulting in Europe – Kennedy 2015
- Deep expertise in market offerings such as Logistics & Distribution, Supply Chain Planning, and Sourcing & Procurement
- “Multiple clients cite Deloitte’s breadth and depth of services in Business Operations Consulting as top strength.”
- “Deloitte has a very well-crafted and well-executed industry go-to-market strategy that focuses on the intersection of industry sectors and service lines. Several clients called out industry expertise as area of strength for Deloitte.”

Our Supply Chain offerings

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<th>Supply Chain Planning</th>
<th>Sourcing &amp; Procurement</th>
<th>Manufacturing Strategy &amp; Operations</th>
<th>Logistics &amp; Distribution</th>
<th>Sustainability</th>
<th>Supply Chain Analytics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create, refine, and implement supply chain strategies that support the overarching business strategy</td>
<td>Integrate and streamline product innovation and product development related processes</td>
<td>Define processes that balance supply and demand to develop a method that meets sourcing, production, and delivery requirements</td>
<td>Enhance spend management services for both indirect and direct material sourcing and supply management</td>
<td>Improve operations of the entire value chain by leveraging lean concepts to help reduce waste and complexity</td>
<td>Determine the best strategy and practices for moving the right product to the right place at the right time considering import duties and custom regulations</td>
<td>Increase enterprise value by improving social and environmental performance by investing in resource mgmt., supply chain, strategy, and reporting</td>
<td>Transform data into intuitive, interactive visualizations that innovate how our clients approach their toughest issues</td>
</tr>
</tbody>
</table>

Supply Chain professionals

- US and Canada: 1,210 professionals
- EMEA: 810 professionals
- LATCO: 120 professionals
- APAC: 260 professionals

Deloitte’s Point of View on Supply Chain Analytics
Why Deloitte?

We understand what your challenges are, as well as the current and future analytics market, placing Deloitte in a unique position to assist you.

Global Reach
- With over 9,000 BI and Analytics resources worldwide, we are recognized as one of the leading BI&A service providers.
- Unique combination of deep supply chain expertise, BI&A capability and understanding of decision-maker’s roles to maximize value.

Recognized leader in Analytics
- Deloitte shows growth and innovation leadership through investment in acquisitions (with 22 analytics-related acquisitions since 2010), technology partnerships, alliances and intellectual property.
- “Deloitte has a strong focus on innovation, including Deloitte’s Insight Driven Organization (IDO) Framework, breakthrough labs to meet clients’ demands, and Highly Immersive Visual Environment (HIVE) labs, as well as a breadth of analytics accelerators.”
- “All is available through its global network of 21 Global Delivery Centers and 25 Deloitte Greenhouses.”

Vendor independent
- We recognize the importance of the right technology, but we also understand the necessity of finding pragmatic and efficient ways to iteratively build the required capabilities.
- Our relationships with, and understanding of, technology vendors is strong, covering an impressive range of different products – but, crucially, we remain vendor independent.
- We are focused solely on helping clients to develop a practical Information and Analytics strategy - incorporating the necessary technologies and introducing the most appropriate vendors.

Experienced in Supply Chain Analytics

Source: Gartner, Magic Quadrant for Business Analytics Services, Worldwide. September 2015
Why Deloitte?

Deloitte Greenhouse offers different types of immersive analytics sessions

Analytics Lab
The Analytics Lab, hosted in Deloitte’s innovative Greenhouse environment, is an inspiring and energetic workshop to uncover the impact of data analytics and visualization for your organization. Participants are provided with a unique opportunity to experience hands-on analytics in a fun and innovative setting, facilitated by Deloitte’s industry specialists and subject matter experts.

Art of the Possible
An inspiring two-hour session including analytics and data visualization demos, used as a starting point for an open discussion on the potential impact of analytics for your organization.

Visioning
A collaborative session to wireframe a custom analytics or visualization solution, supporting a selected business challenge. The session is facilitated by Deloitte’s user experience, data visualization and analytics experts.
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