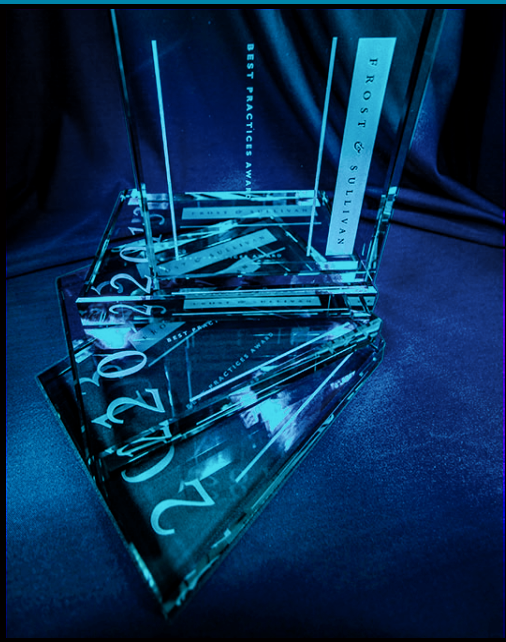


F R O S T   &   S U L L I V A N



2016 North American  
Supply Chain Management for Discrete Electronics  
Product Leadership Award



FROST & SULLIVAN

BEST  
2016 PRACTICES  
AWARD

NORTH AMERICAN SUPPLY CHAIN  
MANAGEMENT FOR DISCRETE ELECTRONICS  
PRODUCT LEADERSHIP AWARD

2016  
BEST PRACTICES  
AWARDS

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## Background and Company Performance

### *Industry Challenges*

Discrete electronics manufacturers, like those in other industries, want to reduce incurred operational/ownership costs, improve delivery performance, increase market share and productivity, record rapid revenue growth, and transform and accelerate their businesses with changing market trends. When their growth curve evolves to compete in the global marketplace, supply chain planning becomes more complex and significantly impacts response time to customers. Many manufacturers have international operations whose supply chains may be threatened by cyber-attacks, trade union strikes, or natural disasters.

However, discrete electronics manufacturers are stumbling because existing supply chain planning systems are not comprehensive, flexible, scalable, fast, or efficient enough to address these challenges. For instance, the lack of attribute-based planning significantly affects productivity levels, hindering any easy upgrade according to the latest technological advancements and forcing manufacturers to incur additional costs. These concerns underscore the importance of planning and call for visibility, execution, and control in global trade and supply chain management.

Supply chain vendors that can eliminate complexities and enable discrete electronics manufacturers to meet financial and productivity goals are better positioned to lead the North American market.

### *Product Family Attributes and Business Impact*

#### **Match to Needs**

Strongly committed to maximizing the value proposition for its customers in the global trade and supply chain management domain, Adexa Inc., in its 22nd year of operation as a leading supply chain planning company, has one of the most comprehensive footprints in the supply chain management market. Adexa focuses on incorporating advanced functionalities in line with industry requirements and technological advances. The company is unique on many fronts, including attribute-based planning (ABP), unified data model, and financials built into its supply chain models. Adexa's eGPS includes supply chain planning, financials, sales and operation planning, demand planning & forecasting; factory planning and sequencing; multi-echelon inventory optimization (MEIO); and network optimization. Few companies have such a comprehensive set of integrated business planning and performance management solutions. MEIO enables Adexa's customers to decide on the amount of raw material, the work in progress, the finished goods, and the distribution center storage required. Adexa links all of its strategic, financial, and supply chain planning in real time — a sharp contrast to competitors that

have one product, which is more of a spreadsheet-based sales & operational planning module with the same logic as material requirements planning (MRP) system that lacks proper capacity planning.

In our research, our finding was that none of Adexa's competitors offer planning based on *attributes (ABP)*. Attributes are specifics of equipment, factory, suppliers, customers, products, orders and so on. With ABP, Adexa's customers can quickly and efficiently adapt to any business environment that develops due to new customers, change in priorities, new products, sources, or new acquisitions amongst others. ABP facilitates a faster process of upgrades and implementation at a lower cost, without having to recode and reprogram. This means that Adexa reduces the costs associated with programing required to change the existing software. Its customers have the ability to upgrade systems as their businesses evolve with market trends, which had not been possible because of the limitations of legacy systems. To maximize clients' return on investment (ROI), Adexa seeks to minimize disruptions in their operations — a trait that is hard to find in this industry.

Adexa's supply chain planning modules are built on a single data model. In addition, the company has financials built into the data model at every level of distribution network, demand planning, supply chain and factory planning. In other words, Adexa has information about the cost of and the revenue generated by each of the products being manufactured. When a customer makes a plan or changes the plan, Adexa can immediately figure out its financial implications in terms of cost and suggest the customer's best options.

Adexa has effectively used its extensive experience and thorough understanding in supply chain management to address major industry challenges and secure a competitive advantage.

### **Product Service/Value**

Adexa's commitment to enhancing the value proposition for its customers is underscored by its focus on designing advanced solutions that address business challenges. It recently introduced a new predictive analytics product. One of the most critical uses of Adexa's software is essentially to understand "what-if" scenarios/questions so customers can optimize the supply chain and achieve the desired financial outcome. Adexa's predictive analytics solution enables this by helping customers evaluate and manage risk, understand supply and demand uncertainty, and mitigate risks in their operations. By doing this, Adexa has essentially become more of a risk management company, enabling manufacturers to make better decisions in real time; collaborate quickly with suppliers, partners, and customers; and perform with greater mobility and responsiveness during uncertain times. This has allowed Adexa to significantly enhance the value it provides to clients by improving their customer service at a lower cost and by helping them to maintain a low inventory with improved visibility.

Adexa has helped a number of companies in distribution-, material-, and asset-intensive industries improving their work-in-progress or asset utilization, and saving them millions of dollars in operational costs. Consumer packaged goods industries are more distribution-oriented. One of Adexa's customers — Hindustan Unilever —improved its delivery performance and inventory position by around 10% in its distribution centers in India after adopting Adexa's solution. One of the largest apparel manufacturers in North America, and a leader in basic-wear, selected Adexa for its worldwide planning systems across all of its businesses and factories to dramatically improving its global operations. Adexa offers better visibility and ensures lower inventory and operational costs.

## Design

Adexa has designed solutions with innovative features and functions that enhance user experience across applications. While competing products are slower in adapting to technological advances, Adexa's software adapts faster to newer technologies, and is compatible with mobile platforms. Adexa's users can receive alerts and notifications on demand planning, forecasting, and sales and operation planning with their mobile devices. Adexa also offers its software on the cloud.

By constantly focusing on incorporating advanced functionalities at par with industry requirements and technological advances, Adexa ensures that its overall value proposition remains unmatched. For example, Adexa is currently incorporating "learning systems" that allow its applications to automatically adapt to changing business requirements, resulting in better productivity. Adexa refers to this as 5<sup>th</sup> Generation SCP or *SCP 5G®*. It is the only solution with the ability to learn from its environment and adapt to the changing business conditions. It also enables finding hidden patterns that can be deployed for more efficient and profitable operations. The uniqueness of the approach comes from the fact that Adexa looks into the future with its supply chain models rather than looking into the rear view mirror. The latter being a practice adapted by most predictive analytics solutions and ERP companies.

## Customer Acquisition

Adexa's ability to design systems best suiting customer requirements can be largely attributed to the successful deployment of its supply chain management software across numerous applications in discrete electronics industry. With changing industry dynamics, Adexa has scaled up its services for manufacturers, particularly in optimizing resource investments, enabling collaboration, accelerating response times, synchronizing multi-site production, reducing lifecycle and inventory costs, and optimizing assets. According to Seagate Technology, by using Adexa as part of their S&OP, they have seen clear benefits in the operation of their supply chain. "The visibility and optimization capabilities that are now available to our [Seagate] global users have definitely improved our ability to be more responsive, faster and serve our customers better," explained Marcos Meirelles, Vice President Supply Base at Seagate. Improving customers' directly measurable KPIs and

providing them with unique value additions clearly strengthen Adexa's potential to further expand its solution's application scope.

The company has a strong footprint — particularly in Asia, where 9 of the top 10 Japanese electronics companies and a number of others (especially from the LED and flat panel industries in Korea and Taiwan) are its customers. Some of the elite discrete electronics manufacturers that have reaped considerable benefits by deploying Adexa's supply chain solution are Cree Inc., Pulse, Monolithic, OFS Brightwave, Philips, Panasonic, Toshiba and Siemens. With high customer satisfaction and retention, and an already-robust portfolio of discrete electronics manufacturers that continues to grow, Adexa is expected to strengthen its position in the North American market.

### **Growth Potential**

Several manufacturers from diverse industries have benefitted from using Adexa's supply chain solution. Adexa has registered years of profitability with a positive cash flow and a record of continuous sales and profit growth. Its holistic supply chain planning solution with Attribute-Based Planning can be deployed across diverse verticals. The solution has not only been successful in promoting product leadership in discrete electronics industries, but has also drawn the attention of leaders from other industries. Adexa has 19 of the top 25 semiconductor companies in the world as its customers, including the largest semiconductor company in the world, AMD, Taiwan Semiconductor Manufacturing Company, United Microelectronics Corporation, Tower Semiconductor, Chartered Semiconductor, Hynix, and Samsung. Consumer goods clients include Firmenich, S.A., Graham Packaging, Morton Salt, Johnson & Johnson, Paulaner Brewery, Rainbow Chicken, Rich Products, and Unilever. Among its customers are Boeing, Hanwei Aerospace, Korea Aerospace Industries, Naval Aviation in aerospace; Schlumberger and ArcelorMittal Dofasco in industrial; General Motors in automotive; and HanesBrands, and Tropical Sportswear International in soft goods. The diversity of success stories of Adexa customers is a testament to the flexibility of its supply chain solutions. Drawing string from the heightened satisfaction that Adexa renders to its customers from numerous verticals, it is imperative to conclude that the company has a vast potential for growth in this market.

### *Conclusion*

Adexa has ramped up its supply chain planning capabilities to consolidate its position in the market for the discrete electronics industry. Leveraging its strong technical expertise, Adexa has secured an edge over its competitors by providing the most comprehensive footprint for supply chain planning that exhibits Attribute-based Planning (ABP), unified data model, and scalability. With a unique integrated supply chain planning, business planning and performance management solution comprising predictive analytics, learning systems, and financials — all built on a single data model — Adexa has clearly enhanced the value proposition for its customers, setting a high standard in the supply chain planning domain. With its strong overall performance, Adexa Inc. has earned Frost & Sullivan's 2016 Product Leadership Award.



## Significance of Product Leadership

Ultimately, growth in any organization depends upon customers purchasing from your company, and then making the decision to return time and again. A comprehensive product line, filled with high-quality, value-driven options, is the key to building an engaged customer base. To achieve and maintain product excellence, an organization must strive to be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.



## Understanding Product Leadership

Demand forecasting, branding, and differentiation all play a critical role in finding growth opportunities for your product line. This three-fold focus, however, must be complemented by an equally rigorous focus on pursuing those opportunities to a best-in-class standard. Customer communications, customer feedback, pricing, and competitor actions must all be managed and monitored for ongoing success. If an organization can successfully parlay product excellence into positive business impact, increased market share will inevitably follow over time.

## Key Benchmarking Criteria

For the Product Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Product Family Attributes and Business Impact—according to the criteria identified below.

### Product Family Attributes

- Criterion 1: Match to Needs
- Criterion 2: Reliability and Quality
- Criterion 3: Product/Service Value
- Criterion 4: Positioning
- Criterion 5: Design

### Business Impact

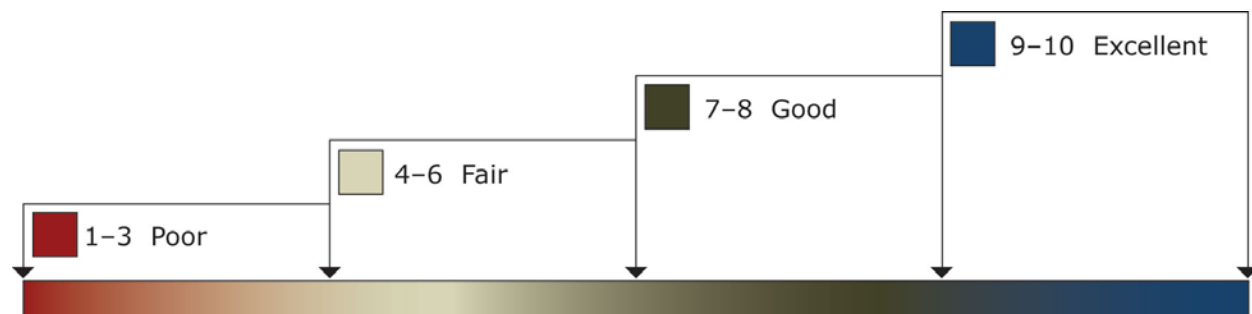
- Criterion 1: Financial Performance
- Criterion 2: Customer Acquisition
- Criterion 3: Operational Efficiency
- Criterion 4: Growth Potential
- Criterion 5: Human Capital

## Best Practice Award Analysis for Adexa Inc.

### Decision Support Scorecard

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows our research and consulting teams to objectively analyze performance, according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are illustrated below.

#### RATINGS GUIDELINES



The Decision Support Scorecard is organized by Product Family Attributes and Business Impact (i.e., the overarching categories for all 10 benchmarking criteria; the definitions for each criteria are provided beneath the scorecard). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.



The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, we have chosen to refer to the other key players as Competitor 2 and Competitor 3.

#### DECISION SUPPORT SCORECARD FOR PRODUCT LEADERSHIP AWARD

<i>Measurement of 1–10 (1 = poor; 10 = excellent)</i>			
Product Leadership	Product Family Attributes	Business Impact	Average Rating
<b>Adexa Inc.</b>	<b>9.5</b>	<b>9.5</b>	<b>9.5</b>
Competitor 2	8.0	8.0	8.0
Competitor 3	7.0	7.0	7.0

### *Product Family Attributes*

#### **Criterion 1: Match to Needs**

Requirement: Customer needs directly influence and inspire the design and positioning of the product family

#### **Criterion 2: Reliability and Quality**

Requirement: Products consistently meet or exceed customer expectations for performance and length of service

#### **Criterion 3: Product/Service Value**

Requirement: Products or services offer the best value for the price, compared to similar offerings in the market

#### **Criterion 4: Positioning**

Requirement: Products or services unique, unmet need that competitors cannot easily replicate or replace

#### **Criterion 5: Design**

Requirement: The product features an innovative design, enhancing both visual appeal and ease of use

### *Business Impact*

#### **Criterion 1: Financial Performance**

Requirement: Strong overall financial performance in terms of revenues, revenue growth, operating margin and other key financial metrics

#### **Criterion 2: Customer Acquisition**

Requirement: Product strength enables acquisition of new customers, even as it enhances retention of current customers

#### **Criterion 3: Operational Efficiency**

Requirement: Staff is able to perform assigned tasks productively, quickly, and to a high quality standard

**Criterion 4: Growth Potential**

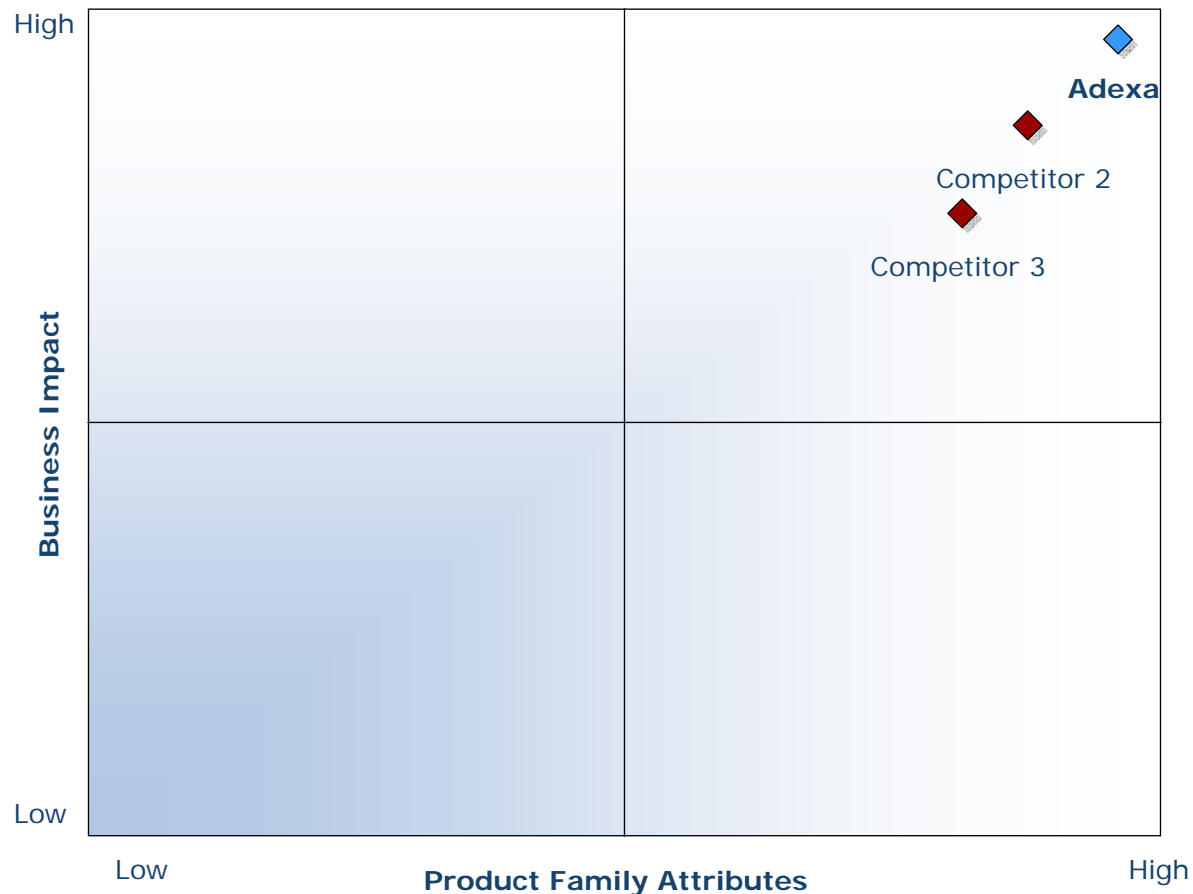
Requirements: Product quality strengthens brand, reinforces customer loyalty and enhances growth potential

**Criterion 5: Human Capital**

Requirement: Company culture is characterized by a strong commitment to product quality and customer impact, which in turn enhances employee morale and retention

***Decision Support Matrix***

Once all companies have been evaluated according to the Decision Support Scorecard, analysts can then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.

**DECISION SUPPORT MATRIX FOR PRODUCT LEADERSHIP AWARD**

## The Intersection between 360-Degree Research and Best Practices Awards

### *Research Methodology*

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree-view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often, companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry players and for identifying those performing at best-in-class levels.

### 360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



## Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan Awards follow a 10-step process to evaluate award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 <b>Monitor, target, and screen</b>	Identify award recipient candidates from around the globe	<ul style="list-style-type: none"> <li>• Conduct in-depth industry research</li> <li>• Identify emerging sectors</li> <li>• Scan multiple geographies</li> </ul>	Pipeline of candidates who potentially meet all best-practice criteria
2 <b>Perform 360-degree research</b>	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> <li>• Interview thought leaders and industry practitioners</li> <li>• Assess candidates' fit with best-practice criteria</li> <li>• Rank all candidates</li> </ul>	Matrix positioning all candidates' performance relative to one another
3 <b>Invite thought leadership in best practices</b>	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> <li>• Confirm best-practice criteria</li> <li>• Examine eligibility of all candidates</li> <li>• Identify any information gaps</li> </ul>	Detailed profiles of all ranked candidates
4 <b>Initiate research director review</b>	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> <li>• Brainstorm ranking options</li> <li>• Invite multiple perspectives on candidates' performance</li> <li>• Update candidate profiles</li> </ul>	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 <b>Assemble panel of industry experts</b>	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> <li>• Share findings</li> <li>• Strengthen cases for candidate eligibility</li> <li>• Prioritize candidates</li> </ul>	Refined list of prioritized award candidates
6 <b>Conduct global industry review</b>	Build consensus on award candidates' eligibility	<ul style="list-style-type: none"> <li>• Hold global team meeting to review all candidates</li> <li>• Pressure-test fit with criteria</li> <li>• Confirm inclusion of all eligible candidates</li> </ul>	Final list of eligible award candidates, representing success stories worldwide
7 <b>Perform quality check</b>	Develop official award consideration materials	<ul style="list-style-type: none"> <li>• Perform final performance benchmarking activities</li> <li>• Write nominations</li> <li>• Perform quality review</li> </ul>	High-quality, accurate, and creative presentation of nominees' successes
8 <b>Reconnect with panel of industry experts</b>	Finalize the selection of the best-practice award recipient	<ul style="list-style-type: none"> <li>• Review analysis with panel</li> <li>• Build consensus</li> <li>• Select winner</li> </ul>	Decision on which company performs best against all best-practice criteria
9 <b>Communicate recognition</b>	Inform award recipient of award recognition	<ul style="list-style-type: none"> <li>• Present award to the CEO</li> <li>• Inspire the organization for continued success</li> <li>• Celebrate the recipient's performance</li> </ul>	Announcement of award and plan for how recipient can use the award to enhance the brand
10 <b>Take strategic action</b>	Upon licensing, company may share award news with stakeholders and customers	<ul style="list-style-type: none"> <li>• Coordinate media outreach</li> <li>• Design a marketing plan</li> <li>• Assess award's role in future strategic planning</li> </ul>	Widespread awareness of recipient's award status among investors, media personnel, and employees

## About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best in class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages almost 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 31 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.