



NUCLEUS
RESEARCH

SCP TECHNOLOGY VALUE MATRIX 2020

ANALYST

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THE BOTTOM LINE

As competition for business intensifies and operations become more complex, organizations must identify and act upon opportunities to improve their supply chain efficiency and resilience. Supply chain planning has become even more critical for success as companies must maintain service levels in the face of resource constraints and external disturbances. Tight solution integrations and robust embedded analytics have become table stakes for supply chain planning systems, which can now differentiate based on go-to-market strategy and tactical focuses. Leading vendors have undertaken a “platform approach” to product delivery, providing solution flexibility that enables customers to drive long-term value by configuring deployments with their preferred blend of best practices and customizations.



OVERVIEW

Supply chain planning (SCP) vendors aim to provide a holistic view of an enterprise’s status and an actionable strategy to realize the enterprise’s goals. In order to be resilient enough to handle external challenges, organizations must have robust plans in place for their supply chains. Proactive resource management has become essential for sustainable success and requires a greater level of collaboration across an organization’s departments. Solutions that

can consolidate siloed data into a unified organizational view will be able to deliver greater value than a collection of point solutions

The demand for a wide variety of specialized functionalities has led vendors to adopt platform offerings as their go-to-market strategies. Implementations start out with basic standardized features that can be deployed rapidly, but due to their flexibility, can expand to address additional customer priorities as needed. Use cases include optimization around industry-specific constraints, integration with unconventional enterprise applications, and customizing analytic blends to create precise strategic views of a company's operations. The ability to scale and grow with customers enables SCP solutions to help implement best practices and deliver long-term value.

While vendors have recently prioritized solution flexibility for customers, they have also maintained investment in usability features. Change management for complex processes involving supply chains is inherently difficult, and vendors must be able to facilitate permanent shifts away from old practices. Web-based user interfaces and embedded analytics have both become table stakes for planning tools that are looking to displace legacy practices and software. Increasing transparency within the solution can also promote executive buy-in among traditionally conservative decision-makers, which is critically important for the success of any enterprise application deployment.

Because SCP vendors need to support a broad range of planning capabilities, their product roadmaps must be proportionally comprehensive. Cloud transitions remain an area of focus as vendors must overcome both organizational inertia and industry constraints with their value propositions to win new customers. Analytic developments have led to sophisticated artificial intelligence (AI) applications while evolved data structure enable organizations to deploy digital twins and carry out multiple scenario analysis. Now more than ever, customers can prioritize tactical focuses and add their own differentiators to supply chain planning and execution.

In this Technology Value Matrix, Nucleus evaluated SCP vendors based on their delivery of value to customers through the functionality and usability of the software (Nucleus Research s142 – Understanding the Value Matrix, September 2018). The research is intended to serve as a snapshot of the SCP technology market, help inform customers about how vendors are delivering, and take stock of what can be expected in the future based on present investments.

LEADERS

Leaders in the Value Matrix include Blue Yonder, E2Open, Infor, Kinaxis, One Network, and Vanguard.

BLUE YONDER

Blue Yonder (formerly JDA Software) is a Leader in the 2020 SCP Value Matrix. The vendor provides a comprehensive suite of planning applications with support for functionalities including sales and operations planning, demand planning, category management, factory scheduling, distribution planning, and network design. Blue Yonder covers verticals including retail, distribution and logistics, manufacturing, and hospitality and can also provide execution capabilities such as warehouse management, transportation, and workforce management.

Blue Yonder has made significant investments in artificial intelligence (AI) and machine learning (ML) in pursuit of creating autonomous supply chains. The Luminate platform enables users to augment traditional forecasting methods with probabilistic techniques for each of their stock keeping units (SKU), which contribute to granular analysis and better-informed decision making. Other supported AI-based processes include self-clustering algorithms and automated exception resolutions which can be applied to any of Blue Yonder's planning solutions.

In May 2019, Blue Yonder launched Luminate Warehouse Tasking, a SaaS addition to its logistics solutions with machine learning enhancements. The solution will support continuous task prioritization based on timing and resource location and includes expanded data visualization capabilities. Blue Yonder also released various updates for its onboarding, transportation, and mobility functionalities. Finally, in February 2020, the vendor officially announced its rebranding to Blue Yonder, to more closely align its name with its cloud transformation and product roadmap.

Customers cite Blue Yonder's comprehensive coverage of supply chain planning as a differentiator, as implementations can start small and then scale up to cover additional use cases as needed. The vendor's roadmap includes features such as digital twin, new task automations, and cognitive segmentation. Nucleus expects that Blue Yonder's development of autonomous supply chain capabilities will continue to drive value for its customers and should improve its position on future editions of the Value Matrix.

E2OPEN

E2open is a Leader in the 2020 SCP Value Matrix. The vendor covers a broad range of supply chain planning capabilities such as demand sensing, business planning (which includes inventory, sales and operations planning), global trade management, Transportation and Logistics, collaborative manufacturing, and channel shaping. E2open can create a digital twin of a customer's entire value chain which provides upstream and downstream visibility into suppliers, manufacturers, logistics providers, warehouses, resellers and retailers. The solution provides a user experience called Harmony that sits across the

solution's applications and consolidates workflows and analytics into a single view for end users.

The vendor maintained regular product updates over the course of the year, focusing on promotional planning automation in its May 2019 release. E2open has also continued its aggressive expansion strategy, acquiring Amber Road, a global trade management software provider, and Averetek, a through-channel-marketing-automation vendor, in June and July 2019. The acquisitions will further bolster E2open's functionality coverage for visibility into indirect channels and global trade compliance and execution. E2open released its third quarter update in August 2019, which included various updates for its Demand Sensing, Supply Management, and Global Trade Management solutions. In September 2019, E2open announced a strategic partnership with Technology Coast Partners to expand its presence in South American markets. The vendor's most recent product updates covered network platform usability enhancements, machine learning capabilities to facilitate decision making, social activity streams and new advanced visuals to analyze multi-enterprise supply chain data.

Customers report that the solution's flexibility is a differentiating factor and that the vendor's multi-enterprise network enables analytics with data from previously unused sources. As a result, organizations that can combine multiple E2open applications to work with one another will gain the most value from their deployments. Nucleus expects E2open to continue its position as a leading provider of supply chain planning capabilities on future editions of the Value Matrix.

INFOR

Infor is a Leader in the 2020 SCP Value Matrix. Infor CloudSuite Supply Chain Management (SCM) delivers a wide range of functionalities including sales and operations planning, production planning, demand sensing and planning, scheduling, and supply planning. The vendor has undertaken a vertical approach to deliver its enterprise applications and covers industries including manufacturing, food and beverage, logistics, retail, and distribution. Infor CloudSuite SCM has the flexibility to prioritize KPIs based on customer requirements and can scale to serve global enterprises of any size and complexity.

The vendor has made significant strides towards incorporating Infor Nexus's capabilities to CloudSuite SCM, providing customers with a multi-enterprise network that gives end-to-end visibility into value chains. Infor has also invested heavily in developing artificial intelligence capabilities through Infor Coleman AI which will contribute toward its vision for autonomous supply chains. Infor CloudSuite SCM boasts multiple integrations with third-party applications and other Infor solutions, enabling customers to implement integrated business planning processes and collaborative scenario analysis. Infor CloudSuite SCM also delivers

robust data security through the Supply Chain Vault, enabling customers to audit plans and anomalous information.

In September 2019, Infor announced a new strategic partnership with QAD Precision to bring multi-carrier parcel execution capabilities to Infor Nexus's Network Transportation Management solution. In October, the vendor released a new integration with Amazon Business, enabling joint customers to manage their spending from a single software tool. As Infor extends its supply chain planning capabilities and integrations to fit new use cases, Nucleus expects that customers will be able to drive additional value from both new and existing implementations.

ONE NETWORK

One Network is a Leader in the 2020 SCP Technology Value Matrix. The vendor hosts a suite of application modules that address the entire scope of its clients' supply chains, including supply and demand planning, S&OP, global logistics management, outbound fulfillment, and inbound logistics management. In conjunction with its NEO Platform, One Network establishes a multiparty network (called the Real Time Value Network) that connects its customers with their upstream and downstream partners and suppliers for greater supply chain visibility and intercompany collaboration. Customers have the option to onboard trading partners for a two-way view into inventory levels, ability to serve, and forecasts. Furthermore, customers can find potential partners for collaboration among the network's 75,000 participating organizations.

One Network targets a wide range of businesses within CPG, retail, restaurant and food service, healthcare and pharmaceuticals, high technology, aerospace, defense and government, automotive, and logistic service verticals. The vendor aims to increase SCP automation and usability through AI and ML technology, where proprietary AI mechanisms and ML algorithms enable forecasting, replenishment, sourcing, and transportation optimization. For example, AI agents operate within customers' networks to analyze historical data, including causal factors such as weather, to autonomously determine the demand forecasts. Rule-based agents can also compare forecasts versus actual sales, then autonomously adjust the forecasts once trends are detected. An agent for demand and supply match detects mismatches, then adjusts or creates orders and inventory movements in the replenishment cycle. Trading partners have visibility to these forecasts, allowing them to best prepare for future orders.

In April 2019, the vendor released an updated version of its NEO Platform, which included virtual agent technology designed to support autonomous supply chain management by predicting and resolving potential problems. Various enhancements for specific verticals were launched regularly over the course of the year, including the logistics, automotive and manufacturing, and restaurants and food service industries. By combining self-learning

forecasting with AI-driven decision making, One Network can help customers work towards creating autonomous supply chains. Nucleus expects that One Network's investments in data management and AI agents will help it keep pace with the market's developments in usability and functionality.

KINAXIS

Kinaxis is a Leader in the 2020 SCP Value Matrix. The vendor's flagship product, RapidResponse®, is a single cloud-based SaaS platform that encompasses a suite of fully synchronized supply chain planning capabilities, including sales and operations planning, control tower, inventory planning and optimization, capacity planning, supply planning and demand planning. Kinaxis focuses on providing standardization and supply chain visibility and efficiency, facilitating decision making by consolidating siloed information and processes through concurrent planning

The flexibility of the RapidResponse platform enables customers to configure applications and workbooks to meet their exact business needs and extend the solution to address unconventional use cases. Customers can also create their own applications and algorithms on RapidResponse, enabling them to maintain a single user interface and leverage the solution's concurrent planning core. Kinaxis's investments in task automation and machine learning help customers develop Self-Healing Supply Chains™, which can assist with deviation detection, value prediction, and suggesting corrective actions. These efforts are further enhanced by the solution's out-of-the-box connectivity with third-party applications, allowing customers to quickly complete their implementations.

In July 2019, Kinaxis announced a number of partner relationships to help expand service offerings within the specialized verticals of its global coverage. Kinaxis launched a strategic partnership with digital services and consulting provider Infosys, Japan-based Abeam Consulting, and Germany-based 4flow. Kinaxis also acquired Prana Consulting in February 2020 to jump-start a new services hub for customers and partners.

Customers report that Kinaxis's usability is a differentiator and that the broad scope of use cases for the solution enables them to drive additional value as their implementations become more sophisticated. Nucleus expects that the vendor's scalability and continued development of self-healing capabilities will improve its future position on the future Value Matrix.

VANGUARD

Vanguard is a Leader in the 2020 SCP Value Matrix, providing a suite of predictive planning applications for customers that cover functionalities including demand planning, sales and operations planning, sales forecasting, inventory planning and optimization, financial

planning and analysis, and integrated business planning. Vanguard focuses on automating routine tasks and identifying solutions to process exceptions for its customers. To facilitate adoption and performance, Vanguard provides a web-based user interface for its planning applications and stores data as objects, instead of relational tables, for improved speed and performance to support large enterprises. Vanguard serves a wide variety of industries including consumer goods, retail, food and beverage, pharmaceutical, retail, and manufacturing.

In October 2019, the vendor announced new relationships with the consulting firm Planning Solutions Group and the implementation services provider Valtitude (formerly Demand Planning LLC). The moves will expand Vanguard's partner ecosystem and enable increased support for customers with complex requirements for their supply chains. Vanguard has also invested heavily in building up its cloud infrastructure, which features a global network of redundant datacenters that ensure 100 percent uptime for its customers. Customers can incorporate a wide range of upstream and downstream data into supported planning initiatives, which include Monte Carlo simulations and multiple scenario analysis.

Vanguard's flexibility enables organizations to improve collaboration on their supply chain plans through establishing multi-enterprise networks, which integrate suppliers and trading partners into planning cycles. Users can highlight data and create viewing and manipulation rules that provide granular and contextual information to accelerate decision-making processes. As Vanguard continues developing its integrations and planning functionalities, Nucleus expects its position on future editions of the Value Matrix to improve.

EXPERTS

Experts in the Value Matrix include GAINSystems, Manhattan Associates, QAD Dynasys, and SAP.

GAINSYSTEMS

GAINSystems is an Expert in the 2020 SCP Value Matrix, delivering a suite of planning solutions that includes forecasting and demand planning, inventory planning and optimizations, sales and operations planning, and replenishment and production optimization. The solution is hosted on Microsoft Azure, allowing it to leverage a wide variety of advanced technology to enhance functionalities, such as machine-learning driven exception management. To improve usability, GAINSystems users can construct and customize their implementations in low-code/no-code environments.

GAINSystems provides multi-echelon management capabilities that enable companies to use upstream and downstream information in their planning initiatives, including point-of-sales data, inventory positions, and supply variability. The solution can scale to handle organizations of any size and complexity across a wide variety of industries. GAINSystems also provides guidance to users to fully explain why recommendations are made based on internal and external environmental factors. Customers can track historical performance from previous sales cycles with granularity that manage datasets with tens of millions of entries. GAINSystems has also begun to experience positive momentum in shifting its on-premises deployments to the cloud, which will aid in continuing to deliver long term value to its customers' supply chain planning efforts.

MANHATTAN ASSOCIATES

Manhattan Associates is an Expert in the 2020 SCP Technology Value Matrix. With a heavy focus on retail and wholesale verticals, the vendor provides Manhattan Active Supply Chain, to address distribution, transportation, and enterprise management elements of enterprise-scale businesses. The vendor's planning, forecasting, and replenishment solution Manhattan Active Inventory can be used in conjunction with Active Supply Chain for end-to-end coverage of customers' supply chains. With Omnichannel Inventory Optimization (OIO), Manhattan Associates helps customers calculate safety stock minimums and maximums to best align with company objectives and demand from multiple channels. Forecasts and plans can be integrated into the supply chain execution solution to streamline transportation routes and schedules, enabling customers to develop a holistic distribution strategy.

Manhattan Associates has experienced positive momentum in shifting to the cloud, both in competitive sales with new customers and transitioning on-premises deployments. The vendor has pledged to indefinitely support on-premises and hybrid implementations and align with customers as they become ready to make the switch. Companies that utilize Manhattan Associates' supply chain planning solutions in the cloud stand to benefit the most as they leverage greater solution flexibility, control, and robustness. While the vendor leverages cloud technology to streamline the flow of data between its previously siloed solutions, customers can now automate many of their supply chain processes as planning and execution solutions operate in tandem. Nucleus expects Manhattan Associates' commitment to its cloud transition and pursuit of a platform approach to generate value for customers in modernizing their supply chain planning practices.

QAD DYNASYS

QAD DynaSys is an Expert in the SCP Value Matrix. The vendor's solution, Demand & Supply Chain Planning (DSCP), can be delivered through the cloud and provides functionalities including demand and supply planning, integrated business planning,

manufacturing planning, and inventory optimization. Like its parent company, ERP software vendor QAD, QAD DynaSys focuses on delivering specialized service for six primary verticals: automotive, consumer products, distribution and wholesale, food and beverage, industrial, and life sciences. The solution can be operated as a standalone tool or in conjunction with a wide variety of ERP solutions, including the QAD Enterprise Platform. Customers who transition to the cloud can take advantages of capabilities including advanced analytics, machine learning (ML), and a centralized data lake.

In December 2019, the vendor launched the 2019 edition of QAD DynaSys DSCP, which featured a modernized web-based user experience and an updated mobile application. The update also included new forecasting capabilities and ML-based features such as automated data cleansing and demand clustering. QAD DynaSys is committed to facilitating transitions toward the cloud but will continue support for on-premises deployments through 2024. The vendor has an ambitious roadmap for functionality development, prioritizing the development of new collaboration, standardization, and sensing capabilities. As QAD DynaSys continues expanding its support for supply chain planning use cases, Nucleus expects its value proposition and position on future editions of the Value Matrix to improve.

SAP

SAP is an Expert in the 2020 SCP Technology Value Matrix. As part of its Integrated business planning (IBP) solution, the vendor delivers SCP capabilities with its six planning modules, including sales and operations planning, inventory optimization, control tower, forecasting and demand management, response and supply planning, and demand-driven replenishment. Available on the HANA cloud platform, SAP's IBP solution manages the supply chain from end-to-end, enabling customers to reduce lead times operational costs through streamlined optimization at virtually all steps of the supply chain. Customers stand to benefit the most by utilizing IBP's modules in tandem with one another. For example, users can feed forecasts and demand sensing data into the optimization engine to optimize inventory and supply planning.

Since transitioning to build-to-order from build-to-forecast models due to demand-driven Material Requirement Planning (MRP) theories, SAP has decreased solution response times to better react to real-time demand fluctuations. The vendor has also continued investing in solution functionality. In the January 2020 release of IBP 2002, SAP introduced forecast consumption and inbound planning calendars, enabling customers to import and manage factory calendars and relevant scheduling data within the solution. The Intelligent Visibility application is a new addition to the solution, where customers can view their supply chain as a network on a geographical map. The added layer of functionality allows users to visualize the relationship between different locations and the impact of potential disruptions. Performance and relational data can be integrated back into the platform for automated

execution, saving employee time, and limiting operational downtime. Given SAP's ability to consistently build upon its supply chain planning capabilities year-over-year, Nucleus expects the vendor to continue driving long-term value for its customers.

FACILITATORS

Facilitators in the Value Matrix include Anaplan, Blue Ridge, LLamasoft, Logility, and ToolsGroup.

ANAPLAN

Anaplan is a Core Provider in the 2020 SCP Value Matrix. The vendor drives a "Connected Planning" approach for its customers and provides an open platform that customers can configure to meet their exact specifications for a centralized view of operational data. Anaplan covers functionalities including demand sensing and planning, sales and operations planning, and supply planning. The solution can scale to handle organizations of any size and delivers seamless integrations with its planning solutions for finance, workforce, marketing, and IT. The vendor covers a wide variety of industries including consumer goods, oil and gas, financial services, automotive, and manufacturing.

In June 2019, Anaplan launched a new user experience and mobile application for the Connected Planning platform to extend analysis and improve user adoption among its new and existing deployments. In October 2019, the vendor released its Predictive Sales Planning solution with artificial intelligence enhancements to assist organizations design and implement new sales and revenue strategies. Anaplan's value proposition for connecting the planning processes of multiple departments in the same tool will drive long-term value for both midmarket and enterprise-scale customers. Nucleus sees Anaplan maintaining pace with the market's developments in both usability and functionality.

BLUE RIDGE

Blue Ridge is a Facilitator in the 2020 SCP Technology Value Matrix. The vendor drives integrated demand planning for its customers, helping them develop a more comprehensive approach to their operations planning initiatives. Blue Ridge covers capabilities including forecasting, collaboration, and sales and operations planning. Customers report that usability is a differentiator, as the vendor focuses on solution agility, quick implementation and on-boarding, regular monthly updates, and native cloud deployments. Blue Ridge has undertaken a specialized vertical approach to the supply chain

planning market and primarily serves retail and wholesale clients in verticals such as HVAC, automotive, wine and spirits, and food services.

Blue Ridge has focused heavily on incorporating artificial intelligence into its planning capabilities to develop self-learning and self-adjusting forecast and inventory policy combinations. The solution can operate on its own, but also has connections with a broad range of third-party applications, including a native integration with NetSuite ERP. Users can incorporate external data sources, such as weather and demand exceptions, to improve performance with real-time incremental planning and forecasts. As more verticals are added and the development of specialized functionalities continues, Nucleus expects that Blue Ridge will further improve its positioning on subsequent editions of the Value Matrix.

LLAMASOFT

LLamasoft is a Facilitator in the 2020 SCP Value Matrix. The vendor's solutions focus primarily on supply chain design but cover a wide variety of planning capabilities to help customers realize their goals. Functionalities include sales and operations planning, inventory planning and optimization, capacity planning, network strategy, and analytics. LLamasoft can address operational design and planning for a broad range of verticals including retail, consumer packaged goods, manufacturing, healthcare, and wholesale distribution. The vendor can model extended supply chains from end to end to analyze their designs and can scale to meet the needs of many of the largest companies in the world.

In August 2019, LLamasoft announced that it had established a strategic partnership with JD Logistics, a subsidiary of Chinese retailer JD.com, expanding its global network of distribution and implementation partners. In October 2019, the vendor launched new analytics for international tax and duties, enabling enterprises to assess the economic impact of trade decisions on their supply chain strategies. LLamasoft also acquired Opex Analytics in October 2019 to bolster its development of artificial intelligence (AI) initiatives for supply chain design, including the llama.ai platform which was released in January 2020. The new platform provides capabilities including digital twin and an application studio, allowing customers to create custom blends of supply chain best practices and AI functionalities.

Customers report that LLamasoft's cloud platform is flexible enough to cover complex use cases through the use of disposable purpose-built applications. The applications connect to the centralized Data Hub and help customers simultaneously run multiple business scenarios and perform trade-off analysis. LLamasoft's design-focused approach to supply chain planning offers a unique path to value for customers with complex requirements and will continue to pay dividends as the vendor's functionality investments continue to expand and mature.

LOGILITY

Logility is a Facilitator in the 2020 SCP Value Matrix. The vendor delivers a highly usable platform for supply chain management and covers planning capabilities including supply and demand optimization, inventory planning and optimization, quality and compliance management, and integrated business planning. The solution has integrations that enable companies to collaborate with customers and leverage external data to make operational decisions. Logility also provides transportation and shipping optimization through its Voyager Solutions and master data management through Voyager AdapLink, which is deployed as an integration layer between a company's data and its supply chain.

In March 2019, the vendor released several enhancements to expand the application of artificial intelligence to Logility Voyager Solutions, while in January 2020, new product introduction (NPI) capabilities were added to the platform's suite of advanced retail planning functionalities. The additions will help retailers incorporate additional data sources into their planning and decision-making processes and improve operational outcomes. Logility's investments in artificial intelligence also extend to Voyager Puse Wise, an autonomous engine that can sense changes in demand and update planning guidelines in real time.

Logility offers both out-of-the-box support for connecting to third-party ERP systems and support for multi-enterprise collaboration. The solution's usability makes it an attractive choice for many customers evaluating dedicated supply chain planning software. As the vendor's investments in artificial intelligence and industry-specific functionalities mature, it will drive additional long-term value for its customers.

TOOLSGROUP

ToolsGroup is a Facilitator in the 2020 SCP Value Matrix. The vendor's flagship product, Service Optimizer 99+ (SO99+), specializes in inventory optimization and planning and generates a stock-to-service model for each SKU-location to achieve the desired service level at minimal cost. SO99+ also covers demand planning and sensing, allocation and replenishment, sales and operations planning, and production planning for customers across verticals including consumer goods, retail, food and beverage, and automotive.

ToolsGroup has made deep investments into adding artificial intelligence capabilities to SO99+. The software uses one self-learning algorithm (as opposed to a group of demand curves) to forecast demand distribution which can require as little as six months of actual data to create accurate forecasts. ToolsGroup integrates third-party data to drive efficiency on both sides of the value chain, with causal indicators and promotion attributes influencing demand planning while purchasing and distribution data contribute to allocation and

replenishment planning. SO99+ can also generate supply curves for each of a customer's SKU-locations to guide re-supply intervals and capacity constraints.

ToolsGroup focuses on improving long-term demand management by using probabilistic demand processes (rather than deterministic demand) in its forecasting calculations. SO99+ also has robust new product introduction functionalities which can analyze historical data of similar products to identify the demand drivers that are most likely to affect new sales. ToolsGroup's unique approach to improving operations efficiency has seen success both in new customer acquisitions and expanding use cases among existing deployments. As its developments in connecting planning and operations continue to grow and mature, ToolsGroup will continue to deliver value to its customers and should improve its position on future iterations of the Value Matrix.

CORE PROVIDERS

Core Providers in the Value Matrix include 4R Systems, Oracle, and Smart Software.

4R SYSTEMS

4R Systems is a Core Provider in the 2020 SCP Value Matrix. The vendor focuses on delivering supply chain planning capabilities for retail customers, including functionalities such as demand planning, seasonal allocation planning, vendor order optimization, assortment planning and inventory planning and optimization. Customers report that while 4R Systems is specialized, the solution is flexible enough to accommodate long-term growth and changing needs. Nucleus found that 4R Systems implementations were often completed in only a few months, as the vendor prioritizes seamless transitions away from legacy processes, which lead to shorter than average payback periods.

4R Systems has made heavy investments into applying machine learning to its solutions, using it to help align customers' operational goals with consumer behavior. The software can automatically evaluate data from connected third party systems for patterns and outliers. As 4R Systems continues to innovate and develop optimization features for retail customers, it will further establish itself as an ideal choice for retail customers with complex requirements. 4R Systems will also continue to keep pace with the market's developments in system usability which will help its position in future Value Matrices.

ORACLE

Oracle is a Core Provider in the 2020 SCP Value Matrix, offering a collection of supply chain planning tools through its Supply Chain Management (SCM) Cloud. The vendor covers

supply chain planning capabilities including sales and operations planning, demand planning, inventory planning and optimization, and order management. Oracle SCM Cloud is well suited for enterprise-grade customers and can operate both as a standalone solution or as an extension of a preexisting Oracle ERP implementation. By focusing on delivering its functionalities through the cloud, Oracle can configure its applications to precisely fit customer needs and increase the overall return on investment.

Oracle has continued to invest in the SCM Cloud, adding updated logistics capabilities to the solution in May 2019, which will enable customers to improve shipping and asset utilization. In September 2019, the vendor rolled out new AI-driven capabilities, including an expanded Oracle Digital Assistant, and launched the Oracle Business Network, a business-to-business network that will help customers search for and connect with trading partners. As best practices evolve, and customers continue transitioning supply chain workloads to the cloud, Oracle's position in future editions of the Value Matrix should improve.

SMART SOFTWARE

Smart Software is a Core Provider in the 2020 SCP Value Matrix. The vendor delivers the Smart Inventory Planning & Optimization (IP&O) solution suite which provides capabilities including demand planning (including intermittent demand), inventory planning and optimization, and operational analytics. The solution is built natively for the cloud and is delivered on a multi-tenant, web-based platform hosted by Amazon Web Services. Smart Software also has an extensive partner ecosystem and boasts integrations with ERP systems including Epicor, Microsoft Dynamics 365, and NetSuite.

In April 2019, Smart Software announced that it had completed its SOC 2 Type 1 Audit, affirming the solution's robust data security and reliability while in February 2020, the vendor established a new strategic partnership with V-LINE GROUP, a global procurement services company. V-LINE GROUP will offer the Smart IP&O solution as an extension of its maintenance, repair, and operations procurement services solution to its global customer base. Smart Software enables organizations to transition their supply chain and inventory planning towards a proactive focus that can respond more quickly to external disruptions. As the vendor's inventory and supply chain planning functionalities become more sophisticated, and more customers shift to the solution, Nucleus expects Smart Software to improve its future position on the Value Matrix.