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## ***April 2019 Research Advisory Report***

### ***Concurrent Planning in a Period of High Supply Chain Uncertainty***

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#### ***Introduction and Purpose***

Today's multi-industry line of business, supply chain management decision-making and resource planning environments are increasingly becoming more complex, dynamic and dependent on continual changes in business and product demand and supply resource requirements.

The purpose of this *Research Advisory* is to provide an aid for multi-industry senior management, line-of-business and supply chain management focused technology selection teams to better understand and assess what planning capabilities lend themselves best to periods of high business uncertainty, while at the same time provide the foundation for required movement toward more digitally-based business process and decision-making capabilities. We further address important technology evaluation and assessment criteria that should be weighted in such an environment where time-to-value and overall cost take on more important considerations.

*This technology-focused Research Advisory is being provided as a thought leadership resource in conjunction with Kinaxis, Inc.*

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### ***A Period of Elevated Business Uncertainties***

In our January 2019 *Research Advisory* report, **2019 Predictions for Industry and Global Supply Chains**, *The Ferrari Consulting and Research Group* advised multi-industry supply chain management teams to prepare for continued higher levels of global supply chain risk, complexity and overall uncertainty.

Within *2019 Prediction One: An Optimistic But Cautious Economic Outlook but with Downside Risks*, we highlighted takeaways from the *Davos World Economic Forum* that cast a rather uncertain and cautious environment in the coming 1-3 years. Market forecasts from both the *International Monetary Fund's (IMF) World Economic Outlook* and *The Organization for Economic Cooperation and Development (OECD)* reinforce an upcoming period of volatility and potential for downside risks given the ongoing geo-political and global trade climate. Recent global-wide PMI indices point to an overall declining trend in global supply chain output levels while certain indices related to Eurozone manufacturing are nearing contraction levels. A *Duke University CFO Global Business Outlook Survey* released in December 2018 indicated that 80 percent of U.S. CFOs believe that recession will occur in the U.S. economy by the end of 2019, while broader economists indicate the likelihood of recession within the next 1-2 years.

Past history in prior uncertain periods indicates that:

- 1) CEOs, COOs and CIOs become risk-averse in such an environment
- 2) Technology investments will need to have solid justification, proven track record and meet specific criteria for business-wide adoption, ease-of-use and aversion to business disruption and:
- 3) Less costly information integration to existing legacy or ERP backbone systems is a critical and important consideration.

*Within 2019 Predictions Three and Ten: We forecasted unprecedented levels of global and regional supply network challenges continuing to concern C-Suite and industry supply chain executives.* That implies an emphasis on the needs for higher levels of scenario-based decision-making and continuous planning cycles predicated on responses to highly changing industry markets. Market opportunities either in product, supply and customer demand network process innovation must be leveraged to ensure revenue and profitability growth.

On the business side, global economic uncertainties and ongoing geo-political events will cause *C-Suite* executives to become more cautious. On the one hand, ongoing industry and competitive market pressures and needs drive a continual need for added top-line revenue growth. Customer and industry competitiveness mandates a movement toward supporting more digitally-enabled market response capabilities that enable more overall agility to market needs while providing more informed and timely decision-making.

*In 2019 Predictions Five and Six, which addressed Supply Chain Digital Transformation or Multi-Year Transitions Toward Digitally-Enabled Response Networks, we reinforced the need for a strong foundation in concurrent and more responsive business planning that includes a view of combined planning and customer fulfillment resource needs. An emphasis on the ability to leverage multi-industry best practices, community learning and proven approaches help to navigate turbulent and uncertain times, while making the necessary process transformation investments.*

In all cases, directly addressing line of business and overall business goals must be the primary goal with supply chain management functional and supporting advanced technology investment able to meet needed process efficiency and people skill-based requirement objectives.

### ***Concurrent and More Responsive Business Planning Capabilities***

In this period of elevated business uncertainty and supply chain risks, it is important for industry supply chain management teams to understand the business process focused differences between sequential planning and the tenets of a concurrent supply chain management planning process.

Let's start with baseline definitions of concurrent as opposed to sequential planning:

Concurrent is a planning process directed at supporting both short and longer-term supply chain resource and customer fulfillment decision-making needs. It incorporates timely planning integrated with supply chain execution information as the context of decision-making. The process includes the ability to plan and execute continuously, concurrently monitor and respond to ongoing business events, and the ability to incorporate the knowledge or context of multiple expert teams or stakeholder participants in the process, including the *sales and operations planning (S&OP)* process.

Concurrent planning is a transition from a linear, sequentially managed time-phased process of planning and decision-making, anchored in one synchronous information schema, supported by more prescriptive and predictive data analysis, what-if scenario, or simulation-based planning techniques. It is a form of continuous planning and supply chain execution response capability that can support needs for broader social and collaborative-based interaction and decision-making.

Contrast a concurrent process to that of a sequential one: a time-phased planning and operational decision-making process predicated on a rigorous sequence of planning events and decision-making milestones. The process of plan and then execute often incurs weeks to cycle through with the value of the data and information losing important timing and resource context during the full cycle. Once more, unplanned events or supply chain disruptions that

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occurred somewhere in the process often prompt the need to re-initiate the cycle, which is often difficult to perform and subsequently causes a delay responding to disruptions.

The primary reason for adherence to a sequential process is the data and process constraints inherent in overall supply chain planning, principally large amounts of data extracted from multiple systems or spreadsheets. Processing and categorizing planning data literally can take hours, days, and, in earlier periods, weeks to accomplish. Subsequently, customer demand and supply plan information was already outdated, and lacking real-time context.

All of that is changed with today's advancements and convergence in information technology related to in-memory systems, big-data integration and more leveraged use of advanced analytics and machine-learning applied to decision-making needs.

The focus of planning must now incorporate planning and customer fulfillment and operations execution information. The emphasis is less about having the best plan, to that of a planning process that concurrently captures the continuous state of customer demand and supply, while providing extended teams the ability to assess and determine various likely scenarios to respond to business opportunities or unanticipated developments.

When evaluating software that effectively supports a concurrent planning process, the technology must be able to support all time horizons, various levels of information aggregation of supply and demand entities, all propagated at the same time.

In periods of elevated business uncertainty, added emphasis must be placed on the continuous tactical planning windows that are anchored in concurrent, and more scenario-based planning and execution processes. Such processes must constantly align to value realization for meeting key business performance metrics related to sales, margins, profitability and required customer service requirements.

Today there are added needs for incorporating broader line-of-business, cross-functional and other business stakeholder business performance objectives. That includes moving beyond traditional *S&OP* to broader integrated business planning capabilities.

### ***Transition Toward More Responsive Integrated Business Planning***

Evaluating a need for more concurrent planning processes takes on an added dimension for setting the foundational groundwork for moving a business or enterprise toward more responsive integrated business planning capabilities.

Integrated business planning is often viewed as the extension of existing *sales and operations planning (S&OP)* processes. While *S&OP* processes have enhanced operational, tactical and strategic planning needs involving the balance of customer demand with supply network needs, the process is often gated by sequential processes for gathering and assessing all

pertinent product demand, with on-hand and planned supply information. Senior executive participants indicate certain frustrations in the ability to more quickly analyze and determine various options related to either new business or existing unplanned supply disruptions.

In the article, *Making the Case for Integrated Business Planning*, *APICS Magazine*, January 2018, author Henry Canitz defines *Integrated Business Planning (IBP)* as a process that;

*“..focuses on ensuring continuous alignment among demand, inventory, supply and manufacturing plans on the one hand, and between the tactical and strategic business plans on the other, in an effort to maximize operational performance and meet financial objectives.”*

Canitz goes on to describe a checklist that comprises the main capabilities necessary to maximize *IBP*. That listing includes among others, the following:

- *Perform fast simulations, comparisons and what-if scenarios.*
- *Compare actual performance to plan to include the ability to quickly detect the differences between plans and actuals and then respond in an efficient manner.*
- *Develop plans that evaluate both financial and volumetric performance. Establishing one comprehensive plan that spans strategic and tactical horizons reveals the true merits of multiple alternative paths.*
- *Plan at different levels of aggregation to support business function goals.*

We included the above descriptors because of the correlation of integrated business planning to that of a technology-enabled concurrent planning process. Responsive integrated business planning facilitates the ability of multiple line-of-business and functional business teams to share information at the same time, and in the same business context. Customer demand and supply balancing happens concurrently and continuously, while teams can view and assess the impacts to key business performance indicators or expected financial or service outcomes.

In today’s more dynamic and changing business environments, the ability to conduct more agile and better-informed decision-making at an accelerated speed becomes essential. Identifying customer demand or product supply hotspots, abilities to help visualize supply network bottlenecks, or more quickly assessing various alternative scenario impacts are all key competencies for more responsive and more integrated business planning.

### ***Advanced Technology Selection Considerations***

In this current environment of high business uncertainty, technology selection teams must be sensitive to recommending technology investments that are highly proven, easier for cross-functional and line-of-business teams to adopt rather quickly, yet they must be flexible enough to be able to accommodate frequent business change without a major re-investment.

The availability of *Cloud*-based applications that can more adequately support concurrency, broader functional collaboration and the need for planning automation will likely make the in-house development option a far more elongated and expensive option, especially in the context of overall process time-to-value. *Cloud*-based applications provide added value in their ability to minimize overall business disruption and accelerate time-to-value considerations across lines-of-business and functional supply chain management teams.

Functional, line-of-business and IT support teams need to be able to transcend any built-in biases toward the known system of record and instead focus on the most important criteria related to transforming to a more overall concurrent-based planning process in a time-sensitive manner.

CFOs will likely be open to consideration of investment in far more agile, concurrent and better-informed supply chain and overall business decision-making process capabilities. But, at the same time, such approving decision-makers are not likely have a favorable view of a recommended technology investment laden with an expensive and costly multi-year transformational requirement. Neither is there a desire to have to deploy a collection of multiple software applications, database, and analytics capabilities that are likely expensive and lend themselves to added business process disruption and risk. Such considerations are especially pertinent for existing SAP backbone environments desiring to move toward more concurrent integrated planning decision-making capabilities.

Criteria should likely be assessed as a prospective technology provider's demonstrated experience and track record in helping multiple companies of all sizes to implement concurrent planning processes in a timely manner. An emphasis on faster business and functional user acceptance along with the ability to be part of a multi-industry best practice sharing community are further considerations. Change is continuous and ongoing in this uncertain and rapidly changing global business environment. A manageable and responsive singular data model with demonstrated seamless integration to existing backbone systems is another important consideration.

Technology investments must have a special emphasis on addressing and overcoming line-of-business process and decision-making challenges and appeal to a wider range of business stakeholders in order to be adopted.

Additionally, such investments must address needs for increased individual planner productivity, leveraging machine-learning concepts to address or resolve day-to-day planning changes, while planners are freed up to address the application of most appropriate scenario-based plans that address the most feasible or appropriate business outcomes. Such capabilities help to convert the role of planner to that of a "*business translator*."

Technology providers must be prepared and able to demonstrate proven industry-specific knowledge as well as multi-industry best practices learning for adopting concurrent and continuous planning processes.

This is less about vendor or solutions marketing templates and more about business and process challenges needing to be overcome, along with eliminating siloed processes and isolated decision-making without common context.

### *Actions to Consider*

#### **Broader Vision with Foundational Investment Capabilities**

In the current environment of added market and business uncertainties and risks, supply chain, *sales and operations planning (S&OP)*, and cross-functional line-of-business technology selection teams need to be very clear in articulating why there is a need to solve current business and supply chain planning challenges and be able to articulate such an effort as being an integral foundation toward more digitally-enabled business and supply chain management capabilities over time. Uncertain times lean toward clear focus, shorter-term accomplishment but at the same time, a broader plan for being positioned to win new customers and markets.

To do so, there needs to be consideration for capabilities to support concurrent planning processes, more informed and agile decision-making, and deeper and much broader levels of predictive or prescriptive decision-making capabilities anchored in more advanced analytics.

With senior management averse toward any risky big bang technology investments that risk a costly business or operational disruption, technology selection must be rigorous toward researching the overall technology landscape determining each potential planning technology's strengths, shortcomings or hidden costs.

There may exist a bias toward a known existing *ERP* backbone or termed "*systems of record*" provider in delivering a far broader set of *Cloud*-based business process support capabilities that may include concurrent and more integrated business planning and other *LOB* support needs. Such an option requires a similar rigorous assessment of overall time-to-value, business disruption risk, and ultimate overall cost.

In the current environment, technology selection teams, their primary business and functional leadership team sponsors, in addition to just *IT*, may well be asked to stake their reputations on technology selection recommendations which implies rigorous assessment and balancing of likely risks.





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### **Breadth of Functionality Support**

Implementing concurrent and more responsive business planning capabilities requires a technology vendor that can provide a proven record of accomplishment, understanding, and capability in implementing and supporting concurrency in planning processes. That has to include specific specialization and knowledge, multi-industry customer references attesting to needs fulfilled for quicker time-to-value, and user acceptance in their implementations of such technology. Our interviews point to individual and broad user ease-of-use and system acceptance as a very important indicator of overall time-to-value.

A highly experienced planning system provider's domain knowledge, broad implementation partner network, coupled with a highly responsive in-house customer success support team are further important criteria to consider.

### **Leveraging of Multi-Industry Best Practices and Learning**

In times of high uncertainty, there is little tolerance for projects that stumble because of a lack of due diligence and learning as to what to expect or on what to initially focus for particular implementation of advanced planning technology. It is therefore very important to be able to tap and leverage multi-industry planning team peer-to-peer learning as to what to look for in advanced planning technology, how other teams successfully implemented new processes and advanced planning systems. Being able to call on a community of like-minded individuals enabling the future of planning is rather important, as are technology providers willing and committed to support open access to such a community.

To aid technology selection teams in all the above considerations, we have provided a useful checklist.

## Figure 1

### Concurrent Planning in a Period of High Supply Chain Uncertainty: Technology Team Selection Considerations Checklist

- ✓ Business vision broad enough to include deep support for more response-based concurrent planning and decision-making processes and the ability to provide the foundation for current and future digital transformation of business and supply chain management processes.
- ✓ Thorough analysis of the technology provider landscape, determining each provider's strengths, shortcomings or hidden costs. Criteria should include overall planning run times and overall planning model scalability, along with added requirements for integration of planning and execution data and information.
- ✓ A short-list of technology providers with a consistent track record of active investment in leveraging advanced analytics, planning workflows, what-if simulation and singular data model planning architecture across the full planning suite.
- ✓ A same short list of technology providers who have a systems implementation partner network that demonstrates deep supply chain and concurrent integrated business planning expertise and customer references. Does the technology provider provide in-house customer support and named dedicated customer support executives as an added resource or augmentation to customer implementation?
- ✓ Ensuring that the technology selection team has provided ample added weighting for any technology provider's strengths in multi-industry customer references attributing quicker time-to-value and overall user acceptance to the technology suite. An added bonus is the ability to provide open, unfettered access to multi-industry planning peer forums and learning exchanges.
- ✓ Due-diligence to a particular technology vendor's add-on requirements for additional licenses related to database technologies, specific required advanced analytics or data integration applications. In the case of a resident *ERP* approach to concurrent integrated business planning, does such an approach require an upgrade to the ERP provider's latest *Cloud*-based suite?

### **Summary Messages and Report Takeaways**

The following are the important takeaways from this *Research Advisory*.

- Multi-industry supply chain management teams need to be prepared for continued higher levels of global supply chain risk, complexity and overall uncertainty. At the same time, organizations must be prepared to meet industry needs for increased digital transformation. Past history in prior uncertain periods indicates that *senior executives* often become risk-averse in today's highly uncertain environment. Technology investments will therefore need to have solid justification, a proven track-record, easier for cross-functional and line-of-business teams to understand and utilize, yet flexible enough to be able to accommodate frequent business change. Overall cost for deployment and time-to-value take on special meaning in this environment.
- In this period of elevated business uncertainty and supply chain risks, multi-industry supply chain management and line-of-business teams need to understand the business focus and decision-making differences between sequential vs. concurrent supply chain planning processes. Concurrent planning provides for the continuous integration of the supply chain's tactical planning and operational execution information, and the ability to support more-timely scenario-based decision-making that factors any product demand of supply changes toward quantified impacts on key business performance indicators of revenue, cost or service levels.
- Cross-business and cross-functional decision makers will likely be open to consideration of investment in far more agile and better-informed supply chain and overall business decision-making process capabilities. At the same time, such approving decision-makers are not likely to have a favorable view of a recommended technology investment laden with an expensive and costly multi-year transformational requirement. Neither is there a desire to have to deploy a collection of multiple software applications, database and analytics capabilities that are likely expensive and lend themselves to added business process disruption and risk.
- Concurrent planning processes take on the added dimension for setting the foundational groundwork for a business planning process that can support more responsive integrated business planning capabilities and needs for an accelerated transition toward more digitally-enabled business processes.
- Technology providers under consideration must be prepared and able to demonstrate proven industry-specific knowledge and multi-industry best practices learning for adopting concurrent and continuous planning processes. A domain experienced implementation partner network coupled with a highly responsive in-house customer support team are very important criteria to consider.



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### **Supporting Research**

Readers can further reference the following supporting Research Advisories available from *The Ferrari Consulting and Research Group*:

*2019 Predictions for Industry and Global Supply Chains, January 2019*

*Orchestrating Digitally Enabled Response Capabilities in Multi-Industry Settings- Case Study Examples, June 2018*

### **About the Author**

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