THE NEW WORLD OF FINANCIAL ANALYTICS

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THE NEW BUSINESS ANALYTICS

Business planning is undergoing a radical transformation as new tools come to market with powerful capabilities, low prices, and easy deployment. The ability to perform business planning based on modeling and simulation, predictive forecasting, real-time analysis, and more, is now available to managers from the top down, across all areas of the business. The new generation of analytical tools enables managers to make better decisions that will reduce costs and increase growth.

A key factor in making more powerful analytics more accessible is reducing the complexity of programming the applications and making analytics easy to perform for non-technical business users. Analytical tools that have been out of reach for many businesses because of their cost and complexity are now available in the cloud and on-premise for managers across every area of the business.

SMART MACHINE AGE

Advances in analytics are being made possible by a host of factors, including cheap plentiful storage, powerful processing, better algorithms, the cloud, better tool design, and in-memory computing. As analytics become more affordable and easier to deploy, business planners will be able to take advantage of AI, BI, predictive analytics, machines learning, deep learning, and data lakes.

Experts see the infusion of machine learning into systems and applications as a major disruption that will have a revolutionary effect across all industries and areas of information processing. Gartner analysts define this new era of intelligent applications as the "Smart Machine Age." The Big Bang that is creating the Smart Machine Age, says Gartner, is a combination of radical new hardware, massive amounts of data, and unprecedented advances in deep neural networks. [1]

[1] Gartner, "Smart Machines See Major Breakthroughs After Decades of Failure," Tom Austin, September 8, 2015.

As Gartner relates, "The journey through the smart-machine age will be as transformative (and disruptive) as travelling through the industrial revolution."[2] By 2018, says Gartner, more than one-half of large organizations globally will compete using advanced analytics and proprietary algorithms, causing the disruption of entire industries.[3]

By 2020, Gartner analysts predict that, through the use of intelligent business analytics, information will be used to reinvent, digitalize, or eliminate 80% of business processes and products from a decade earlier.[4] Algorithm marketplaces, says Gartner, will disrupt the analytics ecosystem and likely even the whole software ecosystem.[5]

ALGORITHMS RULE

That we are on the cusp of a major smart machine inflexion point was seen by the experts gathered at the most recent Artificial Intelligence and Machine Learning Summit.[6] Soma Somasegar, a venture partner at Madrona Venture Group, said machine learning intelligence was being built into the entire next generation of applications.

"Every successful new application built today will be an intelligent application," he said, adding that "intelligent building blocks and learning services will be the brains behind apps."

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[2] Gartner, "Entering the Smart-Machine Age, Tom Austin , Bettina Tratz-Ryan, Frances Karamouzis, Whit Andrews, Alexander Linden, October 21, 2015.

3 Gartner, "Predicts 2016: Advanced Analytics Are at the Beating Heart of Algorithmic Business," Alan D. Duncan, Alexander Linden, Lisa Kart, Nick Heudecker, Jim Hare, November 6, 2015.

[4] Gartner, "Use Analytic Business Processes to Drive Business Performance," Neil Chandler, Thomas W. Oestreich, February 27, 2015.

[5] Gartner, "Algorithm Marketplaces Are Bringing the App Economy to Analytics," Alexander Linden, October 15, 2015.

[6] KDNuggets.com, "Machine Learning Trends and the Future of Artificial Intelligence" by Matt Kiser, June 2016, http://www.kdnuggets.com/2016/06/machine-learning-trends-future-ai.html

NEW FINANCIAL ANALYTICS

The new generation of analytical tools enable companies to completely model their businesses, opening up a whole new world of more powerful business planning capabilities.

While many organizations have sought to model their businesses to plan for the future, their efforts have frustrated by inadequacies of the available tools. A major drawback has been a lack of integration among the tools used for business planning—business intelligence (BI) and corporate planning/corporate performance management (CPM) tools, as well as the tools for performing predictive analytics.

Fortunately, a new generation of smarter, more robust, integrated, and more capable financial analytics tools is emerging to help these organizations succeed in building business models that enable more accurate and reliable strategic planning. And rather than requiring technical experts and data scientists, these tools are user-friendly for use by line-of-business managers.

As KDNuggets reports,[7] while the value of machine learning has been known for some time, the advances needed to make the practice accessible to a mainstream audience have been made only recently. The convergence of three key trends is breaking down the barriers that have impeded the growth and employment of machine learning:[8]

1) Data "Flywheels"—This is where Big Data meets Moore's Law, a confluence of ever-increasing amounts of data and ever decreasing costs of processing data. The abundance of data enables more features and better machine learning models to be created.

2) The Algorithm Economy—Online algorithm marketplaces enable researchers, engineers, and organizations to create, share, and remix algorithmic intelligence at scale.

[7] KDNuggets.com, "Machine Learning Trends and the Future of Artificial Intelligence" by Matt Kiser, June 2016, http://www.kdnuggets.com/2016/06/machine-learning-trends-future-ai.html
[8] KDNuggets.com, "Machine Learning Trends and the Future of Artificial Intelligence" by Matt Kiser, June 2016, http://www.kdnuggets.com/2016/06/machine-learning-trends-future-ai.html

3) Cloud-Hosted Intelligence—As machine learning moves to the cloud, scalable web services are obtainable easily and at low cost. Data scientists no longer are needed to manage the machine learning infrastructure or implement custom code. Cloud-based systems can scale, generating new models on the fly and delivering faster, more accurate results.

WHERE THE OLD TOOLS FALL SHORT

Many Planning/CPM products started as "point solutions" that performed individual processes like budgeting, forecasting, or reporting, then "connected" these functions in some rudimentary fashion. As technology evolved and Planning/CPM products matured, it became apparent that the best approach was to have all functions integrated and built around a single centralized model.

However, only a small number of products (deFacto being one) were designed from the ground up as a single product that contains all the capabilities of point solutions, and more. Most Planning/CPM offerings on the market are not single integrated products, but remain bundles of three, four, or more point products yoked together.

The single-product approach offers subtle but huge advantages in terms of system security, data integrity, scalability, performance, usability, cost, and more. In fact, the single product approach is so important that it is the key to deFacto's ability to scale far beyond traditional uses of Planning/CPM products, moving its capabilities into the hands of line- of-business managers and supporting the types of applications outlined in this white paper.

While the value of point solutions is defined by their individual functions, the new generation of financial analytics products like deFacto integrates these tools within a comprehensive model that provides a much higher purpose and value.

OVERWHELMED BY DATA

A problem that has confounded the older generation of analytical tools is the surging volume of data we see today. Many large companies collect global forecasting data from hundreds of users around the world and compare it to actual data from their financial systems to constantly refine their overall planning process.

The current generation of aging Planning/CPM tools such as those from SAP and Oracle tend to struggle under the burden of rapidly increasing quantities of data and larger numbers of data sources that push the tools to their limits. The inability to handle large volumes of data can cause a number of crippling problems:

- As data volume increases, the software's performance suffers, especially during heavy usage periods or "crunch times."
- As the number and variety of data sources grows, the systems become cumbersome to use and deliver less reliable results. The ability to do detailed analysis is significantly diminished.

The scalability limitation of older Planning/CPM systems, and their inability to handle large volumes of data easily, limits their ability to create a comprehensive business model, thus limiting the granularity and value of the resulting analyses. The older tools have had difficulty harnessing and unifying the full range of data needed to build a complete business model that can more effectively aid decision makers in their planning. Building models with the older systems also requires users to have technical knowledge or skills in the use of underlying technology.

The infrastructures of older Planning/CPM solutions also are less efficient and more costly. For example, a Hyperion solution requires six servers to implement a solution that more modern systems like deFacto's can handle on one small server. Some tools, such as Cognos and Board, employ proprietary technology that creates impediments, making it difficult to access their database.

WHERE BI FALLS SHORT

While business Intelligence (BI) systems are very good at what they do—data analysis and visualization—they do not offer a complete and fully integrated approach for analyzing the impact of decisions, strategic planning, and managing a business from a financial standpoint.

Businesses looking to achieve high performance need to make better and faster forward-looking decisions based on a broad range of internal and external factors that uniquely influence that business. Many BI systems are limited in this capacity because they are intrinsically data-centric. They utilize standalone sets of historical data that do not reflect all aspects of a business and require subjective interpretation.

While BI tools do create useful forward-looking projections based on historical data and generic mathematical algorithms, they don't have the inherent financial intelligence to do things like financial budgeting, forecasting and reporting.

BETTER TOOLS NEEDED

Gartner analysts are among those who are advising businesses to become more strategic in their deployment of performance management technology. Organizations, says Gartner, "need to reconsider the scope of strategic Corporate Planning/Performance Management (CPM) processes and re-evaluate the use of current tools and technologies in support of more comprehensive Planning/CPM initiatives."[9]

Unfortunately, Gartner reports,[10] while forward-looking decision-making has become increasingly more critical, the tools at hand are not always up to the task. As Gartner explains, businesses have been dealing with aging systems and struggling to make progress with BI and analytics.

However, Gartner also notes that new tools for business analytics, including performance management, have come to market, with many of the new vendors offering a more-optimal approach than the leaders in the current market. These new tools offer the ability to support strategy execution (Strategic CPM) and cross-enterprise planning (Integrated Financial Planning). As such, says Gartner, organizations are considering emerging vendors as credible alternatives to larger, more-established vendors.

NEW FORWARD-THINKING INTELLIGENT TOOLS

This is where deFacto enters the picture, providing the comprehensive modeling capabilities that are missing in the older generation of Planning/CPM and BI tools. deFacto complements BI systems by giving business managers the ability to analyze decisions and create financial plans based on all influencing factors.
New systems like deFacto's take advantage of the latest in-memory and online analytical processing (OLAP) technologies and utilize them more intelligently,

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[9] Gartner, "Strategic CPM as a Driver for Organizational Performance Management, " Christopher Iervolino, John E. Van Decker, Neil Chandler, January 10, 2014.
[10] Gartner, "Leveraging CPM Innovation With Leading Trends in Technology," John E. Van Decker, Christopher Iervolino, October 29, 2014.

extending and enhancing their capabilities. This enables the system to create a more comprehensive and accurate model of a business, allowing companies to perform analysis and planning at a level not previously possible.
Ease of use is another advantage. Users require no technical knowledge, skill, or training with the underlying technology to build deFacto models. The interface is designed for non-technical business people rather than data scientists.

MODEL-CENTRIC SOLUTION

deFacto's model-centric system consolidates mission-critical data from around an organization into a comprehensive and intelligent model that intrinsically represents the business. Using the model for driver-based what-if analysis, budgeting, and forecasting, in addition to BI, deFacto provides an objective, single-point-of-reference for analyzing the financial impact of decisions, strategic planning, and managing a business to achieve the best performance.

Using deFacto's model-driven planning, CFOs can work directly with line-of-business managers to develop a model of their business, then use driver-based tools—including what-if analysis, budgeting, and forecasting—to help those managers evaluate the financial and operational impact of any set of business decisions or strategy, set goals, and manage their performance. In fact, deFacto represents the new generation of "Strategic CPM" and "Integrated Financial Planning" tools to which Gartner refers.

A MORE INTELLIGENT USE OF BI-TECHNOLOGY

Building a comprehensive business model for more effective strategic planning does not require complex rocket or data science, rather a more intelligent use of proven technology. Microsoft's Business Intelligent technology stack has been a leader in Gartner's BI Magic Quadrant for more than a decade. As a result, many BI and business analytics products that perform analysis, planning, and reporting utilize some combination of components in the stack, including SQL Server, Analysis Services, and Excel.

But not all products use the same components, and not all products use components in the same way. For instance, the foundation component of Microsoft's BI stack is SQL Server's relational database.

SQL Server is the leading product of choice for those applications that need a cost-effective, high-capacity relational database.

Products tend to use SQL Server on one of three levels. The lowest level only uses SQL Servers' relational database, which is very good for baseline applications but can quickly lose its usefulness when attempting to generate reports from, or analyze, larger amounts of data. These applications are typically designed for smaller companies or departmental uses.

The next higher level is when applications need extra capability and speed for analysis and reporting. For this level, SQL Server offers Analysis Services, a multidimensional database component that is used in conjunction with SQL Server's relational database. Analysis Services structures data in "cubes" that are optimized for analysis and reporting. Many enterprise-quality BI and business analytics, including deFacto, use SQL Server's relational and Analysis Services.

deFacto takes the Microsoft technology stack one level further than its competitors by using SQL Server and Analysis Services to construct centralized models and incorporate programmable business rules and logic that add an extra layer of business and financial intelligence to the models. deFacto also uses SQL Server and in-memory capabilities as part of its high-performance data-management strategy. The result is an enterprise-quality, highly intelligent, extremely fast business modeling, analysis, and reporting capability—in essence, a more intelligent use of BI technology.

deFacto LEADS THE WAY IN PREDICTIVE FORECASTING

deFacto has been at the forefront of simplifying business planning and forecasting and making advanced business planning systems accessible to businesses of all sizes. In partnership with Microsoft, deFacto has introduced the Predictive Forecasting platform that fully integrates Microsoft Azure Machine Learning with the deFacto Business Planning Platform. As deFacto CEO Bob Bedard notes, this is a groundbreaking advance that solves the "last mile" problem and enables businesses to have a machine learning solution up and running in a matter of days.

Like the algorithm marts described above, deFacto is making available loadable model applications that customers can access and share from an online Model Exchange. The models run on the deFacto Business Modeler Platform to accelerate the deployment of planning solutions in virtually any area of finance or business operations.

With the Smart Machine Age upon us, it's time for all businesses to explore opportunities around machine learning and predictive forecasting. Organizations that fail to adopt advanced business analytics risk being left behind.

ANALYSTS RECOGNIZE deFacto INNOVATION

Analysts like BPM Partners and TEC have recognized that deFacto is at the forefront in providing new, more powerful business analysis tools that are based on proven technology and extend those capabilities to enable better strategic planning.

As TEC reports,[11] deFacto is redefining the enterprise performance management market and providing "an enterprise performance management solution for the future." As TEC explains, deFacto's focus on comprehensive and real-time business modeling and intelligent operational planning functionality provides a unique approach to the measurement of enterprise performance that is "a leap ahead of most of its peers."

Similarly, BPM Partners in its annual Pulse of Performance Management survey named deFacto as the Best New Vendor of 2014. deFacto was chosen as Best New Vendor, said BPM Partners CEO Craig Schiff, "because of the all-around completeness and capability of its solution. "

deFacto's solution, said Schiff, was a solid addition to BPM Partners list of top-rated and recommended BPM vendors, "enabling users to model business operations, plan, and manage performance against the plan."

ABOUT deFacto Global, Inc. www.deFactoGlobal.com

deFacto Performance Management was built by a team of Planning/CPM experts who have led the market over the past 30 years. Fortune 500 to middle-market customers use deFacto to supercharge their financial performance by streamlining, automating and better managing their decision-making and planning processes across their entire businesses. deFacto is a completely unified modeling, budgeting, forecasting, consolidation, analysis and reporting product. It offers the full range of features needed to satisfy even the most demanding users, yet it's easy to learn and use—and it's affordable. See deFacto in action – request a demo.

deFacto's native Excel, Web and mobile interface empowers business users to build and manage their own financial models, and to perform real-time what-if analyses and planning – anytime, anywhere. Our prebuilt

[11] Technology Evaluation Center (TEC), "deFacto Performance Management: Enterprise Performance Management Redefined."

models, financial intelligence, business rules and ETL "Instant Connectors" expedite the implementation process. Offering native integration with all industry-standard Business Intelligence (BI) and dashboard tools, deFacto seamlessly compliments any BI strategy designed to meet the needs of every user in an organization–anywhere in the world.